Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

214 WEST LIBERTY STREET • POST OFFICE BOX 3050 • SUMTER, SC 29151

E-MAIL:
rllemerald@CPIS.net

TELEPHONE (803) 773-5454
FAX (803) 775-1970

TIER II ASSESSMENT PLAN
(ADDENDUM 02)
&
COST PROPOSAL
H.W. DETWILER CO.
UST PERMIT #15729
SUMMERTON, SC

Prepared For:

SCDHEC
Bureau of UST Management
2600 Bull Street
Columbia, SC 29201

Prepared By:

Emerald, Inc.
P.O. Box 3050
Sumter, SC 29151

RECEIVED

JAN 16 2004

UNDERGROUND STORAGE
TANK PROGRAM

January 14, 2004

UST PROGRAM
DOCKETING # 01Tech

Tier II Plan
Division of Underground Storage Management

UST Permit # 15729 County: Clarendon Facility Name: H.W. Detwiler Co.

Facility Address: 31 S. Church Street, Summerton, SC

P.O. Box 760

Responsible Party: Harold W. Detwiler, Jr. Address: Summerton, SC 29148-0760

No. USTs: 2 Removed? June 1993 (Date) Replaced? No (Date)

Current use of facility/property: Office Building

Current Owner name: Harold W. Detwiler, Jr.

Current property owner address: Same

Field Screening Methodology

Specify the field screening methodology to be used. The use of field screening methods to optimize the number and location of permanent wells is required.

A truck-mounted GeoProbe unit will be utilized to collect ground water samples from the shallow aquifer in the areas where the contaminant plume has not be defined horizontally. It is estimated that 10 field screening points will be necessary along the northern portion of the contaminant plume.

Permanent Monitoring Wells (estimate number and total completed depth)

# of shallow wells: 6 Total depth: 25 feet each

# of deep wells: _____ Total depth: _____ (if necessary)

Comments, if warranted: _____

Analyses

List the analytical parameters (e.g., BTEX, MTBE) and estimated number.

Ground Water

BTEX+Naph+MTBE - 32 samples

EDB - 32 samples are to be collected from Scott's Branch Creek.

Implementation Schedule

Start up date: 30 days after authorization Completion date: 90 days after authorization

Report Submittal date: 90 days after authorization

UST Permit #: 15729 Facility Name: H.W. Detwiler Co.

Site Maps

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.

2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:

North arrow	Legend with facility name and address, UST Permit number, date, and a bar scale
Location of property lines	Streets or highways (indicated names and numbers)
Location of buildings	Identification of located buildings
Paved areas on or adjacent to site	Location of all present and former ASTs and USTs adjacent to site
Previous soil sampling locations	Underground and above ground utilities on or adjacent to site
Previous monitoring well locations	Location of any other potential receptor

Aquifer Characterization (check one and provide explanation for choice)

Pump test: N/A Slug tests: N/A

Small Volume Disposal Type and Method

Soil: G&K Tank Services, Sumter, SC - 55 gallon drums

Purge water: G&K Tank Services, Sumter, SC - 55 gallon drums

Additional Comments:

ASSESSMENT COMPONENT COST PROPOSAL

SOUTH CAROLINA
Department of Health and Environmental Control (DHEC)
Bureau of Underground Storage Tank Management

ASSESSMENT COMPONENT COST AGREEMENT PROPOSAL

SITE ID # 15729 COUNTY Clarendon
FACILITY NAME H.W. Detwiler Co.
STREET ADDRESS 31 S. Church Street, Summerton, SC
CA # _____

I certify, under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents; and that based on my inquiry of those individuals responsible obtaining this information, and any other information I may be aware of. I believe that the submitted information is true, accurate, and complete. I further agree, in accordance with any DHEC demand letter, to promptly repay any overpayment received.

Please fill out **BOTH the Contractor and Responsible Party Sections (original signatures). Also indicated the Payee by placing a check in the box next to the Contractor or Responsible Party.**

☒ CONTRACTOR

Ronny Lowder		57-0910049
Name (Type or Print)		Federal Tax ID or Social Security Number
Emerald, Inc.		(803) 773-5454
Company		Telephone Number
214 W. Liberty Street	Sumter SC	29150
Address	City State	Zip Code
Signature (please use non-black ink)	Title	Date Signed 1/15/04

☐ RESPONSIBLE PARTY

Harold W. Detwiler, Jr.		
Name (Type of Print)		Federal Tax ID or Social Security Number
		(803) 485-2665
Company		Telephone Number
P.O. Box 760	Summerton SC	29148
Address	City State	Zip Code
Signature (please use non-black ink)	Title	Date Signed 1/15/04

If payment is to be sent to an address other than above, please indicate below:

Name of Individual or Company (please print) Federal Tax ID #

Address (please print) City State Zip Code

Amount Requested: $ 24,702.00

SCDHEC USE ONLY
_____

Amount Requested is for Assessment activities as Defined in the SCDHEC Letter.

PROPOSAL PROPOSAL PROPOSAL PROPOSAL

ASSESSMENT COMPONENT COST AGREEMENT

SOUTH CAROLINA
Department of Health and Environmental Control
Underground Storage Tank Program
State Underground Petroleum Environmental Response Bank Account

Facility Name: H.W. Detwiler Co.
UST Permit # 15729 Cost Agreement #

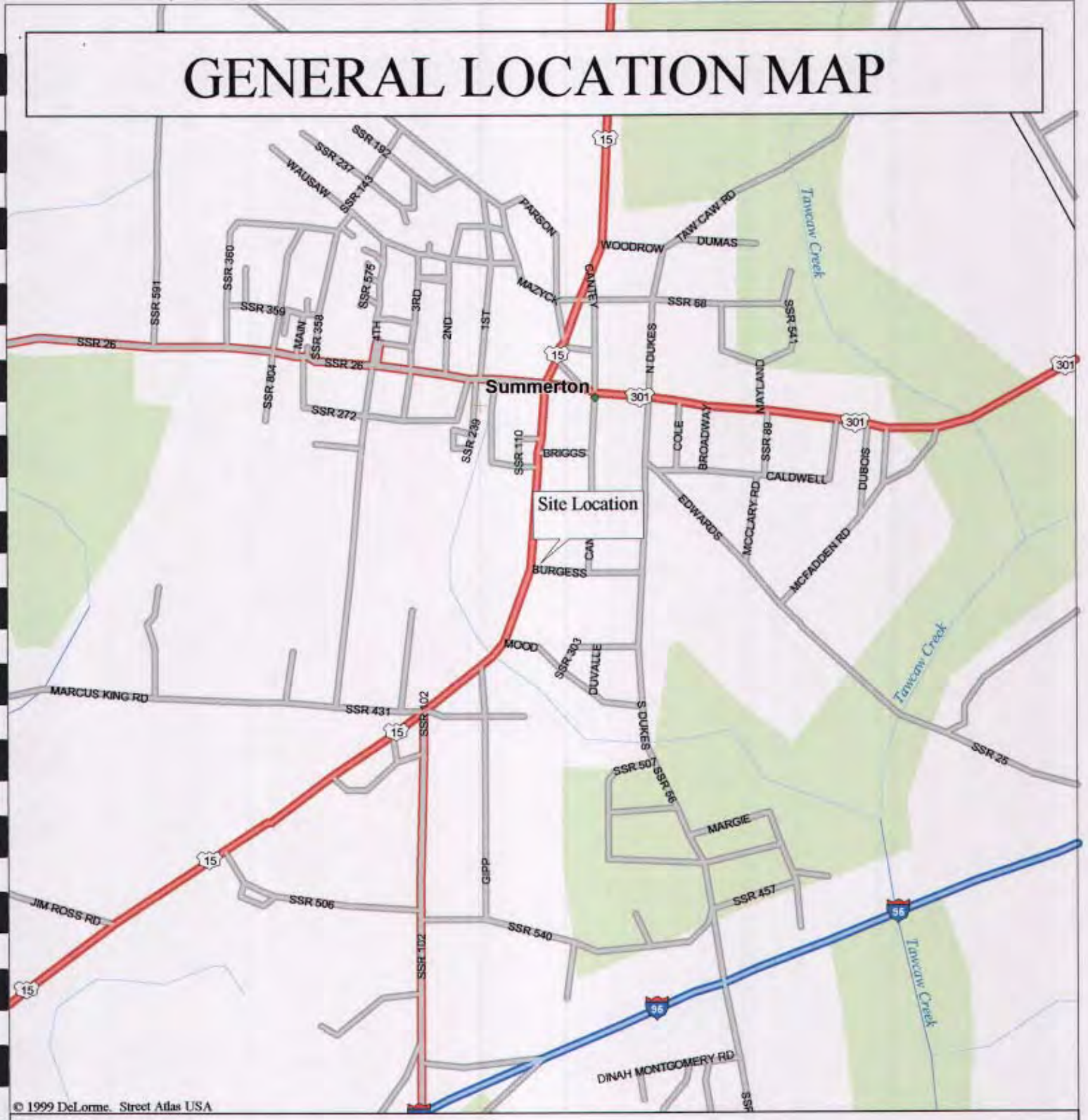
ITEM	Quantity	Unit	Unit Price	Total
1. Plan*	1	x	$100.00	$100.00
A. Plan Preparation		x	$50.00	$0.00
B. Tax Map		x	$500.00	$0.00
2. Receptor Survey*		x	$1,000.00	$0.00
3. Comprehensive Survey				
4. Mob/Demob	2	x	$500.00	$1,000.00
A. Equipment	5	each	$250.00	$1,250.00
B. Personnel		x	$500.00	$0.00
C. Adverse Train Vehicle		feet x	$14.00	$0.00
5. Soil Borings (Hand Auger)*	250	feet x	$17.00	$4,250.00
6. Soil Borings (Drilled) & Field Screening		each x	$200.00	$0.00
7. Soil Leachability Model	250	feet x	$4.00	$1,000.00
8. Abandonment*				
9. Well Installation*		feet x	$20.00	$0.00
A. Water Table (Hand Auger)	150	feet x	$38.00	$5,700.00
B. Water Table (Drilled)		feet x	$58.00	$0.00
C. Telescoping		feet x	$58.00	$0.00
D. Rock Drilling				
10. Groundwater Sample Collection	32	samples x	$55.00	$1,760.00
A. Groundwater		samples x	$90.00	$0.00
B. Air/Vapor		samples x	$25.00	
C. Water Supply		samples x	$35.00	
D. Groundwater No Purge		per well x	$20.00	
E. Gauge Well only				
11. Analyses - Groundwater (See Analytical Methodology for analyses)	32	samples x	$100.00	$3,200.00
A. BTEX+Napth.+MTBE		samples x	$120.00	$0.00
B. Rush BTEX analysis		samples x	$135.00	$0.00
C. BTEX+Napth.+MTBE+Trimethylbenzene		samples x	$120.00	$0.00
D. PAH's		samples x	$20.00	$0.00
E. Lead		samples x	$55.00	$1,760.00
F. EDB	32	samples x	$140.00	$0.00
G. 8 RCRA Metals		samples x	$55.00	$0.00
H. TPH (9070)		samples x	$10.00	$0.00
I. pH		samples x	$40.00	$0.00
J. BOD		samples x	$20.00	$0.00
K. Nitrate		samples x	$20.00	$0.00
L. Sulfate		samples x	$20.00	$0.00
M. Ferrous Iron		samples x	$110.00	$0.00
N. Methane		samples x	$100.00	$0.00
O. Organic Lead		samples x	$85.00	$0.00
P. 8 Oxygenates				

ASSESSMENT COMPONENT COST AGREEMENT

ITEM	Quantity	Unit	Unit Price	Total
11. Analyses - Soil				
Q. BTEX+Napth.		samples x	$100.00	$0.00
R. PAH's		samples x	$120.00	$0.00
S. 8 RCRA Metals		samples x	$150.00	$0.00
T. TPH (9071)		samples x	$60.00	$0.00
U. TPH (3550B/8015B)		samples x	$65.00	$0.00
V. TPH (5030B/8015B)		samples x	$65.00	$0.00
W. Grain size / hydrometer		samples x	$75.00	$0.00
X. Total Organic Carbon		samples x	$35.00	$0.00
11. Analyses - Air				
Y. BTEX + Napth.		samples x	$100.00	
Z. Hydrocarbon Fuel Identification		samples x	$593.00	
12. Aquifer Characteriztion*				
A. Pumping Test		hours x	$120.00	$0.00
B. Slug Test		tests x	$150.00	$0.00
13. Free Product Recovery Rate Test*		tests x	$120.00	$0.00
14. Fate/Transport Modeling				
A. Mathematical Model		each	$300.00	$0.00
B. Computer Model		each	$500.00	$0.00
15. Risk Evaluation				
A. Tier I Risk Evaluation		x	$300.00	$0.00
B. Tier II Risk Evaluation		x	$500.00	$0.00
16. Subsequent Survey*	1	x	$260.00	$260.00
17. Disposal*				
A. Wastewater				
1. Purging / Sampling	5	drums x	$90.00	$450.00
2. Pumping Test/EFR		gallons x	$0.60	$0.00
B. Free Product		drums x	$110.00	$0.00
C. Soil (Treatment / Disposal)	15	drums x	$50.00	$750.00
18. Miscellaneous (attach receipts)		x		$0.00
		x		$0.00
		x		$0.00
20. Tier I Assessment (Use DHEC 3665 form)				
21. IGWA (Use DHEC 3666 form)				
22. Corrective Action (Use DHEC 3687 form)				
23. EFR				
A. 8-hour Event*		each x	$3,000.00	$0.00
B. Additional Hour		per hour x	$204.00	$0.00
C. Off-gas treatment		per hour x	$35.00	$0.00
24. Granulated Activated Charcoal (GAC) filter system installation & service:				
A. New GAC System Installation*		each x	$2,500.00	$0.00
B. Refurbished GAC Sys. Install*		each x	$850.00	$0.00
C. Filter replacement/removal*		each x	$450.00	$0.00
D. GAC System removal, cleaning, & refurbishment*		each x	$450.00	$0.00
E. GAC System Housing		each x	$450.00	$0.00
F. In-line particulate filter		each x	$140.00	$0.00
G. Additional piping & fittings		feet x	$4.00	$0.00
19. Report/Project Management and Coordination	15%	x	$21,480.00	$3,222.00
25. Total				$24,702.00

*The appropriate mobilization cost can be added to complete these tasks, as necessary.

GENERAL LOCATION MAP



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Mag 15.00
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Scale 1:15,625 (at center)
1000 Feet
500 Meters

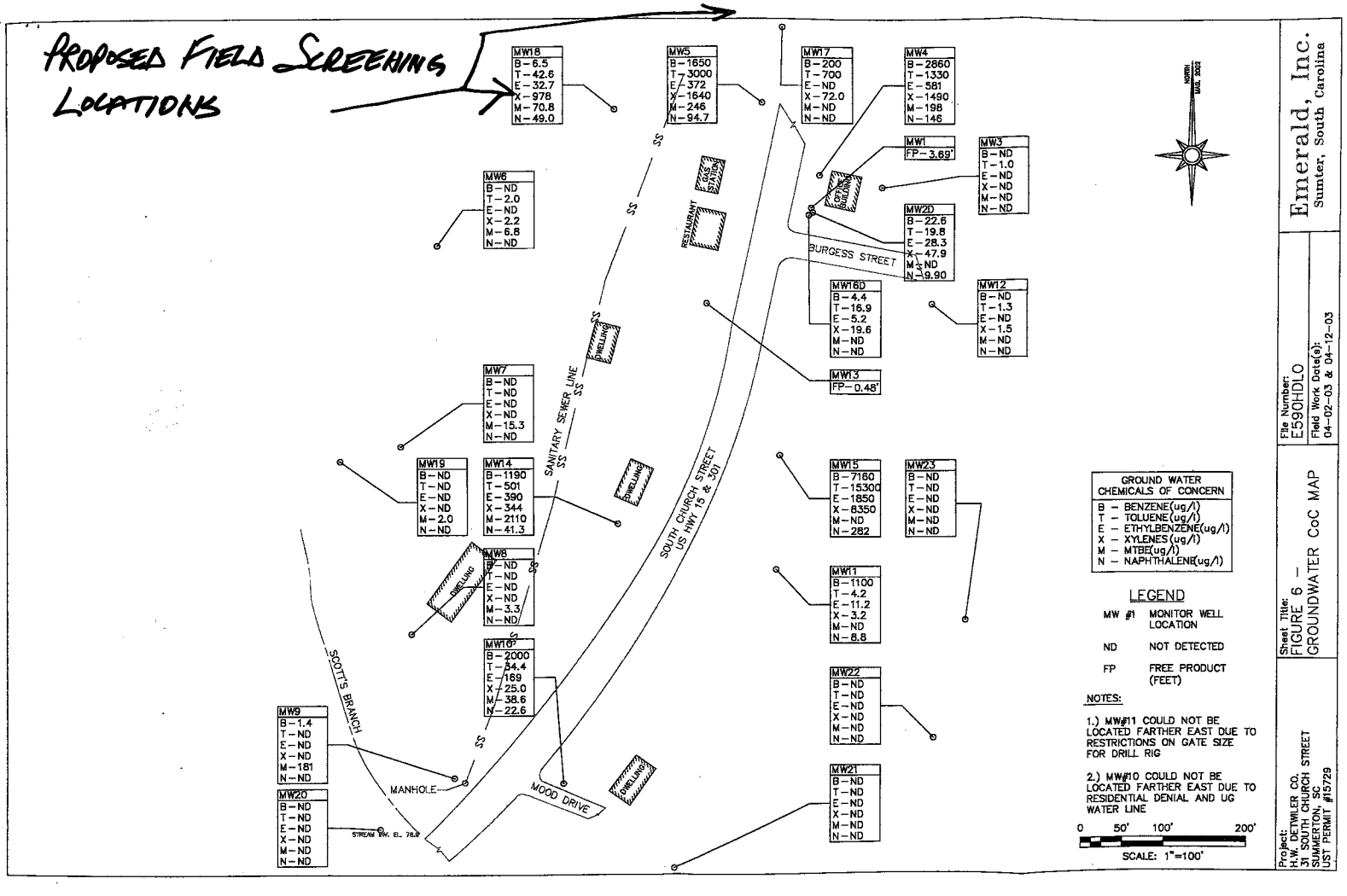
- Local Road
- Major Connector
- Interstate/Limited Access
- US Highway
- Small Town
- Airfield
- Cemetery
- Woodland
- River/Canal
- Intermittent River

H.W. DETWILER CO.
31 S. CHURCH STREET
SUMMERTON, SC
SITE ID #15729

USGS TOPOGRAPHIC MAP
7.5 MINUTE SERIES
"SUMMERTON, SC"
QUADRANGLE
SCALE: 1:24000

Emerald, Inc.
Sumter, SC

PROPOSED FIELD SCREENING LOCATIONS



Emerald, Inc.
Sumter, South Carolina

File Number: E590HDLO
Field Work Date(s): 04-02-03 & 04-12-03

Sheet Title: FIGURE 6 - GROUNDWATER CoC MAP

Project: H.W. DETWILER CO. 1 W. SOUTH CHURCH STREET SUMMERTON, SC. UST PERMIT #15729

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

MR HAROLD DETWILER JR
PO BOX 760
SUMMERTON SC 29148-0760

JAN 31 2012

UST BOCKETING

Re: Monitoring well installation directive
H.W. Detwiler Company, 37 South Church Street, Summerton, SC
UST Permit #15729; CA #42498; MWA #UMW-24438
Release reported June 22, 1993
Quality Assurance Project Plan (QAPP) Addendum received January 23, 2012
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed and approved the referenced QAPP Addendum submitted by Emerald, Inc. Monitoring well installation as outlined in the Addendum may proceed immediately upon receipt of this letter. The installation must be conducted in accordance with the UST QAPP. A copy of the QAPP is available at http://www.dhec.sc.gov/environment/lwm/html/ust.htm.

Cost Agreement (CA) #42498 has been approved in the amount shown on the enclosed cost agreement form for the installation of twenty-two shallow monitoring wells. The necessary monitoring well approval (MWA) is enclosed. The wells should be installed at the locations proposed in the QAPP Addendum. Please note that all applicable South Carolina certification requirements apply to the well installation and preparation of an assessment report. Further, all site rehabilitation activities must be performed and submitted by a South Carolina-Certified Underground Storage Tank Site Rehabilitation Contractor.

An assessment report, contractor checklist (QAPP Appendix K), and invoice are due within 90 days from the date of this letter. Your contractor may directly bill the State Underground Petroleum Environmental Response Bank (SUPERB) Account. Interim invoices may not be submitted for this scope of work. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the SCDHEC is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be pre-approved by the

Department for the cost to be paid. SCDHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, SCDHEC reserves the right to question and/or reject costs if deemed unreasonable and the right to audit project records at any time during the project or after completion of work.

The Division grants pre-approval for transportation of petroleum-contaminated, investigative-derived waste (IDW) from the referenced site to a permitted treatment/disposal facility. The transport and disposal must be conducted in accordance with the QAPP.

On all correspondence concerning this facility, please reference UST Permit #15729. If there are any questions concerning this project, feel free to contact me by telephone at (803) 896-6398, by fax at (803) 896-6245, or by e-mail at padgetjp@dhec.sc.gov.

Sincerely,

Joel P. Padgett, P.G., Geologist/Hydrologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

JPP/jpp
15729.4

enc: QAPP Addendum title and approval page
Approved cost agreement form
Monitoring well approval

cc: Emerald, Inc., P.O. Box 3050, Sumter, SC 29151 (w/enc)
Technical file (w/enc)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

Monitoring Well Approval

Approval is hereby granted to:	Emerald, Inc.
(On behalf of):	Mr. Harold W. Detwiler, Jr.
Facility:	H. W. Detwiler
UST Permit Number:	15729
County:	Clarendon

This approval is for the installation of twenty-two shallow monitoring wells. The wells are to be installed in the approved locations in accordance with the South Carolina Well Standards, R.61-71, and the applicable guidance documents.

Please note that R.61-71 requires the following:

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.
2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.
3. A Water Well Record Form or other form provided or approved by the Department shall be completed and submitted to the Department within 30 days after well completion or abandonment unless another schedule has been approved by the Department. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f
4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Department within 30 days of receipt of laboratory results unless another schedule has been approved by the Department as required by R.61-71.H.1.d.
5. If any of the information provided to the Department changes, notification to Joel Padgett (tel: (803) 896-6398 or e-mail: padgetjp@dhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.
6. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.
7. Departmental approval is required prior to abandonment of all monitoring wells as required by R.61-71.H.1.a.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and R.61-71 of the South Carolina Well Standards and Regulations, dated April 26, 2002. A copy of this approval should be on the site during well installation.

Date of Issue: January 27, 2012 **Approval #:** UMW-24438

Joel P. Padgett, P.G., Geologist/Hydrologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan Revision 2
Addendum to the SC DHEC UST Programmatic QAPP
For
H.W. Detwiler Company
SCDHEC Site ID# 15729

37 South Church Street
Summerton, South Carolina

Prepared by
William C. McClary, P.G.
Project Manager
Emerald, Inc
2520 Tahoe Drive
Sumter, South Carolina
SCDHEC Site Rehabilitation Contractor Certification Number UCC-067
Phone : 803-469-5454

Date: January 19, 2012

Approvals

Joel P. Padgett, P.G. SC DHEC Project Manager	Signature	Date 1/27/12
Ronny L Lowder Project QA Manager	Signature	Date 1/20/2012
William C. McClary, P.G. Project Manager	Signature	Date 1-20-12
for Jeff Graham Laboratory Director	Signature	Date 1/19/2012

Approved Cost Agreement 42498

Facility: 15729 H W DETWILER CO

PADGETJP

PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
01 PLAN						
		C	TIER II/COMP. PLAN/QAPP APP B	1.0000	525.00	525.00
04 MOB/DEMOB						
		A	EQUIPMENT	1.0000	575.00	575.00
		B	PERSONNEL	2.0000	290.00	580.00
09 WELL INSTALLATION						
		B	WATER TABLE (DRILLED)	550.0000	38.00	20,900.00
11 ANALYSES						
	SOIL SOIL	Q	BTEX+NAPTH	7.0000	100.00	700.00
16 SUBSEQUENT SURVEY						
			SUBSEQUENT SURVEY	1.0000	300.00	300.00
17 DISPOSAL						
		A	WASTEWATER	110.0000	0.80	88.00
		C	SOIL (TREATMENT/DISPOSAL)	22.0000	72.50	1,595.00
19 RPT/PROJECT MNGT & COORDINATIO						
		PCT	PERCENT	0.1500	25,263.00	3,789.45
				Total Amount		29,052.45

9/8/95 jc

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

Commissioner: Douglas E. Bryant

Board: John H. Burriss, Chairman
Sandra J. Molander, Secretary

Richard E. Jabbour, DDS
William M. Hull, Jr., MD
Roger Leaks, Jr.

Promoting Health, Protecting the Environment

September 8, 1995

CERTIFIED MAIL

Mr. Harold Detwiler, Jr.
PO Box 760
Summerton, SC 29148-760

Re: H. W. Detwiler Company Site
Site ID #15729
Environmental Insurance Statement
Clarendon County

Dear Detwiler:

The Underground Storage Tank Program (USTP) of the South Carolina Department of Health And Environmental Control (SCDHEC) has requested an Environmental Insurance Statement on three seperate occassions. This information is required for qualification and access to the State Underground Petroleum Environmental Response Bank (SUPERB) Act funds. This information must be signed by the responsible party and a notary public. For your convenience, an insurance statement form has been enclosed. If an environmental insurance policy existed at the time of the release, a copy of the policy with all endorsements must be submitted with the insurance statement.

Bids from contractors are currently being sought by the UST Program for performance of specified investigative activities so that DHEC can evaluate the risk, if any, presented by the release at the referenced facility. However, the referenced site is **not qualifed** for SUPERB funding. Please be advised that you will be required to proceed with investigation without SUPERB funding if the requested information is not submitted. The requested information must be submitted to my attention on or before September 15, 1995 with a copy of this letter.

On all correspondence relating to this site, please reference the **Site ID 15729.** If you have any questions, please call me at (803) 734-4671.

Sincerely,

Jan Cooke, Hydrogeologist
Technical Section
Underground Storage Tank Program

enc: Insurance Statement

UST PROGRAM
DOCKETING # 011 Tech

recycled paper

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

214 WEST LIBERTY STREET • POST OFFICE BOX 3050 • SUMTER, SC 29151

E-MAIL:
rllemerald@CPIS.net

TELEPHONE (803) 773-5454
FAX (803) 775-1970

TIER II ASSESSMENT REPORT
(ADDENDUM 01)
H.W. Detwiler Co.
31 S. Church Street
Summerton, South Carolina
Site ID #15729

RECEIVED

APR 29 2003

UNDERGROUND STORAGE
TANK PROGRAM

Prepared For:

South Carolina Department of Health and Environmental Control
Bureau of Land & Waste Management
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

Prepared By:

Emerald, Inc.
UST Site Rehabilitation Contractor #67
P.O. Box 3050
214 W. Liberty Street
Sumter, South Carolina 29151

April 25, 2003

UST PROGRAM
DOCKETING # 02 Tech

Signature Page

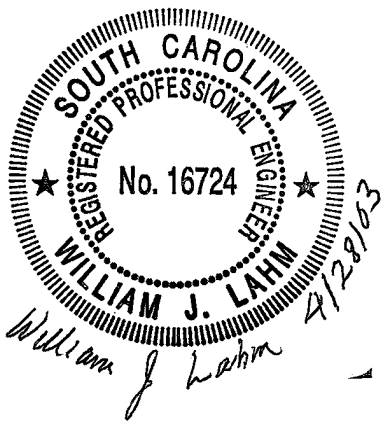
This document entitled " Tier II Assessment Report - Addendum 01", has been prepared for the South Carolina Department of Health and Environmental Control to describe investigative activities initiated at the H.W. Detwiler site located in Summerton, South Carolina. It has been prepared under the direct supervision of William J. Lahm in accordance with accepted quality control practices.

Emerald, Inc.

Ronny L. Lowder
President

Emerald, Inc.

William J. Lahm, P.E.
South Carolina Registration # 16724



Tier II Assessment Report - Addendum 01
H. W. Detwiler Co.
Summerton, South Carolina

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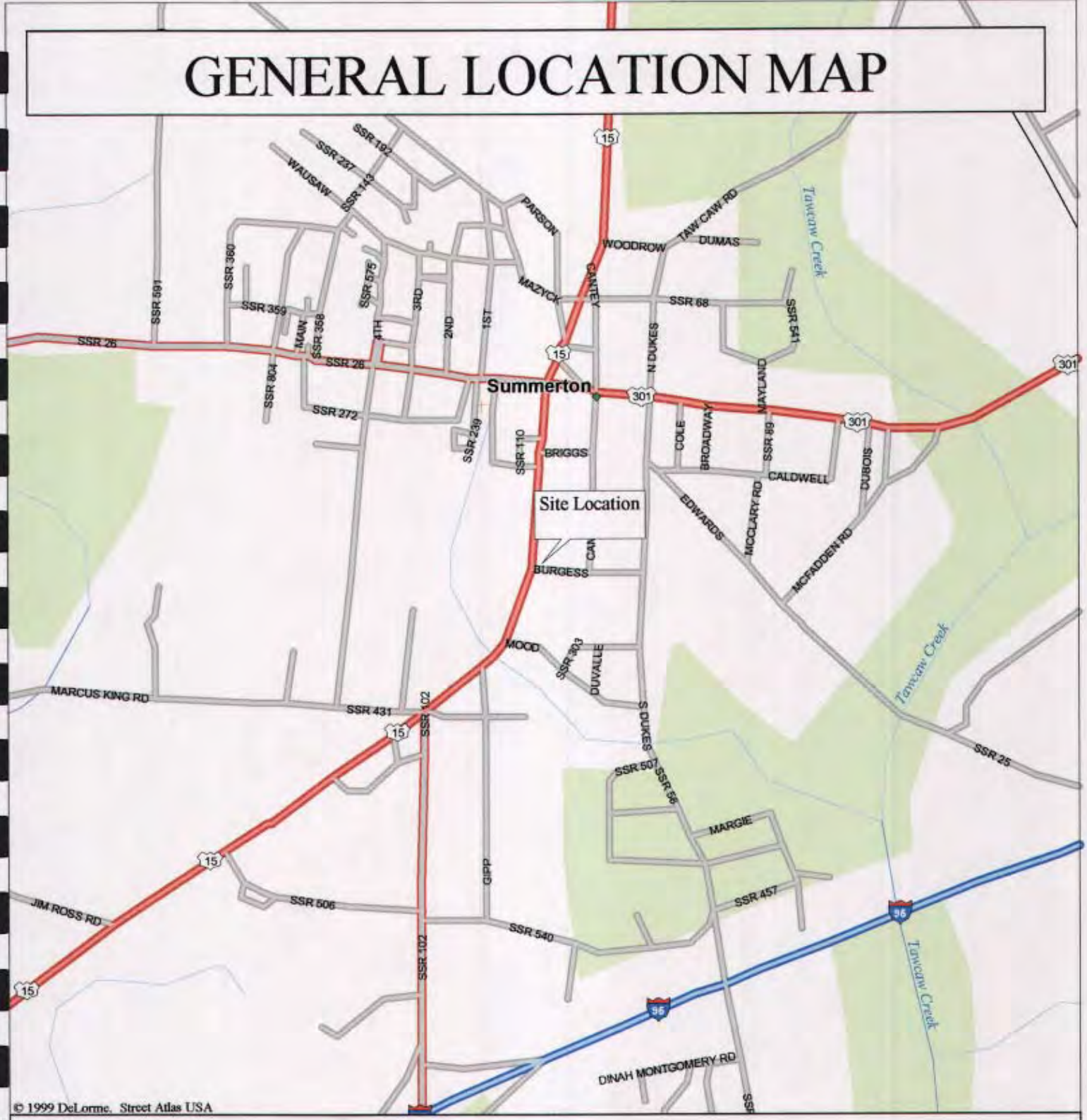
1.0 Introduction

The H.W. Detwiler (Detwiler) site is located within the City of Summerton on the northeastern corner of the intersection of S. Church Street (Hwy. 15) and Burgess Street. The subject site is currently used as an office building. Formerly, the site was used by a construction company which stored gasoline in two (2) underground storage tanks (USTs) for its fleet of vehicles. The two (2) USTs, 1000 gallons each, were permanently closed by removal in June 1993 by G&K Tank Services. The Detwiler site is located within an area of mixed use. Commercial activities including a restaurant, a full service gasoline station (with USTs) and a convenience store with gasoline USTs are located west and northwest of the subject site respectively. The areas north, east and south of the subject site are used for residential purposes. According to local sources, a former gasoline station was located approximately 300 feet south of the Detwiler site (along the eastern side of S. Church Street) in the 1940s and 1950s. (This area is near MW15 as seen in Figure 3). A general site location map and a site topographic map are provided in Figures 1 and 2 respectively. Figure 3 provides a site survey map.

A site assessment was conducted by Duncan Environmental Associates, Inc. at the time of closure and a release notification was sent to SCDHEC on June 22, 1993. The site assessment showed soil contamination above the reporting limits for BTEX and TPH compounds.

In July 2000, Emerald, Inc. conducted an Initial Ground Water Assessment (IGWA) as directed by SCDHEC in the area of the former USTs. The results of the IGWA confirmed the presence of petroleum contaminants in the soil and ground water

GENERAL LOCATION MAP



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Mag 15.00
Mon Apr 21 10:15 2003
Scale 1:15,625 (at center)
1000 Feet
500 Meters

- Local Road
- Major Connector
- Interstate/Limited Access
- US Highway
- Small Town
- Airfield
- Cemetery
- Woodland
- River/Canal
- Intermittent River

H.W. DETWILER CO.
31 S. CHURCH STREET
SUMMERTON, SC
SITE ID #15729

USGS TOPOGRAPHIC MAP
7.5 MINUTE SERIES
"SUMMERTON, SC"
QUADRANGLE
SCALE: 1:24000

Emerald, Inc.
Sumter, SC

at the site. The monitoring well (MW01) measured 1.51 feet of liquid phase hydrocarbons (LPH) or free product after installation.

In August 2000, SCDHEC requested a Tier II proposal for the site, and in December 2000, SCDHEC approved the Tier II proposal submitted by Emerald, Inc. Emerald, Inc. personnel conducted the Tier II Assessment at the subject property in order to define the horizontal and vertical extent of the ground water contamination plume. The Tier II Assessment was submitted to SCDHEC in April 2002. Such assessment found that the free product plume extended southwest of the site underneath Church Street. In addition, the vertical extent of contamination had not been defined by the deeper well and the southeastern direction of the dissolved phase hydrocarbon plume was not defined. In August 2002, SCDHEC approved additional assessment to define the ground water plume both horizontally and vertically. This document summarized the results of the Tier II additional assessment which is represented as Addendum 01.

2.0 Regional & Site Specific Geology

The Detwiler site is located within the Middle Coastal Plain Physiographic Province of South Carolina. The Middle Coastal Plain Physiographic Province is characterized by unconsolidated sediments of fluvial and marine origin resting unconformably on crystalline bedrock located at a depth of approximately 600 feet. Surficial sediments in the Clarendon County area are Pliocene age terrace deposits produced by river incisement of Cretaceous and Tertiary sediment during periods of low sea level.

The Detwiler site is underlain by red sandy clays at higher elevations in the

source area to brown silty sands at lower elevations near Scotts Branch Creek. A deep well was installed 75 feet below ground surface during this event. A sandy clay layer was encountered during drilling of this deep well between 45 and 75 feet below the surface.

3.0 Site Activities

Emerald, Inc. personnel conducted the additional Tier II Assessment activities to define the lateral and vertical extent of dissolved phase ground water contamination around the site. Field activities required to generate site-specific information for the Detwiler site are described in detail within this section.

3.1 Field Screening

During this event, ten (10) temporary wells were utilized at the subject facility to check ground water quality at selected locations (see Figure 4). The temporary wells were positioned west of S. Church Street plus southeast of the site south to Scotts Branch Creek and beyond. A Geoprobe® rig was used to advance ten (10) temporary wells to a maximum depth of thirty (30) feet below ground surface. A decontaminated, stainless steel bailer was inserted inside the Geoprobe® rods and used for the collection of ground water samples. Once ground water collection activities were completed at each Geoprobe® location, the rods were removed from the ground and each borehole was properly abandoned by filling with a lean grout mixture to ground surface. A copy of the Field Screening Log is provided in Appendix B.

All ground water samples collected during the Field Screening event at the Detwiler site were packed in crushed ice immediately following collection. A Chain of

Project: H.W. DETWILER CO. 31 SOUTH CHURCH STREET SUMMERTON, SC UST PERMIT #15729	Sheet Title: FIGURE 4 – SCREENING POINTS AND RESULTS	File Number: E588HDLO Field Work Date(s): 10-03-02 & 10-04-02	Emerald, Inc. Sumter, South Carolina

Custody was completed prior to offsite sample removal. Samples were shipped to Test America, Inc. and analyzed for benzene, toluene, ethyl benzene, total xylenes (BTEX) and naphthalene using EPA Method 8260B. Table 1 and Figure 4 show the analytical results for the field screening at each point. Analytical data sheets for each ground water sample are provided in Appendix A.

Table 1
Field Screening Results (Ground Water) - Addendum 01
Detwilers

FIELD SCREENING POINT	Benzene	Toluene	Ethyl Benzene	Xylene	MTBE	Naphthalene
GP - 31	39.3	201	50.9	245	ND	11.8
GP - 32	3.5	45.8	22.3	92.0	ND	ND
GP - 33	ND	8.0	4.5	19.5	ND	ND
GP - 34	ND	3.5	ND	4.6	ND	ND
GP - 35	ND	ND	ND	ND	ND	ND
GP - 36	ND	ND	ND	ND	ND	ND
GP - 37	ND	ND	ND	ND	ND	ND
GP - 38	ND	ND	ND	ND	ND	ND
GP - 39	2.3	ND	ND	ND	ND	ND
GP - 40	ND	ND	ND	ND	ND	ND

NOTE: GP - Geoprobe
ND - Not Detected at the report limit
All results are ug/l.

3.2 Soil Assessment and Monitoring Well Installation

No additional soil assessment was conducted during this event.

After receiving the field screening results for the ground water samples, potential monitoring well locations were marked on a site map and sent to the DHEC project manager along with the analytical results for approval. Upon confirmation from the project

manager, the drilling schedule was determined. All drilling activities were performed by a licensed SC well driller using a drilling rig equipped with hollow stem augers. Seven (7) shallow wells and one (1) deep well were installed around the area, as per the approval of the project manager.

3.3 Static Water Level Measurement

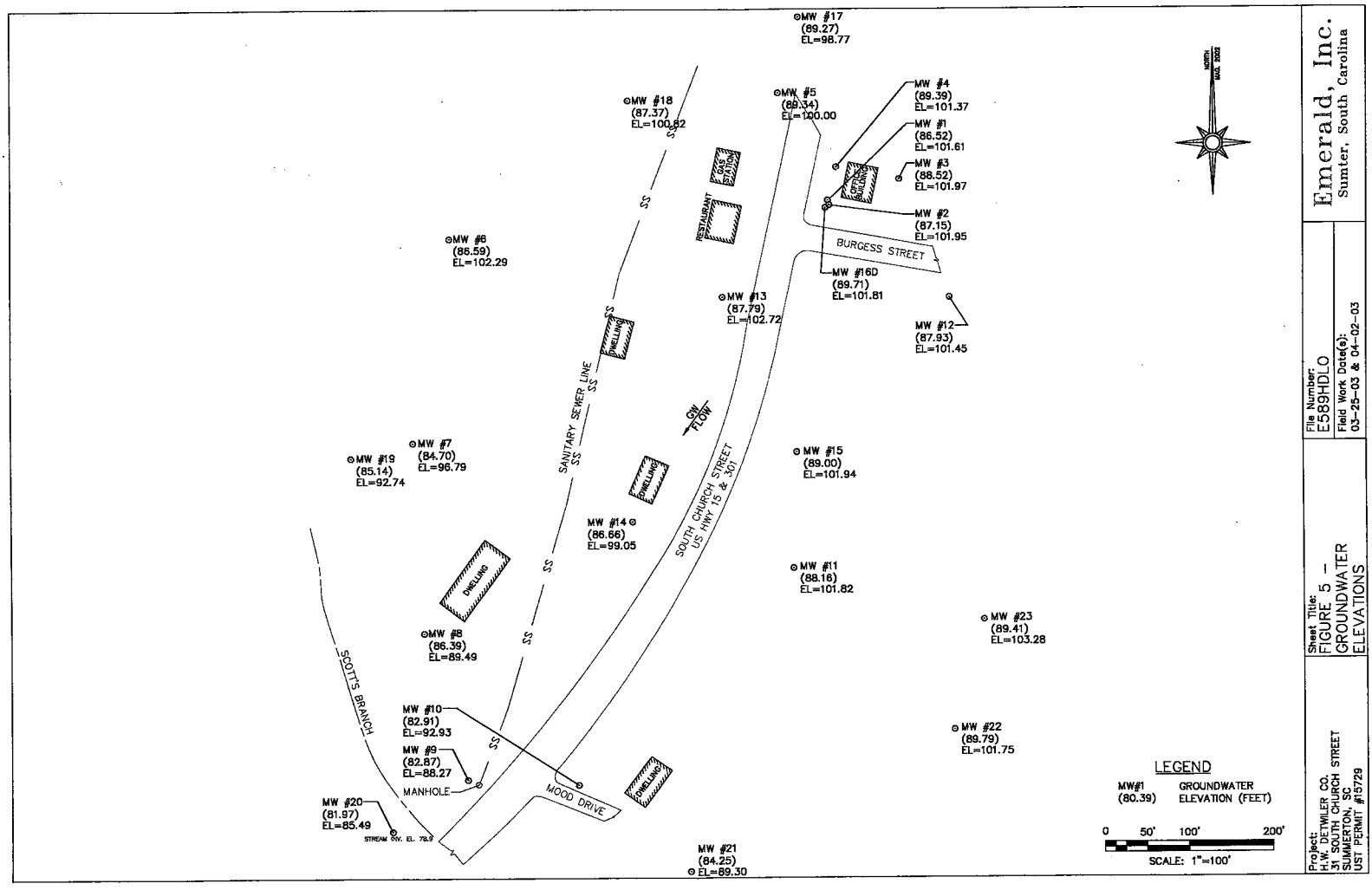
Prior to well development or sample collection, static water levels were taken to the nearest 0.01 foot using a graduated electronic indicator that indicated LPH levels as well. All measurements were taken from the surveyed top of the well casing so they could be referenced to a common datum. Static water levels are summarized in Table 2. (Free product was observed in two monitoring wells during this event.) Using the static water level measurements and the surveyed top of the well casing measurements as determined by a registered surveyor, ground water elevations were calculated. Figure 5 shows the ground water elevations at each monitoring well along with the direction of ground water flow (south-southwest) toward Scotts Branch Creek.

Table 2
Static Water Level Elevations
H.W. Detwiler

Date: 4/12/03

WELL ID#	STATIC WATER LEVEL*	FREE PRODUCT THICKNESS (ft.)	TOP OF CASING ELEVATIONS	GROUND WATER ELEVATION
MW01	15.09	3.69	101.61	86.52
MW02D	14.80	ND	101.95	87.15
MW03	13.45	ND	101.97	88.52
MW04	11.98	ND	101.37	89.39
MW05	10.66	ND	100.00	89.34
MW06	15.70	ND	102.29	86.59
MW07	12.09	ND	96.79	84.70
MW08	3.10	ND	89.49	86.39
MW09	5.40	ND	88.27	82.87
MW10	10.02	ND	92.93	82.91
MW11	13.66	ND	101.82	88.16
MW12	13.52	ND	101.45	87.93
MW13	14.93	0.48	102.72	87.79
MW14	12.39	ND	99.05	86.66
MW15	12.94	ND	101.94	89.00
MW16D	12.10	ND	101.81	89.71
MW17	9.50	ND	98.77	89.27
MW18	13.45	ND	100.82	87.37
MW19	7.60	ND	92.74	85.14
MW20	3.52	ND	85.49	81.97
MW21	5.05	ND	89.30	84.25
MW22	11.96	ND	101.75	89.79
MW23	13.87	ND	103.28	89.41

Notes: ***- Depth below top of Casing, in feet**
ND - Not Detected


MW #17
(89.27)
EL=98.77
MW #18
(87.37)
EL=100.82
MW #5
(88.34)
EL=100.00
MW #4
(89.39)
EL=101.37
MW #1
(86.52)
EL=101.61
MW #3
(88.52)
EL=101.97
MW #2
(87.15)
EL=101.95
GAS STATION
RESTAURANT
OFFICE BUILDING
BURGESS STREET
MW #16D
(89.71)
EL=101.81
MW #6
(86.59)
EL=102.29
MW #13
(87.79)
EL=102.72
MW #12
(87.93)
EL=101.45
DWELLING
SANITARY SEWER LINE
SS
GW FLOW
MW #7
(84.70)
EL=96.79
MW #19
(85.14)
EL=92.74
MW #15
(89.00)
EL=101.94
SOUTH CHURCH STREET
US HWY 15 & 301
MW #14
(86.66)
EL=99.05
MW #11
(88.16)
EL=101.82
MW #23
(89.41)
EL=103.28
MW #8
(86.39)
EL=89.49
SCOTTS BRANCH
MW #10
(82.91)
EL=92.93
MW #9
(82.87)
EL=88.27
MANHOLE
MOOD DRIVE
MW #22
(89.79)
EL=101.75
MW #20
(81.97)
EL=85.49
STREAM INV. EL. 78.9
MW #21
(84.25)
EL=89.30
LEGEND
MW#1 (80.39) GROUNDWATER ELEVATION (FEET)
0 50' 100' 200'
SCALE: 1"=100'
NORTH
MAG. 2002
Emerald, Inc.
Sumter, South Carolina
File Number:
E589HDLO
Field Work Date(s):
03-25-03 & 04-02-03
Sheet Title:
FIGURE 5 -
GROUNDWATER
ELEVATIONS
Project:
H.W. DETWILER CO.
31 SOUTH CHURCH STREET
SUMMERTON, SC
UST PERMIT #15729

3.4 Ground Water Sampling

Ground water samples were collected from monitoring wells MW01 through MW23 on April 2 and April 12, 2003. Prior to sampling, all wells were purged a minimum of three (3) well volumes to ensure that a representative sample of the aquifer was collected (see Well Purge Logs - Appendix B). All wells were purged and sampled with a clear, disposable PVC bailer. Dissolved oxygen readings were taken at each well location. Following well purging activities, a ground water sample was collected from each well and placed into appropriate containers. All purge waters and soils were placed in 55 gallon drums and delivered to G&K Tank Services in Sumter, SC for disposal (See Appendix C for a copy of the waste disposal manifest.)

All ground water samples were packed in crushed ice and shipped to Test America, Inc. for chemical analysis. Each sample was analyzed for BTEX, MTBE, and naphthalene using EPA Method 8260B, and EDB (EPA Method 8011). A summary of the ground water analytical is provided in Table 3, and Figure 6 shows the analytical results at each monitoring well location.

3.5 Ground Water Analytical Data

The following table summarizes ground water analytical results.

Table 3
Ground Water Analytical Data Summary
Detwilers

Sample Dates: 4/2/03 & 4/12/03

MONITORING WELL	Benzene	Toluene	Ethyl Benzene	Xylene	MTBE	Naphthalene	Ethylene Dibromide
MW - 1	FP - 3.69'	FP - 3.69'	FP - 3.69'	FP - 3.69'	FP - 3.69'	FP - 3.69'	FP - 3.69'
MW - 2D	22.6	19.8	28.3	47.9	ND	9.90	0.15
MW - 3	ND	1.0	ND	ND	ND	ND	ND
MW - 4	2860	1330	581	1490	198	146	13.6
MW - 5	1650	3000	372	1640	246	94.7	22.0
MW - 6	ND	2.0	ND	2.2	6.8	ND	ND
MW - 7	ND	ND	ND	ND	15.3	ND	ND
MW - 8	ND	ND	ND	ND	3.3	ND	ND
MW - 9	1.4	ND	ND	ND	181	ND	ND
MW -10	2000	34.4	169	25.0	38.6	22.6	ND
MW -11	1100	4.2	11.2	3.2	ND	8.80	0.23
MW -12	ND	1.3	ND	1.5	ND	ND	ND
MW -13	FP - 0.48'	FP - 0.48'	FP - 0.48'	FP - 0.48'	FP - 0.48'	FP - 0.48'	FP - 0.48'
MW -14	1190	501	390	344	2110	41.3	0.12
MW -15	7160	15300	1850	8350	ND	282	152
MW-16D	4.4	16.9	5.2	19.6	ND	ND	ND
MW-17	200	700	ND	720	ND	ND	0.04
MW-18	6.5	426	327	978	70.8	49.0	ND
MW-19	ND	ND	ND	ND	2.0	ND	ND
MW-20	ND	ND	ND	ND	ND	ND	ND
MW-21	ND	ND	ND	ND	ND	ND	ND
MW-22	ND	ND	ND	ND	ND	ND	ND
MW-23	ND	ND	ND	ND	ND	ND	ND

NOTE: MW - Monitoring Well
ND - Not Detected at the report limit
All results are ug/l.

Project:
H.W. DETWILER CO.
31 SOUTH CHURCH STREET
SUMMERTON, SC
UST PERMIT #15729

Sheet Title:
FIGURE 6 –
GROUNDWATER CoC MAP

File Number:
E590HDLO

Field Work Date(s):
04-02-03 & 04-12-03

Emerald, Inc.
Sumter, South Carolina

GROUND WATER
CHEMICALS OF CONCERN
B – BENZENE(ug/l)
T – TOLUENE(ug/l)
E – ETHYLBENZENE(ug/l)
X – XYLENES(ug/l)
M – MTBE(ug/l)
N – NAPHTHALENE(ug/l)

LEGEND
MW #1 MONITOR WELL LOCATION
ND NOT DETECTED
FP FREE PRODUCT (FEET)

NOTES:
1.) MW#11 COULD NOT BE LOCATED FARTHER EAST DUE TO RESTRICTIONS ON GATE SIZE FOR DRILL RIG
2.) MW#10 COULD NOT BE LOCATED FARTHER EAST DUE TO RESIDENTIAL DENIAL AND UG WATER LINE

SCALE: 1"=100'
0 50' 100' 200'

NORTH
MAR. 2002

MW3 B – ND T – 1.0 E – ND X – ND M – ND N – ND
MW12 B – ND T – 1.3 E – ND X – 1.5 M – ND N – ND
MW4 B – 2860 T – 1330 E – 581 X – 1490 M – 198 N – 146
MW1 FP – 3.69'
MW2D B – 22.6 T – 19.8 E – 28.3 X – 47.9 M – ND N – 9.90
MW23 B – ND T – ND E – ND X – ND M – ND N – ND
MW16D B – 4.4 T – 16.9 E – 5.2 X – 19.6 M – ND N – ND
MW13 FP – 0.48'
MW15 B – 7160 T – 15300 E – 1850 X – 8350 M – ND N – 282
MW11 B – 1100 T – 4.2 E – 11.2 X – 3.2 M – ND N – 8.8
MW22 B – ND T – ND E – ND X – ND M – ND N – ND
MW21 B – ND T – ND E – ND X – ND M – ND N – ND
MW17 B – 200 T – 700 E – ND X – 72.0 M – ND N – ND
OFFICE BUILDING
BURGESS STREET
MW5 B – 1650 T – 3000 E – 372 X – 1640 M – 246 N – 94.7
GAS STATION
RESTAURANT
SOUTH CHURCH STREET
US HWY 15 & 301
SS
SANITARY SEWER LINE
DWELLING
MOOD DRIVE
MW18 B – 6.5 T – 42.6 E – 32.7 X – 978 M – 70.8 N – 49.0
MW6 B – ND T – 2.0 E – ND X – 2.2 M – 6.8 N – ND
MW7 B – ND T – ND E – ND X – ND M – 15.3 N – ND
MW14 B – 1190 T – 501 E – 390 X – 344 M – 2110 N – 41.3
MW8 B – ND T – ND E – ND X – ND M – 3.3 N – ND
MW10 B – 2000 T – 34.4 E – 169 X – 25.0 M – 38.6 N – 22.6
MW19 B – ND T – ND E – ND X – ND M – 2.0 N – ND
MANHOLE
SCOTT'S BRANCH
STREAM APP. EL. 78.9
MW9 B – 1.4 T – ND E – ND X – ND M – 181 N – ND
MW20 B – ND T – ND E – ND X – ND M – ND N – ND

3.6 Aquifer Characterization

Aquifer characterization was conducted during the Tier II Assessment and submitted in the report dated April 30, 2002.

3.7 Receptor Survey

A receptor survey was conducted at the subject site during the Tier II Assessment to identify any potential exposure pathways for soil and/or ground water contamination. Exposure points are considered the location that a receptor can come into contact, whether now or in the future, with soil and/or ground water contaminants. Typical exposure points may be drinking water wells, ponds, streams, underground basements, or underground utilities.

3.7.1 Water Wells

Reconnaissance of the area surrounding the Detwiler site revealed the presence of one water well (residential) located approximately 360 feet southeast of the source area. Such well is located east of MW11 and MW15, as seen on the site map, behind a residence. The well, construction details unknown, is used for irrigation and supplying a residential pool. This well was sampled during one of the prior field screening events and the analytical results did not show any levels of CoCs above the detection limits.

3.7.2 Underground Utilities

A utility check by Palmetto Utilities Protection Services was requested for the subject property prior to the assessment field effort. Utilities were marked to identify any potential underground exposure points (i.e., storm drain, sanitary sewer line, etc.). Contaminated ground water could potentially seep into these utilities if the static water level existed at an

elevation greater than or equal to the corresponding underground utility.

Underground water and storm drain lines run parallel with S. Church Street and Burgess Street at a depth of three (3) to four (4) feet below the surface. The static water level is considerably below this level in the source area; however, the topographic elevation decreases considerably in the southern direction along S. Church Street toward Scotts Branch Creek. The static water level increases in elevation correspondingly.

A sewer line is present west of the site, as seen in Figure 3, which runs parallel with S. Church Street to a junction manhole located just north of Scotts Branch Creek. According to the local utility manager, the sewer line is an old terra cotta pipe (diameter not given) that is buried at a level of twenty (20) feet below the surface west of the restaurant and gas station. The static water level in this area is approximately twenty (20) feet below the surface as well. During field screening events, it was observed that the points west of the sewer line had considerably less petroleum odor and consequently low analytical results. It is possible that the sewer line is providing a preferential pathway for the ground water contamination in the area.

3.7.3 Surface Water

The receptor survey revealed the presence of Scotts Branch Creek located west and south of the site. The direction of ground water flow is moving the contaminant plume in this direction. During prior field screening events, the creek was sampled both upgradient and downgradient of the S. Church Street bridge. None of the results were above the detection limits. During this event, one monitoring well (MW-20) was installed south of Scotts Branch Creek.

3.8 Site Survey

A site survey was performed to establish an accurate site map portraying the locations of the former UST area, buildings and property lines. The comprehensive site survey was performed by D.D. Edmunds, Registered Land Surveyor. The elevation of each monitor well top of casing (TOC) was established using an assumed onsite benchmark elevation of 100 feet.

The survey map established by Mr. Edmunds was utilized as a base map during the Tier II Assessment. See Figure 3 for a copy of the site survey map.

4.0 Tier II Evaluation

The Tier II Evaluation was conducted during a prior assessment and presented in the report dated April 30, 2002.

4.1 Fate and Transport Model

Modeling was conducted during a prior assessment and presented in the report dated April 30, 2002.

4.2 SSTL Calculation

The ground water SSTL's were calculated during a prior assessment and presented in the report dated April 30, 2002.

5.0 Results, Conclusions and Recommendations

5.1 Results & Conclusions

Although the contamination plume was defined southeast of the site, this additional assessment found ground water contamination northwest of the Detwiler source area in

monitoring wells numbered MW-17 and MW-18. Both monitoring wells, along with MW-5, are located near active gasoline sites with underground storage tanks.

Approximately 3.69 feet of free product was measured in well MW01 and 0.48 feet in MW13. The distribution of CoCs on this site plus the direction of ground water flow suggests that the Detwiler site may not be the single source of contamination; however, the plumes apparently have merged to form one large plume downgradient of the Detwiler area. The increase in the shallow water table elevation has caused the sewer line located west of S. Church Street to be submerged in contaminated ground water. The sewer line material is old terra cotta pipe according to the local utilities director.

The deeper well installed during this event shows a minimal level of contamination at 75 feet. The vertical migration of contaminants has been decreased due to the presence of a sandy clay layer found between 45 and 75 feet below the surface.

Due to the number of dwellings downgradient of this site, a potential for human exposure may exist as a result of the potential impact to the city sewer line.

5.2 Recommendations

Based on the findings of this additional Tier II Assessment, the following recommendations are offered:

1. Conduct additional assessment on the area northwest of the Detwiler source area to determine if other sources of ground water contamination are present and contributing to the overall contamination plume.
2. Initiate free product recovery at wells MW01 and MW13 to reduce the contaminant source flowing toward the sewer line and Scotts Branch Creek.

3. Perform analysis of the downgradient city water line for BTEX and MTBE contaminants.
4. Perform tests on the sanitary sewer line to determine the presence of BTEX and MTBE contaminants.
5. Periodic testings of Scotts Branch Creek for BTEX and MTBE contaminants, and possibly install a ground water pump/collection system upgradient of the Creek.
6. Initiate ground water remediation activities to reduce contaminant concentrations to acceptable levels and to prevent further impact to downgradient properties, the sanitary sewer and Scotts Branch Creek.

APPENDICES

APPENDIX A

ANALYTICAL DATA SHEETS

FIELD SCREENING RESULTS

FAX CHAIN 303965

TestAmerica INCORPORATED

Division/Laboratory Name: TO COLUMBIA

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes? Compliance Monitoring YES

Client Name: EMERALD, INC. Client #: 8583

Address: PO BOX 3050

City/State/Zip Code: SUMTER, SC 29151

Project Manager: R. LOWDER

Telephone Number: (803) 773-5454 Fax: (803) 775-1970

Sampler Name: (Print Name) RONNY LOWDER

Sampler Signature: [signature]

Project Name: DET

Project #: —

Site/Location ID: — State: SC

Report To: EMERALD, INC.

Invoice To: SAME

Quote #: — PO#: —

TAT
___ Standard
___ Rush (surcharges may apply)

Date Needed: 10/10/02

Fax Results: (Y) N

QC Deliverables
___ None
___ Level 2 (Batch QC)
___ Level 3
___ Level 4
Other: _____

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge DW - Drinking Water GW - Groundwater S - Soil/Solid WW - Wastewater Specify Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: BTEX/NAPH/MTBE (8260B)									REMARKS
GP-31	10/3	11:15	G	N	GW		3						✓									164282
GP-32		13:00	G	N	GW		3						✓									83
GP-33		14:40	G	N	GW		3						✓									84
GP-34		15:25	G	N	GW		3						✓									85
GP-35		16:30	G	N	GW		3						✓									86
GP-36		17:15	G	N	GW		3						✓									87
GP-37		17:40	G	N	GW		3						✓									88
GP-38	10/4	8:40	G	N	GW		3						✓									89
GP-39	10/4	9:40	G	N	GW		3						✓									90
GP-40	10/4	10:30	G	N	GW		3						✓									91

Special Instructions:

Relinquished By: [signature]	Date: 10/4/02	Time: 17:15	Received By: Fed Ex	Date: 10/4/02	Time: 17:15
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By: [signature]	Date: 10/5/02	Time: 0900

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp:
Custody Seals: Y N N/A
Bottles Supplied by TestAmerica: Y N
Method of Shipment:

TESTAMERICA,INC.-NASHVILLE

COOLER RECEIPT FORM

Client: EMERALD, INC. (8583) BC# 303965

Cooler Received On: 10/5/02 And Opened On: 10/5/02 By: Ben Wright

(Signature)

1. Temperature of Cooler when opened 4.0 Degrees Celsius
2. Were custody seals on outside of cooler?..... (YES) NO N/A
   a. If yes, how many, what kind and where: 2 - TAPE - FRONT
   b. Were the seals intact, signed, and dated correctly?..... (YES) NO N/A
3. Were custody seals on containers and intact?..... (NO) YES N/A
4. Were custody papers inside cooler?..... (YES) NO N/A
5. Were custody papers properly filled out (ink,signed,etc)?..... (YES) NO N/A
6. Did you sign the custody papers in the appropriate place?..... (YES) NO N/A
7. What kind of packing material used? (Bubblewrap) Peanuts Vermiculite Other None
8. Was sufficient ice used (if appropriate)?..... (YES) NO N/A
9. Did all bottles arrive in good condition(unbroken)?..... (YES) NO N/A
10. Were all bottle labels complete (#,date,signed,pres,etc)?..... (YES) NO N/A
11. Did all bottle labels and tags agree with custody papers?..... (YES) NO N/A
12. Were correct bottles used for the analysis requested?..... (YES) NO N/A
13. a. Were VOA vials received?..... (YES) NO N/A
    b. Was there any observable head space present in any VOA vial?..... (NO) YES N/A
14. Was sufficient amount of sample sent in each bottle?..... (YES) NO N/A
15. Were correct preservatives used?..... (YES) NO N/A
    If not, record standard ID of preservative used here _____
16. Was residual chlorine present?..... NO YES (N/A)
17. Corrective action taken, if necessary:

See attached for resolution

TestAmerica
INCORPORATED

10/14/02

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project DET. The Laboratory Project number is 303965.
An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report.

Sample Identification	Lab Number	Collection Date
GP-31	02-A164282	10/ 3/02
GP-32	02-A164283	10/ 3/02
GP-33	02-A164284	10/ 3/02
GP-34	02-A164285	10/ 3/02
GP-35	02-A164286	10/ 3/02
GP-36	02-A164287	10/ 3/02
GP-37	02-A164288	10/ 3/02
GP-38	02-A164289	10/ 4/02
GP-39	02-A164290	10/ 4/02
GP-40	02-A164291	10/ 4/02

Sample Identification	Lab Number	Collection Date

These results relate only to the items tested.
This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By: Roxanne L Connor Report Date: 10/14/02

Paul E. Lane, Jr., Lab Director
Michael H. Dunn, M.S., Technical Director
Johnny A. Mitchell, Dir. Technical Serv.
Eric S. Smith, Assistant Technical Director
Roxanne L. Connor, Technical Services
Gail A. Lage, Technical Serv.
Glenn L. Norton, Technical Serv.
Kelly S. Comstock, Technical Serv.
Pamela A. Langford, Technical Serv.

Laboratory Certification Number: 84009

TestAmerica
INCORPORATED

ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Lab Number: 02-A164282
Sample ID: GP-31
Sample Type: Water
Site ID:

Date Collected: 10/ 3/02
Time Collected: 11:15
Date Received: 10/ 5/02
Time Received: 9:00
Page: 1

Project:
Project Name: DET
Sampler: RONNY LOWDER

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	39.3	ug/L	2.0	1.0	10/ 6/02	0:15	K.Hill	8260B	3541
Toluene	201.	ug/L	2.0	1.0	10/ 6/02	0:15	K.Hill	8260B	3541
Ethylbenzene	50.9	ug/L	2.0	1.0	10/ 6/02	0:15	K.Hill	8260B	3541
Xylenes (Total)	245.	ug/L	2.0	1.0	10/ 6/02	0:15	K.Hill	8260B	3541
Methyl-t-butyl ether	ND	ug/L	2.0	1.0	10/ 6/02	0:15	K.Hill	8260B	3541
Naphthalene	11.8	ug/L	5.00	1.0	10/ 6/02	0:15	K.Hill	8260B	3541

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	110.	73. - 133.
VOA Surr Toluene-d8	116.	80. - 121.
VOA Surr, 4-BFB	113.	80. - 128.
VOA Surr, DBFM	133. #	81. - 121.

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica
INCORPORATED

ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DET
Sampler: RONNY LOWDER

Lab Number: 02-A164283
Sample ID: GP-32
Sample Type: Water
Site ID:

Date Collected: 10/ 3/02
Time Collected: 13:00
Date Received: 10/ 5/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	3.5	ug/L	2.0	1.0	10/ 6/02	4:16	K.Hill	8260B	3541
Toluene	45.8	ug/L	2.0	1.0	10/ 6/02	4:16	K.Hill	8260B	3541
Ethylbenzene	22.3	ug/L	2.0	1.0	10/ 6/02	4:16	K.Hill	8260B	3541
Xylenes (Total)	92.0	ug/L	2.0	1.0	10/ 6/02	4:16	K.Hill	8260B	3541
Methyl-t-butyl ether	ND	ug/L	2.0	1.0	10/ 6/02	4:16	K.Hill	8260B	3541
Naphthalene	ND	ug/L	5.00	1.0	10/ 6/02	4:16	K.Hill	8260B	3541

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	109.	73. - 133.
VOA Surr Toluene-d8	113.	80. - 121.
VOA Surr, 4-BFB	115.	80. - 128.
VOA Surr, DBFM	135. #	81. - 121.

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica
INCORPORATED

ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DET
Sampler: RONNY LOWDER

Lab Number: 02-A164284
Sample ID: GP-33
Sample Type: Water
Site ID:

Date Collected: 10/ 3/02
Time Collected: 14:40
Date Received: 10/ 5/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	2.0	1.0	10/ 6/02	4:47	K.Hill	8260B	3541
Toluene	8.0	ug/L	2.0	1.0	10/ 6/02	4:47	K.Hill	8260B	3541
Ethylbenzene	4.5	ug/L	2.0	1.0	10/ 6/02	4:47	K.Hill	8260B	3541
Xylenes (Total)	19.5	ug/L	2.0	1.0	10/ 6/02	4:47	K.Hill	8260B	3541
Methyl-t-butyl ether	ND	ug/L	2.0	1.0	10/ 6/02	4:47	K.Hill	8260B	3541
Naphthalene	ND	ug/L	5.00	1.0	10/ 6/02	4:47	K.Hill	8260B	3541

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	111.	73. - 133.
VOA Surr Toluene-d8	115.	80. - 121.
VOA Surr, 4-BFB	114.	80. - 128.
VOA Surr, DBFM	136. #	81. - 121.

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica
INCORPORATED

ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DET
Sampler: RONNY LOWDER

Lab Number: 02-A164285
Sample ID: GP-34
Sample Type: Water
Site ID:

Date Collected: 10/ 3/02
Time Collected: 15:25
Date Received: 10/ 5/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	2.0	1.0	10/ 6/02	5:17	K.Hill	8260B	3541
Toluene	3.5	ug/L	2.0	1.0	10/ 6/02	5:17	K.Hill	8260B	3541
Ethylbenzene	ND	ug/L	2.0	1.0	10/ 6/02	5:17	K.Hill	8260B	3541
Xylenes (Total)	4.6	ug/L	2.0	1.0	10/ 6/02	5:17	K.Hill	8260B	3541
Methyl-t-butyl ether	ND	ug/L	2.0	1.0	10/ 6/02	5:17	K.Hill	8260B	3541
Naphthalene	ND	ug/L	5.00	1.0	10/ 6/02	5:17	K.Hill	8260B	3541

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	109.	73. - 133.
VOA Surr Toluene-d8	111.	80. - 121.
VOA Surr, 4-BFB	116.	80. - 128.
VOA Surr, DBFM	134. #	81. - 121.

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica
INCORPORATED

ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DET
Sampler: RONNY LOWDER

Lab Number: 02-A164286
Sample ID: GP-35
Sample Type: Water
Site ID:

Date Collected: 10/ 3/02
Time Collected: 16:30
Date Received: 10/ 5/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	2.0	1.0	10/ 6/02	5:47	K.Hill	8260B	3541
Toluene	ND	ug/L	2.0	1.0	10/ 6/02	5:47	K.Hill	8260B	3541
Ethylbenzene	ND	ug/L	2.0	1.0	10/ 6/02	5:47	K.Hill	8260B	3541
Xylenes (Total)	ND	ug/L	2.0	1.0	10/ 6/02	5:47	K.Hill	8260B	3541
Methyl-t-butyl ether	ND	ug/L	2.0	1.0	10/ 6/02	5:47	K.Hill	8260B	3541
Naphthalene	ND	ug/L	5.00	1.0	10/ 6/02	5:47	K.Hill	8260B	3541

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	110.	73. - 133.
VOA Surr Toluene-d8	111.	80. - 121.
VOA Surr, 4-BFB	114.	80. - 128.
VOA Surr, DBFM	136. #	81. - 121.

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica
INCORPORATED

ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DET
Sampler: RONNY LOWDER

Lab Number: 02-A164287
Sample ID: GP-36
Sample Type: Water
Site ID:

Date Collected: 10/ 3/02
Time Collected: 17:15
Date Received: 10/ 5/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	2.0	1.0	10/ 6/02	6:17	K.Hill	8260B	3541
Toluene	ND	ug/L	2.0	1.0	10/ 6/02	6:17	K.Hill	8260B	3541
Ethylbenzene	ND	ug/L	2.0	1.0	10/ 6/02	6:17	K.Hill	8260B	3541
Xylenes (Total)	ND	ug/L	2.0	1.0	10/ 6/02	6:17	K.Hill	8260B	3541
Methyl-t-butyl ether	ND	ug/L	2.0	1.0	10/ 6/02	6:17	K.Hill	8260B	3541
Naphthalene	ND	ug/L	5.00	1.0	10/ 6/02	6:17	K.Hill	8260B	3541

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	111.	73. - 133.
VOA Surr Toluene-d8	109.	80. - 121.
VOA Surr, 4-BFB	117.	80. - 128.
VOA Surr, DBFM	137. #	81. - 121.

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica
INCORPORATED

ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DET
Sampler: RONNY LOWDER

Lab Number: 02-A164288
Sample ID: GP-37
Sample Type: Water
Site ID:

Date Collected: 10/ 3/02
Time Collected: 17:40
Date Received: 10/ 5/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	2.0	1.0	10/ 6/02	6:47	K.Hill	8260B	3541
Toluene	ND	ug/L	2.0	1.0	10/ 6/02	6:47	K.Hill	8260B	3541
Ethylbenzene	ND	ug/L	2.0	1.0	10/ 6/02	6:47	K.Hill	8260B	3541
Xylenes (Total)	ND	ug/L	2.0	1.0	10/ 6/02	6:47	K.Hill	8260B	3541
Methyl-t-butyl ether	ND	ug/L	2.0	1.0	10/ 6/02	6:47	K.Hill	8260B	3541
Naphthalene	ND	ug/L	5.00	1.0	10/ 6/02	6:47	K.Hill	8260B	3541

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	108.	73. - 133.
VOA Surr Toluene-d8	112.	80. - 121.
VOA Surr, 4-BFB	115.	80. - 128.
VOA Surr, DBFM	136. #	81. - 121.

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica
INCORPORATED

ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DET
Sampler: RONNY LOWDER

Lab Number: 02-A164289
Sample ID: GP-38
Sample Type: Water
Site ID:

Date Collected: 10/ 4/02
Time Collected: 8:40
Date Received: 10/ 5/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	2.0	1.0	10/ 6/02	7:18	K.Hill	8260B	3541
Toluene	ND	ug/L	2.0	1.0	10/ 6/02	7:18	K.Hill	8260B	3541
Ethylbenzene	ND	ug/L	2.0	1.0	10/ 6/02	7:18	K.Hill	8260B	3541
Xylenes (Total)	ND	ug/L	2.0	1.0	10/ 6/02	7:18	K.Hill	8260B	3541
Methyl-t-butyl ether	ND	ug/L	2.0	1.0	10/ 6/02	7:18	K.Hill	8260B	3541
Naphthalene	ND	ug/L	5.00	1.0	10/ 6/02	7:18	K.Hill	8260B	3541

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	110.	73. - 133.
VOA Surr Toluene-d8	109.	80. - 121.
VOA Surr, 4-BFB	117.	80. - 128.
VOA Surr, DBFM	134. #	81. - 121.

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica
INCORPORATED

ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DET
Sampler: RONNY LOWDER

Lab Number: 02-A164290
Sample ID: GP-39
Sample Type: Water
Site ID:

Date Collected: 10/ 4/02
Time Collected: 9:40
Date Received: 10/ 5/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	2.3	ug/L	2.0	1.0	10/ 6/02	7:48	K.Hill	8260B	3541
Toluene	ND	ug/L	2.0	1.0	10/ 6/02	7:48	K.Hill	8260B	3541
Ethylbenzene	ND	ug/L	2.0	1.0	10/ 6/02	7:48	K.Hill	8260B	3541
Xylenes (Total)	ND	ug/L	2.0	1.0	10/ 6/02	7:48	K.Hill	8260B	3541
Methyl-t-butyl ether	ND	ug/L	2.0	1.0	10/ 6/02	7:48	K.Hill	8260B	3541
Naphthalene	ND	ug/L	5.00	1.0	10/ 6/02	7:48	K.Hill	8260B	3541

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	111.	73. - 133.
VOA Surr Toluene-d8	113.	80. - 121.
VOA Surr, 4-BFB	118.	80. - 128.
VOA Surr, DBFM	137. #	81. - 121.

LABORATORY COMMENTS:

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B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica
INCORPORATED

ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DET
Sampler: RONNY LOWDER

Lab Number: 02-A164291
Sample ID: GP-40
Sample Type: Water
Site ID:

Date Collected: 10/ 4/02
Time Collected: 10:30
Date Received: 10/ 5/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	2.0	1.0	10/ 6/02	8:18	K.Hill	8260B	3541
Toluene	ND	ug/L	2.0	1.0	10/ 6/02	8:18	K.Hill	8260B	3541
Ethylbenzene	ND	ug/L	2.0	1.0	10/ 6/02	8:18	K.Hill	8260B	3541
Xylenes (Total)	ND	ug/L	2.0	1.0	10/ 6/02	8:18	K.Hill	8260B	3541
Methyl-t-butyl ether	ND	ug/L	2.0	1.0	10/ 6/02	8:18	K.Hill	8260B	3541
Naphthalene	ND	ug/L	5.00	1.0	10/ 6/02	8:18	K.Hill	8260B	3541

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	112.	73. - 133.
VOA Surr Toluene-d8	112.	80. - 121.
VOA Surr, 4-BFB	118.	80. - 128.
VOA Surr, DBFM	136. #	81. - 121.

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

PROJECT QUALITY CONTROL DATA
Project Number:
Page: 1

Matrix Spike Recovery

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
VOA PARAMETERS								
Benzene	mg/l	< 0.0005	0.0523	0.0500	105	78. - 132.	3541	blank
Toluene	mg/l	< 0.0006	0.0552	0.0500	110	77. - 134.	3541	blank
VOA Surr 1,2-DCA-d4	% Rec				53	73. - 133.	3541	
VOA Surr Toluene-d8	% Rec				58	80. - 121.	3541	
VOA Surr, 4-BFB	% Rec				54	80. - 128.	3541	
VOA Surr, DBFM	% Rec				66	81. - 121.	3541	

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
VOA PARAMETERS						
Benzene	mg/l	0.0523	0.0531	1.52	15.	3541
Toluene	mg/l	0.0552	0.0556	0.72	16.	3541
VOA Surr 1,2-DCA-d4	% Rec		52.			3541
VOA Surr Toluene-d8	% Rec		59.			3541
VOA Surr, 4-BFB	% Rec		54.			3541
VOA Surr, DBFM	% Rec		66.			3541

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
VOA PARAMETERS						
Benzene	mg/l	0.0500	0.0482	96	78 - 127	3541
Ethylbenzene	mg/l	0.0500	0.0546	109	78 - 125	3541
Naphthalene	mg/l	0.0500	0.0479	96	52 - 140	3541

Project QC continued . . .

TestAmerica
INCORPORATED

PROJECT QUALITY CONTROL DATA
Project Number:

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
Toluene	mg/l	0.0500	0.0532	106	78 - 127	3541
Xylenes (Total)	mg/l	0.150	0.168	112	77 - 126	3541
Methyl-t-butyl ether	mg/l	0.0500	0.0582	116	66 - 137	3541
VOA Surr 1,2-DCA-d4	% Rec			55	73 - 133	3541
VOA Surr Toluene-d8	% Rec			59	80 - 121	3541
VOA Surr, 4-BFB	% Rec			55	80 - 128	3541
VOA Surr, DBFM	% Rec			68	81 - 121	3541

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
VOA PARAMETERS					
Benzene	< 0.0005	mg/l	3541	10/ 6/02	3:46
Ethylbenzene	< 0.0003	mg/l	3541	10/ 6/02	3:46
Naphthalene	< 0.00120	mg/l	3541	10/ 6/02	3:46
Toluene	< 0.0006	mg/l	3541	10/ 6/02	3:46
Xylenes (Total)	< 0.0009	mg/l	3541	10/ 6/02	3:46
Methyl-t-butyl ether	< 0.0005	mg/l	3541	10/ 6/02	3:46
VOA Surr 1,2-DCA-d4	109.	% Rec	3541	10/ 6/02	3:46
VOA Surr Toluene-d8	113.	% Rec	3541	10/ 6/02	3:46
VOA Surr, 4-BFB	117.	% Rec	3541	10/ 6/02	3:46
VOA Surr, DBFM	134.	% Rec	3541	10/ 6/02	3:46

= Value outside Laboratory historical or method prescribed QC limits.

End of Report for Project 303965

GROUND WATER ANALYTICAL RESULTS

326448

FAX SHAW TO COLUMBIA

TestAmerica INCORPORATED

Division/Laboratory Name: 1 803 865-5503

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes? Compliance Monitoring YES

Client Name: EMERALD, INC. Client #: 8583

Address: PO BOX 3050

City/State/Zip Code: SUMTER SC 29150

Project Manager: R. LOWDER

Telephone Number: (803) 773-5484 Fax: (803) 775-1970

Sampler Name: (Print Name) RONNY LOWDER

Sampler Signature:

Project Name: DETWILER (DET)

Project #: —

Site/Location ID: SUMMERTON State: SC

Report To: EMERALD, INC.

Invoice To: SAME

Quote #: — PO#: —

TAT
___ Standard
___ Rush (surcharges may apply)
Date Needed: 4/9/03
Fax Results: (Y) N

QC Deliverables
___ None
___ Level 2 (Batch QC)
___ Level 3
___ Level 4
Other: ____

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: (8260B) BTEX/NAPH/MTBE	EDB (8011)	REMARKS
MW-2D	4/2	10:55	G	N	GW		3						✓	✓	03A50849
MW-3		12:35	G	N	GW		3						✓	✓	50
MW-4		11:55	G	N	GW		3						✓	✓	51
MW-5		14:50	G	N	GW		3						✓	✓	52
MW-6		17:05	G	N	GW		3						✓	✓	53
MW-12		13:25	G	N	GW		3						✓	✓	54
MW-16D		10:15	G	N	GW		3						✓	✓	55
MW-17	↓	15:30	G	N	GW		3						✓	✓	56
MW-18	✓	16:20	G	N	GW		3						✓	✓	50857

Special Instructions:

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp: 6° C
Custody Seals: (Y) N N/A
Bottles Supplied by TestAmerica: Y N
Method of Shipment:

	Date	Time		Date	Time
Relinquished By:	4/2/03	18:30	Received By: FedEx	4/2/03	19:30
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	4/3/03 Date:	0815 Time:

TestAmerica
ANALYTICAL TESTING CORPORATION

2960 Foster Creighton Drive • Nashville, Tennessee 37204
800-765-0980 • 615-726-3404 Fax

4/10/03

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name: DETWILER (DET)
Project Number: .
Laboratory Project Number: 326448.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980.

Sample Identification	Lab Number	Collection Date
MW-2D	03-A50849	4/ 2/03
MW-3	03-A50850	4/ 2/03
MW-4	03-A50851	4/ 2/03
MW-5	03-A50852	4/ 2/03
MW-6	03-A50853	4/ 2/03
MW-12	03-A50854	4/ 2/03
MW-16D	03-A50855	4/ 2/03
MW-17	03-A50856	4/ 2/03
MW-18	03-A50857	4/ 2/03

TestAmerica
ANALYTICAL TESTING CORPORATION

2960 Foster Creighton Drive • Nashville, Tennessee 37204
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Sample Identification	Lab Number	Collection Date

These results relate only to the items tested.
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Report Approved By: Report Date: 4/10/03

Paul E. Lane, Jr., Lab Director
Michael H. Dunn, M.S., Technical Director
Johnny A. Mitchell, Dir. Technical Serv.
Eric S. Smith, Assistant Technical Director
Roxanne L. Connor, Technical Services
Gail A. Lage, Technical Serv.
Glenn L. Norton, Technical Serv.
Kelly S. Comstock, Technical Serv.
Pamela A. Langford, Technical Serv.

Laboratory Certification Number: 84009

FAX CHAIN
TO COLUMBIA

pg 1 of 2

TestAmerica INCORPORATED

Division/Laboratory Name: 1 803 865-5503

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring: YES

327833

Client Name: EMERALD, INC. Client #: 8583
Address: PO BOX 3050
City/State/Zip Code: SUMTER, SC 29151
Project Manager: R. LOWDER
Telephone Number: (803)773-5454 Fax: (803)775-1970
Sampler Name: (Print Name) RONNY LOWDER
Sampler Signature: [signature]

Project Name: DETWILER (DET)
Project #: —
Site/Location ID: SUMMERTON State: SC
Report To: EMERALD, INC.
Invoice To: SAME
Quote #: — PO#: —

TAT
___ Standard
___ Rush (surcharges may apply)
Date Needed: 4/21/03
Fax Results: (Y) N

QC Deliverables
___ None
___ Level 2 (Batch QC)
___ Level 3
___ Level 4
Other: _____

Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify Other
Preservation & # of Containers
Analyze For: BTEX/NAPH/MTBE (8260B), EDB (8011)

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix	HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	BTEX/NAPH/MTBE (8260B)	EDB (8011)									REMARKS
MW-2D	4/12	13:20	G	N	GW		3						✓	✓							568	10	
MW-7		9:15	G	N	GW		3						✓	✓								11	
MW-8		10:55	G	N	GW		3						✓	✓								12	
MW-9		11:10	G	N	GW		3						✓	✓								13	
MW-10		11:50	G	N	GW		3						✓	✓								14	
MW-11		10:15	G	N	GW		3						✓	✓								15	
MW-14		8:50	G	N	GW		3						✓	✓								16	
MW-15		10:33	G	N	GW		3						✓	✓								17	
MW-19		9:40	G	N	GW		3						✓	✓								18	
MW-20	✓	11:30	G	N	GW		3						✓	✓							568	19	

Special Instructions:

Relinquished By: [signature]	Date: 4/14/03	Time: 18:30	Received By: FedEx	Date: 4/14/03	Time: 18:30
Relinquished By:	Date:	Time:	Received By: [signature]	Date: 4/15/03	Time: 810
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp: 2.5°C
Custody Seals: (Y) N N/A
Bottles Supplied by TestAmerica: Y N
Method of Shipment:

FAX CHAIN
TO COLUMBIA
1 803 865-5503

pg 2 of 2

TestAmerica INCORPORATED

Division/Laboratory Name:

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring: YES

327833

ent Name: EMERALD, INC. Client #: 8583
Address: PO BOX 3050
City/State/Zip Code: SUMTER, SC 29151
Project Manager: R. LOWDER
Telephone Number: (803) 773-5454 Fax: (803) 775-1970
Sampler Name: (Print Name) RONNY LOWDER
Sampler Signature: [signature]

Project Name: DETWILER (DET)
Project #: —
Site/Location ID: SUMMERTON State: SC
Report To: EMERALD, INC.
Invoice To: SAME
Quote #: — PO#: —

TAT
___ Standard
___ Rush (surcharges may apply)
Date Needed: 4/21/03
Fax Results: (Y) N

QC Deliverables
___ None
___ Level 2 (Batch QC)
___ Level 3
___ Level 4
Other: _____

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge DW - Drinking Water GW - Groundwater S - Soil/Solid WW - Wastewater Specify Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: BTEX (8260B)	EDB (8011)								REMARKS
MW-21	4/12	12:06	G	N	GW		3						✓	✓							568 20	
MW-22	↓	12:40	G	N	GW		3						✓	✓							568 21	
MW-23	↓	12:23	G	N	GW		3						✓	✓							568 22	

Special Instructions:

Relinquished By: [signature]	Date: 4/14/03	Time: 18:30	Received By: Fed Ex	Date: 4/14/03	Time: 18:30
Relinquished By:	Date:	Time:	Received By: [signature]	Date: 4/15/03	Time: 810
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp: 25°C
Custody Seals: (Y) N N/A
Bottles Supplied by TestAmerica: Y N
Method of Shipment:

TEST AMERICA ANALYTICAL TESTING CORP.-NASHVILLE

COOLER RECEIPT FORM BC#

Client: Emerald

Cooler Received On: 4/15/03 And Opened On: 4/15/03 By: James Jacobs

(Signature)

1. Temperature of Cooler when opened 2.5 **Degrees Celsius**
2. Were custody seals on outside of cooler?.....YES....NO....NA
   a. If yes, how many, what kind and where: 2 Tape Front
3. Were custody seals on containers and intact?.....NO...YES...NA
4. Were the seals intact, signed, and dated correctly?.....YES....NO...NA
5. Were custody papers inside cooler?.....YES....NO...NA
6. Were custody papers properly filled out (ink,signed,etc)?.....YES...NO...NA
7. Did you sign the custody papers in the appropriate place?.....YES...NO...NA
8. What kind of packing material used? Bubblewrap Peanuts Vermiculite Other None
9. Was sufficient ice used (if appropriate)?.....YES...NO...NA
10. Did all bottles arrive in good condition(unbroken)?.....YES...NO...NA
11. Were all bottle labels complete (#,date,signed,pres,etc)?.....YES...NO...NA
12. Did all bottle labels and tags agree with custody papers?.....YES...NO...NA
13. Were correct bottles used for the analysis requested?.....YES...NO...NA
14. a. Were VOA vials received?.....YES...NO...NA
    b. Was there any observable head space present in any VOA vial?.....NO...YES...NA
15. Was sufficient amount of sample sent in each bottle?.....YES...NO...NA
16. Were correct preservatives used?.....YES...NO...NA
    If not, record standard ID of preservative used here_____
17. Was residual chlorine present?.....NO...YES...NA
18. See attached for resolution of non-conformance:

Fed-Ex UPS Velocity Airborne Route Off-street Misc.

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4/23/03

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name: DETWILER(DET)
Project Number: .
Laboratory Project Number: 327833.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980.

Sample Identification	Lab Number	Collection Date
MW-2D	03-A56810	4/12/03
MW-7	03-A56811	4/12/03
MW-8	03-A56812	4/12/03
MW-9	03-A56813	4/12/03
MW-10	03-A56814	4/12/03
MW-11	03-A56815	4/12/03
MW-14	03-A56816	4/12/03
MW-15	03-A56817	4/12/03
MW-19	03-A56818	4/12/03
MW-20	03-A56819	4/12/03
MW-21	03-A56820	4/12/03
MW-22	03-A56821	4/12/03
MW-23	03-A56822	4/12/03

Additional Laboratory Comments:

Insufficient sample volume for MS/MSD analysis.

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Sample Identification	Lab Number	Collection Date

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Report Approved By: _____ Report Date: 4/23/03

Paul E. Lane, Jr., Lab Director
Michael H. Dunn, M.S., Technical Director
Johnny A. Mitchell, Dir. Technical Serv.
Eric S. Smith, Assistant Technical Director
Roxanne L. Connor, Technical Services
Gail A. Lage, Technical Serv.
Glenn L. Norton, Technical Serv.
Kelly S. Comstock, Technical Serv.
Pamela A. Langford, Technical Serv.

Laboratory Certification Number: 84009

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ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Lab Number: 03-A56810
Sample ID: MW-2D
Sample Type: Water
Site ID:

Project:
Project Name: DETWILER(DET)
Sampler: RONNY LOWDER

Date Collected: 4/12/03
Time Collected: 13:20
Date Received: 4/15/03
Time Received: 8:10
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	22.6	ug/L	1.0	1.0	4/22/03	3:11	C. Wani	8260B	1023
Toluene	19.8	ug/L	1.0	1.0	4/22/03	3:11	C. Wani	8260B	1023
Ethylbenzene	28.3	ug/L	1.0	1.0	4/22/03	3:11	C. Wani	8260B	1023
Xylenes (Total)	47.9	ug/L	1.0	1.0	4/22/03	3:11	C. Wani	8260B	1023
Methyl-t-butyl ether	ND	ug/L	1.0	1.0	4/22/03	3:11	C. Wani	8260B	1023
Naphthalene	9.90	ug/L	5.00	1.0	4/22/03	3:11	C. Wani	8260B	1023
VOLATILE ORGANICS by GC									
Ethylene Dibromide	0.15	ug/L	0.02	1.0	4/18/03	19:47	Henderson	8011	1597

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	110.	73. - 133.
VOA Surr Toluene-d8	108.	80. - 121.
VOA Surr, 4-BFB	103.	80. - 128.
VOA Surr, DBFM	115.	81. - 121.

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A56810
Sample ID: MW-2D
Project:

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DETWILER (DET)
Sampler: RONNY LOWDER

Lab Number: 03-A50850
Sample ID: MW-3
Sample Type: Ground water
Site ID:

Date Collected: 4/ 2/03
Time Collected: 12:35
Date Received: 4/ 3/03
Time Received: 8:15
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1	4/ 9/03	5:31	S. Davis	8260B	6738
Ethylbenzene	ND	ug/L	1.0	1	4/ 9/03	5:31	S. Davis	8260B	6738
Naphthalene	ND	ug/L	5.00	1	4/ 9/03	5:31	S. Davis	8260B	6738
Toluene	1.0	ug/L	1.0	1	4/ 9/03	5:31	S. Davis	8260B	6738
Xylenes (Total)	ND	ug/L	1.0	1	4/ 9/03	5:31	S. Davis	8260B	6738
Methyl-t-butyl ether	ND	ug/L	1.0	1	4/ 9/03	5:31	S. Davis	8260B	6738
VOLATILE ORGANICS by GC									
Ethylene Dibromide	ND	ug/L	0.02	1	4/ 9/03	5:37	J. Markham	8011	2718

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	107.	73. - 133.
VOA Surr Toluene-d8	112.	80. - 121.
VOA Surr, 4-BFB	96.	80. - 128.
VOA Surr, DBFM	100.	81. - 121.

Sample report continued . . .

TestAmerica
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ANALYTICAL REPORT

Laboratory Number: 03-A50850
Sample ID: MW-3
Project:

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
These samples were received at 6.0 celsius. The client was notified and authorized all analysis.

End of Sample Report.

TestAmerica
ANALYTICAL TESTING CORPORATION

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ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DETWILER (DET)
Sampler: RONNY LOWDER

Lab Number: 03-A50851
Sample ID: MW-4
Sample Type: Ground water
Site ID:

Date Collected: 4/ 2/03
Time Collected: 11:55
Date Received: 4/ 3/03
Time Received: 8:15
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	2860	ug/L	100.	100	4/10/03	1:21	S. Davis	8260B	7341
Ethylbenzene	581.	ug/L	10.0	10	4/ 9/03	21:35	S. Davis	8260B	7336
Naphthalene	146.	ug/L	5.00	1	4/ 9/03	6:00	S. Davis	8260B	6738
Toluene	1330	ug/L	10.0	10	4/ 9/03	21:35	S. Davis	8260B	7336
Xylenes (Total)	1490	ug/L	10.0	10	4/ 9/03	21:35	S. Davis	8260B	7336
Methyl-t-butyl ether	198.	ug/L	1.0	1	4/ 9/03	6:00	S. Davis	8260B	6738
VOLATILE ORGANICS by GC									
Ethylene Dibromide	13.6	ug/L	0.40	20	4/ 9/03	18:27	J. Markham	8011	2718

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	104.	73. - 133.
VOA Surr Toluene-d8	102.	80. - 121.
VOA Surr, 4-BFB	97.	80. - 128.
VOA Surr, DBFM	99.	81. - 121.

Sample report continued . . .

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ANALYTICAL TESTING CORPORATION

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ANALYTICAL REPORT

Laboratory Number: 03-A50851
Sample ID: MW-4
Project:

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
These samples were received at 6.0 celsius. The client was notified and authorized all analysis.

End of Sample Report.

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ANALYTICAL TESTING CORPORATION

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ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DETWILER (DET)
Sampler: RONNY LOWDER

Lab Number: 03-A50852
Sample ID: MW-5
Sample Type: Ground water
Site ID:

Date Collected: 4/ 2/03
Time Collected: 14:50
Date Received: 4/ 3/03
Time Received: 8:15
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	1650	ug/L	10.0	10	4/10/03	1:49	S. Davis	8260B	7341
Ethylbenzene	372.	ug/L	10.0	10	4/10/03	1:49	S. Davis	8260B	7341
Naphthalene	94.7	ug/L	5.00	1	4/ 9/03	6:28	S. Davis	8260B	6738
Toluene	3000	ug/L	100.	100	4/10/03	2:18	S. Davis	8260B	7351
Xylenes (Total)	1640	ug/L	10.0	10	4/10/03	1:49	S. Davis	8260B	7341
Methyl-t-butyl ether	246.	ug/L	10.0	10	4/10/03	1:49	S. Davis	8260B	7341
VOLATILE ORGANICS by GC									
Ethylene Dibromide	22.0	ug/L	0.40	20	4/ 9/03	18:55	J. Markham	8011	2718

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	105.	73. - 133.
VOA Surr Toluene-d8	103.	80. - 121.
VOA Surr, 4-BFB	98.	80. - 128.
VOA Surr, DBFM	99.	81. - 121.

Sample report continued . . .

TestAmerica
ANALYTICAL TESTING CORPORATION

2960 Foster Creighton Drive • Nashville, Tennessee 37204
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ANALYTICAL REPORT

Laboratory Number: 03-A50852
Sample ID: MW-5
Project:

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
These samples were received at 6.0 celsius. The client was notified and authorized all analysis.

End of Sample Report.

TestAmerica
ANALYTICAL TESTING CORPORATION

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ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DETWILER (DET)
Sampler: RONNY LOWDER

Lab Number: 03-A50853
Sample ID: MW-6
Sample Type: Ground water
Site ID:

Date Collected: 4/ 2/03
Time Collected: 17:05
Date Received: 4/ 3/03
Time Received: 8:15
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1	4/ 9/03	19:41	S. Davis	8260B	7336
Ethylbenzene	ND	ug/L	1.0	1	4/ 9/03	19:41	S. Davis	8260B	7336
Naphthalene	ND	ug/L	5.00	1	4/ 9/03	19:41	S. Davis	8260B	7336
Toluene	2.0	ug/L	1.0	1	4/ 9/03	19:41	S. Davis	8260B	7336
Xylenes (Total)	2.2	ug/L	1.0	1	4/ 9/03	19:41	S. Davis	8260B	7336
Methyl-t-butyl ether	6.8	ug/L	1.0	1	4/ 9/03	19:41	S. Davis	8260B	7336
VOLATILE ORGANICS by GC									
Ethylene Dibromide	ND	ug/L	0.02	1	4/ 9/03	6:59	J. Markham	8011	2718

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	105.	73. - 133.
VOA Surr Toluene-d8	107.	80. - 121.
VOA Surr, 4-BFB	99.	80. - 128.
VOA Surr, DBFM	99.	81. - 121.

Sample report continued . . .

TestAmerica
ANALYTICAL TESTING CORPORATION

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ANALYTICAL REPORT

Laboratory Number: 03-A50853
Sample ID: MW-6
Project:

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
These samples were received at 6.0 celsius. The client was notified and authorized all analysis.

End of Sample Report.

TestAmerica
ANALYTICAL TESTING CORPORATION

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ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Lab Number: 03-A56811
Sample ID: MW-7
Sample Type: Water
Site ID:

Project:
Project Name: DETWILER(DET)
Sampler: RONNY LOWDER

Date Collected: 4/12/03
Time Collected: 9:15
Date Received: 4/15/03
Time Received: 8:10
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	4/21/03	17:11	C. Wani	8260B	1023
Toluene	ND	ug/L	1.0	1.0	4/21/03	17:11	C. Wani	8260B	1023
Ethylbenzene	ND	ug/L	1.0	1.0	4/21/03	17:11	C. Wani	8260B	1023
Xylenes (Total)	ND	ug/L	1.0	1.0	4/21/03	17:11	C. Wani	8260B	1023
Methyl-t-butyl ether	15.3	ug/L	1.0	1.0	4/21/03	17:11	C. Wani	8260B	1023
Naphthalene	ND	ug/L	5.00	1.0	4/21/03	17:11	C. Wani	8260B	1023
VOLATILE ORGANICS by GC									
Ethylene Dibromide	ND	ug/L	0.02	1.0	4/18/03	20:15	Henderson	8011	1597

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	111.	73. - 133.
VOA Surr Toluene-d8	105.	80. - 121.
VOA Surr, 4-BFB	102.	80. - 128.
VOA Surr, DBFM	111.	81. - 121.

Sample report continued . . .

TestAmerica
ANALYTICAL TESTING CORPORATION

2960 Foster Creighton Drive • Nashville, Tennessee 37204
800-765-0980 • 615-726-3404 Fax

ANALYTICAL REPORT

Laboratory Number: 03-A56811
Sample ID: MW-7
Project:

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica
ANALYTICAL TESTING CORPORATION

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ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DETWILER(DET)
Sampler: RONNY LOWDER

Lab Number: 03-A56812
Sample ID: MW-8
Sample Type: Water
Site ID:

Date Collected: 4/12/03
Time Collected: 10:55
Date Received: 4/15/03
Time Received: 8:10
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	4/21/03	17:40	C. Wani	8260B	1023
Toluene	ND	ug/L	1.0	1.0	4/21/03	17:40	C. Wani	8260B	1023
Ethylbenzene	ND	ug/L	1.0	1.0	4/21/03	17:40	C. Wani	8260B	1023
Xylenes (Total)	ND	ug/L	1.0	1.0	4/21/03	17:40	C. Wani	8260B	1023
Methyl-t-butyl ether	3.3	ug/L	1.0	1.0	4/21/03	17:40	C. Wani	8260B	1023
Naphthalene	ND	ug/L	5.00	1.0	4/21/03	17:40	C. Wani	8260B	1023
VOLATILE ORGANICS by GC									
Ethylene Dibromide	ND	ug/L	0.02	1.0	4/18/03	20:42	Henderson	8011	1597

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	114.	73. - 133.
VOA Surr Toluene-d8	105.	80. - 121.
VOA Surr, 4-BFB	108.	80. - 128.
VOA Surr, DBFM	111.	81. - 121.

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A56812
Sample ID: MW-8
Project:

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DETWILER(DET)
Sampler: RONNY LOWDER

Lab Number: 03-A56813
Sample ID: MW-9
Sample Type: Water
Site ID:

Date Collected: 4/12/03
Time Collected: 11:10
Date Received: 4/15/03
Time Received: 8:10
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	1.4	ug/L	1.0	1.0	4/21/03	18:10	C. Wani	8260B	1023
Toluene	ND	ug/L	1.0	1.0	4/21/03	18:10	C. Wani	8260B	1023
Ethylbenzene	ND	ug/L	1.0	1.0	4/21/03	18:10	C. Wani	8260B	1023
Xylenes (Total)	ND	ug/L	1.0	1.0	4/21/03	18:10	C. Wani	8260B	1023
Methyl-t-butyl ether	181.	ug/L	1.0	1.0	4/21/03	18:10	C. Wani	8260B	1023
Naphthalene	ND	ug/L	5.00	1.0	4/21/03	18:10	C. Wani	8260B	1023
VOLATILE ORGANICS by GC									
Ethylene Dibromide	ND	ug/L	0.02	1.0	4/18/03	21:10	Henderson	8011	1597

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	113.	73. - 133.
VOA Surr Toluene-d8	104.	80. - 121.
VOA Surr, 4-BFB	103.	80. - 128.
VOA Surr, DBFM	113.	81. - 121.

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A56813
Sample ID: MW-9
Project:

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Lab Number: 03-A56814
Sample ID: MW-10
Sample Type: Water
Site ID:

Project:
Project Name: DETWILER(DET)
Sampler: RONNY LOWDER

Date Collected: 4/12/03
Time Collected: 11:50
Date Received: 4/15/03
Time Received: 8:10
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	2000	ug/L	100.	100.	4/22/03	4:40	C. Wani	8260B	6403
Toluene	34.4	ug/L	1.0	1.0	4/21/03	18:40	C. Wani	8260B	1023
Ethylbenzene	169.	ug/L	1.0	1.0	4/21/03	18:40	C. Wani	8260B	1023
Xylenes (Total)	25.0	ug/L	1.0	1.0	4/21/03	18:40	C. Wani	8260B	1023
Methyl-t-butyl ether	38.6	ug/L	1.0	1.0	4/21/03	18:40	C. Wani	8260B	1023
Naphthalene	22.6	ug/L	5.00	1.0	4/21/03	18:40	C. Wani	8260B	1023
VOLATILE ORGANICS by GC									
Ethylene Dibromide	ND	ug/L	0.02	1.0	4/18/03	21:37	Henderson	8011	1597

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	120.	73. - 133.
VOA Surr Toluene-d8	103.	80. - 121.
VOA Surr, 4-BFB	106.	80. - 128.
VOA Surr, DBFM	114.	81. - 121.

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A56814
Sample ID: MW-10
Project:

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Lab Number: 03-A56815
Sample ID: MW-11
Sample Type: Water
Site ID:

Project:
Project Name: DETWILER(DET)
Sampler: RONNY LOWDER

Date Collected: 4/12/03
Time Collected: 10:15
Date Received: 4/15/03
Time Received: 8:10
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	1100	ug/L	10.0	10.0	4/22/03	14:03	C. Wani	8260B	6401
Toluene	4.2	ug/L	1.0	1.0	4/22/03	2:42	C. Wani	8260B	1023
Ethylbenzene	11.2	ug/L	1.0	1.0	4/22/03	2:42	C. Wani	8260B	1023
Xylenes (Total)	3.2	ug/L	1.0	1.0	4/22/03	2:42	C. Wani	8260B	1023
Methyl-t-butyl ether	ND	ug/L	1.0	1.0	4/22/03	2:42	C. Wani	8260B	1023
Naphthalene	8.80	ug/L	5.00	1.0	4/22/03	2:42	C. Wani	8260B	1023
VOLATILE ORGANICS by GC									
Ethylene Dibromide	0.23	ug/L	0.02	1.0	4/18/03	22:05	Henderson	8011	1597

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	116.	73. - 133.
VOA Surr Toluene-d8	104.	80. - 121.
VOA Surr, 4-BFB	103.	80. - 128.
VOA Surr, DBFM	110.	81. - 121.

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A56815
Sample ID: MW-11
Project:

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DETWILER (DET)
Sampler: RONNY LOWDER

Lab Number: 03-A50854
Sample ID: MW-12
Sample Type: Ground water
Site ID:

Date Collected: 4/ 2/03
Time Collected: 13:25
Date Received: 4/ 3/03
Time Received: 8:15
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1	4/ 9/03	20:10	S. Davis	8260B	7336
Ethylbenzene	ND	ug/L	1.0	1	4/ 9/03	20:10	S. Davis	8260B	7336
Naphthalene	ND	ug/L	5.00	1	4/ 9/03	20:10	S. Davis	8260B	7336
Toluene	1.3	ug/L	1.0	1	4/ 9/03	20:10	S. Davis	8260B	7336
Xylenes (Total)	1.5	ug/L	1.0	1	4/ 9/03	20:10	S. Davis	8260B	7336
Methyl-t-butyl ether	ND	ug/L	1.0	1	4/ 9/03	20:10	S. Davis	8260B	7336
VOLATILE ORGANICS by GC									
Ethylene Dibromide	ND	ug/L	0.02	1	4/ 9/03	7:27	J. Markham	8011	2718

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	103.	73. - 133.
VOA Surr Toluene-d8	109.	80. - 121.
VOA Surr, 4-BFB	98.	80. - 128.
VOA Surr, DBFM	99.	81. - 121.

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A50854
Sample ID: MW-12
Project:

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
These samples were received at 6.0 celsius. The client was notified and authorized all analysis.

End of Sample Report.

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ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DETWILER(DET)
Sampler: RONNY LOWDER

Lab Number: 03-A56816
Sample ID: MW-14
Sample Type: Water
Site ID:

Date Collected: 4/12/03
Time Collected: 8:50
Date Received: 4/15/03
Time Received: 8:10
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	1190	ug/L	10.0	10.0	4/22/03	5:09	C. Wani	8260B	6383
Toluene	501.	ug/L	10.0	10.0	4/22/03	5:09	C. Wani	8260B	6383
Ethylbenzene	390.	ug/L	10.0	10.0	4/22/03	5:09	C. Wani	8260B	6383
Xylenes (Total)	344.	ug/L	1.0	1.0	4/21/03	19:09	C. Wani	8260B	1023
Methyl-t-butyl ether	2110	ug/L	100.	100.	4/22/03	5:39	C. Wani	8260B	6403
Naphthalene	41.3	ug/L	5.00	1.0	4/21/03	19:09	C. Wani	8260B	1023
VOLATILE ORGANICS by GC									
Ethylene Dibromide	0.12	ug/L	0.02	1.0	4/18/03	23:00	Henderson	8011	1597

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	109.	73. - 133.
VOA Surr Toluene-d8	108.	80. - 121.
VOA Surr, 4-BFB	104.	80. - 128.
VOA Surr, DBFM	109.	81. - 121.

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A56816
Sample ID: MW-14
Project:

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DETWILER(DET)
Sampler: RONNY LOWDER

Lab Number: 03-A56817
Sample ID: MW-15
Sample Type: Water
Site ID:

Date Collected: 4/12/03
Time Collected: 10:33
Date Received: 4/15/03
Time Received: 8:10
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	7160	ug/L	100.	100.	4/21/03	20:17	C. Wani	8260B	6383
Toluene	15300	ug/L	100.	100.	4/21/03	20:17	C. Wani	8260B	6383
Ethylbenzene	1850	ug/L	100.	100.	4/21/03	20:17	C. Wani	8260B	6383
Xylenes (Total)	8350	ug/L	100.	100.	4/21/03	20:17	C. Wani	8260B	6383
Methyl-t-butyl ether	ND	ug/L	10.0	10.0	4/21/03	16:11	C. Wani	8260B	1023
Naphthalene	282.	ug/L	50.0	10.0	4/21/03	16:11	C. Wani	8260B	1023
VOLATILE ORGANICS by GC									
Ethylene Dibromide	152.	ug/L	4.01	200.	4/19/03	22:03	Henderson	8011	1597

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	113.	73. - 133.
VOA Surr Toluene-d8	110.	80. - 121.
VOA Surr, 4-BFB	108.	80. - 128.
VOA Surr, DBFM	113.	81. - 121.

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A56817
Sample ID: MW-15
Project:

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DETWILER (DET)
Sampler: RONNY LOWDER

Lab Number: 03-A50855
Sample ID: MW-16D
Sample Type: Ground water
Site ID:

Date Collected: 4/ 2/03
Time Collected: 10:15
Date Received: 4/ 3/03
Time Received: 8:15
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	4.4	ug/L	1.0	1	4/ 9/03	7:53	S. Davis	8260B	6738
Ethylbenzene	5.2	ug/L	1.0	1	4/ 9/03	7:53	S. Davis	8260B	6738
Naphthalene	ND	ug/L	5.00	1	4/ 9/03	7:53	S. Davis	8260B	6738
Toluene	16.9	ug/L	1.0	1	4/ 9/03	7:53	S. Davis	8260B	6738
Xylenes (Total)	19.6	ug/L	1.0	1	4/ 9/03	7:53	S. Davis	8260B	6738
Methyl-t-butyl ether	ND	ug/L	1.0	1	4/ 9/03	7:53	S. Davis	8260B	6738
VOLATILE ORGANICS by GC									
Ethylene Dibromide	ND	ug/L	0.02	1	4/ 9/03	7:54	J. Markham	8011	2718

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	104.	73. - 133.
VOA Surr Toluene-d8	107.	80. - 121.
VOA Surr, 4-BFB	98.	80. - 128.
VOA Surr, DBFM	98.	81. - 121.

Sample report continued . . .

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ANALYTICAL TESTING CORPORATION

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ANALYTICAL REPORT

Laboratory Number: 03-A50855
Sample ID: MW-16D
Project:

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
These samples were received at 6.0 celsius. The client was notified and authorized all analysis.

End of Sample Report.

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ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DETWILER (DET)
Sampler: RONNY LOWDER

Lab Number: 03-A50856
Sample ID: MW-17
Sample Type: Ground water
Site ID:

Date Collected: 4/ 2/03
Time Collected: 15:30
Date Received: 4/ 3/03
Time Received: 8:15
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	200.	ug/L	200.	200	4/ 9/03	20:38	S. Davis	8260B	7336
Ethylbenzene	ND	ug/L	200.	200	4/ 9/03	20:38	S. Davis	8260B	7336
Naphthalene	ND	ug/L	1000	200	4/ 9/03	20:38	S. Davis	8260B	7336
Toluene	700.	ug/L	200.	200	4/ 9/03	20:38	S. Davis	8260B	7336
Xylenes (Total)	720.	ug/L	200.	200	4/ 9/03	20:38	S. Davis	8260B	7336
Methyl-t-butyl ether	ND	ug/L	200.	200	4/ 9/03	20:38	S. Davis	8260B	7336
VOLATILE ORGANICS by GC									
Ethylene Dibromide	0.04	ug/L	0.02	1	4/ 9/03	8:22	J. Markham	8011	2718

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	103.	73. - 133.
VOA Surr Toluene-d8	108.	80. - 121.
VOA Surr, 4-BFB	102.	80. - 128.
VOA Surr, DBFM	97.	81. - 121.

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A50856
Sample ID: MW-17
Project:

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
EDB results show >40% difference between channels.

These samples were received at 6.0 celsius. The client was notified and authorized all analysis.

End of Sample Report.

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ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DETWILER (DET)
Sampler: RONNY LOWDER

Lab Number: 03-A50857
Sample ID: MW-18
Sample Type: Ground water
Site ID:

Date Collected: 4/ 2/03
Time Collected: 16:20
Date Received: 4/ 3/03
Time Received: 8:15
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	6.5	ug/L	1.0	1	4/ 9/03	8:49	S. Davis	8260B	6738
Ethylbenzene	327.	ug/L	5.0	5	4/10/03	2:46	S. Davis	8260B	7341
Naphthalene	49.0	ug/L	5.00	1	4/ 9/03	8:49	S. Davis	8260B	6738
Toluene	426.	ug/L	5.0	5	4/10/03	2:46	S. Davis	8260B	7341
Xylenes (Total)	978.	ug/L	5.0	5	4/10/03	2:46	S. Davis	8260B	7341
Methyl-t-butyl ether	70.8	ug/L	1.0	1	4/ 9/03	8:49	S. Davis	8260B	6738
VOLATILE ORGANICS by GC									
Ethylene Dibromide	ND	ug/L	0.02	1	4/ 9/03	8:49	J. Markham	8011	2718

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	106.	73. - 133.
VOA Surr Toluene-d8	102.	80. - 121.
VOA Surr, 4-BFB	97.	80. - 128.
VOA Surr, DBFM	97.	81. - 121.

Sample report continued . . .

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ANALYTICAL TESTING CORPORATION

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ANALYTICAL REPORT

Laboratory Number: 03-A50857
Sample ID: MW-18
Project:

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
These samples were received at 6.0 celsius. The client was notified and authorized all analysis.

End of Sample Report.

TestAmerica
ANALYTICAL TESTING CORPORATION

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ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DETWILER(DET)
Sampler: RONNY LOWDER

Lab Number: 03-A56818
Sample ID: MW-19
Sample Type: Water
Site ID:

Date Collected: 4/12/03
Time Collected: 9:40
Date Received: 4/15/03
Time Received: 8:10
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	4/22/03	3:41	C. Wani	8260B	1023
Toluene	ND	ug/L	1.0	1.0	4/22/03	3:41	C. Wani	8260B	1023
Ethylbenzene	ND	ug/L	1.0	1.0	4/22/03	3:41	C. Wani	8260B	1023
Xylenes (Total)	ND	ug/L	1.0	1.0	4/22/03	3:41	C. Wani	8260B	1023
Methyl-t-butyl ether	2.0	ug/L	1.0	1.0	4/22/03	3:41	C. Wani	8260B	1023
Naphthalene	ND	ug/L	5.00	1.0	4/22/03	3:41	C. Wani	8260B	1023
VOLATILE ORGANICS by GC									
Ethylene Dibromide	ND	ug/L	0.02	1.0	4/18/03	23:55	Henderson	8011	1597

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	115.	73. - 133.
VOA Surr Toluene-d8	106.	80. - 121.
VOA Surr, 4-BFB	102.	80. - 128.
VOA Surr, DBFM	108.	81. - 121.

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A56818
Sample ID: MW-19
Project:

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DETWILER(DET)
Sampler: RONNY LOWDER

Lab Number: 03-A56819
Sample ID: MW-20
Sample Type: Water
Site ID:

Date Collected: 4/12/03
Time Collected: 11:30
Date Received: 4/15/03
Time Received: 8:10
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	4/22/03	0:43	C. Wani	8260B	1023
Toluene	ND	ug/L	1.0	1.0	4/22/03	0:43	C. Wani	8260B	1023
Ethylbenzene	ND	ug/L	1.0	1.0	4/22/03	0:43	C. Wani	8260B	1023
Xylenes (Total)	ND	ug/L	1.0	1.0	4/22/03	0:43	C. Wani	8260B	1023
Methyl-t-butyl ether	ND	ug/L	1.0	1.0	4/22/03	0:43	C. Wani	8260B	1023
Naphthalene	ND	ug/L	5.00	1.0	4/22/03	0:43	C. Wani	8260B	1023
VOLATILE ORGANICS by GC									
Ethylene Dibromide	ND	ug/L	0.02	1.0	4/19/03	0:23	Henderson	8011	1597

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	119.	73. - 133.
VOA Surr Toluene-d8	105.	80. - 121.
VOA Surr, 4-BFB	105.	80. - 128.
VOA Surr, DBFM	112.	81. - 121.

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A56819
Sample ID: MW-20
Project:

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DETWILER(DET)
Sampler: RONNY LOWDER

Lab Number: 03-A56820
Sample ID: MW-21
Sample Type: Water
Site ID:

Date Collected: 4/12/03
Time Collected: 12:06
Date Received: 4/15/03
Time Received: 8:10
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	4/22/03	1:13	C. Wani	8260B	1023
Toluene	ND	ug/L	1.0	1.0	4/22/03	1:13	C. Wani	8260B	1023
Ethylbenzene	ND	ug/L	1.0	1.0	4/22/03	1:13	C. Wani	8260B	1023
Xylenes (Total)	ND	ug/L	1.0	1.0	4/22/03	1:13	C. Wani	8260B	1023
Methyl-t-butyl ether	ND	ug/L	1.0	1.0	4/22/03	1:13	C. Wani	8260B	1023
Naphthalene	ND	ug/L	5.00	1.0	4/22/03	1:13	C. Wani	8260B	1023
VOLATILE ORGANICS by GC									
Ethylene Dibromide	ND	ug/L	0.02	1.0	4/19/03	0:50	Henderson	8011	1597

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	111.	73. - 133.
VOA Surr Toluene-d8	105.	80. - 121.
VOA Surr, 4-BFB	105.	80. - 128.
VOA Surr, DBFM	111.	81. - 121.

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A56820
Sample ID: MW-21
Project:

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DETWILER(DET)
Sampler: RONNY LOWDER

Lab Number: 03-A56821
Sample ID: MW-22
Sample Type: Water
Site ID:

Date Collected: 4/12/03
Time Collected: 12:40
Date Received: 4/15/03
Time Received: 8:10
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	4/22/03	1:43	C. Wani	8260B	1023
Toluene	ND	ug/L	1.0	1.0	4/22/03	1:43	C. Wani	8260B	1023
Ethylbenzene	ND	ug/L	1.0	1.0	4/22/03	1:43	C. Wani	8260B	1023
Xylenes (Total)	ND	ug/L	1.0	1.0	4/22/03	1:43	C. Wani	8260B	1023
Methyl-t-butyl ether	ND	ug/L	1.0	1.0	4/22/03	1:43	C. Wani	8260B	1023
Naphthalene	ND	ug/L	5.00	1.0	4/22/03	1:43	C. Wani	8260B	1023
VOLATILE ORGANICS by GC									
Ethylene Dibromide	ND	ug/L	0.02	1.0	4/19/03	1:18	Henderson	8011	1597

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	112.	73. - 133.
VOA Surr Toluene-d8	105.	80. - 121.
VOA Surr, 4-BFB	101.	80. - 128.
VOA Surr, DBFM	112.	81. - 121.

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A56821
Sample ID: MW-22
Project:

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Project:
Project Name: DETWILER(DET)
Sampler: RONNY LOWDER

Lab Number: 03-A56822
Sample ID: MW-23
Sample Type: Water
Site ID:

Date Collected: 4/12/03
Time Collected: 12:23
Date Received: 4/15/03
Time Received: 8:10
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	4/22/03	2:12	C. Wani	8260B	1023
Toluene	ND	ug/L	1.0	1.0	4/22/03	2:12	C. Wani	8260B	1023
Ethylbenzene	ND	ug/L	1.0	1.0	4/22/03	2:12	C. Wani	8260B	1023
Xylenes (Total)	ND	ug/L	1.0	1.0	4/22/03	2:12	C. Wani	8260B	1023
Methyl-t-butyl ether	ND	ug/L	1.0	1.0	4/22/03	2:12	C. Wani	8260B	1023
Naphthalene	ND	ug/L	5.00	1.0	4/22/03	2:12	C. Wani	8260B	1023
VOLATILE ORGANICS by GC									
Ethylene Dibromide	ND	ug/L	0.02	1.0	4/19/03	1:45	Henderson	8011	1597

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	113.	73. - 133.
VOA Surr Toluene-d8	105.	80. - 121.
VOA Surr, 4-BFB	105.	80. - 128.
VOA Surr, DBFM	114.	81. - 121.

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 03-A56822
Sample ID: MW-23
Project:

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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PROJECT QUALITY CONTROL DATA
Project Number:
Project Name: DETWILER (DET)
Page: 1
Laboratory Receipt Date: 4/ 4/03

Matrix Spike Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
VOA PARAMETERS								
Benzene	mg/l	< 0.0005	0.0509	0.0500	102	78. - 132.	6738	BLANK
Benzene	mg/l	< 0.0005	0.0465	0.0500	93	78. - 132.	7336	BLANK
Benzene	mg/l	0.0013	0.0466	0.0500	91	78. - 132.	7341	03-A50971
Toluene	mg/l	0.0014	0.0560	0.0500	109	77. - 134.	6738	BLANK
Toluene	mg/l	< 0.0006	0.0516	0.0500	103	77. - 134.	7336	BLANK
Toluene	mg/l	0.0026	0.0530	0.0500	101	77. - 134.	7341	03-A50971
VOA Surr 1,2-DCA-d4	% Rec				100	73. - 133.	6738	
VOA Surr 1,2-DCA-d4	% Rec				101	73. - 133.	7336	
VOA Surr 1,2-DCA-d4	% Rec				105	73. - 133.	7341	
VOA Surr Toluene-d8	% Rec				107	80. - 121.	6738	
VOA Surr Toluene-d8	% Rec				110	80. - 121.	7336	
VOA Surr Toluene-d8	% Rec				111	80. - 121.	7341	
VOA Surr, 4-BFB	% Rec				96	80. - 128.	6738	
VOA Surr, 4-BFB	% Rec				96	80. - 128.	7336	
VOA Surr, 4-BFB	% Rec				91	80. - 128.	7341	
VOA Surr, DBFM	% Rec				96	81. - 121.	6738	
VOA Surr, DBFM	% Rec				94	81. - 121.	7336	
VOA Surr, DBFM	% Rec				97	81. - 121.	7341	

Matrix Spike Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
MISC PARAMETERS								
Ethylene Dibromide	mg/l	< 0.00002	0.00036	0.00029	124	40 - 140	2718	03-A50085

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
Project Number:
Project Name: DETWILER (DET)
Page: 2
Laboratory Receipt Date: 4/ 4/03

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
VOA PARAMETERS						
Benzene	mg/l	0.0509	0.0496	2.59	15.	6738
Benzene	mg/l	0.0465	0.0460	1.08	15.	7336
Benzene	mg/l	0.0466	0.0461	1.08	15.	7341
Toluene	mg/l	0.0560	0.0518	7.79	16.	6738
Toluene	mg/l	0.0516	0.0485	6.19	16.	7336
Toluene	mg/l	0.0530	0.0515	2.87	16.	7341
VOA Surr 1,2-DCA-d4	% Rec		102.			6738
VOA Surr 1,2-DCA-d4	% Rec		101.			7336
VOA Surr 1,2-DCA-d4	% Rec		104.			7341
VOA Surr Toluene-d8	% Rec		102.			6738
VOA Surr Toluene-d8	% Rec		103.			7336
VOA Surr Toluene-d8	% Rec		110.			7341
VOA Surr, 4-BFB	% Rec		96.			6738
VOA Surr, 4-BFB	% Rec		94.			7336
VOA Surr, 4-BFB	% Rec		92.			7341
VOA Surr, DBFM	% Rec		93.			6738
VOA Surr, DBFM	% Rec		95.			7336
VOA Surr, DBFM	% Rec		96.			7341

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
MISC PARAMETERS						
Ethylene Dibromide	mg/l	0.00036	0.00036	0.00	50	2718

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
Project Number:
Project Name: DETWILER (DET)
Page: 3
Laboratory Receipt Date: 4/ 4/03

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
VOA PARAMETERS						
Benzene	mg/l	0.0500	0.0471	94	78 - 127	6738
Benzene	mg/l	0.0500	0.0441	88	78 - 127	7336
Benzene	mg/l	0.0500	0.0455	91	78 - 127	7341
Ethylbenzene	mg/l	0.0500	0.0498	100	78 - 125	6738
Ethylbenzene	mg/l	0.0500	0.0465	93	78 - 125	7336
Ethylbenzene	mg/l	0.0500	0.0469	94	78 - 125	7341
Naphthalene	mg/l	0.0500	0.0446	89	52 - 140	6738
Naphthalene	mg/l	0.0500	0.0421	84	52 - 140	7336
Toluene	mg/l	0.0500	0.0521	104	78 - 127	6738
Toluene	mg/l	0.0500	0.0471	94	78 - 127	7336
Toluene	mg/l	0.0500	0.0474	95	78 - 127	7341
Toluene	mg/l	0.0500	0.0474	95	78 - 127	7351
Xylenes (Total)	mg/l	0.150	0.154	103	77 - 126	6738
Xylenes (Total)	mg/l	0.150	0.139	93	77 - 126	7336
Xylenes (Total)	mg/l	0.150	0.138	92	77 - 126	7341
Methyl-t-butyl ether	mg/l	0.0500	0.0543	109	66 - 137	6738
Methyl-t-butyl ether	mg/l	0.0500	0.0520	104	66 - 137	7336
Methyl-t-butyl ether	mg/l	0.0500	0.0498	100	66 - 137	7341
Ethylene Dibromide	mg/l	0.00029	0.00029	100	73 - 141	2718
VOA Surr 1,2-DCA-d4	% Rec			96	73 - 133	6738
VOA Surr 1,2-DCA-d4	% Rec			102	73 - 133	7336
VOA Surr 1,2-DCA-d4	% Rec			100	73 - 133	7341
VOA Surr 1,2-DCA-d4	% Rec			100	73 - 133	7351
VOA Surr Toluene-d8	% Rec			103	80 - 121	6738
VOA Surr Toluene-d8	% Rec			106	80 - 121	7336
VOA Surr Toluene-d8	% Rec			102	80 - 121	7341
VOA Surr Toluene-d8	% Rec			102	80 - 121	7351
VOA Surr, 4-BFB	% Rec			96	80 - 128	6738
VOA Surr, 4-BFB	% Rec			96	80 - 128	7336

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
Project Number:
Project Name: DETWILER (DET)
Page: 4
Laboratory Receipt Date: 4/ 4/03

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
VOA Surr, 4-BFB	% Rec			93	80 - 128	7341
VOA Surr, 4-BFB	% Rec			93	80 - 128	7351
VOA Surr, DBFM	% Rec			95	81 - 121	6738
VOA Surr, DBFM	% Rec			95	81 - 121	7336
VOA Surr, DBFM	% Rec			96	81 - 121	7341
VOA Surr, DBFM	% Rec			96	81 - 121	7351

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
MISC PARAMETERS						
Ethylene Dibromide	mg/l	0.00029	0.00029	100	73 - 141	2718

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
VOA PARAMETERS					
Benzene	< 0.0005	mg/l	6738	4/ 9/03	1:45
Benzene	< 0.0005	mg/l	7336	4/ 9/03	13:33
Benzene	< 0.0005	mg/l	7341	4/10/03	0:53
Ethylbenzene	< 0.0003	mg/l	6738	4/ 9/03	1:45
Ethylbenzene	< 0.0003	mg/l	7336	4/ 9/03	13:33
Ethylbenzene	< 0.0003	mg/l	7341	4/10/03	0:53
Naphthalene	< 0.00120	mg/l	6738	4/ 9/03	1:45
Naphthalene	< 0.00120	mg/l	7336	4/ 9/03	13:33
Toluene	0.0014	mg/l	6738	4/ 9/03	1:45
Toluene	< 0.0006	mg/l	7336	4/ 9/03	13:33

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
Project Number:
Project Name: DETWILER (DET)
Page: 5
Laboratory Receipt Date: 4/ 4/03

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Analysis Date	Analysis Time
Toluene	< 0.0006	mg/l	7341	4/10/03	0:53
Toluene	< 0.0006	mg/l	7351	4/10/03	0:53
Xylenes (Total)	0.0014	mg/l	6738	4/ 9/03	1:45
Xylenes (Total)	< 0.0009	mg/l	7336	4/ 9/03	13:33
Xylenes (Total)	< 0.0009	mg/l	7341	4/10/03	0:53
Methyl-t-butyl ether	< 0.0005	mg/l	6738	4/ 9/03	1:45
Methyl-t-butyl ether	< 0.0005	mg/l	7336	4/ 9/03	13:33
Methyl-t-butyl ether	< 0.0005	mg/l	7341	4/10/03	0:53
VOA Surr 1,2-DCA-d4	104.	% Rec	6738	4/ 9/03	1:45
VOA Surr 1,2-DCA-d4	106.	% Rec	7336	4/ 9/03	13:33
VOA Surr 1,2-DCA-d4	105.	% Rec	7341	4/10/03	0:53
VOA Surr 1,2-DCA-d4	105.	% Rec	7351	4/10/03	0:53
VOA Surr Toluene-d8	105.	% Rec	6738	4/ 9/03	1:45
VOA Surr Toluene-d8	103.	% Rec	7336	4/ 9/03	13:33
VOA Surr Toluene-d8	101.	% Rec	7341	4/10/03	0:53
VOA Surr Toluene-d8	101.	% Rec	7351	4/10/03	0:53
VOA Surr, 4-BFB	98.	% Rec	6738	4/ 9/03	1:45
VOA Surr, 4-BFB	102.	% Rec	7336	4/ 9/03	13:33
VOA Surr, 4-BFB	99.	% Rec	7341	4/10/03	0:53
VOA Surr, 4-BFB	99.	% Rec	7351	4/10/03	0:53
VOA Surr, DBFM	98.	% Rec	6738	4/ 9/03	1:45
VOA Surr, DBFM	99.	% Rec	7336	4/ 9/03	13:33
VOA Surr, DBFM	98.	% Rec	7341	4/10/03	0:53
VOA Surr, DBFM	98.	% Rec	7351	4/10/03	0:53

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed

MISC PARAMETERS

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
Project Number:
Project Name: DETWILER (DET)
Page: 6
Laboratory Receipt Date: 4/ 4/03

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Analysis Date	Analysis Time
Ethylene Dibromide	< 0.00002	mg/l	2718	4/ 8/03	21:49

= Value outside Laboratory historical or method prescribed QC limits.

End of Report for Project 326448

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PROJECT QUALITY CONTROL DATA
Project Number:
Project Name: DETWILER(DET)
Page: 1
Laboratory Receipt Date: 4/15/03

Matrix Spike Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
VOA PARAMETERS								
Benzene	mg/l	< 0.0005	0.0492	0.0500	98	78. - 132.	1023	blank
Toluene	mg/l	< 0.0006	0.0498	0.0500	100	77. - 134.	1023	blank
VOA Surr 1,2-DCA-d4	% Rec				115	73. - 133.	1023	
VOA Surr Toluene-d8	% Rec				108	80. - 121.	1023	
VOA Surr, 4-BFB	% Rec				101	80. - 128.	1023	
VOA Surr, DBFM	% Rec				110	81. - 121.	1023	

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
VOA PARAMETERS						
Benzene	mg/l	0.0492	0.0504	2.41	15.	1023
Toluene	mg/l	0.0498	0.0490	1.62	16.	1023
VOA Surr 1,2-DCA-d4	% Rec		112.			1023
VOA Surr Toluene-d8	% Rec		104.			1023
VOA Surr, 4-BFB	% Rec		101.			1023
VOA Surr, DBFM	% Rec		110.			1023

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
VOA PARAMETERS						

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
Project Number:
Project Name: DETWILER(DET)
Page: 2
Laboratory Receipt Date: 4/15/03

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
Benzene	mg/l	0.0500	0.0482	96	78 - 127	1023
Benzene	mg/l	0.0500	0.0485	97	78 - 127	1023
Benzene	mg/l	0.0500	0.0485	97	78 - 127	6383
Benzene	mg/l	0.0500	0.0485	97	78 - 127	6403
Benzene	mg/l	0.0500	0.0465	93	78 - 127	6401
Ethylbenzene	mg/l	0.0500	0.0488	98	78 - 125	1023
Ethylbenzene	mg/l	0.0500	0.0530	106	78 - 125	1023
Ethylbenzene	mg/l	0.0500	0.0530	106	78 - 125	6383
Naphthalene	mg/l	0.0500	0.0461	92	52 - 140	1023
Naphthalene	mg/l	0.0500	0.0508	102	52 - 140	1023
Toluene	mg/l	0.0500	0.0454	91	78 - 127	1023
Toluene	mg/l	0.0500	0.0489	98	78 - 127	1023
Toluene	mg/l	0.0500	0.0489	98	78 - 127	6383
Xylenes (Total)	mg/l	0.150	0.146	97	77 - 126	1023
Xylenes (Total)	mg/l	0.150	0.153	102	77 - 126	1023
Xylenes (Total)	mg/l	0.150	0.153	102	77 - 126	6383
Methyl-t-butyl ether	mg/l	0.0500	0.0522	104	66 - 137	1023
Methyl-t-butyl ether	mg/l	0.0500	0.0518	104	66 - 137	1023
Methyl-t-butyl ether	mg/l	0.0500	0.0518	104	66 - 137	6403
Ethylene Dibromide	mg/l	0.00029	0.00034	117	73 - 141	1597
VOA Surr 1,2-DCA-d4	% Rec			116	73 - 133	1023
VOA Surr 1,2-DCA-d4	% Rec			117	73 - 133	1023
VOA Surr 1,2-DCA-d4	% Rec			117	73 - 133	6383
VOA Surr 1,2-DCA-d4	% Rec			117	73 - 133	6403
VOA Surr 1,2-DCA-d4	% Rec			106	73 - 133	6401
VOA Surr Toluene-d8	% Rec			103	80 - 121	1023
VOA Surr Toluene-d8	% Rec			111	80 - 121	1023
VOA Surr Toluene-d8	% Rec			111	80 - 121	6383
VOA Surr Toluene-d8	% Rec			111	80 - 121	6403
VOA Surr Toluene-d8	% Rec			104	80 - 121	6401
VOA Surr, 4-BFB	% Rec			105	80 - 128	1023

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
Project Number:
Project Name: DETWILER(DET)

Laboratory Receipt Date: 4/15/03

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
VOA Surr, 4-BFB	% Rec			105	80 - 128	1023
VOA Surr, 4-BFB	% Rec			105	80 - 128	6383
VOA Surr, 4-BFB	% Rec			105	80 - 128	6403
VOA Surr, 4-BFB	% Rec			104	80 - 128	6401
VOA Surr, DBFM	% Rec			114	81 - 121	1023
VOA Surr, DBFM	% Rec			112	81 - 121	1023
VOA Surr, DBFM	% Rec			112	81 - 121	6383
VOA Surr, DBFM	% Rec			112	81 - 121	6403
VOA Surr, DBFM	% Rec			106	81 - 121	6401

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
MISC PARAMETERS						
Ethylene Dibromide	mg/l	0.00029	0.00034	117	73 - 141	1597

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
VOA PARAMETERS					
Benzene	< 0.0005	mg/l	1023	4/21/03	10:39
Benzene	< 0.0005	mg/l	1023	4/22/03	0:14
Benzene	< 0.0005	mg/l	6383	4/22/03	0:14
Benzene	< 0.0005	mg/l	6401	4/22/03	13:33
Benzene	< 0.0005	mg/l	6403	4/22/03	0:14
Ethylbenzene	< 0.0003	mg/l	1023	4/21/03	10:39
Ethylbenzene	< 0.0003	mg/l	1023	4/22/03	0:14

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
Project Number:
Project Name: DETWILER(DET)
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Laboratory Receipt Date: 4/15/03

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Analysis Date	Analysis Time
Ethylbenzene	< 0.0003	mg/l	6383	4/22/03	0:14
Naphthalene	< 0.00120	mg/l	1023	4/21/03	10:39
Naphthalene	< 0.00120	mg/l	1023	4/22/03	0:14
Toluene	< 0.0006	mg/l	1023	4/21/03	10:39
Toluene	< 0.0006	mg/l	1023	4/22/03	0:14
Toluene	< 0.0006	mg/l	6383	4/22/03	0:14
Xylenes (Total)	< 0.0009	mg/l	1023	4/21/03	10:39
Xylenes (Total)	< 0.0009	mg/l	1023	4/22/03	0:14
Xylenes (Total)	< 0.0009	mg/l	6383	4/22/03	0:14
Methyl-t-butyl ether	< 0.0005	mg/l	1023	4/21/03	10:39
Methyl-t-butyl ether	< 0.0005	mg/l	1023	4/22/03	0:14
Methyl-t-butyl ether	< 0.0005	mg/l	6403	4/22/03	0:14
VOA Surr 1,2-DCA-d4	119.	% Rec	1023	4/21/03	10:39
VOA Surr 1,2-DCA-d4	116.	% Rec	1023	4/22/03	0:14
VOA Surr 1,2-DCA-d4	116.	% Rec	6383	4/22/03	0:14
VOA Surr 1,2-DCA-d4	114.	% Rec	6401	4/22/03	13:33
VOA Surr 1,2-DCA-d4	116.	% Rec	6403	4/22/03	0:14
VOA Surr Toluene-d8	104.	% Rec	1023	4/21/03	10:39
VOA Surr Toluene-d8	111.	% Rec	1023	4/22/03	0:14
VOA Surr Toluene-d8	111.	% Rec	6383	4/22/03	0:14
VOA Surr Toluene-d8	105.	% Rec	6401	4/22/03	13:33
VOA Surr Toluene-d8	111.	% Rec	6403	4/22/03	0:14
VOA Surr, 4-BFB	108.	% Rec	1023	4/21/03	10:39
VOA Surr, 4-BFB	109.	% Rec	1023	4/22/03	0:14
VOA Surr, 4-BFB	109.	% Rec	6383	4/22/03	0:14
VOA Surr, 4-BFB	107.	% Rec	6401	4/22/03	13:33
VOA Surr, 4-BFB	109.	% Rec	6403	4/22/03	0:14
VOA Surr, DBFM	118.	% Rec	1023	4/21/03	10:39
VOA Surr, DBFM	116.	% Rec	1023	4/22/03	0:14
VOA Surr, DBFM	116.	% Rec	6383	4/22/03	0:14
VOA Surr, DBFM	112.	% Rec	6401	4/22/03	13:33

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
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Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Analysis Date	Analysis Time
VOA Surr, DBFM	116.	% Rec	6403	4/22/03	0:14

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
MISC PARAMETERS					
Ethylene Dibromide	< 0.00002	mg/l	1597	4/18/03	17:56

= Value outside Laboratory historical or method prescribed QC limits.

End of Report for Project 327833

APPENDIX B

BORING LOGS & WELL DEVELOPMENT LOGS

FIELD SCREENING LOG

Site: Detwiler

Date: 10/3/02

Personnel: Ronny Lowder - Emerald; Rhashaad - Saedacco

LOCATION	TIME	DEPTH	HNU	COMMENTS
GP-31 East of Sewer Line	11:15	20'	-	Collect 3 - 40 ml vials for BTEX, Naphthalene, MTBE; Tan, silty, strong odor
GP-32 West of Sewer Line	13:00	20'	-	Collect 3 - 40 ml vials for BTEX, Naphthalene, MTBE; Tan, silty, no odor
GP-33	14:40	20'	-	Collect 3 - 40 ml vials for BTEX, Naphthalene, MTBE; Tan, silty, slight odor
GP-34	15:25	20'	-	Collect 3 - 40 ml vials for BTEX, Naphthalene, MTBE; Tan, silty, no odor
GP-35	16:30	20'	-	Collect 3 - 40 ml vials for BTEX, Naphthalene, MTBE; Tan, silty, no odor
GP-36	17:15	16'	-	Collect 3 - 40 ml vials for BTEX, Naphthalene, MTBE; Tan, silty, no odor
GP-37	17:40	30'	-	Collect 3 - 40 ml vials for BTEX, Naphthalene, MTBE; Tan, silty, no odor

FIELD SCREENING LOG

Site: Detwiler

Date: 10/4/02

Personnel: Ronny Lowder - Emerald; Rhashaad - Saedacco

LOCATION	TIME	DEPTH	HNU	COMMENTS
GP-38	8:40	28'	-	Collect 3 - 40 ml vials for BTEX, Naphthalene, MTBE; Tan, silty, no odor
GP-39	9:40	16'	-	Collect 3 - 40 ml vials for BTEX, Naphthalene, MTBE; Tan, silty, no odor
GP-40	10:30	14'	-	Collect 3 - 40 ml vials for BTEX, Naphthalene, MTBE; Tan, silty, no odor

FIELD ACTIVITY LOG - MW INSTALLATION

Site: Detwiler

Date: 11/8/02 & 11/11/02

Personnel: Emerald - Ronny Lowder; Saedacco - Tate, Bill, Mike

LOCATION	TIME	SPOON	HNU	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-16D	9:00	0 - 5'	-	Tan silty sand	Dry	Strong odor
	9:15	5'-10'	-	Red sandy clay	Dry	Strong odor
	9:50	10'-15'	-	Red sand clay, tight	-	Strong odor
	10:30	15'-20'	-	Red sandy clay	Damp	Strong odor
	10:40	20'-25'	-	Red orange sandy clay, wet	Wet	Strong odor
	10:53	25'-30'	-	Orange sand	Wet	Strong odor
	11:00	30'-35'	-	Orange sand	Wet	Strong odor
	11:05	35'-40'	-	Orange sand	Wet	Strong odor
	11:10	40'-45'	-	Orange sand	Wet	Strong odor
	11:15	45'-50	-	Orange sandy clay	Wet	Strong odor
	11:45	50'-55'	-	Orange sandy clay	Wet	Strong odor
	12:15	55'-60'	-	Orange sandy clay	Wet	Strong odor
	12:35	60'-65'	-	Orange sandy clay	Wet	Strong odor
	Set casing @ 65' & fill with grout.					
MW16D	11/11/02 - Drill out for 2" MW to 75' with 5' screen.					

FIELD ACTIVITY LOG - MW INSTALLATION

Site: Detwiler's

Date: 12/19/02

Personnel: Ronny Lowder - Emerald; Tate, Brian & Terrance - Saedacco

LOCATION	TIME	SPOON	HNU	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-18	10:45	4'-6'	0	Grass Surface 0 - 4 Black tan silty sand 4 - 6 Orange red sandy clay	Dry	
	10:55	9'-11'	0	Red gray sandy clay	Dry	
	11:00	14'-16'	0	14 - 15 Red sandy clay 15 - 16 Orange clayey sand	Dry Damp	
	11:08	19'-21'	0	Orange tan sand	Wet	
	Set MW @ 23' with 10' screen.					
MW-17	12:40	4'-6'	0	Grass Surface 0 - 4 Black silty sand 4 - 6 Orange sandy clay	Dry	2-3-3-5 (BC)
	12:49	9' -11'	0	9 - 10 Orange sandy clay 10 - 11 Gray sandy clay	Dry	3-5-12-16
	13:00	14'-16'	0	Gray sand	Wet	2-2-1-1
	Set MW @ 18' with 10' screen.					
MW-20	14:15	4'-6'	0	Gray silty sand to yellow sand	Dry	
	14:20	9'-11'	0	Tan sand	Wet	
	Set MW @ 13' with 10' screen.					

FIELD ACTIVITY LOG - MW INSTALLATION

Site: Detwiler's

Date: 12/19/02

Personnel: Ronny Lowder - Emerald; Tate, Brian & Terrance - Saedacco

LOCATION	TIME	SPOON	HNU	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-21	15:25	4'-6'	0	Tan pink clayey sand	Damp	
	15:30	9'-11'	0	Orange tan sand	Wet	
	Set MW @ 13' with 10' screen.					
MW-19	16:40	4'-6'	0	Brown silty sand to red sandy clay	Dry	
	16:50	9'-11'	0	Orange tan sand	Damp to Wet	
	16:55	14'-16'	0	Tan sand	Wet	
	Set MW to 15' with 10' screen.					

FIELD ACTIVITY LOG - MW INSTALLATION

Site: Detwiler's

Date: 2/26/03

Personnel: Ronny Lowder - Emerald; Richie & Roger - Saedacco

LOCATION	TIME	SPOON	HNU	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-22	8:50	0 - 5'	0	Grassy Surface; Brown sand	Dry	Post-hole
	9:00	5' - 10'	0	Red sandy clay	Dry	
	9:05	10' - 15'	0	Orange sandy clay with shale	Dry	
	9:15	15' - 20'	0	Orange sandy clay with shale	Damp	
	9:20	20' - 25'	0	Orange sandy clay with shale	Damp-wet	
	Set MW @ 25' with 15' screen.					
MW-23	10:00	0 - 5'	0	Grassy Surface; Brown silty sand	Dry	Post-hole
	10:10	5' - 10'	0	Red sandy clay	Dry	
	10:15	10' - 15'	0	Orange sandy clay	Dry	
	10:20	15' - 20'	0	Brown sand clay	Damp	
	10:25	20' - 25'	0	Brown sand	Wet	
	Set MW @ 25' with 15' screen.					

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: Harold Detwiller (last) (first)
Address: 31 S. Church Street
City: Summerton State: SC Zip: 29150
Telephone: Work: Home:

2. LOCATION OF WELL: **COUNTY:**
Name: Detwiller Construction
Street Address: 31 S. Church Street
City: Summerton SC Zip: 29150
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW 6D **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☐ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Brown SAND	0	5
very tight orange CLAY	5	25
SANDY CLAY TAN	25	40
tight CLAY TAN	40	55
BLACK SANDY SOIL	55	65
"	65	75
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
Bentonite seal from 63' - 61'

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) 75 ft. Date Started: 11-8-02 Date Completed: 11-11-02

9. TYPE ☒ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

10. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
-6" in. to 65' ft. depth
_____ in. to _____ ft. depth
Height: Above (Below) -6" Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☒ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: .10 Length: 10'
Set Between: 65 ft. and 75 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 61' ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield:

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 63 ft. to 75' ft.
Effective size #2 Uniformity Coefficient

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other
Depth: From -6" ft. to 61' ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type petroleum
Well Disinfected ☐ Yes ☐ No Type: Amount:

18. PUMP: Date installed: N/A Not installed ☐
Mfr. Name: Model No.:
H.P. Volts Length of drop pipe ft. Capacity gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Elliott Ford CERT. NO.: 1582
Address: 10401 John Price Rd Chat. NC 28208
Telephone No.: 18008490353 Fax No.:

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Elliott Ford Authorized Representative Date: 11/10/02

DHEC 1903 (03/2002) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: Detwillers (last) (first)
Address: 31 S. Church
City: Summerton State: SC Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: **COUNTY:**
Name: Detwillers
Street Address: 31 S. South Church Str
City: Summeton SC Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**
MW - 17

4. ABANDONMENT: ☐ Yes ☐ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
	0	5'
	5'	10'
	10'	15'
	15'	18'
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
Bentonite seal from 4' to 6'

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) Date Started: 19 Dec 02
18 ft. Date Completed: 19 Dec 02

9. TYPE ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other 4 1/4 Auger

10. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
-6 in. to 8 ft. depth
_____ in. to _____ ft. depth
Height: Above/(Below) Surface -6" ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☒ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: .10 Length: 10'
Set Between: 8 ft. and 18 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 15 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 6 ft. to 18 ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☒ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From -8" ft. to 4' ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date Installed: _____ Not Installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Elliott Ford CERT. NO.: 1582
Address: 10401 John Price Rd
Char. NC 28279
Telephone No.: 17045049196 Fax No.: 17045049196

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Elliott Ford Date: 12/20/02
Authorized Representative

DHEC 1903 (03/2002) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: Detwiller's (last) (first)
Address: 31 S. Church Str
City: Summerton State: SC Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: **COUNTY:**
Name: Detwillers
Street Address: 31 S. South Church Str
City: Summeton SC Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW **PUBLIC SYSTEM NUMBER:** - 18

4. ABANDONMENT: ☐ Yes ☐ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Orange Clay	0	5'
↓	5'	10'
↓	10'	15'
Tan Sandy Clay	15'	20'
↓	20'	23'
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
Bentonite seal from 9' to 11'

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) 23' ft. Date Started: 19 Dec 02 Date Completed: 19 Dec 02

9. TYPE ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other 4'4 Auger

10. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
-1 in. to 13 ft. depth
_____ in. to _____ ft. depth
Height: Above (Below) -6" Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☒ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: .10 Length: 10'
Set Between: 13' ft. and 23' ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 18 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 11 ft. to 23' ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☒ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From -8" ft. to 9 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Elliott Ford **CERT. NO.:** 1582
Address: 10401 John Price Rd Char. NC 28279
Telephone No.: 1704 504 9196 Fax No.: 1704 504 9196

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Elliott Ford Authorized Representative Date: 12/20/02

DHEC 1903 (03/2002) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: Detwiller's (last) (first)
Address: 31 S. Church Str
City: Summerton State: SC Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: **COUNTY:**
Name: Detwillers
Street Address: 31 S. South Church Str
City: Summeton SC Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: MW **PUBLIC SYSTEM NUMBER:** - 19

4. ABANDONMENT: ☐ Yes ☐ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Orange soil (clay)	0	5
↓	5	10
Tan sandy soil	10	15
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
Bentonite seal from 3' to 4'

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) Date Started: 19 Dec 02
15 ft. Date Completed: 19 Dec 02

9. TYPE ☐ Mud Rotary ☐ Jetted ☑ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other 4'/4 augers

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
-1 6 in. to 5 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below (Surface) -6" ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☒ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: .10 Length: 10'
Set Between: 5 ft. and 15 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 9' ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 4' ft. to 15' ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☒ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From -8" ft. to 3' ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Elliott Ford CERT. NO.: 1582
Address: 10401 John Price Rd
Char. NC 28279
Telephone No.: 1704504 9196 Fax No.: 1704504 9196

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Elliott Ford Authorized Representative Date: 12/20/02

DHEC 1903 (03/2002) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: Detwiller's (last) (first)
Address: 31 S. Church Str
City: Summerton State: SC Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: **COUNTY:**
Name: Detwillers
Street Address: 31 S. South Church Str
City: Summeton SC Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**
MW - 20

4. ABANDONMENT: ☐ Yes ☐ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
orange Clay Top Soil	0	5
↓	5	10
Tan Sandy Soil	10	13
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
Bentonite seal from 1' to 2'

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) Date Started: 19 Dec 02
13 ft. Date Completed: 19 Dec 02

9. TYPE ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
6 in. to 3 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface -6" ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☒ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: .10 Length: 10'
Set Between: 3 ft. and 13 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 8' ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 2' ft. to 13' ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☒ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From -8" ft. to 1' ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Elliott Ford CERT. NO.: 1582
Address: 10401 John Price Rd
Char. NC 28279
Telephone No.: 1704504 9196 Fax No.: 1704504 9196

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Elliott Ford Date: 12/20/02
Authorized Representative

DHEC 1903 (03/2002) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Detwillers (last) (first)
Address: 31 S. Church Str
City: ~~Church~~ Summerton State: SC Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: **COUNTY:**
Name: Detwillers
Street Address: 31 S. South ~~Church~~ Church Str
City: Summeton SC Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**
MW - 21

4. ABANDONMENT: ☐ Yes ☐ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Orange clay	0	5'
↓	5'	10'
TAN Sandy Clay	10'	13'
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
Bentonite seal from 1' to 2'

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) Date Started: 19 Dec 02
13 ft. Date Completed: 19 Dec 02

9. TYPE ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other 4'/4 Auger

10. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
6 in. to 3' ft. depth
_____ in. to _____ ft. depth
Height: Above/Below -6"
Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☒ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 10 Length: 10'
Set Between: 3 ft. and 13 ft. **NOTE: MULTIPLE SCREENS**
_____ ft. and _____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 8' ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 2' ft. to 13 ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☒ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From -8" ft. to 1' ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Elliott Ford **CERT. NO.:** 1582
Address: 10401 John Price Rd
Char. NC 28279
Telephone No.: 17045049196 Fax No.: 17045049196

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Elliott Ford Date: 12/20/02
Authorized Representative

DHEC 1903 (03/2002) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Detwillers (last)
Address: 31 South (first) Church St
City: Summerton State: S.C Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Clarendon
Name: Detwillers
Street Address: 31 South Church St
City: Summerton Zip: S.C
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: Detwillers **PUBLIC SYSTEM NUMBER:** MW-22

4. ABANDONMENT: ☐ Yes ☐ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
0-25		
Red Silty SAND		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☐ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) 25 ft. Date Started: 2-26-03 Date Completed: 2-26-03

9. TYPE ☐ Mud Rotary ☐ Jetted ☐ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☐ Threaded ☐ Welded
Diam.: 2"
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 10 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: .010 Length: 15
Set Between: 10 ft. and 25 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from 8 ft. to 25 ft.
Effective size #2 Uniformity Coefficient SAND

16. WELL GROUTED? ☐ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0 ft. to 6 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Rich Lemire CERT. NO.: 1423
Address: (SAEDACCO) 1940 John Price Rd Charlotte NC 28273
Telephone No.: 1-800-849-0353 Fax No.:

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richy Lemire Date: 2-26-03
Authorized Representative

DHEC 1903 (03/2002) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: Detwillers
Address: 31 South (last) Church (first) St
City: Summerton State: S.C Zip:
Telephone: Work: Home:

2. LOCATION OF WELL COUNTY: Clarendon
Name: Detwillers
Street Address: 31 South Church St
City: Summerton S.C Zip
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: Detwillers **PUBLIC SYSTEM NUMBER:** MW-23

4. ABANDONMENT: ☐ Yes ☐ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
0-25		
Red Silty SAND		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☐ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) Date Started: 2-26-03
25 ft. Date Completed: 2-26-03

9. TYPE ☐ Mud Rotary ☐ Jetted ☑ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 10 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 010 Length: 15
Set Between: 10 ft. and 25 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 8 ft. to 25 ft.
Effective size #2 Uniformity Coefficient SAND

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0 ft. to 6 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Richy L Lemire **CERT. NO.:** 1423
Address: SAEDACCO
1040 C John Price Rd
Charlotte NC 28273
Telephone No.: 1-800-849-0353 Fax No.:

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Richy L Lemire Date: 2-26-03
Authorized Representative

DHEC 1903 (03/2002) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW1

PROJECT: Detwiler

STREET: S. Church St.

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 4/2/03

TOTAL WELL DEPTH: 23.00 ft,

STATIC WATER LEVEL: 15.09 ft.

WATER HEIGHT (Hw): _____ ft.

WELL DIAMETER (Dw): _____ ft.

WELL VOLUME (Vw): _____ gals.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: - gals.

EMERALD PERSONNEL: RL

Conditions:

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
9:50	-	-	-	-	FP - 3.69'

DO = _____ mg/l @ _____ °C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW2D

PROJECT: Detwiler
STREET: S. Church St.
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

TOTAL WELL DEPTH: 47.00 ft.
STATIC WATER LEVEL: 14.80 ft.
WATER HEIGHT (Hw): 32.20 ft.
WELL DIAMETER (Dw): ____ ft.
WELL VOLUME (Vw): ____ gals.
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: ____ gals.

DATE: 4/12/03
EMERALD PERSONNEL: RL, JB

Conditions: Sunny 62°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
12:50	1	21.4	140	7.05	Clear, no sheen, no odor
12:53	2	22.2	150	7.25	Clear, no sheen, no odor
12:56	3	22.3	155	7.28	Clear, no sheen, no odor
12:59	4	22.4	160	7.31	Clear, no sheen, no odor
13:03	5	22.3	160	7.28	Clear, no sheen, no odor
13:06	6	22.4	160	7.26	Clear, no sheen, mild odor
13:09	7	22.4	160	7.23	Clear, no sheen, mild odor
13:12	8	22.3	160	7.23	Clear, no sheen, mild odor
13:20	Sample				

DO = 0.70 mg/l @ 20.6°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW3

PROJECT: Detwiler
STREET: S. Church St.
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

DATE: 4/2/03

TOTAL WELL DEPTH: 23.00 ft.
STATIC WATER LEVEL: 13.45 ft.
WATER HEIGHT (Hw): 9.55 ft.
WELL DIAMETER (Dw): ft.
WELL VOLUME (Vw): gals.
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: 3 gals.
EMERALD PERSONNEL: RL

Conditions: Sunny 68°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
12:23	1	19.2	160	4.85	Cloudy, no sheen, no odor
12:27	2	18.9	170	4.86	Cloudy, no sheen, no odor
12:30	3	18.9	170	4.84	Clear, no sheen, no odor
12:35	Sample				

DO = 5.44 mg/l @ 18.6 °C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW4

PROJECT: Detwiler

STREET: S. Church St.

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 4/2/03

TOTAL WELL DEPTH: 25.00 ft.

STATIC WATER LEVEL: 11.98 ft.

WATER HEIGHT (Hw): 13.02 ft.

WELL DIAMETER (Dw): ____ ft.

WELL VOLUME (Vw): ____ gals.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3 gals.

EMERALD PERSONNEL: RL

Conditions: Sunny 65°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
11:44	1	20.8	80	6.07	Clear, no sheen, mild odor
11:47	2	20.4	80	5.50	Clear, no sheen, mild odor
11:53	3	20.4	80	5.34	Clear, no sheen, mild odor
11:55	Sample				

DO = 0.57 mg/l @ 19.3 °C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW5

PROJECT: Detwiler

STREET: S. Church St.

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 4/2/03

TOTAL WELL DEPTH: 25.00 ft.

STATIC WATER LEVEL: 10.66 ft.

WATER HEIGHT (Hw): 14.34 ft.

WELL DIAMETER (Dw): ____ ft.

WELL VOLUME (Vw): ____ gals.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3 gals.

EMERALD PERSONNEL: RL

Conditions: Sunny 70°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
14:35	1	20.8	90	5.94	Clear, no sheen, mild odor
14:39	2	20.8	125	6.28	Clear, no sheen, mild odor
14:45	3	20.9	140	6.39	Clear, no sheen, mild odor
14:50	Sample				

DO = 0.68 mg/l @ 20.1°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW6

PROJECT: Detwiler

STREET: S. Church St.

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 4/2/03

TOTAL WELL DEPTH: 25.00 ft.

STATIC WATER LEVEL: 15.70 ft.

WATER HEIGHT (Hw): 9.30 ft.

WELL DIAMETER (Dw): ____ ft.

WELL VOLUME (Vw): ____ gals.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3 gals.

EMERALD PERSONNEL: RL

Conditions: Sunny 72°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
16:50	1	18.3	70	5.54	Cloudy, no sheen, no odor
16:54	2	18.1	70	5.62	Cloudy, no sheen, no odor
16:59	3	18.1	70	5.56	Cloudy, no sheen, no odor
17:05	Sample				

DO = 4.46 mg/l @ 17.5 °C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW7

PROJECT: Detwiler

STREET: S. Church St.

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 4/12/03

TOTAL WELL DEPTH: 20.00 ft.

STATIC WATER LEVEL: 12.09 ft.

WATER HEIGHT (Hw): ____ ft.

WELL DIAMETER (Dw): ____ ft.

WELL VOLUME (Vw): ____ gals.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: ____ gals.

EMERALD PERSONNEL: RL, JB

Conditions: Sunny 50°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
9:05	1	18.5	90	5.24	Tan, no sheen, mild odor
9:08	2	18.4	80	4.93	Tan, no sheen, mild odor
9:11	3	18.2	90	4.84	Tan, no sheen, mild odor
9:15	Sample				

DO = 6.58 mg/l @ 17.0°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW8

PROJECT: Detwiler

STREET: S. Church St.

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 4/12/03

TOTAL WELL DEPTH: 15.00 ft.

STATIC WATER LEVEL: 3.10 ft.

WATER HEIGHT (Hw): ft.

WELL DIAMETER (Dw): ft.

WELL VOLUME (Vw): gals.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3 gals.

EMERALD PERSONNEL: RL, JB

Conditions: Sunny 56°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
10:44	1	17.4	70	6.24	Tan, no sheen, no odor
10:47	2	17.1	70	6.23	Tan, no sheen, no odor
10:50	3	17.2	70	6.22	Tan, no sheen, no odor
10:55	Sample				

DO = 4.18 mg/l @ 16.1°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW9

PROJECT: Detwiler

STREET: S. Church St.

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 4/12/03

TOTAL WELL DEPTH: 15.00 ft.

STATIC WATER LEVEL: 5.40 ft.

WATER HEIGHT (Hw): ____ ft.

WELL DIAMETER (Dw): ____ ft.

WELL VOLUME (Vw): ____ gals.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: ____ gals.

EMERALD PERSONNEL: RL, JB

Conditions: Sunny 55°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
11:00	1	17.8	90	5.95	Tan, no sheen, no odor
11:03	2	17.7	90	5.89	Tan, no sheen, no odor
11:07	3	17.8	80	5.89	Tan, no sheen, no odor
11:10	Sample				

DO = 2.66 mg/l @ 16.2°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW10

PROJECT: Detwiler
STREET: S. Church St.
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

TOTAL WELL DEPTH: 18.00 ft,
STATIC WATER LEVEL: 10.02 ft.
WATER HEIGHT (Hw): ft.
WELL DIAMETER (Dw): ft.
WELL VOLUME (Vw): gals.
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: gals.

DATE: 4/12/03
EMERALD PERSONNEL: RL, JB

Conditions: Sunny 58°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
11:40	1	23.2	60	5.54	Tan, no sheen, mild odor
11:43	2	23.2	60	5.44	Tan, no sheen, mild odor
11:47	3	23.4	60	5.43	Tan, no sheen, mild odor
11:50	Sample				

DO = 0.85 mg/l @ 18.1°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW11

PROJECT: Detwiler
STREET: S. Church St.
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

DATE: 4/12/03

TOTAL WELL DEPTH: 25.00 ft,
STATIC WATER LEVEL: 13.66 ft.
WATER HEIGHT (Hw): ft.
WELL DIAMETER (Dw): ft.
WELL VOLUME (Vw): gals.
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: gals.
EMERALD PERSONNEL: RL, JB

Conditions: Sunny 53°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
10:03	1	20.4	90	5.55	Tan, no sheen, mild odor
10:07	2	20.4	90	5.46	Tan, no sheen, mild odor
10:11	3	20.4	90	5.42	Tan, no sheen, mild odor
10:15	Sample				

DO = 0.56 mg/l @ 19.3°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW12

PROJECT: Detwiler
STREET: S. Church St.
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

TOTAL WELL DEPTH: 25.00 ft.
STATIC WATER LEVEL: 13.52 ft.
WATER HEIGHT (Hw): 11.48 ft.
WELL DIAMETER (Dw): ft.
WELL VOLUME (Vw): gals.
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: 3 gals.

DATE: 4/2/03
EMERALD PERSONNEL: RL

Conditions: Sunny 69°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
13:10	1	18.9	90	5.50	Clear, no sheen, no odor
13:14	2	19.1	90	5.60	Clear, no sheen, no odor
13:20	3	19.3	90	5.54	Clear, no sheen, no odor
13:25	Sample				

DO = 3.25 mg/l @ 17.9°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW13

PROJECT: Detwiler

STREET: S. Church St.

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 4/2/03

TOTAL WELL DEPTH: 25.00 ft.

STATIC WATER LEVEL: 14.93 ft.

WATER HEIGHT (Hw): _____ ft.

WELL DIAMETER (Dw): _____ ft.

WELL VOLUME (Vw): _____ gals.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: _____ gals.

EMERALD PERSONNEL: RL

Conditions: Sunny 65°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
11:15	-	-	-	-	FP - 0.48'

DO = _____ mg/l @ _____ °C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW14

PROJECT: Detwiler

STREET: S. Church St.

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 4/12/03

TOTAL WELL DEPTH: 25.00 ft.

STATIC WATER LEVEL: 12.39 ft.

WATER HEIGHT (Hw): ft.

WELL DIAMETER (Dw): ft.

WELL VOLUME (Vw): gals.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3 gals.

EMERALD PERSONNEL: RL, JB

Conditions: Sunny 50°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
8:40	1	19.1	115	6.83	Tan, no sheen, mild odor
8:43	2	19.2	160	6.73	Tan, no sheen, mild odor
8:46	3	19.5	170	6.79	Tan, no sheen, mild odor
8:50	Sample				

DO = 3.66 mg/l @ 17.5 °C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW15

PROJECT: Detwiler
STREET: S. Church St.
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

TOTAL WELL DEPTH: 25.00 ft.
STATIC WATER LEVEL: 12.94 ft.
WATER HEIGHT (Hw): ft.
WELL DIAMETER (Dw): ft.
WELL VOLUME (Vw): gals.
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: gals.

DATE: 4/12/03
EMERALD PERSONNEL: RL, JB

Conditions: Sunny 55°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
10:20	1	20.3	140	5.80	Tan, slight sheen, strong odor
10:24	2	20.8	130	5.81	Tan, slight sheen, strong odor
10:27	3	21.1	130	5.81	Tan, slight sheen, strong odor
10:33	Sample				

DO = 0.33 mg/l @ 18.8°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW16D

PROJECT: Detwiler

STREET: S. Church St.

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 4/2/03

TOTAL WELL DEPTH: 75.00 ft,

STATIC WATER LEVEL: 12.10 ft.

WATER HEIGHT (Hw): 62.90 ft.

WELL DIAMETER (Dw): _____ ft.

WELL VOLUME (Vw): _____ gals.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 5 gals.

EMERALD PERSONNEL: RL

Conditions: Sunny 60°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
9:58	1	22.1	195	9.99	Clear, no sheen, no odor
10:01	2	21.9	200	10.04	Clear, no sheen, no odor
10:04	3	22.0	205	10.05	Clear, no sheen, no odor
10:07	4	22.0	205	10.05	Clear, no sheen, no odor
10:10	5	22.0	205		Clear, no sheen, no odor
10:15	Sample				

DO = 1.17 mg/l @ 20.5°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW17

PROJECT: Detwiler

STREET: S. Church St.

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 4/2/03

TOTAL WELL DEPTH: 18.00 ft.

STATIC WATER LEVEL: 9.50 ft.

WATER HEIGHT (Hw): 8.50 ft.

WELL DIAMETER (Dw): ____ ft.

WELL VOLUME (Vw): ____ gals.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3 gals.

EMERALD PERSONNEL: RL

Conditions: Sunny 72°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
15:15	1	19.5	80	5.85	Cloudy, no sheen, no odor
15:18	2	19.6	80	5.80	Cloudy, no sheen, no odor
15:24	3	19.3	80	5.79	Cloudy, no sheen, no odor
15:30	Sample				

DO = 0.62 mg/l @ 19.4°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW18

PROJECT: Detwiler

STREET: S. Church St.

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 4/2/03

TOTAL WELL DEPTH: 23.00 ft.

STATIC WATER LEVEL: 13.45 ft.

WATER HEIGHT (Hw): 9.55 ft.

WELL DIAMETER (Dw): _____ ft.

WELL VOLUME (Vw): _____ gals.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3 gals.

EMERALD PERSONNEL: RL

Conditions: Sunny 72°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
16:08	1	19.2	80	6.13	Cloudy, no sheen, mild odor
16:11	2	19.2	90	6.32	Cloudy, no sheen, mild odor
16:15	3	18.8	90	6.35	Cloudy, no sheen, mild odor
16:20	Sample				

DO = 1.08 mg/l @ 17.8°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW19

PROJECT: Detwiler

STREET: S. Church St.

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 4/12/03

TOTAL WELL DEPTH: 15.00 ft.

STATIC WATER LEVEL: 7.60 ft.

WATER HEIGHT (Hw): _____ ft.

WELL DIAMETER (Dw): _____ ft.

WELL VOLUME (Vw): _____ gals.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: _____ gals.

EMERALD PERSONNEL: RL, JB

Conditions: Sunny 52°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
9:25	1	16.5	60`	4.87	Tan, no odor
9:30	2	16.5	60	4.86	Tan, no odor
9:35	3	16.4	60	4.85	Tan, no odor
9:40	Sample				

DO = 6.86 mg/l @ 15.7°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW20

PROJECT: Detwiler

STREET: S. Church St.

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 4/12/03

TOTAL WELL DEPTH: 13.00 ft.

STATIC WATER LEVEL: 3.52 ft.

WATER HEIGHT (Hw): ft.

WELL DIAMETER (Dw): ft.

WELL VOLUME (Vw): gals.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3 gals.

EMERALD PERSONNEL: RL, JB

Conditions: Sunny 56°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
11:20	1	21.0	90	5.38	Tan, no sheen, no odor
11:23	2	20.9	90	5.24	Tan, no sheen, no odor
11:26	3	20.6	90	5.20	Tan, no sheen, no odor
11:30	Sample				

DO = 6.75 mg/l @ 16.9°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW21

PROJECT: Detwiler

STREET: S. Church St.

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 4/12/03

TOTAL WELL DEPTH: 13.00 ft.

STATIC WATER LEVEL: 5.05 ft.

WATER HEIGHT (Hw): ft.

WELL DIAMETER (Dw): ft.

WELL VOLUME (Vw): gals.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: gals.

EMERALD PERSONNEL: RL, JB

Conditions: Sunny 60°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
11:55	1	18.8	40	5.46	Tan, no sheen, no odor
11:58	2	18.5	40	5.40	Tan, no sheen, no odor
12:03	3	18.5	40	5.38	Clear, no sheen, no odor
12:06	Sample				

DO = 4.89 mg/l @ 17.4°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW22

PROJECT: Detwiler
STREET: S. Church St.
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

TOTAL WELL DEPTH: 25.00 ft.
STATIC WATER LEVEL: 11.96 ft.
WATER HEIGHT (Hw): ft.
WELL DIAMETER (Dw): ft.
WELL VOLUME (Vw): gals.
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: 3 gals.

DATE: 4/12/03
EMERALD PERSONNEL: RL, JB

Conditions: Sunny 62°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
12:30	1	19.2	110	4.97	Orange, no sheen, no odor
12:33	2	19.0	110	4.97	Orange, no sheen, no odor
12:36	3	18.7	120	4.99	Orange, no sheen, no odor
12:40	Sample				

DO = 7.87 mg/l @ 17.9°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW23

PROJECT: Detwiler
STREET: S. Church St.
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

TOTAL WELL DEPTH: 25.00 ft.
STATIC WATER LEVEL: 13.87 ft.
WATER HEIGHT (Hw): ft.
WELL DIAMETER (Dw): ft.
WELL VOLUME (Vw): gals.
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: gals.

DATE: 4/12/03
EMERALD PERSONNEL: RL, JB

Conditions: Sunny 60°

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
12:14	1	19.1	140	5.02	Tan, no sheen, no odor
12:17	2	19.1	140	4.99	Tan, no sheen, no odor
12:20	3	19.0	140	4.95	Tan, no sheen, no odor
12:23	Sample				

DO = 5.13 mg/l @ 18.5°C

APPENDIX C

WASTE DISPOSAL MANIFEST

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. GK5439

2. Page 1 of

3. Generator's Name and Mailing Address
DETWILERS
ADDRESS, STREET
SUMMERTON, SC

4. Generator's Phone ( )

5. Transporter 1 Company Name
G&K TANK SERVICE

6. US EPA ID Number

A. Transporter's Phone
1-800-800-6840

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
G & K TANK SERVICE INC
5070 BROAD STREET EXT
SUMTER, SC 29151

10. US EPA ID Number

C. Facility's Phone
803-494-4593

11. Waste Shipping Name and Description	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol
a. NON HAZARDOUS PETROLEUM CONTAMINANTED WATER	1	DM	55 gal	
b. NON HAZARDOUS PETROLEUM CONTAMINANTED SOIL	1	DM	55 gal	
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERALD
PO BOX 3050
SUMTER, SC 29151

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Richard Smoot	Richard Smoot	04	23	03

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
S. Glass	S. Glass	4	23	03

GENERATOR

TRANSPORTER

FACILITY

ORIGINAL - RETURN TO GENERATOR

Broad St. Extension • PO Box 1384 • Sumter, SC 29151
(803) 494-2694 • 1-800-800-6840 • FAX: (803) 494-8598

Certificate of Disposal

Tons 10 Drums
Detwilers
Summerton, SC

Contaminant Nonllazardous Petroleum Contaminanted Soil

This is to cerify the above soil has been processed and disposed of by G & K Tank Services, Inc., in accordance with and exceeding EPA regulations on petroleum contaminated soils.

Certified by S. Silley

Date 04/23/03

G & K
TANK SERVICES, INC.
Broad St. Extension • PO Box 1384 • Sumter, SC 29151
(803) 494-2694 • 1-800-800-6840 • FAX: (803) 494-8598

Certificate of Disposal

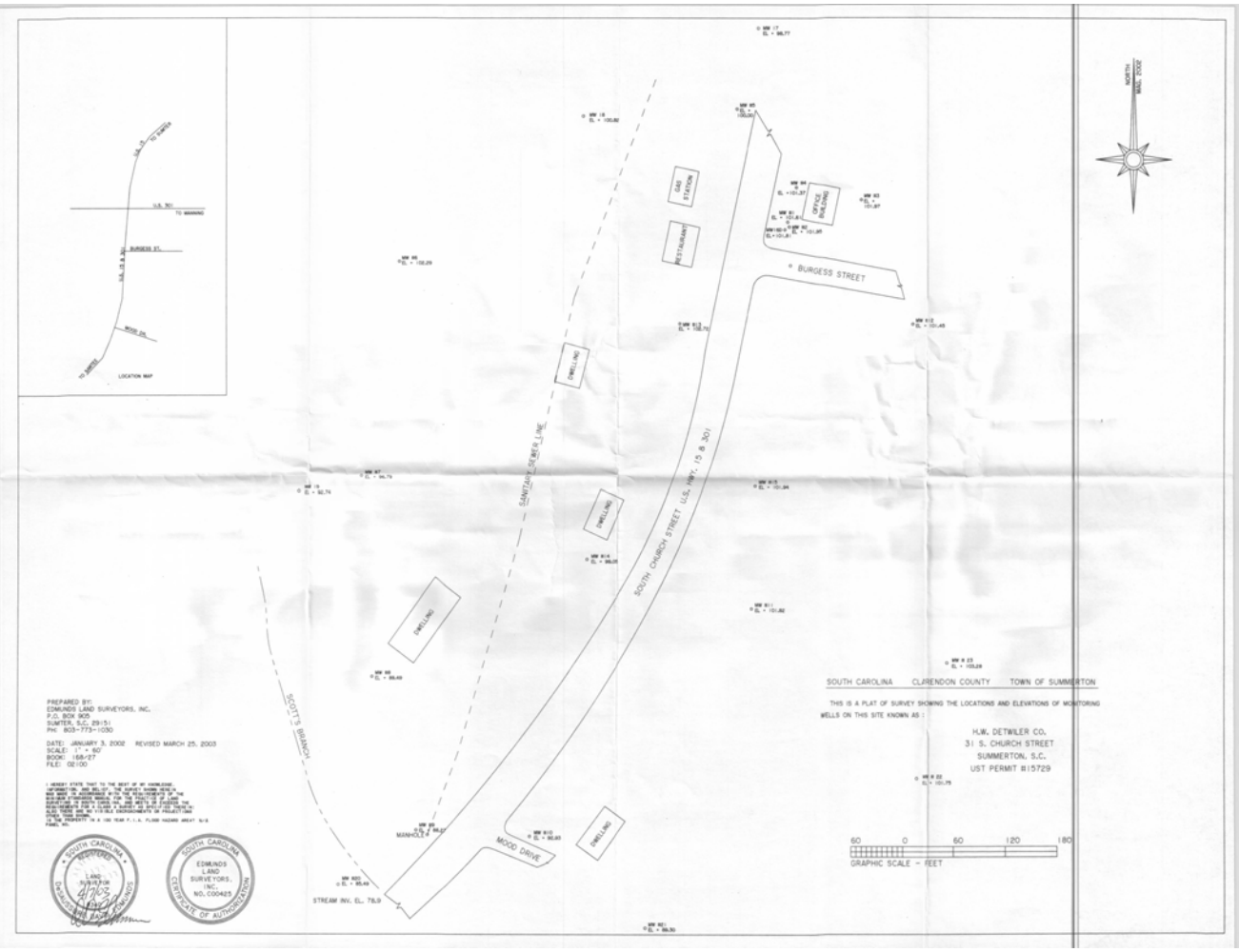
Tons 1 Drum
Detwilers
Summerton, SC

Contaminant NonHazardous Petroleum Contaminanted Water

This is to cerify the above ~~soil~~ water has been processed and disposed of by G & K Tank Services, Inc., in accordance with and exceeding EPA regulations on petroleum contaminated soils.

Certified by S. Sollo

Date 04/23/03



LOCATION MAP
U.S. 301
TO MANNING
BURGESS ST.
WOOD DR.
TO SUMTER
NORTH
MAG. 2002
GAS STATION
RESTAURANT
OFFICE BUILDING
BURGESS STREET
DWELLING
SANITARY SEWER LINE
SOUTH CHURCH STREET U.S. HWY. 15 & 301
SCOTT'S BRANCH
MANHOLE
MOOD DRIVE
STREAM INV. EL. 78.9
PREPARED BY:
EDMUNDS LAND SURVEYORS, INC.
P.O. BOX 905
SUMTER, S.C. 29151
PH: 803-773-1030
DATE: JANUARY 3, 2002 REVISED MARCH 25, 2003
SCALE: 1" = 60'
BOOK: 168-27
FILE: 02100
SOUTH CAROLINA CLARENDON COUNTY TOWN OF SUMMERTON
THIS IS A PLAT OF SURVEY SHOWING THE LOCATIONS AND ELEVATIONS OF MONITORING WELLS ON THIS SITE KNOWN AS :
H.W. DETWILER CO.
31 S. CHURCH STREET
SUMMERTON, S.C.
UST PERMIT #15729
60 0 60 120 180
GRAPHIC SCALE - FEET
SOUTH CAROLINA REGISTERED LAND SURVEYOR
EDMUNDS LAND SURVEYORS, INC. NO. C00425
CERTIFICATE OF AUTHORIZATION

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT

Phone (803) 896-6240 Fax (803) 896-6245

AUG 0 6 2003

MR HAROLD DETWILER
PO BOX 760
SUMMERTON SC 29148-0760

Re: H. W. Detwiler, Co., 37 S. Church St., Summerton SC
UST Permit #15729
Notice of Violation
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control directed you to complete an Assessment Plan in May 2003 with the plan due on June 6, 2003. The required plan has not been received. In accordance with Section 280.65 of the South Carolina Underground Storage Tank Regulations, the assessment must be conducted as documented chemicals of concern are above risk-based screening levels.

The Assessment Plan must be submitted within 30 days from the date of this letter. If the plan is not received in accordance with this schedule, enforcement procedures will be initiated.

On all correspondence regarding this site, please reference UST Permit #15729. If you have any questions concerning this correspondence, please call me at (803) 896-6648 or (800) 826-5435 (within South Carolina only).

Sincerely,

Alexander Butler, Hydrogeologist
Owner/Operator Support Section
Assessment and Corrective Action Division

cc: Emerald, Inc., PO Box 3050, Sumter, SC 29151
~~Technical~~ File
Read File

DHEC/BLWM/UST/080103

UST PROGRAM
DOCKETING # 02A Tech

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT

Phone.(803) 896-6240 Fax (803) 896-6245

MAY 0 6 2003

MR HAROLD DETWILER
PO BOX 769
SUMMERTON SC 29148-0769

Re: H. W. Detwiler, Co., 37 S. Church St., Summerton SC
UST Permit #15729
Release 1 Reported: June 22, 1993
Assessment Report Received: April 29, 2003
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced report submitted by Emerald, Inc. Results of the Assessment Report indicate that the concentrations of Chemicals of Concern are above the Risk Based Screening Levels and that the contaminant plume is not defined. The next scope of work to be implemented at this site is further assessment to determine the horizontal extent of the contaminant plume.

Please have your contractor complete and submit an Assessment Component Cost Agreement form and Tier II Assessment Plan form within thirty days of the date of this letter. Every component may not be necessary to complete the above scope of work. The SUPERB allowable cost for each component is included on the Assessment Component Cost Agreement form.

On all correspondence or inquiries regarding this project, please reference **UST Permit # 15729**. If you have any questions, please feel free to contact me at (803) 896-6648 or (800) 826-5435 (within South Carolina only).

Sincerely,

Alexander Butler, Hydrogeologist
Owner/Operator Support Section
Assessment & Corrective Action Division

cc: Emerald, Inc., PO Box 3050, Sumter, SC 29151
Read and Technical File

SCHDEC/UST/042903

UST PROGRAM
DOCKETING # 02B-Tech

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT

Phone (803) 896-6240 Fax (803) 896-6245

MAR 1 1 2003

MR HAROLD DETWILER
PO BOX 769
SUMMERTON SC 29148-0769

Re: H. W. Detwiler, Co., 37 S Church St., Summerton SC
UST Permit #15729
Notice of Violation
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control directed you to complete an Assessment Report in August 2002 with the report due on November 30, 2002. The required report has not been received. In accordance with Section 280.65 of the South Carolina Underground Storage Tank Regulations, the assessment must be conducted as documented chemicals of concern are above risk-based screening levels.

The Assessment Report must be submitted within 30 days from the date of this letter. If the report is not received in accordance with this schedule, enforcement procedures will be initiated.

On all correspondence regarding this site, please reference UST Permit #15729. If you have any questions concerning this correspondence, please call me at (803) 896-6648 or (800) 826-5435 (within South Carolina only).

Sincerely,

Alexander Butler, Hydrogeologist
Owner/Operator Support Section
Assessment and Corrective Action Division

enc: Original Request

cc: Emerald, Inc., PO Box 3050, Sumter, SC 29151
Technical File
Read File

DHEC/BLWM/UST/010603

UST PROGRAM
DOCKETING # 02C Tech

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

214 WEST LIBERTY STREET • POST OFFICE BOX 3050 • SUMTER, SC 29151

E-MAIL:
rllemerald@CPIS.net

TELEPHONE (803) 773-5454
FAX (803) 775-1970

July 9, 2002

Eric Owens, Hydrogeologist
Owner/Operator Assistance Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
SCDHEC
2600 Bull Street
Columbia, SC 29201-1708

Re: H.W. Detwiler Co.
UST Permit #15729
Tier II Assessment Plan (Addendum 01)
Clarendon County

Dear Mr. Owens:

On behalf of Mr. Harold Detwiler, Emerald, Inc. is providing you with the enclosed Tier II Assessment Plan as requested in your letter dated June 26, 2002. If you have any questions, please contact me at your convenience.

Yours very truly,
Emerald, Inc.

Ronny L. Lowder
President

RLL/sld
Enclosure

cc: Harold W. Detwiler, Jr.

RECEIVED
AUG 0 2 2002
Underground Storage
Tank Program

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

214 WEST LIBERTY STREET • POST OFFICE BOX 3050 • SUMTER, SC 29151

E-MAIL:
rllemerald@CPIS.net

TELEPHONE (803) 773-5454
FAX (803) 775-1970

2A

TIER II ASSESSMENT PLAN
(ADDENDUM 01)
&
COST PROPOSAL
H.W. DETWILER CO.
UST PERMIT #15729
SUMMERTON, SC

CA # 17036
Unit # 1647

Prepared For:

SCDHEC
Bureau of UST Management
2600 Bull Street
Columbia, SC 29201

Prepared By:

Emerald, Inc.
P.O. Box 3050
Sumter, SC 29151

July 9, 2002

RECEIVED
AUG 0 2 2002
Underground Storage Tank Program
UST PROGRAM
DOCKETING # 03-Tech

Tier II Plan
Division of Underground Storage Management

UST Permit # 15729 County: Clarendon Facility Name: H.W. Detwiler Co.

Facility Address: 31 S. Church Street, Summerton, SC

P.O. Box 760

Responsible Party: Harold W. Detwiler, Jr. Address: Summerton, SC 29148-0760

No. USTs: 2 Removed? June 1993 (Date) Replaced? No (Date)

Current use of facility/property: Office Building

Current Owner name: Harold W. Detwiler, Jr.

Current property owner address: Same

Field Screening Methodology

Specify the field screening methodology to be used. The use of field screening methods to optimize the number and location of permanent wells is required.

A truck-mounted GeoProbe unit will be utilized to collect ground water samples from the shallow aquifer in the areas where the contaminant plume has not be defined horizontally. It is estimated that 12 field screening points will be necessary.

Permanent Monitoring Wells (estimate number and total completed depth)

# of shallow wells: 12 Total depth: 25 feet each

# of deep wells: 1 Total depth: 75 feet (if necessary)

Comments, if warranted:

Analyses

List the analytical parameters (e.g., BTEX, MTBE) and estimated number.

Ground Water

BTEX+Naph+MTBE - 30 samples

~~PAHS - 30 samples~~

EDB - 30 samples

Implementation Schedule

Start up date: 30 days after authorization Completion date: 90 days after authorization

Report Submittal date: 90 days after authorization

UST Permit #: 15729 Facility Name: H.W. Detwiler Co.

Site Maps

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.

2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:

North arrow	Legend with facility name and address, UST Permit number, date, and a bar scale
Location of property lines	Streets or highways (indicated names and numbers)
Location of buildings	Identification of located buildings
Paved areas on or adjacent to site	Location of all present and former ASTs and USTs adjacent to site
Previous soil sampling locations	Underground and above ground utilities on or adjacent to site
Previous monitoring well locations	Location of any other potential receptor

Aquifer Characterization (check one and provide explanation for choice)

Pump test: N/A Slug tests: N/A

Small Volume Disposal Type and Method

Soil: G&K Tank Services, Sumter, SC - 55 gallon drums

Purge water: G&K Tank Services, Sumter, SC - 55 gallon drums

Additional Comments:

ASSESSMENT COMPONENT COST PROPOSAL

SOUTH CAROLINA
Department of Health and Environmental Control (DHEC)
Bureau of Underground Storage Tank Management

ASSESSMENT COMPONENT COST AGREEMENT PROPOSAL

SITE ID # 15729 COUNTY Clarendon
FACILITY NAME H.W. Detwiler Co.
STREET ADDRESS 31 S. Church Street, Summerton, SC
CA # _____

I certify, under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents; and that based on my inquiry of those individuals responsible obtaining this information, and any other information I may be aware of. I believe that the submitted information is true, accurate, and complete. I further agree, in accordance with any DHEC demand letter, to promptly repay any overpayment received.

Please fill out **BOTH the Contractor and Responsible Party Sections (original signatures). Also indicated the Payee by placing a check in the box next to the Contractor or Responsible Party.**

☒ CONTRACTOR

Ronny Lowder			57-0910049
Name (Type or Print)			Federal Tax ID or Social Security Number
Emerald, Inc.			(803) 773-5454
Company			Telephone Number
214 W. Liberty Street	Sumter	SC	29150
Address	City	State	Zip Code
Signature (please use non-black ink)		Title	7/13/02 Date Signed

☐ RESPONSIBLE PARTY

Harold W. Detwiler, Jr.			
Name (Type of Print)			Federal Tax ID or Social Security Number
			(803) 485-2665
Company			Telephone Number
P.O. Box 760	Summerton	SC	29148
Address	City	State	Zip Code
Signature (please use non-black ink)		Title	7.30.02 Date Signed

If payment is to be sent to an address other than above, please indicate below:

Name of Individual or Company (please print) Federal Tax ID #

Address (please print) City State Zip Code

Amount Requested: $ 41,411.50

SCDHEC USE ONLY
_____

Amount Requested is for Assessment activities as Defined in the SCDHEC Letter.

ASSESSMENT COMPONENT COST AGREEMENT

SOUTH CAROLINA
Department of Health and Environmental Control
Underground Storage Tank Program
State Underground Petroleum Environmental Response Bank Account

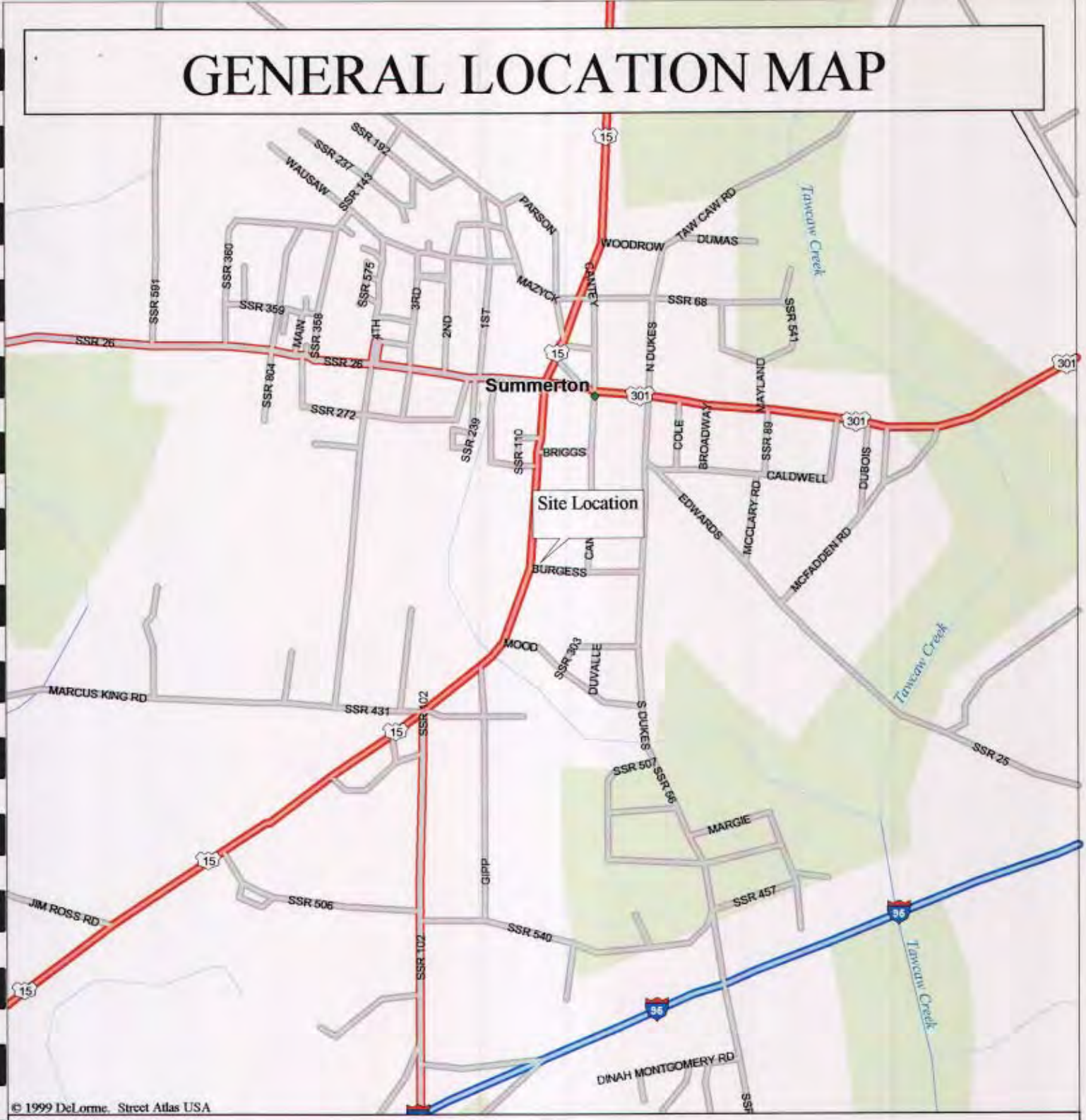
Facility Name: H.W. Detwiler Co.
Facility ID#: 15729 CP#:

ITEM	Quantity	Unit	Unit Price	Total
1. Plan*				
A. Plan Preparation	1	x	$100.00	$100.00
B. Tax Maps		x	$50.00	$0.00
2. Receptor Survey*		x	$500.00	$0.00
3. Comprehensive Survey		x	$1,000.00	$0.00
4. Mob/Demob (List Component#)				
A. Equipment (6,9)	2	x	$500.00	$1,000.00
B. Personnel (6,9,10,16,17)	5	x	$250.00	$1,250.00
5. Soil Borings (Hand Auger)*		feet x	$14.00	$0.00
6. Soil Borings (Drilled)	(includes collection and quanitification)			
and Field Screening*	~~300~~	feet x	$17.00	$5,100.00
7. Soil Leachability Model		x	$200.00	$0.00
8. Abandonment*	~~300~~	feet x	$4.00	$1,200.00
9. Well Installation*	(includes drilling costs)			
A. Water Table (Hand Auger)		feet x	$20.00	$0.00
B. Water Table (Drilled)	~~300~~	feet x	$38.00	$11,400.00
C. Telescoping	75	feet x	$58.00	$4,350.00
D. Rock Drilling		feet x	$58.00	$0.00
10. Sample Collection*				
A. Ground-water	30	samples	$55.00	$1,650.00
B. Air/Vapor		samples	$90.00	$0.00
11. Analyses - Groundwater	(See Analytical Methodology for analyses)			
A. BTEX+Naphth.+MTBE	30	samples	$100.00	$3,000.00
B. Rush BTEX analysis		samples	$120.00	$0.00
C. BTEX+Naphth.+MTBE+Trimethylbenzene		samples	$135.00	$0.00
D. PAHs	~~30~~	samples	$120.00	~~$3,600.00~~
E. Lead		samples	$20.00	$0.00
F. EDB	30	samples	$55.00	$1,650.00
G. 8 RCRA Metals		samples	$140.00	$0.00
H. TPH (9070)		samples	$55.00	$0.00
I. pH		samples	$10.00	$0.00
J. BOD		samples	$40.00	$0.00
K. Nitrate		samples	$20.00	$0.00
L. Sulfate		samples	$20.00	$0.00
M. Ferrous Iron		samples	$20.00	$0.00

ASSESSMENT COMPONENT COST AGREEMENT				
ITEM	Quantity	Unit	Unit Price	Total
N. Methane		samples	$110.00	$0.00
O. Organic Lead		samples	$100.00	$0.00
P. 8 Oxygenates		samples	$85.00	$0.00
11. Analyses - Soil				
Q. BTEX+Naphthalene		samples	$100.00	$0.00
R. PAHs		samples	$120.00	$0.00
S. 8 RCRA Metals		samples	$150.00	$0.00
T. TPH (9071)		samples	$60.00	$0.00
U. TPH (3550)		samples	$65.00	$0.00
V. TPH (5035)		samples	$65.00	$0.00
W. Grain size / hydrometer		samples	$75.00	$0.00
X. Total Organic Carbon		samples	$35.00	$0.00
12. Aquifer Characteriztion*				
A. Pumping Test		hours x	$120.00	$0.00
B. Slug Test		tests x	$150.00	$0.00
13. Free Product Recovery Rate Test*		tests x	$120.00	$0.00
14. Fate/Transport Modelling				
A. Mathematical Model		models x	$300.00	$0.00
B. Computer Model		models x	$500.00	$0.00
15. Risk Evaluation				
A. Tier I		x	$300.00	$0.00
B. Tier II		x	$500.00	$0.00
16. Subsequent Survey*	1	x	$260.00	$260.00
17. Disposal*				
A. Wastewater				
1. Purging / Sampling	5	drums x	$90.00	$450.00
2. Pumping Test		gallons x	$0.60	$0.00
B. Free Product		drums x	$110.00	$0.00
C. Soil (Treatment / Disposal)	20	drums x	$50.00	$1,000.00
18. Miscellaneous		x		$0.00
		x		$0.00
		x		$0.00
		(SUBTOTAL)		$36,010.00
19. Report/Project Management and Coordination	.15 x	36,010		$5,401.50
20. Total				$41,411.50

*The appropriate mobilization cost can be added to complete these tasks, as necessary.

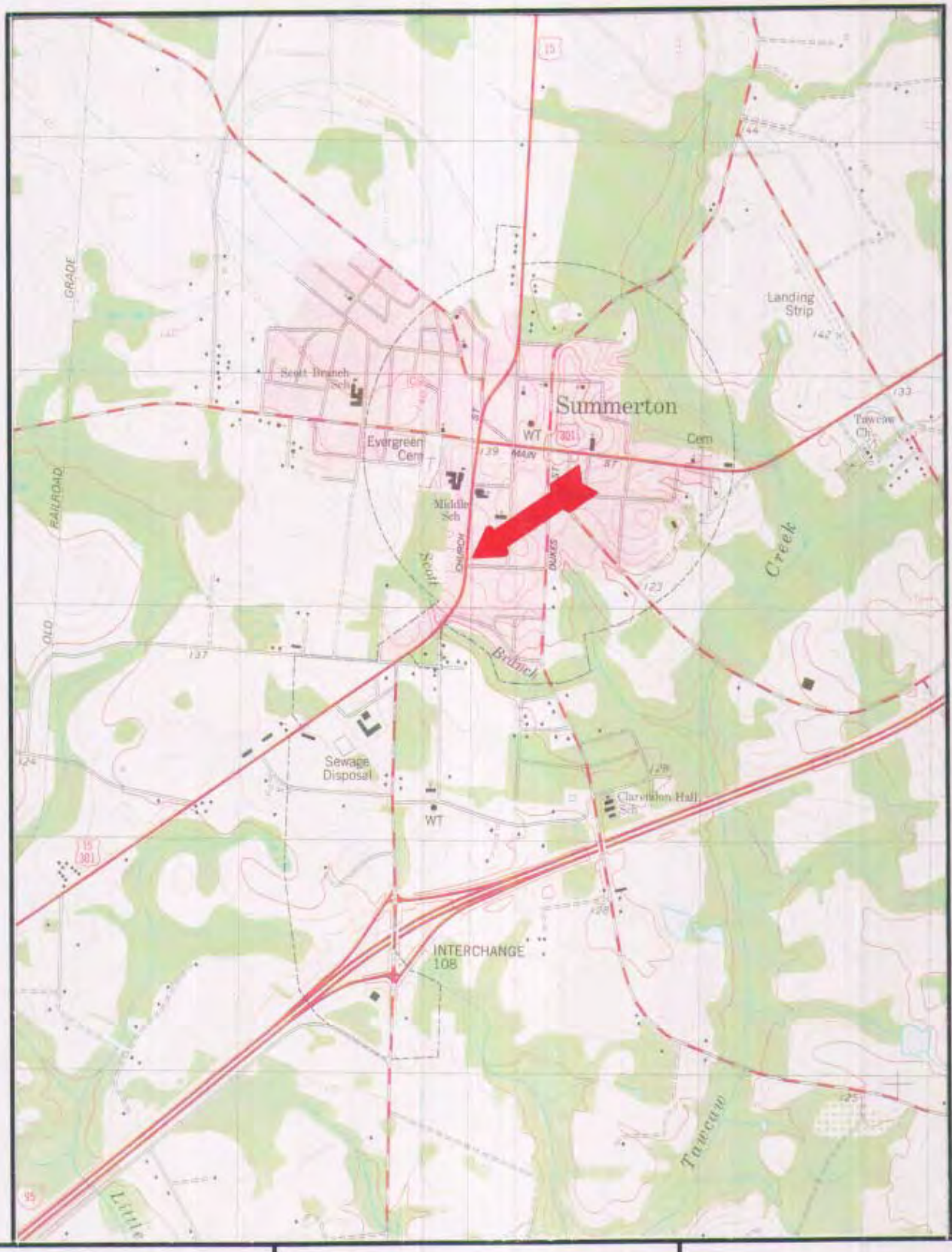
GENERAL LOCATION MAP



© 1999 DeLorme. Street Atlas USA

Mag 15.00
Wed Jul 10 10:06 2002
Scale 1:15,625 (at center)
1000 Feet
500 Meters

- Local Road
- Major Connector
- Interstate/Limited Access
- US Highway
- Small Town
- Airfield
- Cemetery
- Woodland
- River/Canal
- Intermittent River

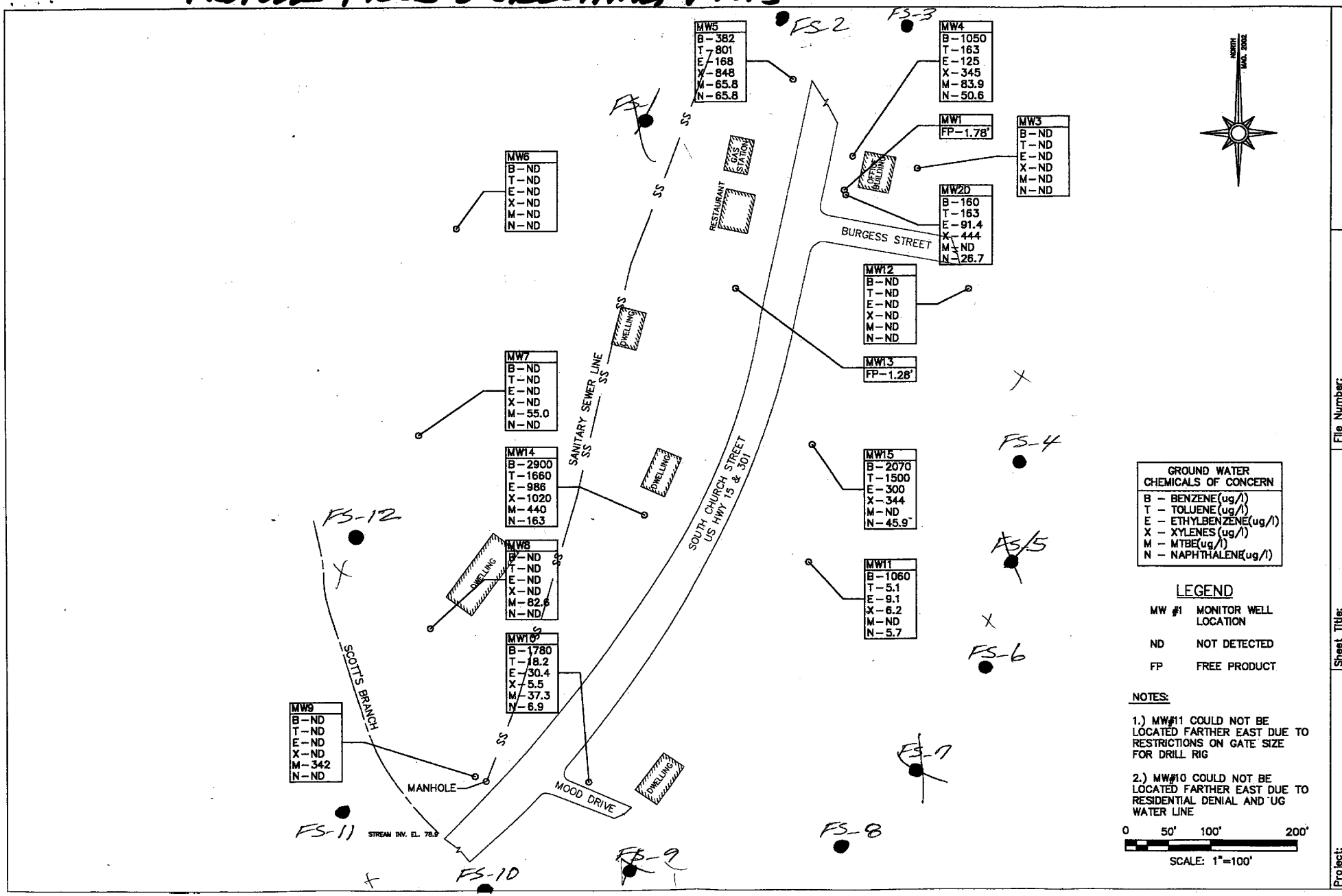


H.W. DETWILER CO.
31 S. CHURCH STREET
SUMMERTON, SC
SITE ID #15729

USGS TOPOGRAPHIC MAP
7.5 MINUTE SERIES
"SUMMERTON, SC"
QUADRANGLE
SCALE: 1:24000

Emerald, Inc.
Sumter, SC

• PROPOSED FIELD SCREENING POINTS



GROUND WATER CHEMICALS OF CONCERN
B – BENZENE(ug/l)
T – TOLUENE(ug/l)
E – ETHYLBENZENE(ug/l)
X – XYLENES(ug/l)
M – MTBE(ug/l)
N – NAPHTHALENE(ug/l)

LEGEND

MW #1	MONITOR WELL LOCATION
ND	NOT DETECTED
FP	FREE PRODUCT

NOTES:

1.) MW#11 COULD NOT BE LOCATED FARTHER EAST DUE TO RESTRICTIONS ON GATE SIZE FOR DRILL RIG

2.) MW#10 COULD NOT BE LOCATED FARTHER EAST DUE TO RESIDENTIAL DENIAL AND UG WATER LINE

0 50' 100' 200'

SCALE: 1"=100'

Emerald, Inc.
Sumter, South Carolina

File Number: E551HDLO
Field Work Date(s): 03/10/02

Sheet Title: FIGURE 7 – GROUNDWATER CoC MAP

Project: H.W. DETWILER CO. 31 SOUTH CHURCH STREET SUMMERTON, SC UST PERMIT #15729

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2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF LAND AND WASTE MANAGEMENT
UNDERGROUND STORAGE TANK PROGRAM

Phone (803) 896-6240 Fax (803) 896-6245

HAROLD W DETWILER JR
PO BOX 760
SUMMERTON SC 29148-0760

AUG 20 2002

Re: H.W. Detwiler, Co., 31 S. Church St., Summerton, South Carolina
UST Permit #15729; CA #17036; MWA #UMW-16471
Release reported June 22, 1993
Tier II Assessment Report Received May 9, 2002
Assessment Plan received August 2, 2002
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control (SCDHEC) recognizes your commitment to continue work at this site utilizing your own contractor. The Program has reviewed the Tier II Assessment Report submitted by Emerald, Inc. The results indicate that chemicals-of-concern (CoC) are present in groundwater at concentrations above allowable risk-based screening levels (RBSLs), and that in order to define the groundwater plume additional monitoring wells are needed. Therefore, Cost Agreement #17036 has been approved in the amount shown on the enclosed Approved Cost Agreement to install seven monitoring wells, gauge free product, and sample all monitoring wells associated with this release. The proposed Cost Agreement has been amended as follows:

- $1,700.00 less for Item 6 (Soil Borings)
- $400.00 less for Item 8 (Boring Abandonment)
- $5,700.00 less for Item 9B (Well Installation)
- $495.00 less for Item 10 (Groundwater Sample Collection)
- $900.00 less for Item 11A (BTEX, Naph, and MTBE Analysis)
- $3,600.00 less for Item 11D (PAH Analysis)
- $495.00 less for Item 11F (EDB Analysis)

Assessment activities at the site should begin immediately upon receipt of this letter. Characterization of all exposure pathways should be completed using field-screening points. Based on the field-screening results, monitoring wells should be installed in appropriate locations to monitor the migration of CoC along these pathways. The required monitoring well approval is enclosed. Please contact the Program prior to well installation for concurrence regarding the final well locations.

A report of findings and invoice is due within **90 days** from the date of this letter. An interim well drilling invoice may be submitted for this scope of work. If the invoice and completed report are not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

DOCKETING # 03A Tech

Please note that all applicable South Carolina certification requirements apply to the laboratory services, well installation, and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor. Also note that Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the Program is obtained. If for any reason additional tasks are necessary, these additional tasks and the associated costs must be preapproved by the Program for the costs to be paid. SCDHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, SCDHEC reserves the right to question and/or reject costs if deemed unreasonable, and SCDHEC reserves the right to audit project records at any time during the project or after completion of work.

The Program grants preapproval for transportation of virgin petroleum-contaminated soil and groundwater from the referenced site to a permitted treatment facility. The contaminated soil and groundwater must be properly stored in labeled containers. The contaminated soil and groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the final report. If the levels of petroleum contamination based on laboratory analysis are below risk-based screening levels, please contact the project manager for approval to dispose of soil and groundwater on site. The SUPERB Account will not compensate for transportation or treatment of clean ground water.

On all correspondence concerning this site, please reference **UST Permit #15729 and CA #17036.** If there are any questions concerning this project, please contact me at (803) 896-6675.

Sincerely,

Stephen R. Maxwell, Hydrogeologist
Owner/Operator Assistance Section
Assessment and Corrective Action Division

enc: Approved Cost Agreement #17036 (ACA)
Monitoring Well Approval #UMW-16471 (MWA)

cc: Ronny Lowder, Emerald, Inc.
PO Box 3050
Sumter, SC 29151 (w/ MWA & ACA)
Technical File (w/ MWA & ACA)

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

Monitoring Well Installation Approval Form

Date of Issue: August 6, 2002 Approval No.:UMW-16471

Approval is hereby granted to: Emerald, Inc.
(On behalf of): H.W. Detwiler
UST Permit #: 15729
County: Clarendon

This approval is for the construction of six permanent Type II monitoring wells and one Type III monitoring well in accordance with the construction plans and technical specifications outlined in the Tier II Assessment Document. The wells are to be constructed within the surficial aquifer for the intended purpose of monitoring groundwater quality and/or water level(s) at the referenced facility. Approval is provided with the following conditions:

1. The latitude and longitude, surveyed elevations, boring and/or geologist logs and actual (as built) construction details for each well will be submitted with the technical report.
2. Each well will be labeled with an identification plate constructed of a durable material affixed to the casing or surface pad where it is readily visible. The plate will provide monitoring well I.D.#, date of construction, static water level, and driller name and state certification #.
3. Well construction and sampling derived waste including, but not necessarily limited to, drill cuttings, drilling fluids, development and purge water should be managed properly and in compliance with applicable requirements. If containerized, each vessel should be clearly labeled with regard to contents, source, and date of activity.
4. **A minimum of forty-eight (48) hours prior to initiation of drilling activities, please provide notice to Stephen Maxwell at (803) 896-6675 or maxwelsr@dhec.state.sc.us.**
5. Please provide groundwater quality analytical data (chemical analysis and/or water level(s)) and associated measurements (i.e., in-situ field measurements) to me with the technical report.
6. Monitoring wells and temporary monitoring wells will be installed by or under the direct supervision of a licensed well driller certified by the State of South Carolina.
7. Monitoring wells and temporary monitoring wells will be abandoned by or under the direct supervision of a licensed well driller certified by the State of South Carolina. Temporary monitoring wells shall not remain in place for longer than 30 days from the date of installation. Monitoring wells may be abandoned only upon concurrence by this Division.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and the Department of Health and Environmental Control Regulations R.61-71. Please remember to have a copy of this approval on the site during well installation.

Approved by:

Stephen R. Maxwell, Hydrogeologist
Owner/Operator Assistance Section
Assessment and Corrective Action Division

cc: Wateree District EQC
Mr. Harold W. Deteiler
Technical File

SCDHEC/BLWM/UST/SRM/080602

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT

Phone 8(03) 896-6240 Fax (803) 896-6245

JUN 2 6 2002

MR HAROLD W DETWILER JR
PO BOX 769
SUMMERTON SC 29148-0769

Re: H.W. Detwiler Co., 37 S. Church St., Summerton, SC
UST Permit #15729
Tier II Report Received May 9, 2002
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced report submitted by Emerald, Inc. Results of the groundwater analyses indicate the concentration of Chemicals of Concern (CoCs) are above the Risk Based Screening Levels (RBSLs). Currently, the release reported on June 22, 1993 at the referenced site has a priority classification of 2A. Therefore, SUPERB funds are available to implement the next necessary scope of work. The next scope of work to be implemented at this site is a Tier II Evaluation.

The report documents that the petroleum hydrocarbon plume has not been defined in the down-gradient, vertical or horizontal direction. Please have your contractor complete and submit the enclosed Assessment Component Cost Agreement form within thirty days of the date of this letter to include plume definition. Every component may not be necessary to complete the above scope of work. The SUPERB allowable cost for each component is included on the Assessment Component Cost Agreement form.

On all correspondence or inquiries regarding this project, please reference **UST Permit # 15729.** If you have any questions, please feel free to contact me at (803) 896-6648 or (800) 826-5435 (within South Carolina only).

Sincerely,

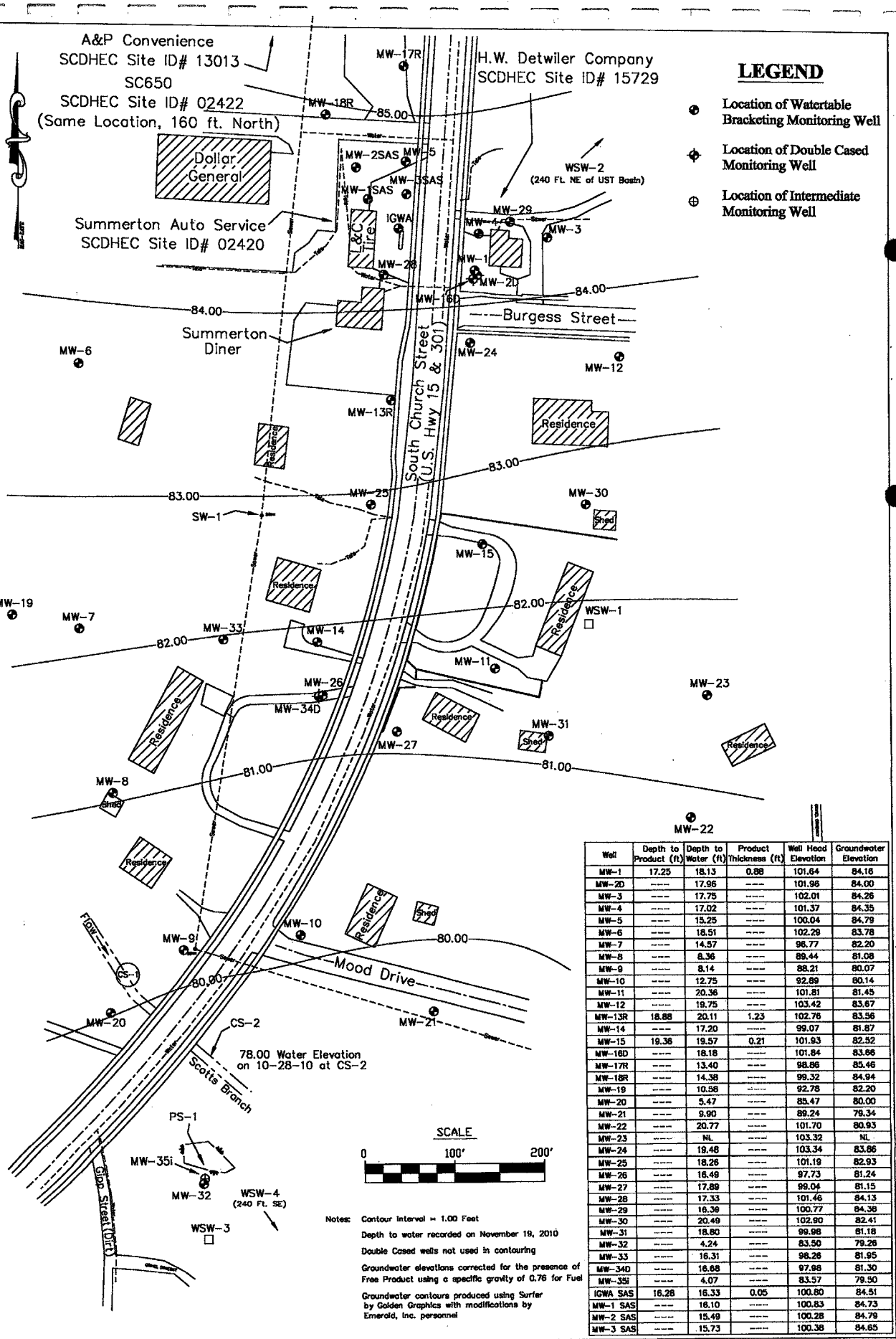
Eric Owens, Hydrogeologist
Owner/Operator Assistance Section
Assessment and Corrective Action Division

enc: Assessment Component Cost Agreement Form

cc: Mr. Ronny Lowder, Emerald, Inc., P.O. Box 3050, Sumter, SC 29151
✓ Technical File (without enc.)

SCHDEC/UST/062602

UST PROGRAM
DOCKETING # 03B Tech



LEGEND

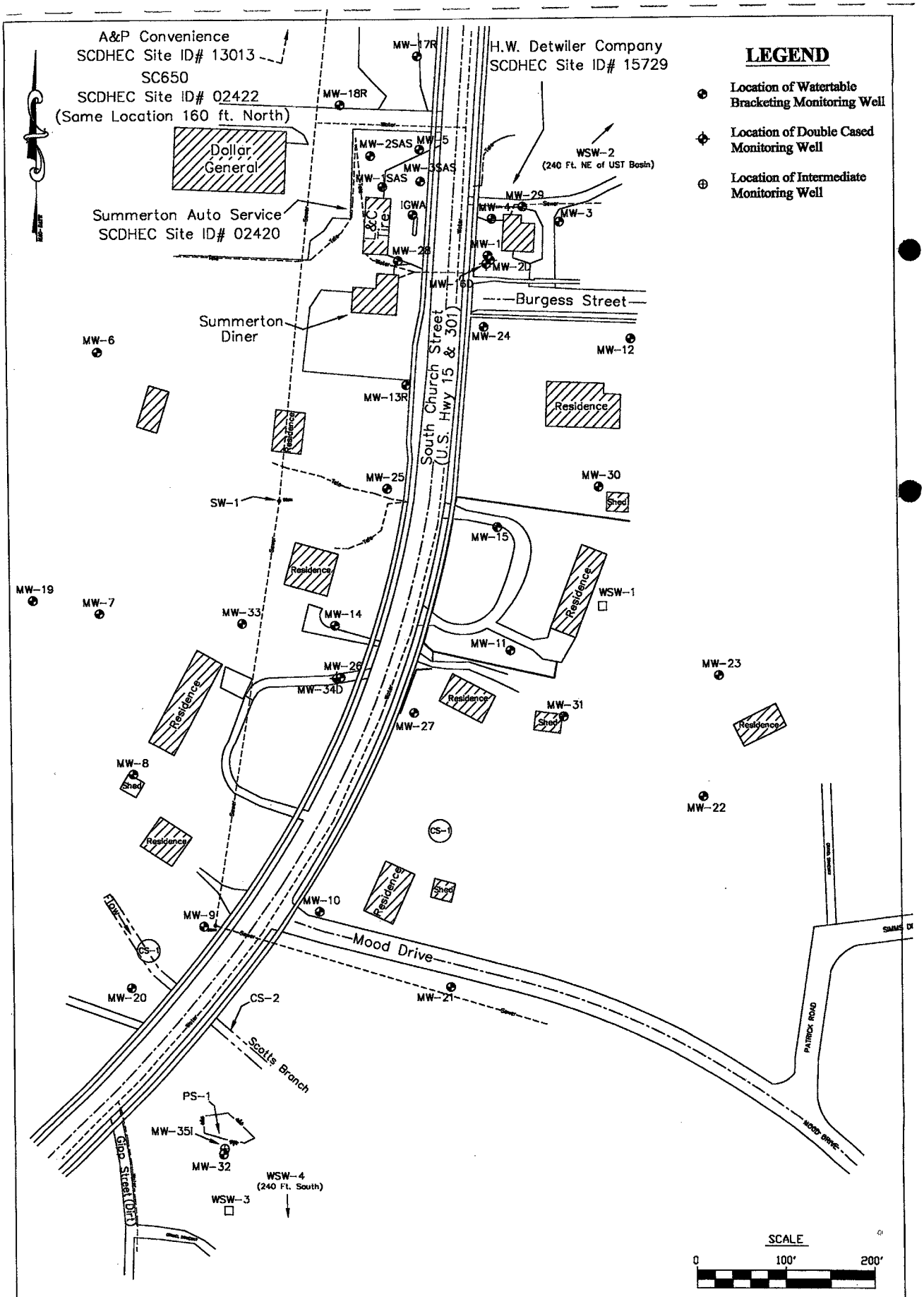
- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased Monitoring Well
- Location of Intermediate Monitoring Well

Well	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Well Head Elevation	Groundwater Elevation
MW-1	17.25	18.13	0.88	101.64	84.16
MW-2D	----	17.96	----	101.96	84.00
MW-3	----	17.75	----	102.01	84.26
MW-4	----	17.02	----	101.37	84.35
MW-5	----	15.25	----	100.04	84.79
MW-6	----	18.51	----	102.29	83.78
MW-7	----	14.57	----	98.77	82.20
MW-8	----	8.36	----	89.44	81.08
MW-9	----	8.14	----	88.21	80.07
MW-10	----	12.75	----	92.89	80.14
MW-11	----	20.36	----	101.81	81.45
MW-12	----	19.75	----	103.42	83.67
MW-13R	18.88	20.11	1.23	102.76	83.56
MW-14	----	17.20	----	99.07	81.87
MW-15	19.36	19.57	0.21	101.93	82.52
MW-16D	----	18.18	----	101.84	83.66
MW-17R	----	13.40	----	98.86	85.46
MW-18R	----	14.38	----	99.32	84.94
MW-19	----	10.58	----	92.78	82.20
MW-20	----	5.47	----	85.47	80.00
MW-21	----	9.90	----	89.24	79.34
MW-22	----	20.77	----	101.70	80.93
MW-23	----	NL	----	103.32	NL
MW-24	----	19.48	----	103.34	83.86
MW-25	----	18.26	----	101.19	82.93
MW-26	----	16.49	----	97.73	81.24
MW-27	----	17.89	----	99.04	81.15
MW-28	----	17.33	----	101.46	84.13
MW-29	----	16.39	----	100.77	84.38
MW-30	----	20.49	----	102.90	82.41
MW-31	----	18.80	----	99.98	81.18
MW-32	----	4.24	----	83.50	79.26
MW-33	----	16.31	----	98.26	81.95
MW-34D	----	16.68	----	97.98	81.30
MW-35i	----	4.07	----	83.57	79.50
IGWA SAS	16.28	16.33	0.05	100.80	84.51
MW-1 SAS	----	16.10	----	100.83	84.73
MW-2 SAS	----	15.49	----	100.28	84.79
MW-3 SAS	----	15.73	----	100.38	84.65

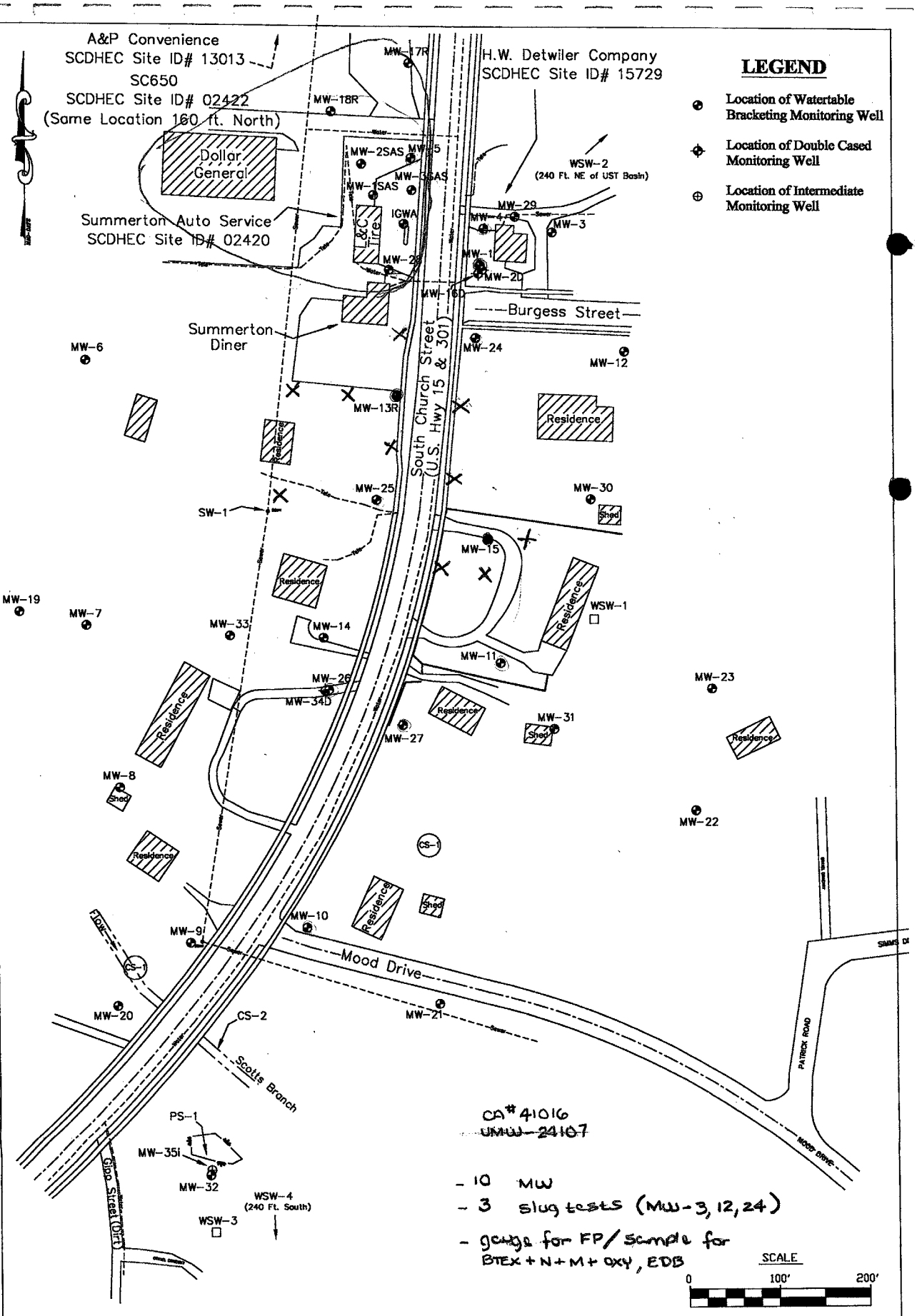
Notes:
Contour Interval = 1.00 Feet
Depth to water recorded on November 19, 2010
Double Cased wells not used in contouring
Groundwater elevations corrected for the presence of Free Product using a specific gravity of 0.76 for Fuel
Groundwater contours produced using Surfer by Golden Graphics with modifications by Emerald, Inc. personnel

PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 4 GROUNDWATER CONTOUR MAP	E1258DWLO WORK DATE(S): 9/17/10 - 10/12/10	SUMTER, SOUTH CAROLINA

UST PROGRAM
DOCKETING # 3B Tech



PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 SITE MAP	E1257DWLO WORK DATE(S): 9/17/10 - 10/12/10	SUMTER, SOUTH CAROLINA



PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 SITE MAP	E1257DWLO WORK DATE(S): 9/17/10 - 10/12/10	SUMTER, SOUTH CAROLINA

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

214 WEST LIBERTY STREET • POST OFFICE BOX 3050 • SUMTER, SC 29151

E-MAIL:
rllemerald@CPIS.net

TELEPHONE (803) 773-5454
FAX (803) 775-1970

May 6, 2002

RECEIVED
MAY 09
Underground Storage Tank Program

Eric Owens, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Division of UST Management
SCDHEC
2600 Bull Street
Columbia, SC 29201-1708

Re: H.W. Detwiler Co.
UST Permit #15729; CP #12758
Tier II Assessment Report
Clarendon County

Dear Mr. Owens:

Please find enclosed one copy of the completed Tier II Assessment Report for the above site as requested by your office. I would like to point out that our modeling results indicate that the contamination is likely impacting a sanitary sewer line and a downgradient creek (Scotts Branch Creek). If you have any questions, please give me a call at your convenience.

Yours very truly,
Emerald, Inc.

Ronny L. Lowder
President

RLL/sld
Enclosure

cc: Harold W. Detwiler, Jr.

UST PROGRAM
DOCKETING # 04ST

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

214 WEST LIBERTY STREET • POST OFFICE BOX 3050 • SUMTER, SC 29151

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TELEPHONE (803) 773-5454
FAX (803) 775-1970

TIER II ASSESSMENT REPORT

H.W. Detwiler Co.
31 S. Church Street
Summerton, South Carolina
Site ID #15729

Prepared For:

South Carolina Department of Health and Environmental Control
Bureau of Land & Waste Management
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

Prepared By:

Emerald, Inc.
UST Site Rehabilitation Contractor #67
P.O. Box 3050
214 W. Liberty Street
Sumter, South Carolina 29151

April 30, 2002

Signature Page

This document entitled " Tier II Assessment Report ", has been prepared for the South Carolina Department of Health and Environmental Control to describe investigative activities initiated at the Detwiler site in Summerton, SC.. It has been prepared under the direct supervision of William J. Lahm in accordance with accepted quality control practices. All questions or comments concerning this report should be directed to Mr. R. Lowder, Emerald, Inc, at 803-773-5454.

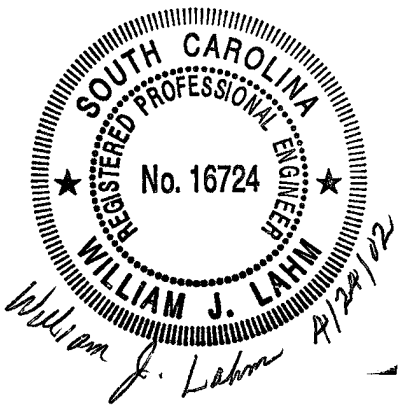
Emerald, Inc.

Ronny L. Lowder
President

Emerald, Inc.

William J. Lahm, P.E.

William J. Lahm, P.E
South Carolina Registration # 16724.



Tier II Assessment Report
H. W. Detwiler Co.
Summerton, South Carolina

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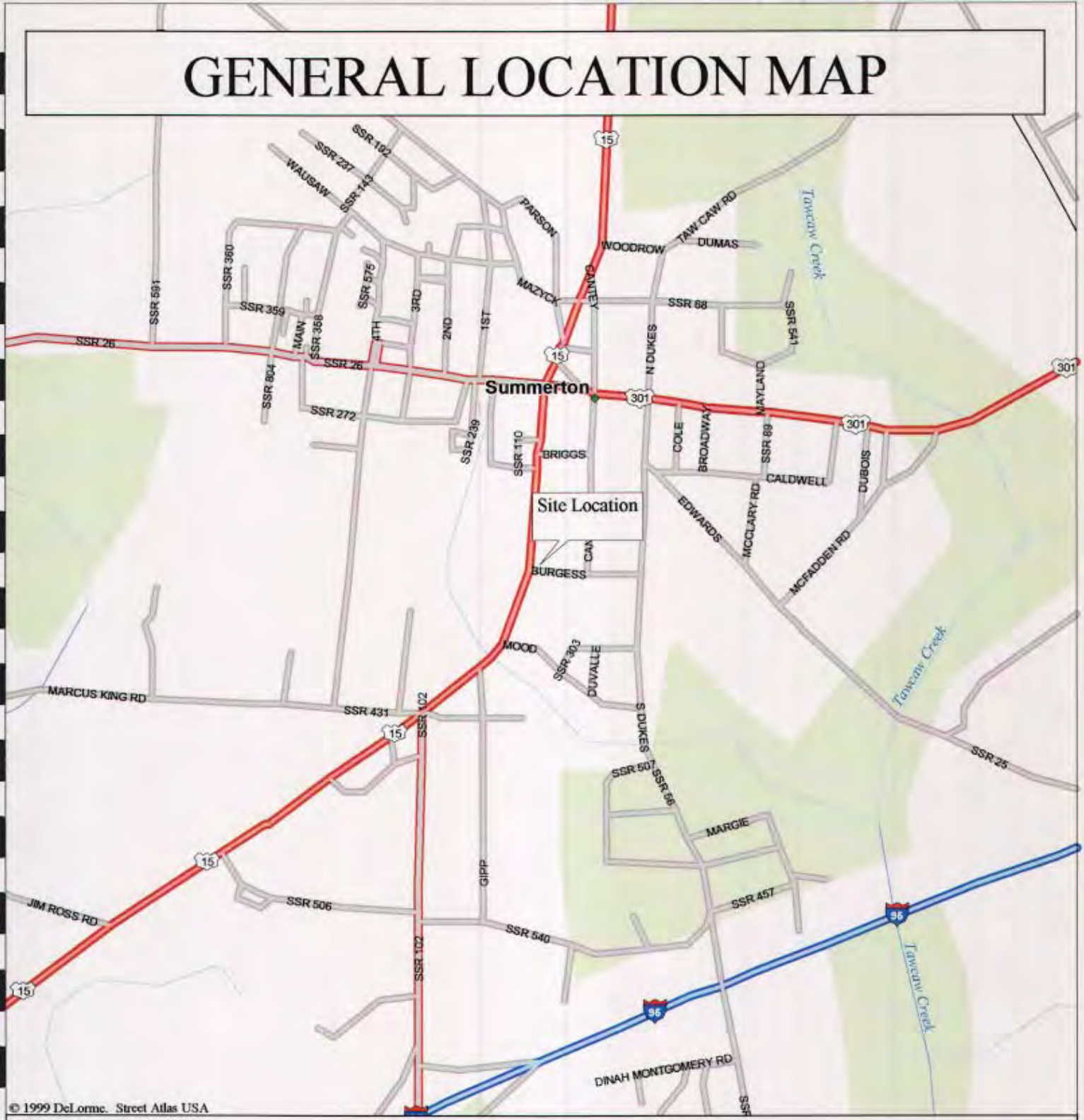
1.0 Introduction

The H.W. Detwiler (Detwiler) site is located within the City of Summerton on the northeastern corner of the intersection of S. Church Street (Hwy. 15) and Burgess Street. The subject site is currently used as an office building. Formerly, the site was used by a construction company which stored gasoline in two (2) underground storage tanks (USTs) for its fleet of vehicles. The two (2) USTs, 1000 gallons each, were permanently closed by removal in June 1993 by G&K Tank Services. The Detwiler site is located within an area of mixed use. Commercial activities including a restaurant, a full service gasoline station (with USTs) and a convenience store with gasoline USTs are located west and northwest of the subject site respectively. The areas north, east and south of the subject site are used for residential purposes. According to local sources, a former gasoline station was located approximately 300 feet south of the Detwiler site (along the eastern side of S. Church Street) in the 1940s and 1950s. (This area is near MW15 as seen in Figure 3). A general site location map and a site topographic map are provided in Figures 1 and 2 respectively. Figure 3 provides a site survey map.

A site assessment was conducted by Duncan Environmental Associates, Inc. at the time of closure and a release notification was sent to SCDHEC on June 22, 1993. The site assessment showed soil contamination above the reporting limits for BTEX and TPH compounds.

In July 2000, Emerald, Inc. conducted an Initial Ground Water Assessment (IGWA) as directed by SCDHEC in the area of the former USTs. The results of the IGWA confirmed the presence of petroleum contaminants in the soil and ground water

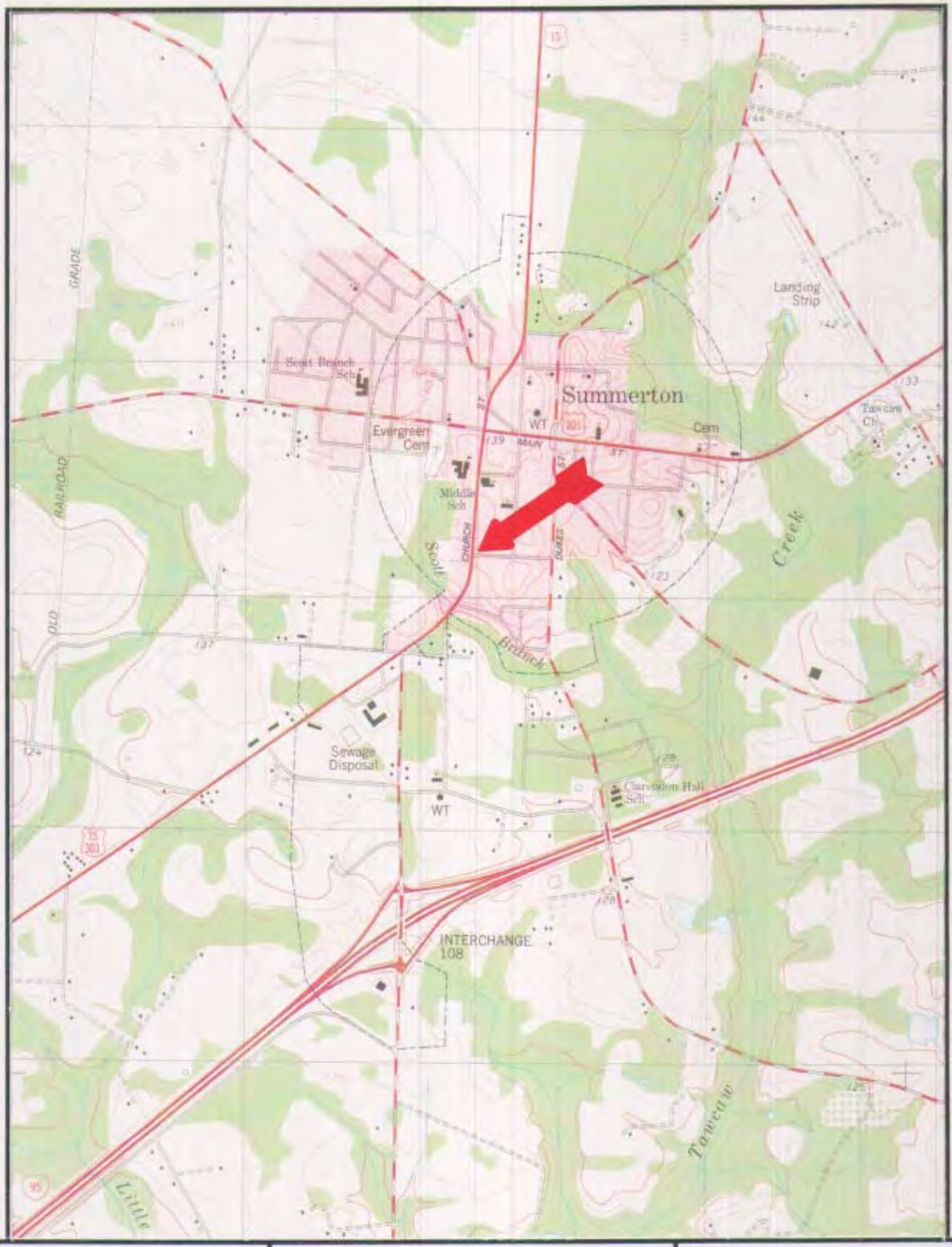
GENERAL LOCATION MAP



© 1999 DeLorme. Street Atlas USA

Mag 15.00
Mon Apr 15 10:01 2002
Scale 1:15,625 (at center)
1000 Feet
500 Meters

- Local Road
- Major Connector
- Interstate/Limited Access
- US Highway
- Small Town
- Airfield
- Cemetery
- Woodland
- River/Canal
- Intermittent River



H.W. DETWILER CO.
31 S. CHURCH STREET
SUMMERTON, SC
SITE ID #15729

FIGURE 2
USGS TOPOGRAPHIC MAP
7.5 MINUTE SERIES
"SUMMERTON, SC"
QUADRANGLE
SCALE: 1:24000

Emerald, Inc.
Sumter, SC

at the site. The monitoring well (MW01) measured 1.51 feet of liquid phase hydrocarbons (LPH) or free product after installation.

In August 2000, SCDHEC requested a Tier II proposal for the site, and in December 2000, SCDHEC approved the Tier II proposal submitted by Emerald, Inc. Emerald, Inc. personnel conducted the Tier II Assessment at the subject property in order to define the horizontal and vertical extent of the ground water contamination plume. The assessment was also conducted to evaluate the risk, if any, posed by the contamination to human health and the environment. A Tier II analysis designed to establish ground water cleanup criteria for the site was part of the assessment process. This document summarizes the results of the Tier II Assessment.

2.0 Regional & Site Specific Geology

The Detwiler site is located within the Middle Coastal Plain Physiographic Province of South Carolina. The Middle Coastal Plain Physiographic Province is characterized by unconsolidated sediments of fluvial and marine origin resting unconformably on crystalline bedrock located at a depth of approximately 600 feet. Surficial sediments in the Clarendon County area are Pliocene age terrace deposits produced by river incisement of Cretaceous and Tertiary sediment during periods of low sea level.

The Detwiler site is underlain by red sandy clays at higher elevations in the source area to brown silty sands at lower elevations near Scotts Branch Creek. A deep well was installed 47 feet below ground surface. A confining layer was not encountered during drilling of the deep well. A geologic cross-sectional view of the Detwiler site is provided in Appendix A.

3.0 Site Activities

Emerald, Inc. personnel conducted Tier II Assessment activities to achieve two main objectives: (1) to define the lateral and vertical extent of dissolved phase ground water contamination and (2) to perform a Tier II Analysis of the site in order to develop Site Specific Target Levels (SSTLs) for ground water cleanup, if necessary. Field activities required to generate site-specific information for the Detwiler site are described in detail within this section.

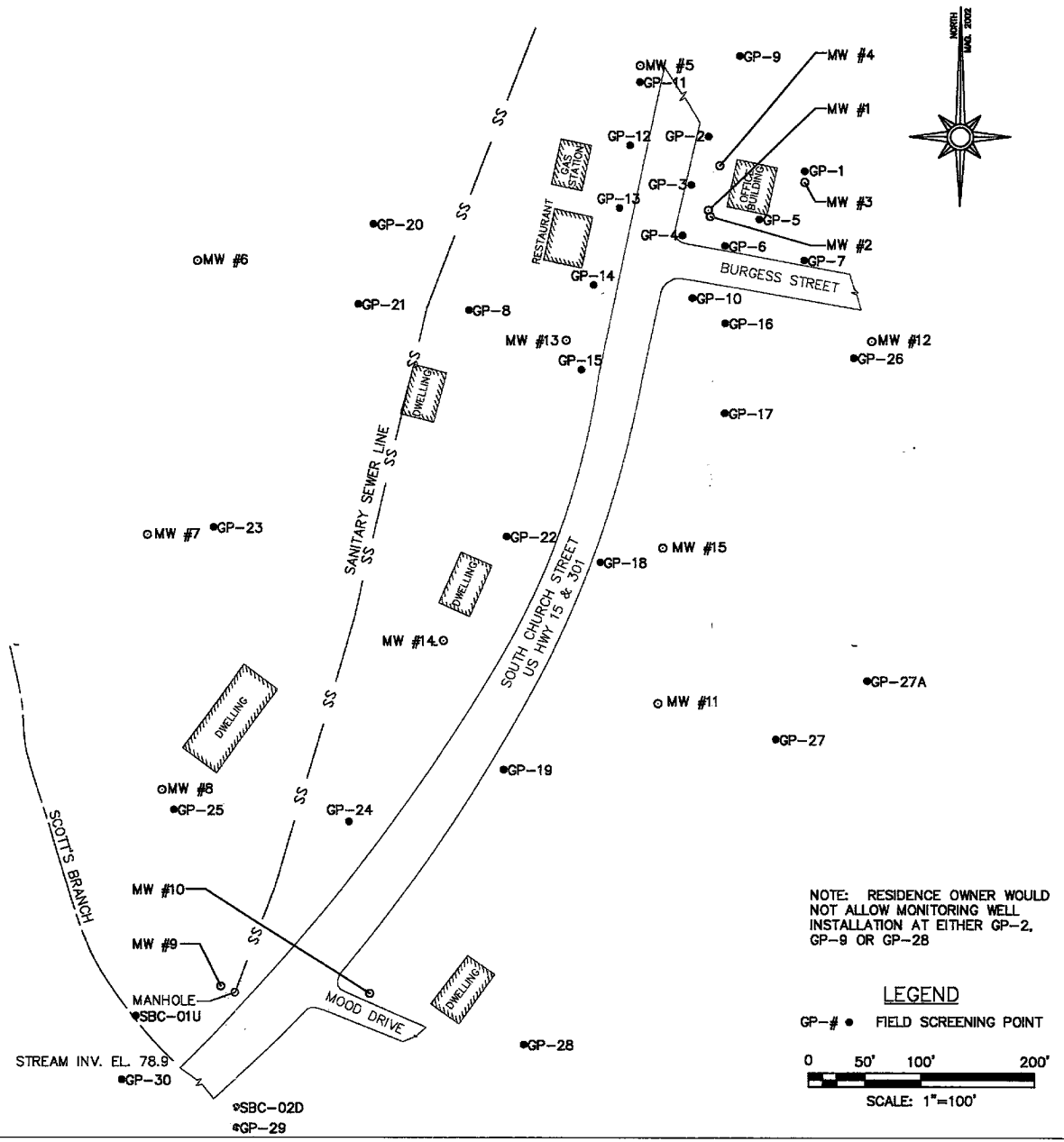
3.1 Field Screening

Thirty (30) temporary wells were utilized at the subject facility to check ground water quality at selected locations (see Figure 4). The temporary wells were positioned around the subject site and along both sides of S. Church Street south to Scotts Branch Creek. A Geoprobe® rig was used to advance thirty (30) temporary wells to a maximum depth of thirty (30) feet below ground surface. Disposable, clear tubing was inserted inside the Geoprobe® rods and used for the collection of ground water samples. Once ground water collection activities were completed at each Geoprobe® location, the rods were removed from the ground and each borehole was properly abandoned by filling with a lean grout mixture to ground surface. A copy of the Field Screening Log is provided in Appendix C.

All ground water samples collected at the Detwiler site were packed in crushed ice immediately following collection. A Chain of Custody was completed prior to offsite sample removal. Samples were shipped to Test America, Inc. and analyzed for benzene, toluene, ethyl benzene, total xylenes (BTEX) and naphthalene using EPA

GP-#	B	T	E	X	M	N
GP-1	ND	ND	ND	ND	ND	ND
GP-2	535	232	105	450	24.5	84
GP-3	638	48	47	27	33	63
GP-4	963	148	52	166	45	101
GP-5	325	171	45	201	ND	75
GP-6	18.7	77.1	35.1	64.8	ND	14.5
GP-7	ND	ND	ND	ND	ND	ND
GP-8	3380	470	840	260	1020	ND
GP-9	16	2.1	23.9	ND	ND	15.1
GP-10	6880	1780	850	790	ND	ND
GP-11	10.5	34.5	8.6	31.7	ND	6.3
GP-12	150	101	24.6	84.4	10.9	17.7
GP-13	10.7	26.1	5.5	16.4	ND	5.3
GP-14	8260	6090	1080	1640	340	ND
GP-15	5940	5510	830	1440	210	ND
GP-16	640	300	160	180	ND	ND
GP-17	1900	200	210	ND	ND	ND
GP-18	11500	5000	2000	1050	60	230
GP-19	1700	14	72	14	7	8
GP-20	ND	ND	ND	ND	1680	ND
GP-21	ND	ND	ND	ND	187	ND
GP-22	5700	3500	1400	2000	ND	ND
GP-23	ND	ND	ND	ND	440	ND
GP-24	6000	1000	1600	ND	ND	ND
GP-25	6	5	3	4	190	ND
GP-26	ND	ND	ND	ND	ND	ND
GP-27	ND	ND	ND	ND	ND	ND
GP-27A	ND	ND	ND	ND	ND	ND
GP-28	ND	ND	ND	ND	ND	ND
GP-29	ND	2.0	ND	3.0	ND	ND
GP-30	ND	ND	ND	ND	ND	ND
SBC-01U	ND	ND	ND	ND	ND	ND
SBC-02D	ND	ND	ND	ND	ND	ND

NOTE:
GP - GEOPROBE®
ND - NOT DETECTED AT THE REPORT LIMIT
ALL RESULTS IN ug/l



Emerald, Inc.
Sumter, South Carolina

File Number: E548HDLO
Field Work Date(s): 01/09/01, 02/01/01, AND 04/03/01

Sheet Title: FIGURE 4 - FIELD SCREENING POINTS AND RESULTS

Project: H.W. DETWILER CO. 31 SOUTH CHURCH STREET SUMMERTON, SC UST PERMIT #15729

Method 8260B. Table 1 and Figure 4 shows the analytical results for the field screening at each point. During one of the three (3) field screening events, ground water samples were collected from a private well (GP-27A) used for a pool and irrigation purposes, and surface water from Scotts Branch both upstream (SBC-01U) and downstream (SBC-02D). Analytical data sheets for each ground water sample are provided in Appendix B.

Table 1
Field Screening Results (Ground Water)
Detwilers

FIELD SCREENING POINT	Benzene	Toluene	Ethyl Benzene	Xylene	MTBE	Naphthalene
GP - 1	ND	ND	ND	ND	ND	ND
GP - 2	535	232	105	450	24.5	84
GP - 3	638	48	47	27	33	63
GP - 4	963	148	52	166	45	101
GP - 5	325	171	45	201	ND	75
GP - 6	18.7	77.1	35.1	64.8	ND	14.5
GP - 7	ND	ND	ND	ND	ND	ND
GP - 8	3380	470	840	260	1020	ND
GP - 9	16	2.1	23.9	ND	ND	15.1
GP -10	6880	1780	850	790	ND	ND
GP -11	10.5	34.5	8.6	31.7	ND	6.3
GP -12	150	101	24.6	84.4	10.9	17.7
GP -13	10.7	26.1	5.5	16.4	ND	5.3
GP -14	8260	6090	1080	1640	340	ND
GP -15	5940	5510	830	1440	210	ND
GP-16	640	300	160	180	ND	ND
GP-17	1900	200	210	ND	ND	ND
GP-18	11500	5000	2000	1050	60	230
GP-19	1700	14	72	14	7	8
GP-20	ND	ND	ND	ND	1680	ND
GP-21	ND	ND	ND	ND	187	ND
GP-22	5700	3500	1400	2000	ND	ND
GP-23	ND	ND	ND	ND	440	ND
GP-24	6000	1000	1600	ND	ND	ND
GP-25	6	5	3	4	190	ND
GP-26	ND	ND	ND	ND	ND	ND
GP-27	ND	ND	ND	ND	ND	ND
GP-27A	ND	ND	ND	ND	ND	ND

Table 1
Field Screening Results (Ground Water) - Cont'd
Detwilers

GP-28	ND	ND	ND	ND	ND	ND
GP-29	ND	2.0	ND	3.0	ND	ND
GP-30	ND	ND	ND	ND	ND	ND
SBC-01U	ND	ND	ND	ND	ND	ND
SBC-02D	ND	ND	ND	ND	ND	ND

NOTE: GP - Geoprobe
ND - Not Detected at the report limit
All results are ug/l.

3.2 Soil Assessment and Monitoring Well Installation

A Tier I Assessment was not conducted prior to the Tier II Assessment activities. Therefore, soil borings were placed in and around the former UST area along with the piping and dispenser area. The justification for the soil borings is as follows:

SB01 - UST area

SB02 - UST area

SB03 - Piping & Dispenser Area

SB04 - Piping & Dispenser Area

SB05 - Piping & Dispenser Area

SB06 - Piping & Dispenser Area

SB07 - Piping & Dispenser Area

MW03 - Background

Appendix C contains a copy of the Boring Logs which gives the details of each soil boring.

Table 2 on the following page shows the analytical results for soil samples collected for analysis. The remainder of the soil samples screened with the portable monitor did not

show any levels above zero. Appendix B contains copies of the analytical results.

Using a truck-mounted drill rig, soil samples are collected from prescribed points at designated depths using a split spoon sampler. The soil is removed from the split spoon using a decontaminated, stainless steel spatula or scoop, and placed in sealable plastic containers. Pertinent information including sample number, depth, date and time are recorded on the outside of the plastic container. In addition, the above information is recorded in the field log book along with soil descriptions and notes concerning moisture content and any odors present (mild, medium, or heavy) along with any evidence of petroleum discoloration. After a short interval, each sample is screened for organic vapors using a properly calibrated instrument. Such instrument is usually an HNu photo-ionizer, model HW-101. Organic vapors are screened using one of three scales (0-20 ppm, 0-200 ppm, or 0-2000 ppm) according to the strength of the organic vapors. Such readings are recorded in parts per million (ppm) in the field log book. Such procedure is followed for each prescribed sampling point at each depth interval until the boring is terminated.

After receiving the field screening results for the ground water samples, potential monitoring well locations were marked on a site map and sent to the DHEC project manager along with the analytical results for approval. Upon confirmation from the project manager, the drilling schedule was determined. All drilling activities were performed by a licensed SC well driller using a drilling rig equipped with hollow stem augers. Thirteen (13) shallow wells and one (1) deep well were installed around the area. Monitoring well MW11 had to be placed west of the original location due to the fact that access to the area could not be achieved due to the width of the drill rig vs. the iron/brick gate opening. Likewise MW10 was located west of the original plans due to owner refusal and the location of an

underground water main line. Well records are located in Appendix C.

Table 2
Soil Analytical Results
Detwilers

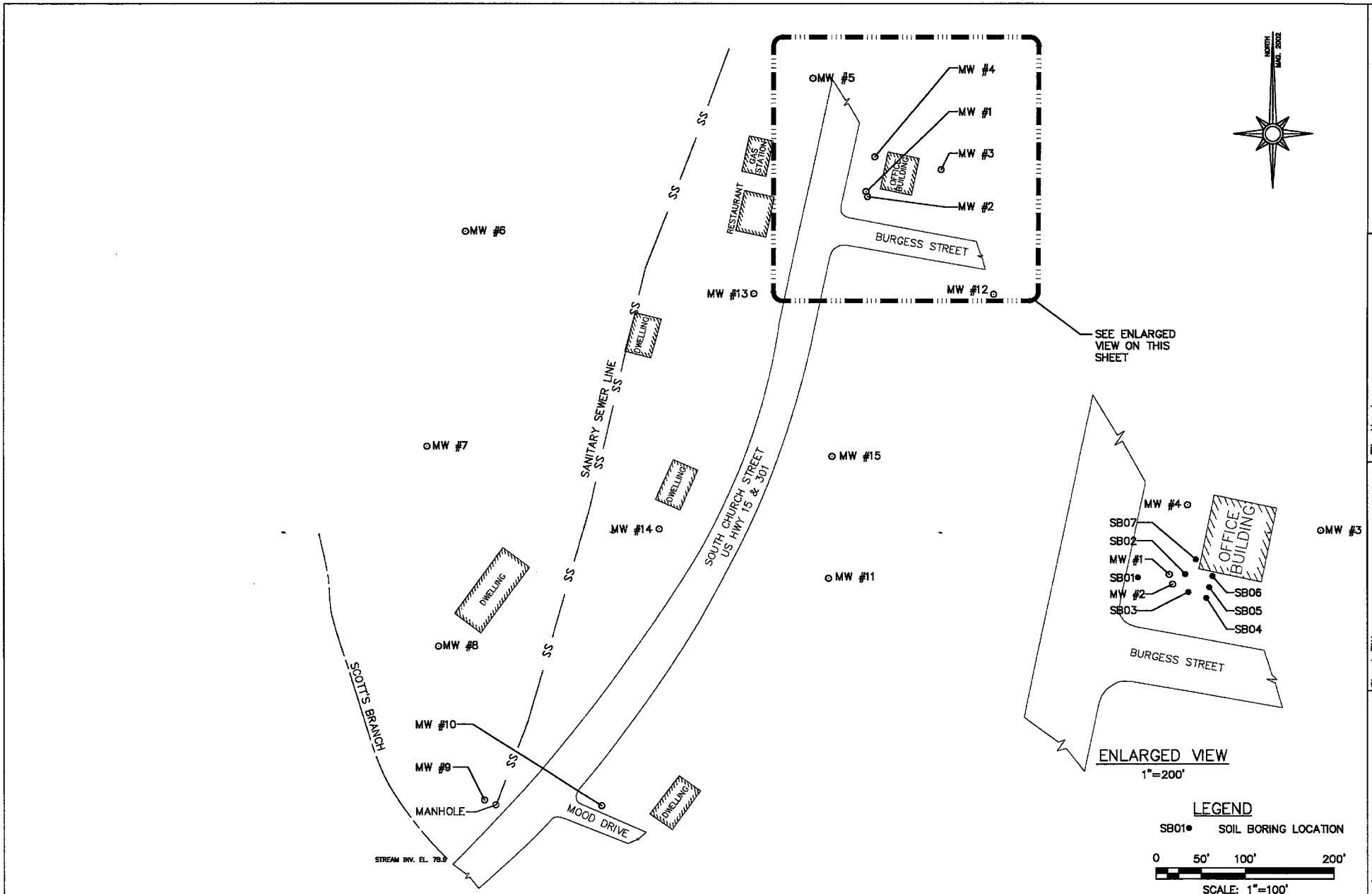
Date: 12/13/01, 12/15/01

Sample No.	Sample Depth	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	PAHs	Naphthalene	TOC	TPH
MW03	14' - 16'	ND	ND	ND	ND	ND	ND	ND	NT
MW05	9' - 11'	ND	ND	ND	ND	ND	ND	NT	NT
MW13	14' - 16'	ND	ND	ND	ND	ND	ND	NT	NT
SB01	10'	1.7	4.4	3.3	17.4	ND	33.7	NT	NT
SB02	10'	ND	ND	ND	ND	ND	ND	NT	NT
SB03	10'	ND	574	5490	23600	66	6070	NT	16700
SB04	10'	ND	ND	ND	ND	ND	ND	NT	NT
SB05	10'	ND	ND	ND	ND	ND	ND	NT	NT
SB06	10'	ND	2.1	28.7	135	132	166	NT	NT
SB07	10'	ND	98.0	343	2010	132	1470	NT	NT

Notes: **ND - Not Detected**
NT - Not Tested
All Results are ug/kg.

3.3 Static Water Level Measurement

Prior to well development or sample collection, static water levels were taken to the nearest 0.01 foot using a graduated electronic indicator that indicated LPH levels as well. All measurements were taken from the surveyed top of the well casing so they could be referenced to a common datum. Static water levels are summarized in Table 3. (Free product was observed in two monitoring wells during the Tier II Assessment.) Using the static water level measurements and the surveyed top of the well casing measurements as



Emerald, Inc.
Sumter, South Carolina

File Number: E549HDLO
Field Work Date(s): 12/13/01 AND 12/15/01

Sheet Title: FIGURE 5 – SOIL BORING LOCATIONS

Project: H.W. DETWILER CO.
31 SOUTH CHURCH STREET
SUMMERTON, SC
UST PERMIT #15729

determined by a registered surveyor, ground water elevations were calculated. Figure 6 shows the ground water elevations at each monitoring well along with the direction of ground water flow (south-southwest) toward Scotts Branch Creek.

Table 3
Static Water Level Elevations
Detwilers

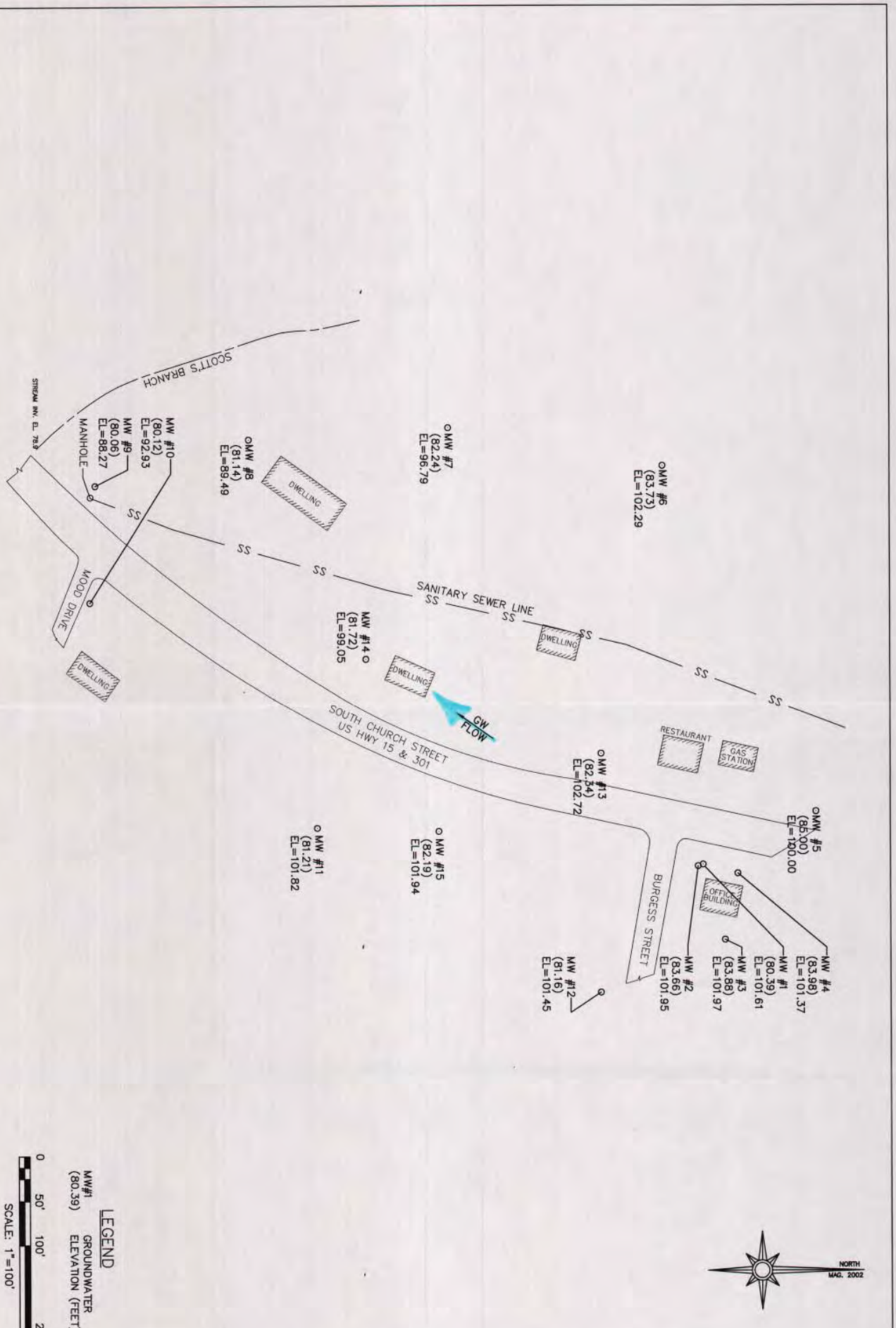
Date: 3/10/02

WELL ID#	STATIC WATER LEVEL*	FREE PRODUCT THICKNESS (ft.)	TOP OF CASING ELEVATIONS	GROUND WATER ELEVATION
MW01	21.22	1.78	101.61	80.39
MW02D	18.29	ND	101.95	83.66
MW03	18.09	ND	101.97	83.88
MW04	17.39	ND	101.37	83.98
MW05	15.52	ND	100.00	85.00
MW06	18.56	ND	102.29	83.73
MW07	14.55	ND	96.79	82.24
MW08	8.35	ND	89.49	81.14
MW09	8.21	ND	88.27	80.06
MW10	12.81	ND	92.93	80.12
MW11	20.61	ND	101.82	81.21
MW12	20.29	ND	101.45	81.16
MW13	20.38	1.28	102.72	82.34
MW14	17.33	ND	99.05	81.72

Notes: ***- Depth below top of Casing, in feet**
ND - Not Detected

3.4 Ground Water Sampling

Ground water samples were collected from monitoring wells MW01 through MW15 on March 10, 2002. Prior to sampling, all wells were purged a minimum of three (3) well volumes to ensure that a representative sample of the aquifer was collected (see Well Purge Logs - Appendix C). All wells were purged and sampled with a clear, disposable



Project: H.W. DETWILER CO. 31 SOUTH CHURCH STREET SUMMERTON, SC UST PERMIT #15729	Sheet Title: FIGURE 6 – GROUNDWATER ELEVATIONS	File Number: E550HDLO Field Work Date(s): 03/10/02	Emerald, Inc. Sumter, South Carolina

PVC bailer. Dissolved oxygen readings were taken at each well location. Following well purging activities, a ground water sample was collected from each well and placed into appropriate containers. All purge waters and soils were placed in 55 gallon drums and delivered to G&K Tank Services in Sumter, SC for treatment (See Appendix E for a copy of the waste disposal manifests.)

All samples were packed in crushed ice and shipped to Test America, Inc. for chemical analysis. Each sample was analyzed for BTEX, MTBE, and naphthalene using EPA Method 8260B, EDB (EPA Method 8011), nitrates (EPA Method 353.2), sulfates (EPA Method 9038), ferrous iron (EPA Method 3500 D), PAHs (EPA Method 8270C), and Lead (EPA Method 6010B). A summary of the ground water analytical is provided in Table 4, and Figure 7 shows the analytical results at each monitoring well location.

3.5 Ground Water Analytical Data

The following table summarizes ground water analytical results.

Table 4
Ground Water Analytical Data Summary
Detwilers

Sample Dates: 3/10/02

Chemical of Concern (units)	MW01	MW02D	MW03	MW04	MW05	MW06	MW07	MW08
Benzene (μg/l)	FP=1.78'	160	ND	1050	382	ND	ND	ND
Ethylbenzene (μg/l)	FP=1.78'	91.4	ND	125	168	ND	ND	ND
MTBE (μg/l)	FP=1.78'	ND	ND	83.9	65.8	ND	55.0	82.6
Naphthalene (μg/l)	FP=1.78'	26.7	ND	50.6	65.8	ND	ND	ND
Toluene (μg/l)	FP=1.78'	163	ND	163	801	ND	ND	ND
Total Xylenes (μg/l)	FP=1.78'	444	ND	345	848	ND	ND	ND
Methane (μg/l)	FP=1.78'	ND	ND	ND	ND	ND	ND	ND
1, 2 Dibromoethane (μg/l)	FP=1.78'	4.19	ND	2.96	3.57	ND	ND	ND
PAH - Naphthalene (μg/l)	FP=1.78'	20.0	ND	37.1	41.4	ND	ND	ND
Acenaphthene (μg/l)	FP=1.78'	ND	ND	ND	ND	ND	ND	ND
Phenanthrene (μg/l)	FP=1.78'	ND	ND	ND	ND	ND	ND	ND
Flouranthene (μg/l)	FP=1.78'	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene (μg/l)	FP=1.78'	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene (μg/l)	FP=1.78'	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene (μg/l)	FP=1.78'	ND	ND	ND	ND	ND	ND	ND
Benzo(ghi)perylene (μg/l)	FP=1.78'	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene (μg/l)	FP=1.78'	ND	ND	ND	ND	ND	ND	ND
Fluorene (μg/l)	FP=1.78'	ND	ND	ND	ND	ND	ND	ND
Anthracene (μg/l)	FP=1.78'	ND	ND	ND	ND	ND	ND	ND
Pyrene (μg/l)	FP=1.78'	ND	ND	ND	ND	ND	ND	ND
Chrysene (μg/l)	FP=1.78'	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene (μg/l)	FP=1.78'	ND	ND	ND	ND	ND	ND	ND
Ferrous Iron (μg/l)	FP=1.78'	ND	ND	2980	20700	38100	ND	ND
Nitrates (mg/l)	FP=1.78'	ND	ND	0.580	0.300	1.66	2.00	3.49
Sulfates (mg/l)	FP=1.78'	12.9	ND	3.40	ND	3.50	ND	3.80
Dissolved Oxygen (mg/l)	FP=1.78'	1.53	4.57	1.02	0.74	2.80	0.53	4.73
Lead (μg/l)	FP=1.78'	17.0	295	31.0	152	138	100	275

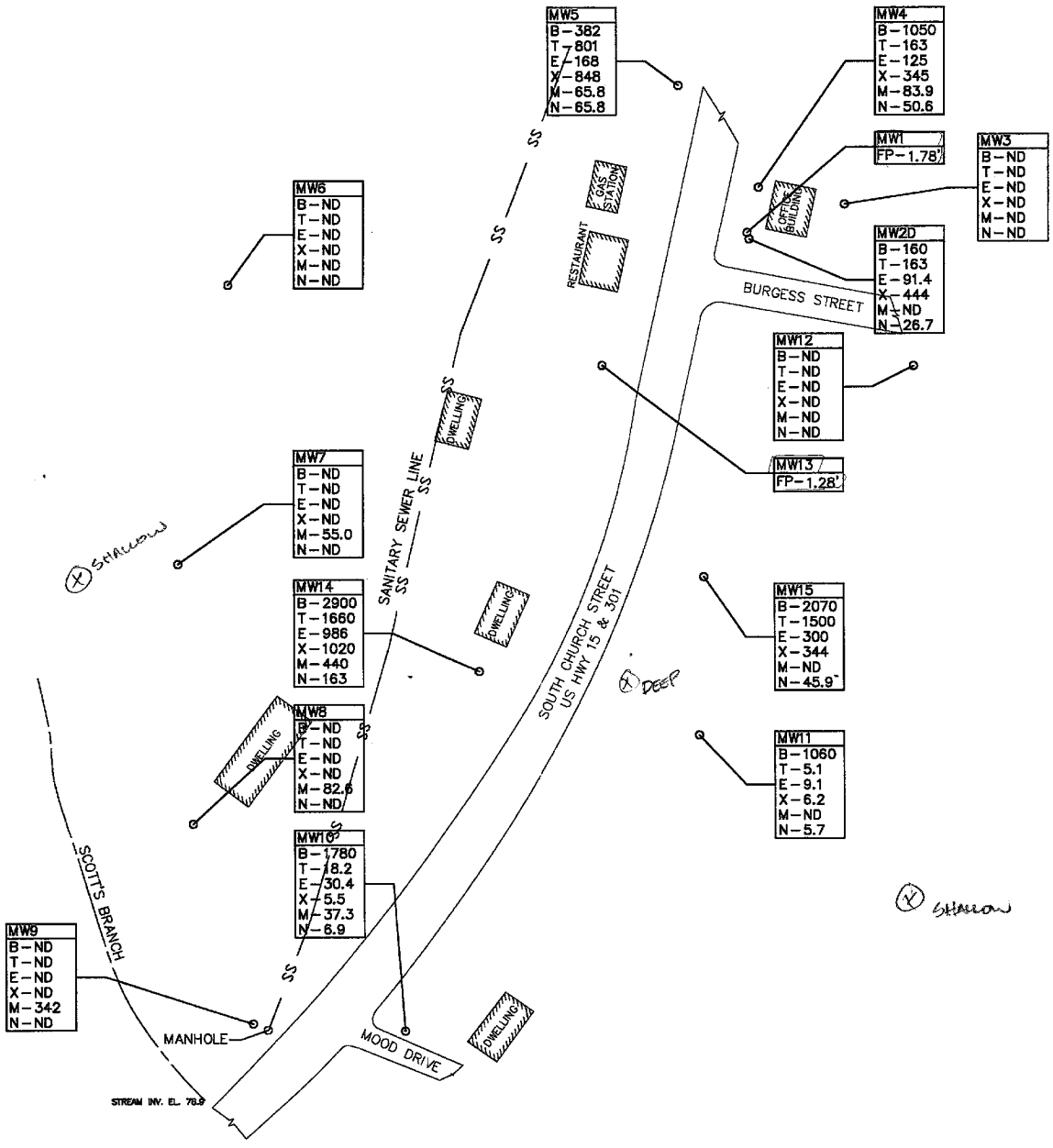
ND - Not Detected
NT - Not Tested

Table 4 - Continued
Ground Water Analytical Data Summary
Detwilers

Sample Dates: 3/10/02

Chemical of Concern (units)	MW09	MW10	MW11	MW12	MW13	MW14	MW15
Benzene (µg/l)	ND	1780	1060	ND	FP=1.28'	2900	2070
Ethylbenzene (µg/l)	ND	30.4	9.1	ND	FP=1.28'	986	300
MTBE (µg/l)	342	37.3	ND	ND	FP=1.28'	440	ND
Naphthalene (µg/l)	ND	6.9	5.7	ND	FP=1.28'	163	45.9
Toluene (µg/l)	ND	18.2	5.1	ND	FP=1.28'	1660	1500
Total Xylenes (µg/l)	ND	5.5	6.2	ND	FP=1.28'	1020	344
Methane (µg/l)	ND	ND	61.0	ND	FP=1.28'	ND	ND
1, 2 Dibromoethane (µg/l)	ND	0.24	0.48	ND	FP=1.28'	0.56	11.1
PAH - Naphthalene (µg/l)	ND	12.1	ND	ND	FP=1.28'	51.2	17.0
Acenaphthene (µg/l)	ND	ND	ND	ND	FP=1.28'	ND	ND
Phenanthrene (µg/l)	ND	ND	ND	ND	FP=1.28'	ND	ND
Flouranthene (µg/l)	ND	ND	ND	ND	FP=1.28'	ND	ND
Benzo(a)anthracene (µg/l)	ND	ND	ND	ND	FP=1.28'	ND	ND
Benzo(b)fluoranthene (µg/l)	ND	ND	ND	ND	FP=1.28'	ND	ND
Benzo(a)pyrene (µg/l)	ND	ND	ND	ND	FP=1.28'	ND	ND
Benzo(ghi)perylene (µg/l)	ND	ND	ND	ND	FP=1.28'	ND	ND
Acenaphthylene (µg/l)	ND	ND	ND	ND	FP=1.28'	ND	ND
Fluorene (µg/l)	ND	ND	ND	ND	FP=1.28'	ND	ND
Anthracene (µg/l)	ND	ND	ND	ND	FP=1.28'	ND	ND
Pyrene (µg/l)	ND	ND	ND	ND	FP=1.28'	ND	ND
Chrysene (µg/l)	ND	ND	ND	ND	FP=1.28'	ND	ND
Benzo(k)fluoranthene (µg/l)	ND	ND	ND	ND	FP=1.28'	ND	ND
Ferrous Iron (µg/l)	332	20100	25200	156	FP=1.28'	39000	39000
Nitrates (mg/l)	1.98	ND	ND	2.80	FP=1.28'	ND	ND
Sulfates (mg/l)	ND	ND	6.20	ND	FP=1.28'	ND	10.5
Dissolved Oxygen (mg/l)	2.10	0.59	0.66	5.31	FP=1.28'	1.71	0.44
Lead (µg/l)	32	50.0	122	17.0	FP=1.28'	14.0	605

ND - Not Detected
NT - Not Tested



GROUND WATER CHEMICALS OF CONCERN
B – BENZENE(ug/l)
T – TOLUENE(ug/l)
E – ETHYLBENZENE(ug/l)
X – XYLENES(ug/l)
M – MTBE(ug/l)
N – NAPHTHALENE(ug/l)

LEGEND

MW #1	MONITOR WELL LOCATION
ND	NOT DETECTED
FP	FREE PRODUCT

NOTES:

1.) MW#11 COULD NOT BE LOCATED FARTHER EAST DUE TO RESTRICTIONS ON GATE SIZE FOR DRILL RIG

2.) MW#10 COULD NOT BE LOCATED FARTHER EAST DUE TO RESIDENTIAL DENIAL AND UG WATER LINE

0 50' 100' 200'

SCALE: 1"=100'

Emerald, Inc.
Sumter, South Carolina

File Number: E551HDLO
Field Work Date(s): 03/10/02

Sheet Title: FIGURE 7 – GROUNDWATER CoC MAP

Project: H.W. DETWILER CO.
31 SOUTH CHURCH STREET
SUMMERTON, SC
UST PERMIT #15729

3.6 Aquifer Characterization

Aquifer characterization was conducted by performing three (3) slug tests on monitoring wells MW02D, MW03, and MW05 at the Detwiler site on March 10, 2002. Details for the slug tests can be found in Appendix D along with the Leachability Input, Results and Conclusions, and the Leachability Model. Characterization of the shallow aquifer yielded the following:

Hydraulic Conductivity: 2.07E-2

Hydraulic Gradient: -0.0055 ft/ft.

Porosity: 0.47

Estimated Seepage Velocity: 111.4 ft/yr.

As part of the aquifer characterization during this event, free product recovery rates were performed on the two (2) monitoring wells (MW01 and MW13) that contain free product. Using the standard bail down test as provided in the EPA document "How to Effectively Recover Free Product at Leaking Underground Storage Tank Sites" (September 1996), daily recovery rates were calculated for each well containing free product. Table 5 shows the average daily recovery rates for each well and Appendix D contains the field data and calculations for each well.

Table 5
Average Daily Recovery Rates
Detwilers

MW#	Avg Gallons/Day
1	10.76
13	0.7183

3.7 Receptor Survey

A receptor survey was conducted at the subject site facility to identify any potential exposure pathways for soil and/or ground water contamination. Exposure points are considered the location

that a receptor can come into contact, whether now or in the future, with soil and/or ground water contaminants. Typical exposure points may be drinking water wells, ponds, streams, underground basements, or underground utilities.

3.7.1 Water Wells

Reconnaissance of the area surrounding the Detwiler site revealed the presence of one water well (residential) located approximately 360 feet southeast of the source area. Such well is located east of MW11 and MW15, as seen on the site map, behind a residence. The well, construction details unknown, is used for irrigation and supplying a residential pool. This well was sampled during one of the field screening events and the analytical results did not show any levels of CoCs above the detection limits (See Table 1, sample # GP27A for analytical).

3.7.2 Underground Utilities

A utility check by Palmetto Utilities Protection Services was requested for the subject property prior to the assessment field effort. Utilities were marked to identify any potential underground exposure points (i.e., storm drain, sanitary sewer line, etc.). Contaminated ground water could potentially seep into these utilities if the static water level existed at an elevation greater than or equal to the corresponding underground utility.

Underground water and storm drain lines run parallel with S. Church Street and Burgess Street at a depth of three (3) to four (4) feet below the surface. The static water level is considerably below this level in the source area; however, the topographic elevation decreases considerably in the southern direction along S. Church Street toward Scotts Branch Creek. The static water level increases in elevation correspondingly.

A sewer line is present west of the site, as seen in Figure 3, which runs parallel with S. Church Street to a junction manhole located just north of Scotts Branch Creek. According to the

local utility manager, the sewer line is an old terra cotta pipe (diameter not given) that is buried at a level of twenty (20) feet below the surface west of the restaurant and gas station. The static water level in this area is approximately twenty (20) feet below the surface as well. During field screening events, it was observed that the points west of the sewer line had considerably less petroleum odor and consequently low analytical results. It is possible that the sewer line is providing a preferential pathway for the ground water contamination in the area.

3.7.3 Surface Water

The receptor survey revealed the presence of Scotts Branch Creek located west and south of the site. The direction of ground water flow is moving the contaminant plume in this direction. During the field screening events, the creek was sampled both upgradient (SBC-01U) and downgradient (SBC-02D) of the S. Church Street bridge (See Table 1 for analytical results). None of the results were above the detection limits.

3.8 Site Survey

A site survey was performed to establish an accurate site map portraying the locations of the former UST area, buildings and property lines. The comprehensive site survey was performed by D.D. Edmunds, Registered Land Surveyor. The elevation of each monitor well top of casing (TOC) was established using an assumed onsite benchmark elevation of 100 feet.

The survey plat established by Mr. Edmunds was utilized as a base map during the Tier II Assessment. See Figure 3 for a copy of the site survey map.

4.0 Tier II Evaluation

Bioscreen 1.4, a computer program developed by the EPA, was used to estimate contaminant fate and transport at the Detwiler site. The Bioscreen 1.4 model simulates remediation of BTEX, NAPL through both 1rst order and instantaneous decay. The software is based on the

Domenico analytical solute transport model and simulates advection, dispersion, adsorption and aerobic and anaerobic decay processes.

Site specific data generated during the Tier II Assessment was used to simulate:

a. Plume movement and COC degradation;

b. Fate and transport of each COC;

c. Site specific SSTLs for each COC;

d. Receptor COC concentrations.

Bioscreen 1.4 model results are provided in Appendix F.

4.1 Fate and Transport Model

The Domenico Model was chosen to simulate the fate and transport of the contaminant plume. This model predicts the decrease in CoC concentrations in ground water at a given distance from the source. It incorporates the source concentration, one-dimensional ground water velocity and both longitudinal and transverse dispersion.

Equation 1, given in the SC RBCA Guidance was used for the Detwiler site based on the source and potential receptor locations. This equation assumes maximum concentration along the centerline of the contaminant plume. This represents a conservative approach since the model does not account for the processes of soil sorption, diffusion or biodegradation, all of which reduce CoC levels. The following model input parameters were used:

1. Due to the presence of free product in MWs 01 and 13, the maximum solubilities of each contaminant in ground water were used.
2. The source width was assumed to be 60 feet and 10 feet in depth. MW01 was selected as the source.

3. The model simulation time for each CoC was based on the estimated travel time of the contaminants to the receptors, 10 years.
4. Bioscreen was used to estimate the first order decay rate of benzene. Lambda was adjusted until field data was matched.

The plume is migrating in a SW direction directly toward the sanitary sewer and the creek. All input parameters, calculations and the Bioscreen calibration are included in this report.

4.2 SSTL Calculation

The following Groundwater SSTLs were obtained and are compared to their RBSLs below:

	GW SSTL (mg/l)	RBSLs (mg/l)	Source Conc. (mg/l)
Benzene	4.327	0.005	227
Toluene	865.5	1.0	301
Ethylbenzene	605.8	0.70	280
Naphthalene	21.64	0.025	2
Xylenes	8654	10.0	278
MTBE	67.60	0.040	0.342

The SSTL data represents the concentrations of CoCs at the source required to protect the receptor. The SSTLs for all hydrocarbon contaminants, with the exception of benzene, are much lower than the source concentrations (MW01), so it may be concluded that the stream is being impacted by benzene only. MTBE is not yet impacting the stream based on the 0.342 mg/l concentration in MW09. However, the sewer is being impacted by this source. This is given in the second MTBE SSTL sheet that gives a SSTL of 0.041 mg/l as compared to a MTBE concentration of 0.342 mg/l. The SSTL data is found in Appendix G.

5.0 Results, Conclusions and Recommendations

5.1 Results & Conclusions

Based on the contaminants measured in deep well MW02, the vertical extent of the plume has not been defined, plus, the horizontal extent of the plume has not been defined southeast of the site.

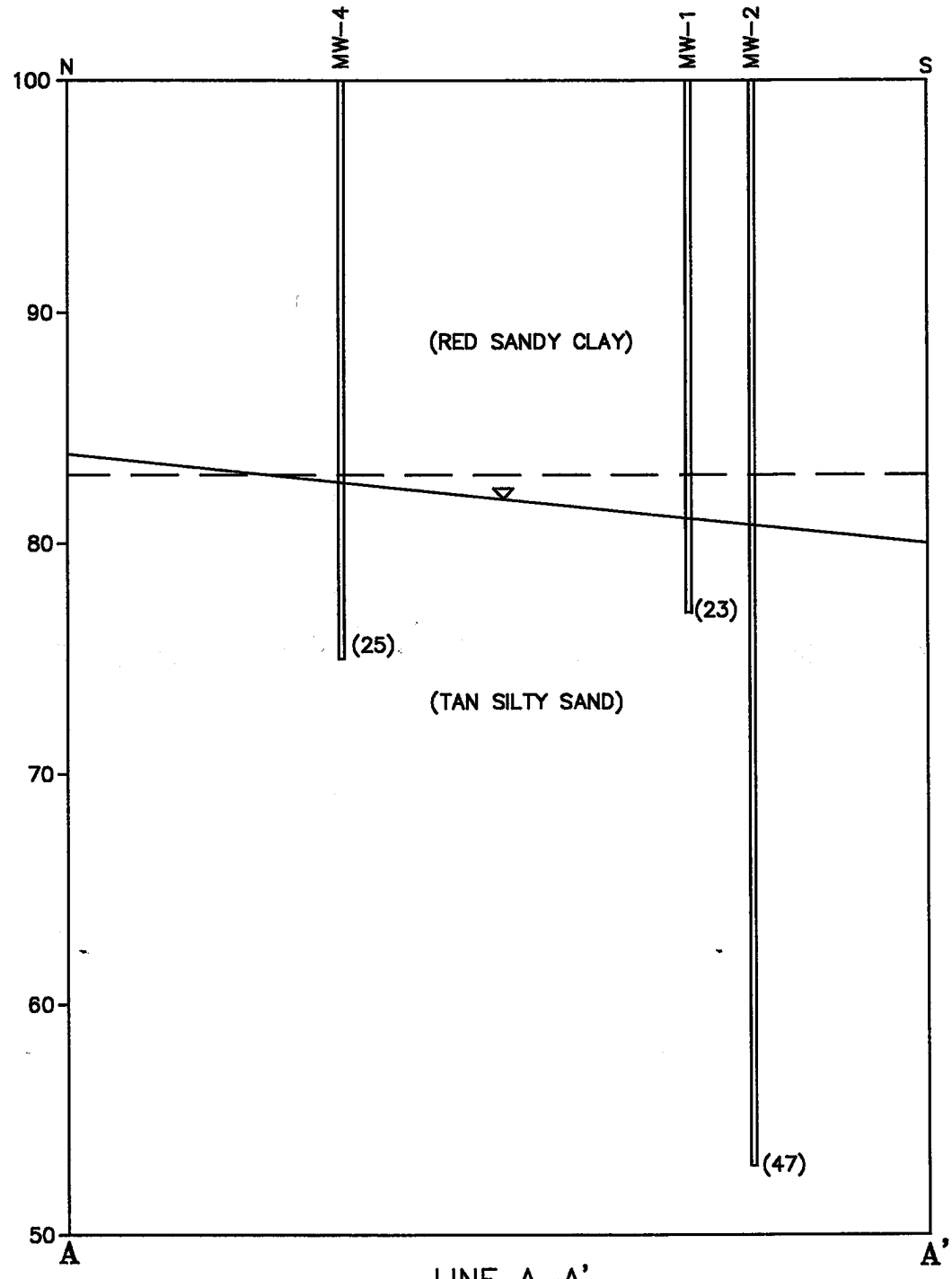
Both the Domenico and SSTL Models predict that Scotts Branch Creek is being impacted by benzene. The sanitary sewer is being impacted by both benzene and MTBE. Approximately 1.78 feet of free product was measured in well MW01 and 1.28 feet in MW13. The distribution of CoCs on this site suggests that Detwiler may not be the single source of contamination; however, the plumes apparently have merged to form one large plume downgradient of the Detwiler area.

Due to the number of dwellings downgradient of this site, a potential for human exposure may exist as a result of the potential impact to the city sewer line.

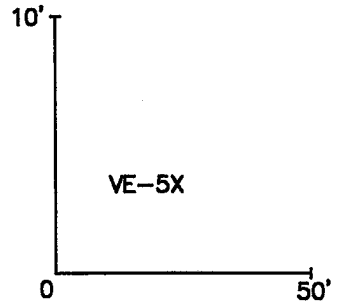
5.2 Recommendations

Based on the findings of this Tier II Assessment, the following recommendations are offered:

1. Install additional monitoring wells to delineate the horizontal and vertical extent of ground water contamination.
2. Initiate free product recovery at wells MW01 and MW13 to reduce the contaminant source flowing toward the sewer line and Scotts Branch Creek.
3. Perform analysis of the downgradient city water line for BTEX and MTBE contaminants.
4. Perform tests on the sanitary sewer line to determine the presence of BTEX and MTBE contaminants.
5. Periodic testings of Scotts Branch Creek for BTEX and MTBE contaminants, and possibly install a ground water pump/collection system upgradient of the Creek.
6. Initiate ground water remediation activities to reduce contaminant concentrations to acceptable levels and to prevent further impact to downgradient properties, the sanitary sewer and Scotts Branch Creek.



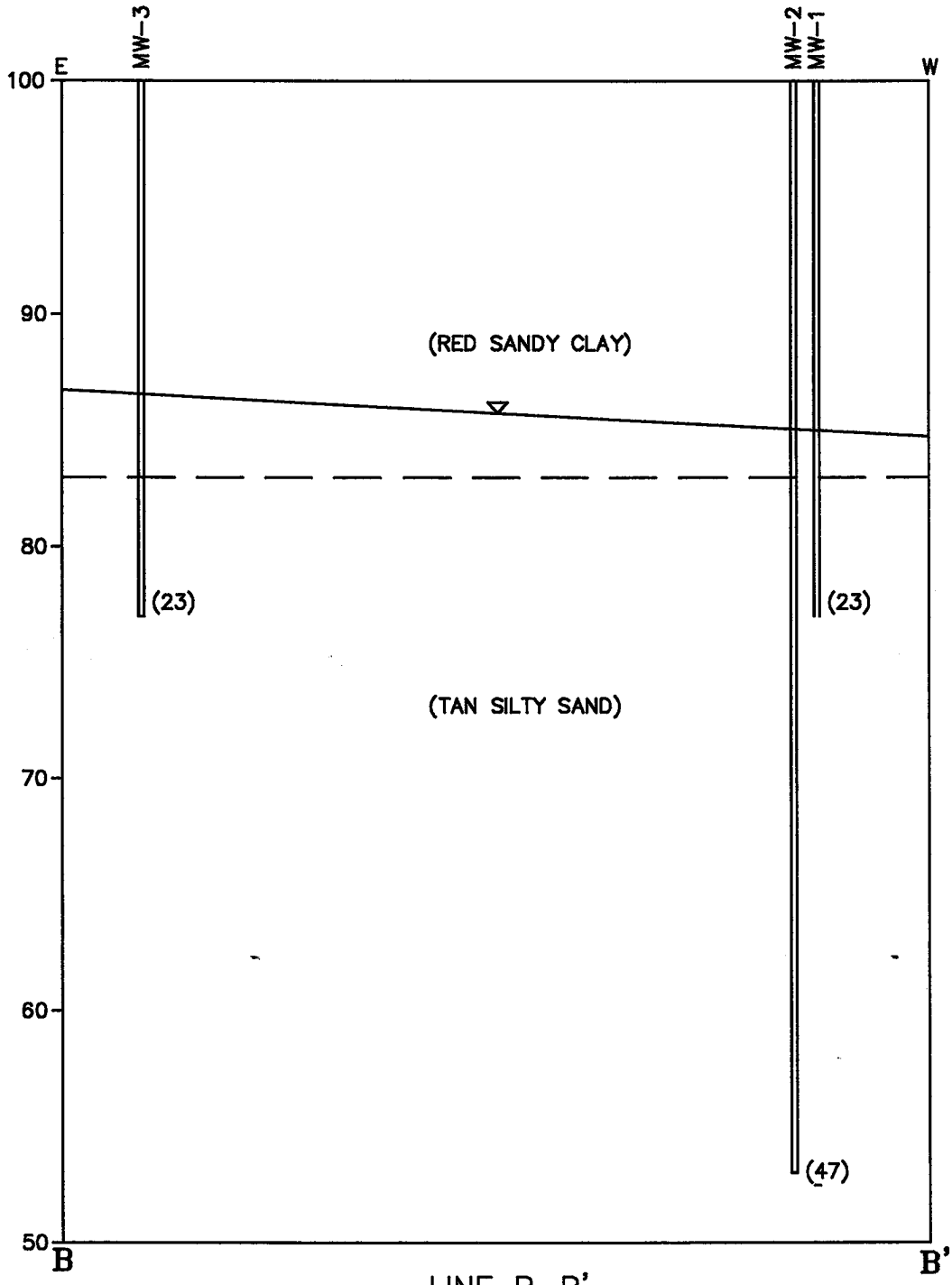
LINE A–A'



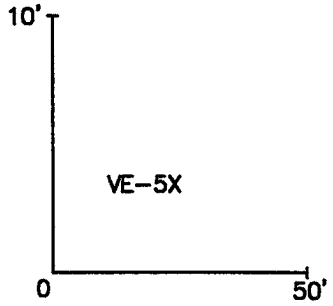
LEGEND

POTENTIOMETRIC SURFACE

Project:	Sheet Title:	File Number:	
H.W. DETWILER CO. 31 SOUTH CHURCH STREET SUMMERTON, SC UST PERMIT #15729	GEOLOGIC CROSS–SECTIONAL VIEW A–A'	E553HDLO Field Work Date(s): 12/13/01 – 12/15/01	**Emerald, Inc.** **Sumter, South Carolina**



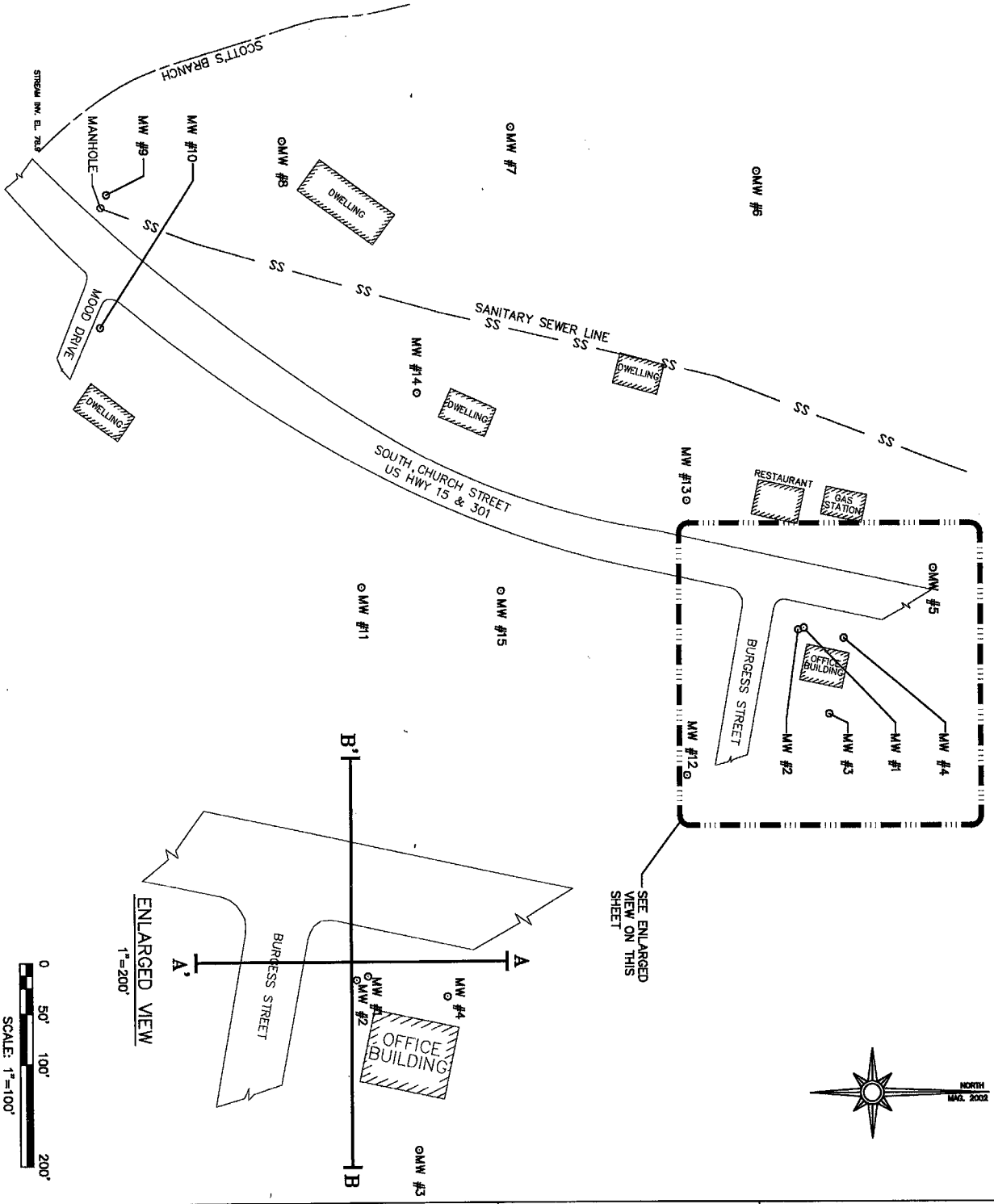
LINE B–B'



LEGEND

POTENTIOMETRIC SURFACE

Project:	Sheet Title:	File Number:	Emerald, Inc.
H.W. DETWILER CO. 31 SOUTH CHURCH STREET SUMMERTON, SC UST PERMIT #15729	GEOLOGIC CROSS–SECTIONAL VIEW B–B'	E553HDLO Field Work Date(s): 12/13/01 – 12/15/01	Sumter, South Carolina



Project: H.W. DETWILER CO. 31 SOUTH CHURCH STREET SUMMERTON, SC UST PERMIT #15729	Sheet Title: LINES OF GEOLOGIC CROSS-SECTIONAL VIEW	File Number: E552HDLO Field Work Date(s): 12/13/01 AND 12/15/01	Emerald, Inc. Sumter, South Carolina

FIELD SCREENING RESULTS

H.W. DETWILER CO.
FIELD SCREENING RESULTS (Ground Water)
UST PERMIT #15729

FIELD SCREENING POINT	Benzene	Toluene	Ethyl Benzene	Xylene	MTBE	Naphthalene
GP - 1	ND	ND	ND	ND	ND	ND
GP - 2	535	232	105	450	24.5	84
GP - 3	638	48	47	27	33	63
GP - 4	963	148	52	166	45	101
GP - 5	325	171	45	201	ND	75
GP - 6	18.7	77.1	35.1	64.8	ND	14.5
GP - 7	ND	ND	ND	ND	ND	ND
GP - 8	3380	470	840	260	1020	ND
GP - 9	16	2.1	23.9	ND	ND	15.1
GP -10	6880	1780	850	790	ND	ND
GP -11	10.5	34.5	8.6	31.7	ND	6.3
GP -12	150	101	24.6	84.4	10.9	17.7
GP -13	10.7	26.1	5.5	16.4	ND	5.3
GP -14	8260	6090	1080	1640	340	ND
GP -15	5940	5510	830	1440	210	ND
GP-16	640	300	160	180	ND	ND
GP-17	1900	200	210	ND	ND	ND
GP-18	11500	5000	2000	1050	60	230
GP-19	1700	14	72	14	7	8
GP-20	ND	ND	ND	ND	1680	ND
GP-21	ND	ND	ND	ND	187	ND
GP-22	5700	3500	1400	2000	ND	ND
GP-23	ND	ND	ND	ND	440	ND
GP-24	6000	1000	1600	ND	ND	ND
GP-25	6	5	3	4	190	ND
GP-26	ND	ND	ND	ND	ND	ND
GP-27	ND	ND	ND	ND	ND	ND
GP-27A	ND	ND	ND	ND	ND	ND

H.W. DETWILER CO.
FIELD SCREENING RESULTS (Ground Water)
CONTINUED
UST PERMIT #15729

GP-28	ND	ND	ND	ND	ND	ND
GP-29	ND	2.0	ND	3.0	ND	ND
GP-30	ND	ND	ND	ND	ND	ND
SBC-01U	ND	ND	ND	ND	ND	ND
SBC-02D	ND	ND	ND	ND	ND	ND

NOTE: GP - Geoprobe
ND - Not Detected at the report limit
All results are ug/l.

Chain of Custody Record

TESTAMERICA INC.

☐ Asheville, NC (A) (828) 254-5169	☐ Bartlett, IL (C) (630) 289-3100	☐ Cedar Falls, IA (E) (319) 277-2401	☐ Charlotte, NC (G) (704) 392-1164	☐ Dayton, OH (I) (937) 294-6856	☐ Lumberton, NC (K) (910) 738-6190	☐ Nashville, TN (M) (615) 726-0177	☐ Pontiac, MI (O) (248) 332-1940	☐ Rockford. Il (Q) (815) 874-2171
☐ Atlanta, GA (B) (770) 368-0636	☐ Brighton, CO (D) (303) 659-0497	☐ Charleston, SC (F) (843) 849-6550	☐ Columbia, SC (H) (803) 796-8989	☐ Davenport. IA (J) (319) 323-7944	☐ Indianapolis, IN (L) (317) 842-4261	☐ Macon, GA (N) (912) 757-0811	☐ Orlando, FL (P) (407) 851-2560	☐ Watertown, WI (R) (920) 261-1660

Client: EMERALD, INC
Report Address: P.O. BOX 3050
SUMTER, SC 29151
Attn: R. LOWDER
Phone No.: (803) 773-5454
Fax No.: (803) 775-1970

Project No.: HWD
Invoice Address: SAME
Attn: SAME
Sampled By: RL
P.O. No: —
Quote No. —
State Samples Collected SC

TURNAROUND TIME
☐ Standard
☐ Rush (surcharges may apply)
Date Needed: 1/19/01

REQUESTED PARAMETERS

222661
#8583
(8260B)
BTEX/NAPH/MTBE

Is this work being conducted for regulatory compliance monitoring? Yes ✓ No ___

Is this work being conducted for regulatory enforcement action? Yes ___ No ✓

Which regulations apply:
RCRA ___ NPDES Wastewater ___
UST ✓ Drinking Water ___
Other ___ None ___

Sample ID	Date	Time	Comp (C) Grab (G)	Matrix	Lab Use									# and type of containers: HCl	NaOH	HNO_3	H_2SO_4	Other	None	REMARKS
GP-1	1/9/01	10:15	G	GW	4083	✓								2						
GP-2	↓	13:10	G	GW	84	✓								2						
GP-3		12:45	G	GW	85	✓								2						
GP-4		12:15	G	GW	86	✓								2						
GP-5		12:00	G	GW	87	✓								2						
GP-6		11:35	G	GW	88	✓								2						
GP-7		11:00	G	GW	89	✓								2						
GP-8		18:05	G	GW	90	✓								2						
GP-9		19:10	G	GW	91	✓								2						
GP-10	↓	18:45	G	GW	4092	✓								2						

QC Deliverables: ☐ None ☐ Level 2 - Batch QC ☐ Level 3 ☐ Level 4 ☐ Other

Init Lab Temp | Rec Lab Temp

COMMENTS:

3.0

FAX CHAIN TO COLUMBIA

Relinquished By: [signature]	Date 1/12/01	Time 10:00	Received By: Fed Ex	Date	Time	LAB USE ONLY:	
Relinquished By:	Date	Time	Received By: M. Beaty	Date 1/12/01	Time 9:30		
Relinquished By:	Date	Time	Received By:	Date	Time	Custody Seal: ☐ Yes ☐ No ☐ N/A	
Relinquished By:	Date	Time	Received By:	Date	Time	Bottles Supplied by TA: ☐ Yes ☐ No	

TESTAMERICA INC.

Chain of Custody Record

☐ Asheville, NC (A) (828) 254-5169 ☐ Bartlett, IL (C) (630) 289-3100 ☐ Cedar Falls, IA (E) (319) 277-2401 ☐ Charlotte, NC (G) (704) 392-1164 ☐ Dayton, OH (I) (937) 294-6856 ☐ Lumberton, NC (K) (910) 738-6190 ☐ Nashville, TN (M) (615) 726-0177 ☐ Pontiac, MI (O) (248) 332-1940 ☐ Rockford. Il (Q) (815) 874-2171
☐ Atlanta, GA (B) (770) 368-0636 ☐ Brighton, CO (D) (303) 659-0497 ☐ Charleston, SC (F) (843) 849-6550 ☐ Columbia, SC (H) (803) 796-8989 ☐ Davenport. IA (J) (319) 323-7944 ☐ Indianapolis, IN (L) (317) 842-4261 ☐ Macon, GA (N) (912) 757-0811 ☐ Orlando, FL (P) (407) 851-2560 ☐ Watertown, WI (R) (920) 261-1660

Client: EMERALD, INC | Project No.: HWD

Report Address: P.O. Box 3050 | Invoice Address: SAME

Summer, SC 29151

Attn: R. LOWDER | Attn: SAME

Phone No.: (803) 773-5454 | Sampled By: RL

Fax No.: (803) 775-1970 | P.O. No: —

Quote No. —

State Samples Collected SC

TURNAROUND TIME

☐ Standard

☐ Rush (surcharges may apply) Date Needed: 1/19/01

REQUESTED PARAMETERS

Is this work being conducted for regulatory compliance monitoring? Yes 1 No___

Is this work being conducted for regulatory enforcement action? Yes___ No___

Which regulations apply:
RCRA___ NPDES Wastewater___
UST___ Drinking Water___
Other___ None___

Sample ID	Date	Time	Comp (C) Grab (G)	Matrix	Lab Use	8260B	BTEX	MTBE	# and type of containers: HCl	NaOH	HNO_3	H_2SO_4	Other	None	REMARKS
GP-11	1/9/01	14:20	G	GW	40983	✓			2						
GP-12		15:30	G	GW	84	✓			2						
GP-13		16:10	G	GW	85	✓			2						
GP-14		16:40	G	GW	86	✓			2						
GP-15	↓	17:05	G	GW	40987	✓			2						

QC Deliverables: ☐ None ☐ Level 2 - Batch QC ☐ Level 3 ☐ Level 4 ☐ Other

Init Lab Temp | Rec Lab Temp

COMMENTS:

FAX CHAIN TO COLUMBIA

Relinquished By:	Date	Time	Received By:	Date	Time
	1/11/01	10:00	FedEx		
Relinquished By:	Date	Time	Received By:	Date	Time
			AMB	1/12/01	9:20
Relinquished By:	Date	Time	Received By:	Date	Time
Relinquished By:	Date	Time	Received By:	Date	Time

LAB USE ONLY:

Custody Seal: ☐ Yes ☐ No ☐ N/A

Bottles Supplied by TA: ☐ Yes ☐ No

FAX CHAIN TO COLUMBIA

225275

TestAmerica INCORPORATED Division/Laboratory Name:

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes? Compliance Monitoring YES

Client Name: EMERALD, INC Client #: 8583

Address: P.O. BOX 3050

City/State/Zip Code: SUMMERVILLE, SC 29151

Project Manager: RONNY LOWDER

Telephone Number: (803) 873-5454 Fax: (803) 775-1970

Sampler Name: (Print Name) RONNY LOWDER

Sampler Signature:

Project Name: HWD

Project #: —

Site/Location ID: SUMMERVILLE State: SC

Report To: EMERALD, INC

Invoice To: SAME

Quote #: PO#:

TAT
___ Standard
___ Rush (surcharges may apply)
Date Needed: 2/9/01
Fax Results: (Y) N

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify Other	Preservation & # of Containers: HNO3	HCl	NaOH	H2SO4	Methanol	None	Other (Specify)	Analyze For: CB260B/624/VOA/Imp	QC Deliverables	REMARKS
GP-16	2/1	10:50	G	N	GW		2						✓	None	14527
GP-17	2/1	11:20	G	N	GW		2						✓	Level 2 (Batch QC)	28
GP-18	2/1	11:55	G	N	GW		2						✓	Level 3	29
GP-19	2/1	12:30	G	N	GW		2						✓	Level 4	30
GP-20	2/1	14:55	G	N	GW		2						✓	Other:	31
GP-21	2/1	15:30	G	N	GW		2						✓		32
GP-22	2/1	16:25	G	N	GW		2						✓		33
GP-23	2/1	16:50	G	N	GW		2						✓		34
GP-24	2/1	17:40	G	N	GW		2						✓		35
GP-25	2/1	18:00	G	N	GW		2						✓		14536

Special Instructions:

Relinquished By:	Date: 2/2/01	Time: 18:15	Received By: FedEx	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By: C. Wilt	Date: 2.3.01	Time: 0900	

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp:
Custody Seals: Y N N/A
Bottles Supplied by TestAmerica: Y N
Method of Shipment:

FAX CHAIN

TestAmerica INCORPORATED

Division/Laboratory Name: TO COLUMBIA

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring: YES

Client Name: EMERALD, INC Client #: 8583 2329.9

Address: P.O. BOX 3050

City/State/Zip Code: SUMTER, SC 29151

Project Manager: R. LOWDER

Telephone Number: (803) 773-5454 Fax: (803) 775-1970

Sampler Name: (Print Name) RONNY LOWDER

Sampler Signature: [signature]

Project Name: HWD

Project #: —

Site/Location ID: SUMMERTON State: S.C.

Report To: EMERALD, INC

Invoice To: SAME

Quote #: — PO#: —

TAT: ___ Standard ___ Rush (surcharges may apply)

Date Needed: 4/12/01

Fax Results: (Y) N

QC Deliverables: ___ None ___ Level 2 (Batch QC) ___ Level 3 ___ Level 4 Other: _____

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge DW - Drinking Water GW - Groundwater S - Soil/Solid WW - Wastewater Specify Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: (8260B) BTEX/NAPA/MTBE									REMARKS
GP-26	4/3/01	14:25	G	N	GW		2						✓									46535
GP-27		15:35	G	N	GW		2						✓									36
GP-27A		15:45	G	N	GW		2						✓									37
GP-28		16:25	G	N	GW		2						✓									38
GP-29		17:25	G	N	GW		2						✓									39
GP-30		17:55	G	N	GW		2						✓									40
SBC-01U		18:10	G	N	GW		2						✓									41
SBC-02D		18:20	G	N	GW		2						✓									46542

Special Instructions:

Relinquished By: [signature]	Date: 4/5/01	Time: 18:15	Received By: [signature]	Date: 4/5/01	Time: 18:15
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By: [signature]	Date: 4/6/01	Time: 9:00

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp:
Custody Seals: Y N N/A
Bottles Supplied by TestAmerica: Y N
Method of Shipment:

FAX CHAIN

TestAmerica INCORPORATED

Division/Laboratory Name: TO COLUMBIA

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes? Compliance Monitoring YES

Client Name: EMERALD INC Client #: 8583

Address: P.O. BOX 3050

City/State/Zip Code: SUMMERVILLE, SC 29151

Project Manager: R. LOWDER

Telephone Number: (803) 773-5454 Fax: (803) 775-1970

Sampler Name: (Print Name) R. LOWDER

Sampler Signature: R. Lowder

Project Name: DETWILER (DET)

Project #:

Site/Location ID: SUMMERVILLE State: SC

Report To: EMERALD INC

Invoice To: SAME

Quote #: PO#:

TAT: ___ Standard 265947 ___ Rush (surcharges may apply)

Date Needed: 12/28/01

Fax Results: YES N

	SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify Other	Preservation & # of Containers: HNO3	HCl	NaOH	H2SO4	Methanol	None	Other (Specify)	Analyze For: 8260B BTEX NAPH	PAHs	TOC	TPH-3550	QC Deliverables: None / Level 2 (Batch QC) / Level 3 / Level 4 / Other	REMARKS
1	MW-3	12/13	12:25	G	N	S						1	2	✓	✓	✓			187939
2	MW-5	12/13	16:40	G	N	S						1	2	✓	✓				187940
3	MW-13	12/13	10:20	G	N	S						1	2	✓	✓				41
4	SB01	12/15	9:10	G	N	S						1	2	✓	✓				42
5	SB02	12/15	11:10	G	N	S						1	2	✓	✓				43
6	SB03	12/15	11:45	G	N	S						1	3	✓	✓	✓			44
7	SB04	12/15	12:05	G	N	S						1	2	✓	✓				45
8	SB05	12/15	12:35	G	N	S						1	2	✓	✓				46
9	SB06	12/15	13:50	G	N	S						1	2	✓	✓				47
10	SB07	12/15	13:30	G	N	S						1	2	✓	✓				187948

Special Instructions:

	Date:	Time:		Date:	Time:
Relinquished By:	12/21/01	10:30	Received By: Fedex	12/21/01	10:30
Relinquished By:	Date:	Time:	Received By: Marvin Blumhoff	Date: 12-22-01	Time: 9:00
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp: 2.0
Custody Seals: Y N N/A
Bottles Supplied by TestAmerica: Y N
Method of Shipment:

FAX CHAIN 275278 TO COLUMBIA

TestAmerica INCORPORATED Division/Laboratory Name:

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring YES

Client Name: EMERALD, INC Client #: 8583
Address: P.O. BOX 3050
City/State/Zip Code: SUMTER, SC 29151
Project Manager: R. LOWDER
Telephone Number: (803)773-5454 Fax: (803)775-1970
Sampler Name: (Print Name) R LOWDER
Sampler Signature:

Project Name: DETHILER
Project #: —
Site/Location ID: SUMMERTON State: SC
Report To: EMERALD, INC.
Invoice To: SAME
Quote #: — PO#: —

TAT
___ Standard
___ Rush (surcharges may apply)
Date Needed: 3/25/02
Fax Results: (Y) N

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge DW - Drinking Water GW - Groundwater S - Soil/Solid WW - Wastewater Specify Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: BTEX (8260) / NAPH / MTBE (8260) METHANE	EDB (8011)	PAHs	FERROUS IRON	LEAD	NITRATE/SULFATE			QC Deliverables / REMARKS
MW-2	3/10	9:20	G	N	GW	1	3				1		✓	✓	✓	✓	✓	✓	✓			37965
MW-3	3/10	9:56	G	N	GW	1	3				1		✓	✓	✓	✓	✓	✓	2			56
MW-4	3/10	7:48	G	N	GW	1	3				1		✓	✓	✓	✓	✓	✓	✓			57
MW-5	3/10	10:35	G	N	GW	1	3				1		✓	✓	✓	✓	✓	✓	✓			58
MW-6	3/10	16:25	G	N	GW	1	3				1		✓	2	✓	✓	✓	✓	✓			59
MW-7	3/10	14:15	G	N	GW	1	3				1		✓	✓	✓	✓	✓	✓	✓			60
MW-8	3/10	15:25	G	N	GW	1	3				1		✓	✓	✓	✓	✓	✓	✓			61
MW-9	3/10	14:55	G	N	GW	1	3				1		✓	✓	✓	✓	✓	✓	✓			62
MW-10	3/10	15:55	G	N	GW	1	3				1		✓	✓	✓	✓	✓	✓	✓			63
MW-11	3/10	12:45	G	N	GW	1	3				1		✓	✓	✓	✓	✓	✓	✓			37964

QC Deliverables: ___ None ___ Level 2 (Batch QC) ___ Level 3 ___ Level 4 Other: ____

Special Instructions:

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp:
Custody Seals: Y N N/A
Bottles Supplied by TestAmerica: Y N
Method of Shipment:

	Date:	Time:		Date:	Time:
Relinquished By:	3/11/02	18:30	Received By: FedEx	3/11/02	19:30
Relinquished By:	Date:	Time:	Received By:	Date: 3/12	Time: 9
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

FAX CHAIN 215218

TestAmerica INCORPORATED

Division/Laboratory Name: TO COLUMBIA

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring: YES

Client Name: EMERALD, INC Client #: 8583
Address: P.O. BOX 3050
City/State/Zip Code: SUMTER, SC 29151
Project Manager: R. LOWDER
Telephone Number: (803)773-5454 Fax: (803)775-1970
Sampler Name: (Print Name) R. LOWDER
Sampler Signature:

Project Name: DETWILER
Project #: —
Site/Location ID: SUMMERTON State: SC
Report To: EMERALD, INC
Invoice To: SAME
Quote #: — PO#: —

TAT
___ Standard
___ Rush (surcharges may apply)
Date Needed: 3/25/02
Fax Results: (Y) N

QC Deliverables
___ None
___ Level 2 (Batch QC)
___ Level 3
___ Level 4
Other: _____

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: 8260B BTEX/Naphthalene/MTBE	8260B Methane	EDB (8011)	PAHs	Halogenated VOCs	Lead	Nitrate/Sulfate	REMARKS
MW-12	3/10	12:00	G	N	GW	1	8				1		✓	✓	✓	✓	✓	✓	✓	37965
MW-14	3/10	13:50	G	N	GW	1	8				1		✓	✓	✓	✓	✓	✓	✓	66
MW-15	3/10	13:10	G	N	GW	1	8				1		✓	✓	✓	✓	✓	✓	✓	37967

Special Instructions:

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp:
Custody Seals: Y N N/A
Bottles Supplied by TestAmerica: Y N
Method of Shipment:

	Date	Time		Date	Time
Relinquished By:	3/11/02	18:30	Received By: FedEx	3/11/02	18:30
Relinquished By:	Date:	Time:	Received By:	Date: 3/12	Time: 9 00
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

FIELD SCREENING LOG

Site: Detwiler Site

Date: 1/9/01, 2/1/01 and 4/3/01

Personnel: _____

LOCATION	TIME	SAMPLE TIME	DATE	DEPTH	COMMENTS
GP-1	10:00	10:15	1/9	24'	Hard to 17
GP-2	12:55	13:10	1/9	24'	
GP-3	12:30	12:45	1/9	24'	
GP-4	12:05	12:15	1/9	24'	
GP-5	11:45	12:00	1/9	24'	
GP-6	11:20	11:35	1/9	24'	
GP-7	10:45	11:00	1/9	24'	Hard to 17
GP-8	17:50	18:05	1/9	24'	
GP-9	18:55	19:10	1/9	24'	
GP-10	18:30	18:45	1/9	24'	
GP-11	2:10	14:20	1/9	24'	
GP-12	15:20	15:30	1/9	24'	
GP-13	15:55	16:10	1/9	24'	
GP-14	16:25	16:40	1/9	24'	Odor
GP-15	16:55	17:05	1/9	24'	Odor
GP-16	10:30	10:50	2/1	24'	Neely yard; No Odor
GP-17	11:10	11:20	2/1	24'	Neely yard; No Odor
GP-18	11:45	11:55	2/1	24'	Row - Davis; Odor
GP-19	12:20	12:30	2/1	24'	No Odor
GP-20	14:45	14:55	2/1	24'	No Odor; Hard from 6' to 18'
GP-21	15:10	15:30	2/1	24'	No Odor; Hard from 6' to 19'

LOCATION	TIME	SAMPLE TIME	DATE	DEPTH	COMMENTS
GP-22	16:10	16:25	2/1	24'	Odor; Hard from 7' to ± 19' (Very hard 15 - 16)
GP-23	16:40	16:50	2/1	24'	No Odor; Hard from 7' - ± 20'
GP-24	17:25	17:40	2/1	24'	Odor; Hard from 4' - 16'
GP-25	17:55	18:00	2/1	16'	No Odor; Hard from 5' to 12' (Water to 10')

DATE: 4/3/01

Geoprobe along Eastern boundary of site - Phase III of Field Screening

GP-26	14:25	Push to 28' and sample Soft 0 - 8' Hard 8' - 25' Soft 25' - 28'
	14:40	Sample (2 - 40 ml. vials)
GP-27	15:25	Push to 28' and sample Same pattern
	15:35	Sample
GP-27A	Sample from 160' water well @ Johnson household - used for pool and sprinkler situation. (Let pump run for ± 10 minutes prior to sampling.)	
GP-28	16:15	Push to 20' - soft at 16'
	16:25	Sample
GP-29	17:00	Push to 28'
	17:25	Sample
GP-30	17:45	Push to 28'
	17:55	Sample
SBC-01U	18:10	Scotts Branch Creek - Upgradient
SBC-02D	18:20	Scotts Branch Creek - Downgradient

DETWILER SITE
TIER II ASSESSMENT - MONITORING WELL INSTALLATION LOG
UST PERMIT # 15729

12/12/01

Time	SS	OVA	Description	Comments
Note: MW1 / 5' NE shows ±2' FP; WT @ 21'				
MW02D				
12:45	Start 0 - 4'		Broken asphalt Brown sand	
13:00	4' - 10' 10'	 23	Red sandy clay	Tight, heavy odor starts at 4', dry
13:15	15' 16'	30	Red sandy clay Red orange sandy clay with quartz	Tight, heavy odor
13:25	19' 20' +	32	Orange sand Water table	Damp, heavy odor
13:50	Set casing @ 40'.			
12/13/01	Drill out casing to 47'. Gray solid layer encountered at 47' - 5' screen. Sand from 40' to 47' and chips above.			
12/13/01				
MW13 (Parking lot of Summerton Diner - Asphalt Surface)				
9:50	4' - 6'	0	0' - 4' Brown tan silty sand 5' - 6' Orange red hard clay	Dry, no odor (4-6-11-23)
10:05	9' - 11'	0	Gray red hard clay continuous	Dry, no odor (6-13-13-17)
10:20	14' - 16'	22	14' - 15' Gray red sandy clay 15' - 16' Gray sand	(6-7-11-14) Damp, mild odor
10:32	19' - 21'		Yellow sand	Wet, heavy odor (2-3-6-6)

Set MW @ 25' with 10' screen.

DETWILER SITE
TIER II ASSESSMENT - MONITORING WELL
INSTALLATION LOG CONT'D
UST PERMIT # 15729

12/13/01

Time	SS	OVA	Description	Comments
MW03 (Background)				
11:40	4' - 6'	0	0' - 4' Tan sand 4' - 5' Tan sand 5' - 6' Tan orange sandy clay	(10-9-11-12) Dry, no odor
11:50	9' - 11'	0	Red sandy clay	Dry, no odor (7-12-18-22)
12:05	14' - 16'	0	Gray red sandy clay	Dry, no odor (3-7-6-7)
12:15	19' - 21'	0	Yellow quartz sand with rock	Wet, no odor (2-3-5-4)
Set MW @ 23' with 10' screen.				
MW04				
14:30	4' - 6'	0	0' - 4' Tan brown sand 4' - 6' Orange red sandy clay	Dry, no odor (4-7-12-21)
14:45	9' - 11'	0	Orange red sandy clay	Dry, no odor (5-12-17-20)
15:00	14' - 16'	0	Red yellow sandy clay	Dry, no odor (3-5-7-7)
15:10	19'- 21'	0	Yellow sandy soil	Wet, no odor (3-3-5-6)
Set MW @ 25' with 10' screen.				
MW05				
16:20	4' - 6'	23	0' - 4' Brown silty sand 4' - 6' Red orange gray sandy clay	Dry, mild odor (3-5-10-13)
16:40	9' - 11'	28	Gray red sandy clay	Dry, medium odor (2-6-9-12)
17:05	14' - 16'	18	14' - 15' Tan brown sandy clay 15' - 16' Gray red sandy clay	Damp, medium odor (3-3-6-9)

DETWILER SITE
TIER II ASSESSMENT - MONITORING WELL
INSTALLATION LOG CONT'D
UST PERMIT # 15729

12/13/01

Time	SS	OVA	Description	Comments
17:20	19' - 21'	12	19' - 20' Gray clay 20' - 21' White, yellow sand	Wet, mild odor Saturated, mild odor (2-2-3-4)

Set MW @ 25' with 10' screen.

12/14/01

MW06 (Next to branch behind restaurant)

8:05	4' - 6	0	0 - 4' Tan silty sand 4' - 6' Red orange sandy clay	Dry, no odor (no blow count)
8:20	9' - 11'	0	Red sandy clay	Dry, no odor (no blow count)
8:45	14' - 16'	0	Red clay (very tight)	Dry, no odor (no blow count)

Breakout of clay @ 18'.

9:00	19' - 21'	0	19' - 20' Red sand 20' - 21' Tan quartz sand	Damp, no odor (5-9-8-6) Wet, no odor

Set MW @ 25' with 10' screen. No soil sample.

MW12 (Neely residence)

10:45	4' - 6'	0	0' - 6' Tan loamy sand 7' Tan sandy clay	Dry, no odor (no blow count) (down pressure 900)
11:00	9' - 11'	0	Orange tan sandy clay 12' Red clay	Dry, no odor
11:30	14' - 16'	0	Red clay 16' - 17' Red sandy clay	Dry, no odor

DETWILER SITE
TIER II ASSESSMENT - MONITORING WELL
INSTALLATION LOG CONT'D
UST PERMIT # 15729

12/14/01

Time	SS	OVA	Description	Comments
11:40	19' - 21'	0	19' - 20' Red, gray clay 20' - 21' Tan, silica sand	Damp, no odor (8-7-6-7) Wet, no odor

Set MW @ 25' with 10' screen. No soil sample.

MW09

13:50	4' - 6'	0	Brown silty sand	Dry, no odor (no blow count)
14:00	9' - 11'	0	Tan quartz sand	Wet, no odor

Set MW @ 15' with 10' screen. No soil sample.

MW11 (S. Side Johnson Drive)

15:25	4' - 6'	0	0 - 4' Brown black sand 4' - 6' Brown sandy clay	Dry, no odor (no blow count)
15:40	9' - 11'	0	Orange red sandy clay	Dry, no odor (no blow count)
15:50	14' - 16'	0	Red Clay 17' Red sandy clay	Dry, no odor (no blow count)
16:00	19' - 21'	0	19' - 20' Red sandy clay 20' - 21' Orange quartz sand	Damp, no odor (12-12-12-7) Wet, no odor

Set MW @ 25' with 10' screen. No soil sample.

MW15 (Johnson yard - old gas station)

17:15	4' - 6'	0	0 - 4' Tan orange silty sand 4' - 6' Orange red sandy clay	Dry, no odor (5-6-9-11)
18:00	9' - 11'	0	Red sandy clay	Dry, no odor (no blow count)
18:10	14' - 16'	0	Red clay 17' Red sandy clay	Dry, no odor (no blow count)

DETWILER SITE
TIER II ASSESSMENT - MONITORING WELL
INSTALLATION LOG CONT'D
UST PERMIT # 15729

12/14/01

Time	SS	OVA	Description	Comments
18:20	19' - 21'	0	19' - 20' Red sandy clay 20' - 21' Tan quartz sand	Damp (4-4-6-6) Wet, mild odor

Set MW @ 25' with 10' screen. No soil sample.

12/15/01

SB01

9:00	5'	13.8	Brown orange sandy clay	Dry, heavy odor
9:10	10'	18.8	Orange, red sandy clay	Dry, heavy odor
9:30	15'	16.2	Red, gray clay	Dry, heavy odor
9:45	20'	Water table - no sample		

SB02

10:15	5'	22	Gray orange sandy clay	Dry, heavy odor
11:10	10'	23.8	Red gray clay	Dry, heavy odor
11:25	15'	19.8	Red orange sandy clay	Dry, heavy odor

Piping and Dispensing Area

SB03

11:30	2'	1	Tan brown silty sand	Dry, no odor
11:30	4'	1.2	Tan brown silty sand	Dry, no odor
11:35	6'	1	Tan orange sandy clay	Dry, no odor
11:35	8'	21	Red gray sandy clay	Dry, heavy odor
11:45	10'	24	Red brown sandy clay	

DETWILER SITE
TIER II ASSESSMENT - MONITORING WELL
INSTALLATION LOG CONT'D
UST PERMIT # 15729

12/15/01

Time	SS	OVA	Description	Comments
SB04				
11:55	2'	0	Tan silty sand	Dry, no odor
11:55	4'	0	Tan brown silty sand	Dry, no odor
12:00	6'	0	Tan orange sandy clay	Dry, no odor
12:00	8'	0	Orange tan sandy clay	Dry, no odor
12:05	10'	1.8	Red gray sandy clay	Dry, mild odor
SB05				
12:25	2'	0	Tan brown silty sand	Dry, no odor
12:25	4'	0	Brown silty sand	Dry, no odor
12:30	6'	0	Orange red sandy clay	Dry, no odor
12:30	8'	0	Orange red gray sandy clay	Dry, no odor
12:35	10'	0	Red gray sandy clay	
SB06				
12:40	2'	0	Tan silty sand	Dry, no odor
12:40	4'	0	Tan brown silty sand	Dry, no odor
12:55	6'	0	Orange red sandy clay	Dry, no odor
12:55	8'	3.4	Orange gray sandy clay	Dry, mild odor
13:00	10'	2.0	Red gray sandy clay	
SB07				
13:10	2'		Tan silty sand	
13:10	4'		Tan silty sand	

DETWILER SITE
TIER II ASSESSMENT - MONITORING WELL
INSTALLATION LOG CONT'D
UST PERMIT # 15729

12/15/01

Time	SS	OVA	Description	Comments
13:20	6'		Orange gray sandy clay	
13:20	8'		Orange gray sandy clay	
13:30	10'		Red orange sandy clay	
MW07 (Spigner back yard)				
13:00	4' - 6'	0	Brown sandy clay	Dry, no odor (6-12-20-32)
13:15	9' - 11'	0	Red gray sandy clay	Dry, no odor (7-7-9-10)
13:35	14' - 16'	0	Yellow sand	Damp, no odor (5-5-5-6)

Set MW @ 20' with 10' screen. No soil sample.

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Detwiller's (last) (first)
Address: 31 South Church St
City: Summerton State: SC Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: Detwiller's
Street Address: 31 South Church St
City: Summerton S.C. Zip:
COUNTY: Clarendon
Latitude: Longitude:

3. SYSTEM NAME: Detwiller's **SYSTEM NUMBER:** MW-2D

4. CUTTING SAMPLES: ☐ Yes ☒ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
0-20 Red Clay		
20-48 Tan Silty SAND		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) Date Started: 12-13-01
45 ft. Date Completed: 12-13-01

9. ☒ Mud Rotary ☐ Jetted ☐ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☒ Threaded ☐ Welded
Diam.: 2
Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 42 ft. depth
in. to ft. depth
Height: Above/Below Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: .010 Length: 5'
Set Between: 42 ft. and 47 ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL
ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
ft. after hrs. Pumping G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield:

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 40 ft. to 47 ft.
Effective size #2 Uniformity Coefficient SAND

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
Depth: From 0 ft. to 38 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type well disinfected ☐ Yes Type:
upon completion ☐ No Amount:

18. PUMP: Date installed: ☐ Not installed
Mfr. Name: Model No.:
H.P. Volts Length of drop pipe ft. Capacity gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Richy LLemire CERT. NO.: 1423
Address: (SAEDACCO) 10401 John Price Rd Charlotte N.C. 28273
Telephone No.: 1-800-849-0353

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: Richy LLemire Authorized Representative Date: 12-13-01

DHEC 1903 (07/2001) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

INSTRUCTIONS
Water Well Record

This form is to be completed by an SC Certified Water Well Driller within thirty days of completion of the well. One copy is to be submitted to SCDHEC, another is intended for the well owner, and the final copy is for the well driller. In most cases, well location, owner, driller and other administrative information can be obtained from the Notice of Intent form. If additional comments are necessary, attach those on a separate sheet.

1. Include the name and present mailing address and telephone number of the well owner. This can be a tract owner or developer in the case of a new subdivision.

2. Indicate the exact number, street, city, zip, and county for the location of the well. If the street address is not available, attach a sketch map for general location and include lot number if it is in a new subdivision. "Same as 1" can be indicated if that is the case.

3. For public water supply, indicate system name and number.

4. Check appropriate boxes;for the driller's log, describe the formation, indicate the thickness and complete the depth to the bottom of the stratum.

5. Insert any comments.

6. Insert the eight-digit number assigned when the Notice of Intent was submitted for a residential or irrigation well or the public supply number.

7. Check box indicating use.

8. Indicate the total depth in the space provided; fill in the requested dates.

9. Check the box indicating the drilling method.

10. Check appropriate boxes and complete the information requested for the casing.

11. Complete the information requested for the screen; check the appropriate box.

12. Measue the static water level 24 hours after well completion and provide the measurement in the space.

13. Provide pumping level, time, and rates in the appropriate spaces.

14. Indicate whether these analyses were run.

15. Provide the requested information on filter pack.

16. Check the appropriate boxes and provide the depth of the grout.

17. Complete the requested information concerning the nearest source of possible contamination.

18. If installed, provide the information requested concerning the pump.

19. Indicate name, SC certification number, address and business or mobile (or both) telephone number for the well driller.

20. Sign and date the form.

The completed Form 1903 should be submitted to the SCDHEC, Bureau of Water, Private Well Program, 2600 Bull Street, Columbia, SC 29201-1708.

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Detwillers (last) (first)
Address: 31 S. Church St
City: Summerton State: SC Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: Detwillers
Street Address: 31 S. Church St
City: Summerton SC Zip:
COUNTY: Clarendon
Latitude: Longitude:

3. SYSTEM NAME: Detwillers **SYSTEM NUMBER:** MW-3

4. CUTTING SAMPLES: ☒ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
0-18 Red Clay		
18-23 Tan SAND		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) Date Started: 12-12-01
23 ft. Date Completed: 12-13-01

9. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☒ Threaded ☐ Welded
Diam.: 2
Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 13 ft. depth
in. to ft. depth
Height: Above/Below Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: .010 Length: 10'
Set Between: 13 ft. and 23 ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL
ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
ft. after hrs. Pumping G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield:

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 11 ft. to 23 ft.
Effective size #2 Uniformity Coefficient SAND

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
Depth: From 0 ft. to 11 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type well disinfected ☐ Yes Type:
upon completion ☐ No Amount:

18. PUMP: Date installed: ☐ Not installed
Mfr. Name: Model No.:
H.P. Volts Length of drop pipe ft. Capacity gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Rich Lemire (SAEDACCO) **CERT. NO.:** 1423
Address: 10401 John Price Rd
Charlotte, NC 28273
Telephone No.: 1-800-849-0353

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Ricky L Lemire Date: 12-13-01
Authorized Representative

DHEC 1903 (07/2001) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

INSTRUCTIONS
Water Well Record

This form is to be completed by an SC Certified Water Well Driller within thirty days of completion of the well. One copy is to be submitted to SCDHEC, another is intended for the well owner, and the final copy is for the well driller. In most cases, well location, owner, driller and other administrative information can be obtained from the Notice of Intent form. If additional comments are necessary, attach those on a separate sheet.

1. Include the name and present mailing address and telephone number of the well owner. This can be a tract owner or developer in the case of a new subdivision.

2. Indicate the exact number, street, city, zip, and county for the location of the well. If the street address is not available, attach a sketch map for general location and include lot number if it is in a new subdivision. "Same as 1" can be indicated if that is the case.

3. For public water supply, indicate system name and number.

4. Check appropriate boxes;for the driller's log, describe the formation, indicate the thickness and complete the depth to the bottom of the stratum.

5. Insert any comments.

6. Insert the eight-digit number assigned when the Notice of Intent was submitted for a residential or irrigation well or the public supply number.

7. Check box indicating use.

8. Indicate the total depth in the space provided; fill in the requested dates.

9. Check the box indicating the drilling method.

10. Check appropriate boxes and complete the information requested for the casing.

11. Complete the information requested for the screen; check the appropriate box.

12. Measue the static water level 24 hours after well completion and provide the measurement in the space.

13. Provide pumping level, time, and rates in the appropriate spaces.

14. Indicate whether these analyses were run.

15. Provide the requested information on filter pack.

16. Check the appropriate boxes and provide the depth of the grout.

17. Complete the requested information concerning the nearest source of possible contamination.

18. If installed, provide the information requested concerning the pump.

19. Indicate name, SC certification number, address and business or mobile (or both) telephone number for the well driller.

20. Sign and date the form.

The completed Form 1903 should be submitted to the SCDHEC, Bureau of Water, Private Well Program, 2600 Bull Street, Columbia, SC 29201-1708.

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Detwillers (last) (first)
Address: 31 S. Church St
City: Summerton State: SC Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: Detwillers
Street Address: 31 S. Church St
City: Summerton SC Zip:
COUNTY:
Latitude: Clarendon Longitude:

3. SYSTEM NAME: Detwillers **SYSTEM NUMBER:** MW-4

4. CUTTING SAMPLES: ☐ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
0-20 red clay		
20-25 tan sand		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) Date Started: 12-13-01
25 ft. Date Completed: 12-13-01

9. ☐ Mud Rotary ☐ Jetted ☑ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2
Type: ☑ PVC ☐ Galvanized
☐ Steel ☐ Other
0 in. to 15 ft. depth
in. to ft. depth
Height: Above/Below
Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: .010 Length: 10'
Set Between: 15 ft. and 25 ft. **NOTE: MULTIPLE SCREENS**
ft. and ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL
ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
ft. after hrs. Pumping G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield:

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13 ft. to 25 ft.
Effective size #2 Uniformity Coefficient SAND

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
Depth: From 0 ft. to 11 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type well disinfected ☐ Yes Type:
upon completion ☐ No Amount:

18. PUMP: Date installed: Not installed ☐
Mfr. Name: Model No.:
H.P. Volts Length of drop pipe ft. Capacity gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Rick Lemire (SAEDACCO) **CERT. NO.:** 1423
Address: 10401 John Price Rd
Charlotte, NC 28273
Telephone No.: 1-800-849-0353

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Date:
Authorized Representative

DHEC 1903 (07/2001) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

INSTRUCTIONS
Water Well Record

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3. For public water supply, indicate system name and number.

4. Check appropriate boxes;for the driller's log, describe the formation, indicate the thickness and complete the depth to the bottom of the stratum.

5. Insert any comments.

6. Insert the eight-digit number assigned when the Notice of Intent was submitted for a residential or irrigation well or the public supply number.

7. Check box indicating use.

8. Indicate the total depth in the space provided; fill in the requested dates.

9. Check the box indicating the drilling method.

10. Check appropriate boxes and complete the information requested for the casing.

11. Complete the information requested for the screen; check the appropriate box.

12. Measue the static water level 24 hours after well completion and provide the measurement in the space.

13. Provide pumping level, time, and rates in the appropriate spaces.

14. Indicate whether these analyses were run.

15. Provide the requested information on filter pack.

16. Check the appropriate boxes and provide the depth of the grout.

17. Complete the requested information concerning the nearest source of possible contamination.

18. If installed, provide the information requested concerning the pump.

19. Indicate name, SC certification number, address and business or mobile (or both) telephone number for the well driller.

20. Sign and date the form.

The completed Form 1903 should be submitted to the SCDHEC, Bureau of Water, Private Well Program, 2600 Bull Street, Columbia, SC 29201-1708.

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: Detwillers (last) (first)
Address: 31 S. Church St
City: Summerton State: SC Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: Detwillers
Street Address: 31. S Church St
City: Summerton S.C Zip:
COUNTY: Clarendon
Latitude: Longitude:

3. SYSTEM NAME: Detwillers **SYSTEM NUMBER:** MW-5

4. CUTTING SAMPLES: ☐ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
0-20 red clay		
20-25 tan sand		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) Date Started: 12-13-01
25 ft. Date Completed: 12-13-01

9. ☐ Mud Rotary ☐ Jetted ☑ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 15 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: .010 Length: 10'
Set Between: 15 ft. and 25 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL
_____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13 ft. to 25 ft.
Effective size #2 Uniformity Coefficient SHND

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other _____
Depth: From 0 ft. to 11 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
_____ Type well disinfected ☐ Yes Type: _____
_____ upon completion ☐ No Amount: _____

18. PUMP: Date installed: _____ ☐ Not installed
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe _____ ft. Capacity _____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Rick Lemine (SAEDACCO) **CERT. NO.:** 1423
Address: 10401 John Price Rd
Charlotte, NC 28273
Telephone No.: 1-800-849-0353

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: _____
Authorized Representative

DHEC 1903 (07/2001)

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3. For public water supply, indicate system name and number.

4. Check appropriate boxes;for the driller's log, describe the formation, indicate the thickness and complete the depth to the bottom of the stratum.

5. Insert any comments.

6. Insert the eight-digit number assigned when the Notice of Intent was submitted for a residential or irrigation well or the public supply number.

7. Check box indicating use.

8. Indicate the total depth in the space provided; fill in the requested dates.

9. Check the box indicating the drilling method.

10. Check appropriate boxes and complete the information requested for the casing.

11. Complete the information requested for the screen; check the appropriate box.

12. Measue the static water level 24 hours after well completion and provide the measurement in the space.

13. Provide pumping level, time, and rates in the appropriate spaces.

14. Indicate whether these analyses were run.

15. Provide the requested information on filter pack.

16. Check the appropriate boxes and provide the depth of the grout.

17. Complete the requested information concerning the nearest source of possible contamination.

18. If installed, provide the information requested concerning the pump.

19. Indicate name, SC certification number, address and business or mobile (or both) telephone number for the well driller.

20. Sign and date the form.

The completed Form 1903 should be submitted to the SCDHEC, Bureau of Water, Private Well Program, 2600 Bull Street, Columbia, SC 29201-1708.

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: Detwiler
Street Address: 31 S Church St
City: Summerton SC Zip:
COUNTY: CLARENDON
Latitude: Longitude:

3. SYSTEM NAME: **SYSTEM NUMBER:** MW 6

4. CUTTING SAMPLES: ☐ Yes ☐ No
Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
0-20 RED CLAY		
20-25 TAN SAND		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
Bentonite Seal 11' to 13'

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) 25 ft. Date Started: 12-14-01 Date Completed: 12-14-01

9. ☐ Mud Rotary ☐ Jetted ☑ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2
Type: ☑ PVC ☐ Galvanized
☐ Steel ☐ Other
6" in. to 15' ft. depth
in. to ft. depth
Height: Above/Below (Below circled) 6"
Surface ft.
Weight SCh 40 lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: .10 Length: 10'
Set Between: 15' ft. and 25' ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL
ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
ft. after hrs. Pumping G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield:

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13' ft. to 25' ft.
Effective size #2 Uniformity Coefficient SAND

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
Depth: From 6" ft. to 11' ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type well disinfected ☐ Yes Type:
upon completion ☐ No Amount:

18. PUMP: Date Installed: Not installed ☐
Mfr. Name: Model No.:
H.P. Volts Length of drop pipe ft. Capacity gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Tim Thomas CERT. NO.: 1555
Address: 11401 John Price Rd
Charlotte NC 28273
Telephone No.: 704 504 9195

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Timothy Thomas Date: 12-14-01
Authorized Representative

INSTRUCTIONS
Water Well Record

This form is to be completed by an SC Certified Water Well Driller within thirty days of completion of the well. One copy is to be submitted to SCDHEC, another is intended for the well owner, and the final copy is for the well driller. In most cases, well location, owner, driller and other administrative information can be obtained from the Notice of Intent form. If additional comments are necessary, attach those on a separate sheet.

1. Include the name and present mailing address and telephone number of the well owner. This can be a tract owner or developer in the case of a new subdivision.

2. Indicate the exact number, street, city, zip, and county for the location of the well. If the street address is not available, attach a sketch map for general location and include lot number if it is in a new subdivision. "Same as 1" can be indicated if that is the case.

3. For public water supply, indicate system name and number.

4. Check appropriate boxes;for the driller's log, describe the formation, indicate the thickness and complete the depth to the bottom of the stratum.

5. Insert any comments.

6. Insert the eight-digit number assigned when the Notice of Intent was submitted for a residential or irrigation well or the public supply number.

7. Check box indicating use.

8. Indicate the total depth in the space provided; fill in the requested dates.

9. Check the box indicating the drilling method.

10. Check appropriate boxes and complete the information requested for the casing.

11. Complete the information requested for the screen; check the appropriate box.

12. Measue the static water level 24 hours after well completion and provide the measurement in the space.

13. Provide pumping level, time, and rates in the appropriate spaces.

14. Indicate whether these analyses were run.

15. Provide the requested information on filter pack.

16. Check the appropriate boxes and provide the depth of the grout.

17. Complete the requested information concerning the nearest source of possible contamination.

18. If installed, provide the information requested concerning the pump.

19. Indicate name, SC certification number, address and business or mobile (or both) telephone number for the well driller.

20. Sign and date the form.

The completed Form 1903 should be submitted to the SCDHEC, Bureau of Water, Private Well Program, 2600 Bull Street, Columbia, SC 29201-1708.

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: DeTwiller's (last) (first)
Address: 31 South Church St.
City: Summerton State: S.C. Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: DeTwiller's
Street Address: 31 South Church St.
City: Summerton Zip:
COUNTY: Clarendon
Latitude: Longitude:

3. SYSTEM NAME: **SYSTEM NUMBER:** MW-7

4. CUTTING SAMPLES: ☐ Yes ☒ No

Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TN Silty SAND	0	20'
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
2' Bentonite Chips 6' TO 8'

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) Date Started: 12-15-01
20' ft. Date Completed: 12-15-01

9. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 10' ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 0.01 Length: 10'
Set Between: 10' ft. and 20' ft. **NOTE: MULTIPLE SCREENS**
_____ ft. and _____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☒ No

12. STATIC WATER LEVEL
_____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 8' ft. to 20' ft.
Effective size 20/30 Uniformity Coefficient _____

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other _____
Depth: From 0 ft. to 6' ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
_____ Type well disinfected ☐ Yes Type: _____
_____ upon completion ☐ No Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe _____ ft. Capacity _____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Robert L. Miller CERT. NO.: 1472
Address: 10401 John Price Rd.
Charlotte, N.C.
Telephone No.: (704) 504-9195

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert L. Miller Authorized Representative Date: 12-15-01

DHEC 1903 (07/2001) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

INSTRUCTIONS
Water Well Record

This form is to be completed by an SC Certified Water Well Driller within thirty days of completion of the well. One copy is to be submitted to SCDHEC, another is intended for the well owner, and the final copy is for the well driller. In most cases, well location, owner, driller and other administrative information can be obtained from the Notice of Intent form. If additional comments are necessary, attach those on a separate sheet.

1. Include the name and present mailing address and telephone number of the well owner. This can be a tract owner or developer in the case of a new subdivision.

2. Indicate the exact number, street, city, zip, and county for the location of the well. If the street address is not available, attach a sketch map for general location and include lot number if it is in a new subdivision. "Same as 1" can be indicated if that is the case.

3. For public water supply, indicate system name and number.

4. Check appropriate boxes;for the driller's log, describe the formation, indicate the thickness and complete the depth to the bottom of the stratum.

5. Insert any comments.

6. Insert the eight-digit number assigned when the Notice of Intent was submitted for a residential or irrigation well or the public supply number.

7. Check box indicating use.

8. Indicate the total depth in the space provided; fill in the requested dates.

9. Check the box indicating the drilling method.

10. Check appropriate boxes and complete the information requested for the casing.

11. Complete the information requested for the screen; check the appropriate box.

12. Measue the static water level 24 hours after well completion and provide the measurement in the space.

13. Provide pumping level, time, and rates in the appropriate spaces.

14. Indicate whether these analyses were run.

15. Provide the requested information on filter pack.

16. Check the appropriate boxes and provide the depth of the grout.

17. Complete the requested information concerning the nearest source of possible contamination.

18. If installed, provide the information requested concerning the pump.

19. Indicate name, SC certification number, address and business or mobile (or both) telephone number for the well driller.

20. Sign and date the form.

The completed Form 1903 should be submitted to the SCDHEC, Bureau of Water, Private Well Program, 2600 Bull Street, Columbia, SC 29201-1708.

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: DeTwiller's (last) (first)
Address: 31 South Church St.
City: Summerton State: S.C. Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: DeTwiller's
Street Address: 31 South Church St.
City: Summerton Zip:
COUNTY: Clarendon
Latitude: Longitude:

3. SYSTEM NAME: **SYSTEM NUMBER:** mw8

4. CUTTING SAMPLES: ☐ Yes ☒ No

Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TN. Silty SAND	0	15'
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
1' Bentonite chips 2' to 3'

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) Date Started: 12-15-01
15' ft. Date Completed: 12-15-01

9. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 5' ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 0.01 Length: 10'
Set Between: 5' ft. and 15' ft. NOTE: MULTIPLE SCREENS
_____ ft. and _____ ft. USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

12. STATIC WATER LEVEL
_____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 3' ft. to 15' ft.
Effective size 20/30 Uniformity Coefficient _____

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other _____
Depth: From 0 ft. to 2' ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
_____ Type well disinfected ☐ Yes Type: _____
_____ upon completion ☐ No Amount: _____

18. PUMP: Date Installed: _____ Not Installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe _____ ft. Capacity _____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Robert L. Miller CERT. NO.: 1472
Address: 10401 John Price Rd
Charlotte, N.C.
Telephone No.: (704) 504-9195

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert L. Miller Date: 12-15-01
Authorized Representative

DHEC 1903 (07/2001)

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

INSTRUCTIONS
Water Well Record

This form is to be completed by an SC Certified Water Well Driller within thirty days of completion of the well. One copy is to be submitted to SCDHEC, another is intended for the well owner, and the final copy is for the well driller. In most cases, well location, owner, driller and other administrative information can be obtained from the Notice of Intent form. If additional comments are necessary, attach those on a separate sheet.

1. Include the name and present mailing address and telephone number of the well owner. This can be a tract owner or developer in the case of a new subdivision.

2. Indicate the exact number, street, city, zip, and county for the location of the well. If the street address is not available, attach a sketch map for general location and include lot number if it is in a new subdivision. "Same as 1" can be indicated if that is the case.

3. For public water supply, indicate system name and number.

4. Check appropriate boxes;for the driller's log, describe the formation, indicate the thickness and complete the depth to the bottom of the stratum.

5. Insert any comments.

6. Insert the eight-digit number assigned when the Notice of Intent was submitted for a residential or irrigation well or the public supply number.

7. Check box indicating use.

8. Indicate the total depth in the space provided; fill in the requested dates.

9. Check the box indicating the drilling method.

10. Check appropriate boxes and complete the information requested for the casing.

11. Complete the information requested for the screen; check the appropriate box.

12. Measue the static water level 24 hours after well completion and provide the measurement in the space.

13. Provide pumping level, time, and rates in the appropriate spaces.

14. Indicate whether these analyses were run.

15. Provide the requested information on filter pack.

16. Check the appropriate boxes and provide the depth of the grout.

17. Complete the requested information concerning the nearest source of possible contamination.

18. If installed, provide the information requested concerning the pump.

19. Indicate name, SC certification number, address and business or mobile (or both) telephone number for the well driller.

20. Sign and date the form.

The completed Form 1903 should be submitted to the SCDHEC, Bureau of Water, Private Well Program, 2600 Bull Street, Columbia, SC 29201-1708.

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: Dotwiler
Street Address: 31 S Church St
City: Summerton SC Zip:
COUNTY: CLARENDON
Latitude: Longitude:

3. SYSTEM NAME: **SYSTEM NUMBER:** MW 9

4. CUTTING SAMPLES: ☐ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
0-10 BROWN SILTY SAND		
10-15 TAN SAND		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: Bentonite Seal 18" to 3'

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) Date Started: 12 14 01
15' ft. Date Completed: 12 14 01

9. ☐ Mud Rotary ☐ Jetted ☑ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2
Type: ☑ PVC ☐ Galvanized
☐ Steel ☐ Other
6" in. to 5' ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface 6" ft.
Weight SCH 40 lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: PVC Diam.: 2
Slot/Gauge: 10 Length: 10'
Set Between: 5' ft. and 15' ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL
_____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 3' ft. to 15' ft.
Effective size #2 Uniformity Coefficient SAND

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other _____
Depth: From 6" ft. to 18" ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
_____ Type well disinfected ☐ Yes Type: _____
_____ upon completion ☐ No Amount: _____

18. PUMP: Date Installed: _____ Not Installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ____ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Tim Thomas CERT. NO.: 1855
Address: 10401 Johnny Rice Rd Charlotte NC 28273
Telephone No.: 704 504 6195

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: 12401
Authorized Representative

DHEC 1903 (07/2001)

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

INSTRUCTIONS
Water Well Record

This form is to be completed by an SC Certified Water Well Driller within thirty days of completion of the well. One copy is to be submitted to SCDHEC, another is intended for the well owner, and the final copy is for the well driller. In most cases, well location, owner, driller and other administrative information can be obtained from the Notice of Intent form. If additional comments are necessary, attach those on a separate sheet.

1. Include the name and present mailing address and telephone number of the well owner. This can be a tract owner or developer in the case of a new subdivision.

2. Indicate the exact number, street, city, zip, and county for the location of the well. If the street address is not available, attach a sketch map for general location and include lot number if it is in a new subdivision. "Same as 1" can be indicated if that is the case.

3. For public water supply, indicate system name and number.

4. Check appropriate boxes;for the driller's log, describe the formation, indicate the thickness and complete the depth to the bottom of the stratum.

5. Insert any comments.

6. Insert the eight-digit number assigned when the Notice of Intent was submitted for a residential or irrigation well or the public supply number.

7. Check box indicating use.

8. Indicate the total depth in the space provided; fill in the requested dates.

9. Check the box indicating the drilling method.

10. Check appropriate boxes and complete the information requested for the casing.

11. Complete the information requested for the screen; check the appropriate box.

12. Measue the static water level 24 hours after well completion and provide the measurement in the space.

13. Provide pumping level, time, and rates in the appropriate spaces.

14. Indicate whether these analyses were run.

15. Provide the requested information on filter pack.

16. Check the appropriate boxes and provide the depth of the grout.

17. Complete the requested information concerning the nearest source of possible contamination.

18. If installed, provide the information requested concerning the pump.

19. Indicate name, SC certification number, address and business or mobile (or both) telephone number for the well driller.

20. Sign and date the form.

The completed Form 1903 should be submitted to the SCDHEC, Bureau of Water, Private Well Program, 2600 Bull Street, Columbia, SC 29201-1708.

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: DeTwiller's (last) (first)
Address: 31 South Church St.
City: Summerton State: S.C. Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: DeTwiller's
Street Address: 31 South Church St.
City: Summerton Zip:
COUNTY: CLARENDON
Latitude: Longitude:

3. SYSTEM NAME: **SYSTEM NUMBER:** MW-10

4. CUTTING SAMPLES: ☐ Yes ☒ No

Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TN. Silty SAND	0	18'
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
2' Bentonite chips 4' TO 6'

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) Date Started: 12-15-01
18' ft. Date Completed: 12-15-01

9. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized
☐ Steel ☐ Other
0 in. to 8 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 0.01 Length: 10'
Set Between: 8' ft. and 18' ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

12. STATIC WATER LEVEL
_____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 6' ft. to 18' ft.
Effective size 20/30 Uniformity Coefficient _____

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other _____
Depth: From 0 ft. to 6' ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
_____ Type well disinfected ☐ Yes Type: _____
_____ upon completion ☐ No Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe _____ ft. Capacity _____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Robert L. Miller CERT. NO.: 1492
Address: 10401 John Price Rd.
Charlotte, N.C.
Telephone No.: (704) 504-9195

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert L. Miller Authorized Representative Date: 12-15-01

DHEC 1903 (07/2001)

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

INSTRUCTIONS
Water Well Record

This form is to be completed by an SC Certified Water Well Driller within thirty days of completion of the well. One copy is to be submitted to SCDHEC, another is intended for the well owner, and the final copy is for the well driller. In most cases, well location, owner, driller and other administrative information can be obtained from the Notice of Intent form. If additional comments are necessary, attach those on a separate sheet.

1. Include the name and present mailing address and telephone number of the well owner. This can be a tract owner or developer in the case of a new subdivision.

2. Indicate the exact number, street, city, zip, and county for the location of the well. If the street address is not available, attach a sketch map for general location and include lot number if it is in a new subdivision. "Same as 1" can be indicated if that is the case.

3. For public water supply, indicate system name and number.

4. Check appropriate boxes;for the driller's log, describe the formation, indicate the thickness and complete the depth to the bottom of the stratum.

5. Insert any comments.

6. Insert the eight-digit number assigned when the Notice of Intent was submitted for a residential or irrigation well or the public supply number.

7. Check box indicating use.

8. Indicate the total depth in the space provided; fill in the requested dates.

9. Check the box indicating the drilling method.

10. Check appropriate boxes and complete the information requested for the casing.

11. Complete the information requested for the screen; check the appropriate box.

12. Measue the static water level 24 hours after well completion and provide the measurement in the space.

13. Provide pumping level, time, and rates in the appropriate spaces.

14. Indicate whether these analyses were run.

15. Provide the requested information on filter pack.

16. Check the appropriate boxes and provide the depth of the grout.

17. Complete the requested information concerning the nearest source of possible contamination.

18. If installed, provide the information requested concerning the pump.

19. Indicate name, SC certification number, address and business or mobile (or both) telephone number for the well driller.

20. Sign and date the form.

The completed Form 1903 should be submitted to the SCDHEC, Bureau of Water, Private Well Program, 2600 Bull Street, Columbia, SC 29201-1708.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: Detwiler
Street Address: 31 S Church st
City: Summerton SC Zip:
COUNTY: CLARENDON
Latitude: Longitude:

3. SYSTEM NAME: **SYSTEM NUMBER:** MW 11

4. CUTTING SAMPLES: ☐ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
0 - 20 RED CLAY		
20 - 25 TAN SAND		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: Bentonite SEAL 11' to 13'

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) Date Started: 12 14 01
25' ft. Date Completed: 12 14 01

9. ☐ Mud Rotary ☐ Jetted ☑ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
6" in. to 15' ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface 6" ft.
Weight Sch 40 lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: PVC Diam.: 2
Slot/Gauge: 10 Length: 10'
Set Between: 15' ft. and 25' ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL
_____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13' ft. to 25 ft.
Effective size #2 Uniformity Coefficient sand

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other _____
Depth: From 6" ft. to 11' ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
_____ Type well disinfected ☐ Yes Type: _____
_____ upon completion ☐ No Amount: _____

18. PUMP: Date Installed: _____ Not Installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe _____ ft. Capacity _____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Tim Thomas CERT. NO. 1355
Address: 10401 John Price Rd
Charlotte NC 28273
Telephone No.: 704 504 9195

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Timothy Thomas Date: 12/14/01
Authorized Representative

DHEC 1903 (07/2001) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

INSTRUCTIONS
Water Well Record

This form is to be completed by an SC Certified Water Well Driller within thirty days of completion of the well. One copy is to be submitted to SCDHEC, another is intended for the well owner, and the final copy is for the well driller. In most cases, well location, owner, driller and other administrative information can be obtained from the Notice of Intent form. If additional comments are necessary, attach those on a separate sheet.

1. Include the name and present mailing address and telephone number of the well owner. This can be a tract owner or developer in the case of a new subdivision.

2. Indicate the exact number, street, city, zip, and county for the location of the well. If the street address is not available, attach a sketch map for general location and include lot number if it is in a new subdivision. "Same as 1" can be indicated if that is the case.

3. For public water supply, indicate system name and number.

4. Check appropriate boxes;for the driller's log, describe the formation, indicate the thickness and complete the depth to the bottom of the stratum.

5. Insert any comments.

6. Insert the eight-digit number assigned when the Notice of Intent was submitted for a residential or irrigation well or the public supply number.

7. Check box indicating use.

8. Indicate the total depth in the space provided; fill in the requested dates.

9. Check the box indicating the drilling method.

10. Check appropriate boxes and complete the information requested for the casing.

11. Complete the information requested for the screen; check the appropriate box.

12. Measue the static water level 24 hours after well completion and provide the measurement in the space.

13. Provide pumping level, time, and rates in the appropriate spaces.

14. Indicate whether these analyses were run.

15. Provide the requested information on filter pack.

16. Check the appropriate boxes and provide the depth of the grout.

17. Complete the requested information concerning the nearest source of possible contamination.

18. If installed, provide the information requested concerning the pump.

19. Indicate name, SC certification number, address and business or mobile (or both) telephone number for the well driller.

20. Sign and date the form.

The completed Form 1903 should be submitted to the SCDHEC, Bureau of Water, Private Well Program, 2600 Bull Street, Columbia, SC 29201-1708.

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: Detwiler
Street Address: 31 S Church st
City Summerton SC Zip:
COUNTY: CLARENDON
Latitude: Longitude:

3. SYSTEM NAME: **SYSTEM NUMBER:** MW 12

4. CUTTING SAMPLES: ☐ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
0-20 RED CLAY		
20-25 TAN SAND		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: Bentonite Seal 11' to 13'

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) Date Started: 12 14 01
25' ft. Date Completed: 12 14 01

9. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☐ Threaded ☐ Welded
Diam.: 2
Type: ☐ PVC ☐ Galvanized
☐ Steel ☐ Other
6" in. to 15 ft. depth
in. to ft. depth
Height: Above/Below 6"
Surface ft.
Weight SCH 40 lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: PVC Diam.: 2
Slot/Gauge: .10 Length: 10'
Set Between: 15 ft. and 25 ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL
ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
ft. after hrs. Pumping G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield:

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 13' ft. to 25' ft.
Effective size #2 Uniformity Coefficient SAND

16. WELL GROUTED? ☒ Yes ☐ No
☐ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
Depth: From 6" ft. to 11' ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type well disinfected ☐ Yes Type:
upon completion ☐ No Amount:

18. PUMP: Date installed: Not Installed ☐
Mfr. Name: Model No.:
H.P. Volts Length of drop pipe ft. Capacity gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Tim Thomas CERT. NO.: 1355
Address: 10401 John Price Rd
Charlotte NC 28273
Telephone No.: 704 504 9195

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: Tim Thomas Date: 12 14 01
Authorized Representative

DHEC 1903 (07/2001) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

INSTRUCTIONS
Water Well Record

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1. Include the name and present mailing address and telephone number of the well owner. This can be a tract owner or developer in the case of a new subdivision.

2. Indicate the exact number, street, city, zip, and county for the location of the well. If the street address is not available, attach a sketch map for general location and include lot number if it is in a new subdivision. "Same as 1" can be indicated if that is the case.

3. For public water supply, indicate system name and number.

4. Check appropriate boxes;for the driller's log, describe the formation, indicate the thickness and complete the depth to the bottom of the stratum.

5. Insert any comments.

6. Insert the eight-digit number assigned when the Notice of Intent was submitted for a residential or irrigation well or the public supply number.

7. Check box indicating use.

8. Indicate the total depth in the space provided; fill in the requested dates.

9. Check the box indicating the drilling method.

10. Check appropriate boxes and complete the information requested for the casing.

11. Complete the information requested for the screen; check the appropriate box.

12. Measue the static water level 24 hours after well completion and provide the measurement in the space.

13. Provide pumping level, time, and rates in the appropriate spaces.

14. Indicate whether these analyses were run.

15. Provide the requested information on filter pack.

16. Check the appropriate boxes and provide the depth of the grout.

17. Complete the requested information concerning the nearest source of possible contamination.

18. If installed, provide the information requested concerning the pump.

19. Indicate name, SC certification number, address and business or mobile (or both) telephone number for the well driller.

20. Sign and date the form.

The completed Form 1903 should be submitted to the SCDHEC, Bureau of Water, Private Well Program, 2600 Bull Street, Columbia, SC 29201-1708.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: Detwillers (last) (first)
Address: 31 S. Church St
City: Summerton State: SC Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: Detwillers
Street Address: 31 S. Church St
City: Summerton, SC Zip:
COUNTY: Clarendon
Latitude: Longitude:

3. SYSTEM NAME: Detwillers **SYSTEM NUMBER:** MW-13

4. CUTTING SAMPLES: ☐ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
0-20 Red Clay		
20-25 Tan SAND		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) Date Started: 12-13-01
25 ft. Date Completed: 12-13-01

9. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☐ Threaded ☐ Welded
Diam.: 2
Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 15 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: .010 Length: 10'
Set Between: 15 ft. and 25 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL
_____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from #2 13 ft. to 25 ft.
Effective size #2 Uniformity Coefficient SAND

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other _____
Depth: From 0 ft. to 11 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
_____ Type well disinfected ☐ Yes Type: _____
_____ upon completion ☐ No Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ____ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Rick Lemire (CAEDACCO) CERT. NO.: 1423
Address: 10401 John Price Rd
Charlotte, NC 28273
Telephone No.: 1-800-849-0353

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Rick Lemire Authorized Representative Date: 12-13-01

DHEC 1903 (07/2001)

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

INSTRUCTIONS
Water Well Record

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1. Include the name and present mailing address and telephone number of the well owner. This can be a tract owner or developer in the case of a new subdivision.

2. Indicate the exact number, street, city, zip, and county for the location of the well. If the street address is not available, attach a sketch map for general location and include lot number if it is in a new subdivision. "Same as 1" can be indicated if that is the case.

3. For public water supply, indicate system name and number.

4. Check appropriate boxes;for the driller's log, describe the formation, indicate the thickness and complete the depth to the bottom of the stratum.

5. Insert any comments.

6. Insert the eight-digit number assigned when the Notice of Intent was submitted for a residential or irrigation well or the public supply number.

7. Check box indicating use.

8. Indicate the total depth in the space provided; fill in the requested dates.

9. Check the box indicating the drilling method.

10. Check appropriate boxes and complete the information requested for the casing.

11. Complete the information requested for the screen; check the appropriate box.

12. Measue the static water level 24 hours after well completion and provide the measurement in the space.

13. Provide pumping level, time, and rates in the appropriate spaces.

14. Indicate whether these analyses were run.

15. Provide the requested information on filter pack.

16. Check the appropriate boxes and provide the depth of the grout.

17. Complete the requested information concerning the nearest source of possible contamination.

18. If installed, provide the information requested concerning the pump.

19. Indicate name, SC certification number, address and business or mobile (or both) telephone number for the well driller.

20. Sign and date the form.

The completed Form 1903 should be submitted to the SCDHEC, Bureau of Water, Private Well Program, 2600 Bull Street, Columbia, SC 29201-1708.

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: DeTwiller's (last) (first)
Address: 31 South Church St.
City: Summerton State: S.C. Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: DeTwiller's
Street Address: 31 South Church St.
City: Summerton Zip:
COUNTY: CLARENDON
Latitude: Longitude:

3. SYSTEM NAME: **SYSTEM NUMBER:** MW-14

4. CUTTING SAMPLES: ☐ Yes ☒ No

Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TN SILTY SAND	0	25'
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
2' Bentonite Chips 11' to 13'

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) Date Started: 12-15-01
25' ft. Date Completed: 12-15-01

9. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 15' ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 0.01 Length: 10'
Set Between: 15' ft. and 25' ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

12. STATIC WATER LEVEL
_____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 13' ft. to 25' ft.
Effective size 20/30 Uniformity Coefficient _____

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other _____
Depth: From 0 ft. to 11' ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
_____ Type well disinfected ☐ Yes Type: _____
_____ upon completion ☐ No Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe _____ ft. Capacity _____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Robert L. Miller CERT. NO.: 1472
Address: 10401 John Price Rd. Charlotte, N.C.
Telephone No.: (704) 504-9195

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Robert L. Miller Authorized Representative Date: 12-15-01

DHEC 1903 (07/2001)

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

INSTRUCTIONS
Water Well Record

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1. Include the name and present mailing address and telephone number of the well owner. This can be a tract owner or developer in the case of a new subdivision.

2. Indicate the exact number, street, city, zip, and county for the location of the well. If the street address is not available, attach a sketch map for general location and include lot number if it is in a new subdivision. "Same as 1" can be indicated if that is the case.

3. For public water supply, indicate system name and number.

4. Check appropriate boxes;for the driller's log, describe the formation, indicate the thickness and complete the depth to the bottom of the stratum.

5. Insert any comments.

6. Insert the eight-digit number assigned when the Notice of Intent was submitted for a residential or irrigation well or the public supply number.

7. Check box indicating use.

8. Indicate the total depth in the space provided; fill in the requested dates.

9. Check the box indicating the drilling method.

10. Check appropriate boxes and complete the information requested for the casing.

11. Complete the information requested for the screen; check the appropriate box.

12. Measue the static water level 24 hours after well completion and provide the measurement in the space.

13. Provide pumping level, time, and rates in the appropriate spaces.

14. Indicate whether these analyses were run.

15. Provide the requested information on filter pack.

16. Check the appropriate boxes and provide the depth of the grout.

17. Complete the requested information concerning the nearest source of possible contamination.

18. If installed, provide the information requested concerning the pump.

19. Indicate name, SC certification number, address and business or mobile (or both) telephone number for the well driller.

20. Sign and date the form.

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DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: Defwiler
Street Address: 31 Church St
City: Summerton SC Zip:
COUNTY: CLARENDON
Latitude: Longitude:

3. SYSTEM NAME: **SYSTEM NUMBER:** MW 15

4. CUTTING SAMPLES: ☐ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
0-20 RED CLAY		
20-25 TAN SAND		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: Bentonite Seal 11' to 13'

6. PERMIT NUMBER:

7. USE:
☐ Residential ☐ Public Supply ☑ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

8. WELL DEPTH (completed) Date Started: 12 14 01
25' ft. Date Completed: 12 14 01

9. ☐ Mud Rotary ☐ Jetted ☑ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☐ Threaded ☐ Welded
Diam.: 2"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 15 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below
Surface 6" ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: .10 Length: 10'
Set Between: 15' ft. and 25' ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL
_____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13' ft. to 25' ft.
Effective size #2 Uniformity Coefficient SAND

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other _____
Depth: From 6' ft. to 11' ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
_____ Type well disinfected ☐ Yes Type: _____
_____ upon completion ☐ No Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ____ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Tim Thomas CERT. NO.: 1355
Address: 10401 John Price Rd Charlotte NC 28273
Telephone No.: 704 504 9195

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Timothy Thomas Date: 12 14 01
Authorized Representative

DHEC 1903 (07/2001) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

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3. For public water supply, indicate system name and number.

4. Check appropriate boxes;for the driller's log, describe the formation, indicate the thickness and complete the depth to the bottom of the stratum.

5. Insert any comments.

6. Insert the eight-digit number assigned when the Notice of Intent was submitted for a residential or irrigation well or the public supply number.

7. Check box indicating use.

8. Indicate the total depth in the space provided; fill in the requested dates.

9. Check the box indicating the drilling method.

10. Check appropriate boxes and complete the information requested for the casing.

11. Complete the information requested for the screen; check the appropriate box.

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13. Provide pumping level, time, and rates in the appropriate spaces.

14. Indicate whether these analyses were run.

15. Provide the requested information on filter pack.

16. Check the appropriate boxes and provide the depth of the grout.

17. Complete the requested information concerning the nearest source of possible contamination.

18. If installed, provide the information requested concerning the pump.

19. Indicate name, SC certification number, address and business or mobile (or both) telephone number for the well driller.

20. Sign and date the form.

The completed Form 1903 should be submitted to the SCDHEC, Bureau of Water, Private Well Program, 2600 Bull Street, Columbia, SC 29201-1708.

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW01

PROJECT: Detwiler
STREET:
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

DATE: 3/10/02

TOTAL WELL DEPTH: 23.00 ft.
STATIC WATER LEVEL: 21.22 ft.
WATER HEIGHT (Hw):
WELL DIAMETER (Dw):
WELL VOLUME (Vw):
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME:
EMERALD PERSONNEL: RL, JB

Sunny 56°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
No sample - FP- 1.78'					
					DO = mg/l @ °C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW2D

PROJECT: Detwiler
STREET:
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

DATE: 3/10/02

TOTAL WELL DEPTH: 47.00 ft.
STATIC WATER LEVEL: 18.29 ft.
WATER HEIGHT (Hw): 28.71 ft.
WELL DIAMETER (Dw):
WELL VOLUME (Vw): 4.7 gals.
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: 14 gals.
EMERALD PERSONNEL: RL, JB

Sunny 56°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
8:40	1	20.2	960	4.83	Clear, no odor
8:42	2	21.1	1090	7.20	Clear, no odor
8:45	3	21.3	1130	9.79	Clear, no odor
8:47	4	21.6	975	9.07	Clear, no odor
8:50	5	21.5	570	9.75	Clear, no odor
8:53	6	21.7	470	12.27	Clear, no odor
8:57	7	21.3	420	12.21	Clear, no odor
9:00	8	21.3	400	11.67	Clear, no odor
9:03	9	21.5	380	11.64	Clear, no odor
9:05	10	21.3	360	11.35	Clear, no odor
9:07	11	20.2	350	11.36	Clear, no odor
9:10	12	20.2	330	11.36	Clear, no odor
9:15	13	20.2	320	11.63	Clear, no odor
9:17	14	20.2	310	11.55	Clear, no odor
9:20	Sample				
					DO = 1.53 mg/l @ 20.2°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW03

PROJECT: Detwiler
STREET:
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

DATE: 3/10/02

TOTAL WELL DEPTH: 23.00 ft.
STATIC WATER LEVEL: 18.09 ft.
WATER HEIGHT (Hw): 4.91 ft.
WELL DIAMETER (Dw):
WELL VOLUME (Vw): 0.80 gals.
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: 3 gals.
EMERALD PERSONNEL: RL, JB

Sunny 58°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
9:50	1	19.1	150	10.06	Orange, cloudy, no odor
9:53	2	19.0	150	9.16	Orange, cloudy, no odor
9:54	3	19.1	150	9.13	Orange, cloudy, no odor
9:56	Sample				
					DO = 4.57 mg/l @ 18.5°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW04

PROJECT: Detwiler
STREET:
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

DATE: 3/10/02

TOTAL WELL DEPTH: 25.00 ft.
STATIC WATER LEVEL: 17.39 ft.
WATER HEIGHT (Hw): 7.61 ft.
WELL DIAMETER (Dw):
WELL VOLUME (Vw): 1.24 gals.
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: 4 gals.
EMERALD PERSONNEL: RL, JB

Sunny 56°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
7:35	1	20.8	85	10.84	Orange, cloudy, no odor
7:38	2	20.3	75	10.34	Orange, cloudy, no odor
7:40	3	20.5	75	10.66	Orange, cloudy, no odor
7:42	4	20.4	70	10.83	Clearing, odor
7:48	Sample				
					DO = 1.02 mg/l @ 19.4°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW05

PROJECT: Detwiler
STREET:
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

DATE: 3/10/02

TOTAL WELL DEPTH: 25.00 ft.
STATIC WATER LEVEL: 15.52 ft.
WATER HEIGHT (Hw): 9.48 ft.
WELL DIAMETER (Dw):
WELL VOLUME (Vw): 1.5 gals.
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: 5 gals.
EMERALD PERSONNEL: RL, JB

Sunny 59°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
10:22	1	20.5	70	9.90	Tan, cloudy, no odor
10:24	2	20.8	70	10.21	Tan, cloudy, no odor
10:26	3	20.9	70	10.27	Tan, cloudy, no odor
10:28	4	19.7	70	10.44	Tan, cloudy, no odor
10:30	5	20.9	70	10.49	Tan, cloudy, no odor
10:35	Sample				
					DO = 0.74 mg/l @ 20.3°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW06

PROJECT: Detwiler
STREET:
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

DATE: 3/10/02

TOTAL WELL DEPTH: 25.00 ft.
STATIC WATER LEVEL: 18.56 ft.
WATER HEIGHT (Hw): 6.44 ft.
WELL DIAMETER (Dw):
WELL VOLUME (Vw): 1.05 gals.
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: 3 gals.
EMERALD PERSONNEL: RL, JB

Sunny 62°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
16:11	1	18.6	70	9.40	Tan, cloudy, no odor
16:15	2	18.4	70	7.85	Tan, cloudy, no odor
16:17	3	18.8	70	7.81	Tan, cloudy, no odor
16:25	Sample				
					DO = 2.80 mg/l @ 18.0°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW07

PROJECT: Detwiler
STREET:
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

DATE: 3/10/02

TOTAL WELL DEPTH: 20.00 ft.
STATIC WATER LEVEL: 14.55 ft.
WATER HEIGHT (Hw): 5.45 ft.
WELL DIAMETER (Dw):
WELL VOLUME (Vw): 0.89 gals.
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: 3 gals.
EMERALD PERSONNEL: RL, JB

Sunny 63°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
14:06	1	18.6	50	7.86	Orange, cloudy, no odor
14:08	2	19.0	60	8.22	Orange, cloudy, no odor
14:11	3	18.3	60	8.52	Orange, cloudy, no odor
14:15	Sample				
					DO = 0.53 mg/l @ 17.9°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW08

PROJECT: Detwiler
STREET:
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

DATE: 3/10/02

TOTAL WELL DEPTH: 15.00 ft.
STATIC WATER LEVEL: 8.35 ft.
WATER HEIGHT (Hw): 6.65 ft.
WELL DIAMETER (Dw):
WELL VOLUME (Vw): 1.08 gals.
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: 3 gals.
EMERALD PERSONNEL: RL, JB

Sunny 63°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
15:13	1	18.5	80	8.93	Tan, cloudy, no odor
15:16	2	18.4	80	9.35	Tan, cloudy, no odor
15:18	3	18.4	80	9.52	Tan, cloudy, no odor
15:25	Sample				
					DO = 4.73 mg/l @ 17.5°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW09

PROJECT: Detwiler
STREET:
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

DATE: 3/10/02

TOTAL WELL DEPTH: 15.00 ft.
STATIC WATER LEVEL: 8.21 ft.
WATER HEIGHT (Hw): 6.79 ft.
WELL DIAMETER (Dw):
WELL VOLUME (Vw): 1.10 gals.
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: 3 gals.
EMERALD PERSONNEL: RL, JB

Sunny 63°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
14:45	1	18.7	70	8.85	Tan, cloudy, no odor
14:47	2	17.9	75	9.08	Tan, cloudy, no odor
14:50	3	18.1	75	9.18	Tan, cloudy, no odor
14:55	Sample				
					DO = 2.10 mg/l @ 17.5°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW10

PROJECT: Detwiler
STREET:
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

DATE: 3/10/02

TOTAL WELL DEPTH: 18.00 ft.
STATIC WATER LEVEL: 12.81 ft.
WATER HEIGHT (Hw): 5.19 ft.
WELL DIAMETER (Dw):
WELL VOLUME (Vw): 0.85 gals.
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: 3 gals.
EMERALD PERSONNEL: RL, JB

Sunny 63°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
15:43	1	20.1	60	9.16	Tan, cloudy, no odor
15:45	2	20.0	60	9.10	Tan, cloudy, no odor
15:48	3	20.1	60	9.28	Tan, cloudy, no odor
15:55	Sample				
					DO = 0.59 mg/l @ 19.7°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW11

PROJECT: Detwiler
STREET:
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

DATE: 3/10/02

TOTAL WELL DEPTH: 25.00 ft.
STATIC WATER LEVEL: 20.61 ft.
WATER HEIGHT (Hw): 4.39 ft.
WELL DIAMETER (Dw):
WELL VOLUME (Vw): 0.72 gals.
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: 3 gals.
EMERALD PERSONNEL: RL, JB

Sunny 62°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
12:30	1	20.9	130	9.79	Tan, cloudy, no odor
12:33	2	21.4	150	10.63	Tan, cloudy, no odor
12:37	3	20.9	120	10.60	Tan, cloudy, no odor
12:45	Sample				
					DO = 0.66 mg/l @ 20.3°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW12

PROJECT: Detwiler
STREET:
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

DATE: 3/10/02

TOTAL WELL DEPTH: 25.00 ft.
STATIC WATER LEVEL: 20.29 ft.
WATER HEIGHT (Hw): 4.71 ft.
WELL DIAMETER (Dw):
WELL VOLUME (Vw): 0.77 gals.
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: 3 gals.
EMERALD PERSONNEL: RL, JB

Sunny 60°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
11:50	1	20.0	80	9.81	Tan, cloudy
11:53	2	20.2	80	9.84	Tan, cloudy
11:56	3	20.3	75	9.85	Tan, cloudy
12:00	Sample				
					DO = 5.31 mg/l @ 19.9°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW13

PROJECT: Detwiler
STREET:
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

DATE: 3/10/02

TOTAL WELL DEPTH: 25.00 ft.
STATIC WATER LEVEL: 20.38 ft.
WATER HEIGHT (Hw):
WELL DIAMETER (Dw):
WELL VOLUME (Vw):
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME:
EMERALD PERSONNEL: RL, JB

Sunny 62°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
No sample - FP - 1.28'					
					DO = mg/l @ °C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW14

PROJECT: Detwiler
STREET:
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

DATE: 3/10/02

TOTAL WELL DEPTH: 25.00 ft.
STATIC WATER LEVEL: 17.33 ft.
WATER HEIGHT (Hw): 7.67 ft.
WELL DIAMETER (Dw):
WELL VOLUME (Vw): 1.25 gals.
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: 4 gals.
EMERALD PERSONNEL: RL, JB

Sunny 62°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
13:37	1	19.2	50	7.83	Tan, cloudy, odor
13:39	2	19.5	80	7.91	Tan, cloudy, odor
13:43	3	19.6	110	8.65	Tan, cloudy, odor
13:45	4	19.5	140	8.85	Tan, cloudy, odor
13:50	Sample				
					DO = 1.71 mg/l @ 18.9°C

EMERALD, INC.

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW15

PROJECT: Detwiler
STREET:
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

DATE: 3/10/02

TOTAL WELL DEPTH: 25.00 ft.
STATIC WATER LEVEL: 19.75 ft.
WATER HEIGHT (Hw): 5.25 ft.
WELL DIAMETER (Dw):
WELL VOLUME (Vw): 0.86 gals.
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: 3 gals.
EMERALD PERSONNEL: RL, JB

Sunny 62°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
13:00	1	21.2	140	13.69	Tan, cloudy, no odor
13:03	2	20.8	140	13.76	Tan, cloudy, no odor
13:05	3	20.8	130	13.75	Tan, cloudy, no odor
13:10	Sample				
					DO = 0.44 mg/l @ 20.5°C

Leachability Input Parameters
Division of Underground Storage Tank Management

Site Data

Facility Name: Dietwiler UST Permit # : 15729

Input Parameters

Percent sand in soil		40	%	5% < sand < 70%	
Percent clay in soil		39	%	5% < clay < 60%	
DAF					
Worst Case Soil Analyses	Benzene	ND	mg/Kg	C_s	
	Toluene	0.574	mg/Kg	C_s	
	Ethylbenzene	5.490	mg/Kg	C_s	
	Xylenes	23.60	mg/Kg	C_s	
	Naphthalene	6.07	mg/Kg	C_s	
	(PAHs) Other CoC	0.066	mg/Kg	C_s	
Natural organic carbon content		ND	mg/Kg	f_{oc}	Figure
TPH		16,700	mg/Kg	TPH	
Porosity		0.47	decimal %	ϕ	C1
Residual water content		0.08	decimal %	W_r	C2
Bulk density of soil		1.5	g/cc	B_d	C3
Soil hydraulic conductivity		2.8E-5	cm/sec	K_f	C4
Average annual recharge		+25	cm	H_w	
Wetting front suction (negative number)		-35	cm	H_f	C5
Distance from highest soil contamination to water table		341.99	cm	L	
Groundwater SSTL (or RBSL if appropriate)			mg/L	C_{GWsstl}	

List possible human exposure pathways from soil:

Leachability Results and Conclusions
Division of Underground Storage Tank Management

Site Data

Facility Name: DeTwiler UST Permit #: 15729

Chemical of Concern (Benzene, Naphthalene, etc.): Naphthalene

(Please use a separate form for each Chemical of Concern that exceeds the RBSL in soil.)

Chemical Specific Data

Biodegradation half-life period	48	days	$t_{1/2}$	Refer to
Soil/water partitioning coefficient	1543	mg/L	K_{oc}	Table
Henry's law constant	0.002		H'	C2

Results

				Equation Set	Step
Total organic carbon content	0.0001	decimal %	f_{cs}	I	1
Air filled porosity	0.39	decimal %	f	I	2
Leachate concentration		mg/L	C_w	I	3
Infiltration time		seconds	t	II	1
Velocity of water	111.358	ft/yr	V_w	II	2
Soil/water distribution coefficient	0.154	mL/g	K_d	III	1
CoC percolation rate		ft/yr	V_c	III	2
Time to reach groundwater	54.89	days	T_c	IV	1
Concentration to protect groundwater	0.055	mg/L	C_p	IV	2
Site specific target level	0.118	mg/Kg	C_{sstl}	V	

Conclusions

Does concentration of CoC in soil exceed SSTL? ☒ Yes ☐ No

Risk of human exposure due to contaminated soil? ☐ Yes ☒ No

SCDHEC :: Leachability Model version 1.0c

Site ID: 15729 04/21/2002 CoC : Napthalene

Input Parameters:

FOC :	100.000	mg/Kg
TPH :	0.066	mg/Kg
Cs :	6.070	mg/Kg
Koc :	1543	mL/g
Phi :	0.470	
Wr :	0.080	
Kf :	0.000028000	cm/s
L :	342.00	cm
Hw :	25	cm
Hf :	-35	cm
Bd :	1.500	g/cc
t-half:	48.0000	days
SSTL:	0.0250	mg/L
H':	0.28600	mg/L/mg/L
DAF:	8.0000	

Output Data:

fcs :	0.00010	
f:	0.39	
t:	3173953.00	seconds
Vw:	111.358	ft/yr
Kd:	0.154	ml/g
Vc:	74.614	ft/yr
Tc:	54.89	days
Log(Cp):	-1.258	
Cp:	0.055	mg/Kg
SSTL:	0.118	mg/Kg

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Leachability Results and Conclusions
Division of Underground Storage Tank Management

Site Data

Facility Name: Detwiler UST Permit #: 15729

Chemical of Concern (Benzene, Naphthalene, etc.): Ethylbenzene

(Please use a separate form for each Chemical of Concern that exceeds the RBSL in soil.)

Chemical Specific Data

Biodegradation half-life period	10	days	$t_{1/2}$	Refer to
Soil/water partitioning coefficient	176	mg/L	K_{oc}	Table
Henry's law constant	0.286		H'	C2

Results

				Equation Set	Step
Total organic carbon content	0.0801	decimal %	f_{cs}	I	1
Air filled porosity	0.39	decimal %	f	I	2
Leachate concentration		mg/L	C_w	I	3
Infiltration time		seconds	t	II	1
Velocity of water	111.4	ft/yr	V_w	II	2
Soil/water distribution coefficient	0.018	mL/g	K_d	III	1
CoC percolation rate		ft/yr	V_c	III	2
Time to reach groundwater	38.84	days	T_c	IV	1
Concentration to protect groundwater	10.362	mg/L	C_p	IV	2
Site specific target level	Cp > Cs	mg/Kg	C_{ssstl}	V	

Conclusions

Does concentration of CoC in soil exceed SSTL? ☐ Yes ☒ No

Risk of human exposure due to contaminated soil? ☐ Yes ☒ No

SCDHEC :: Leachability Model version 1.0c

Site ID: 98765 04/21/2002 CoC : Ethylbenzene

Input Parameters:

FOC :	100.000	mg/Kg
TPH :	0.066	mg/Kg
Cs :	5.490	mg/Kg
Koc :	176	mL/g
Phi :	0.470	
Wr :	0.080	
Kf :	0.000028000	cm/s
L :	342.00	cm
Hw :	25	cm
Hf :	-35	cm
Bd :	1.500	g/cc
t-half:	10.0000	days
SSTL:	0.7000	mg/L
H':	0.28600	mg/L/mg/L
DAF:	8.0000	

Output Data:

fcs :	0.00010	
f:	0.39	
t:	3173953.00	seconds
Vw:	111.358	ft/yr
Kd:	0.018	ml/g
Vc:	105.436	ft/yr
Tc:	38.84	days
Log(Cp):	1.015	
Cp:	10.362	mg/Kg

Cp is greater than Cs
No SSTL required for soil

Contents of this program and its use are the sole property of the South Carolina Department of Health and Environmental Control(SCDHEC).

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SLUG TEST DATA

Location: Detwiler's	Date: 3/10/02	Time: 16:40
Monitor Well No.: MW2D		
Total Depth: 47.00 ft.	Personnel: RL, JB	
Water Level: 22.44t.		
Water Column (WC): 24.56		
80% x WC: 19.65		

TIME	WATER LEVEL	COMMENTS
0:15 sec	32.38	
0:30 sec	32.02	
0:45 sec	31.68	
1:00 min	31.31	
1:15 min/sec	30.98	
1:30 min/sec	30.65	
1:45 min/sec	30.34	
2:00 min	30.01	
2:15 min/sec	29.70	
2:30 min/sec	29.41	
2:45 min/sec	29.14	
3:00 min	28.90	
3:30 min/sec	28.38	
4:00 min	27.89	
4:30 min/sec	27.41	
5:00 min	26.94	
6:00 min	26.11	

Comments:

SLUG TEST DATA

Location: Detwiler's	Date: 3/10/02	Time: 17:25
Monitor Well No.: MW03		
Total Depth: 23.00 ft.	Personnel: RL, JB	
Water Level: 18.08 ft.		
Water Column (WC): 4.92 ft.		
80% x WC: 3.94		

TIME	WATER LEVEL	COMMENTS
0:15 sec	21.10	
0:30 sec	19.94	
0:45 sec	19.31	
1:00 min	19.20	
1:15 min/sec	19.09	
1:30 min/sec	18.96	
1:45 min/sec	18.86	
2:00 min	18.76	
2:15 min/sec	18.70	
2:30 min/sec	18.60	
2:45 min/sec	18.54	
3:00 min	18.50	
3:30 min/sec	18.44	
4:00 min	18.39	
4:30 min/sec	18.34	
5:00 min	18.30	
6:00 min	18.24	

Comments:

SLUG TEST DATA

Location: Detwiler's	Date: 3/10/02	Time: 17:00
Monitor Well No.: MW05		
Total Depth: 25.00 ft.	Personnel: RL, JB	
Water Level: 15.57 ft.		
Water Column (WC): 9.43 ft.		
80% x WC: 7.54		

TIME	WATER LEVEL	COMMENTS
0:15 sec	16.95	
0:30 sec	16.60	
0:45 sec	16.47	
1:00 min	16.35	
1:15 min/sec	16.28	
1:30 min/sec	16.16	
1:45 min/sec	16.08	
2:00 min	16.00	
2:15 min/sec	15.94	
2:30 min/sec	15.88	
2:45 min/sec	15.83	
3:00 min	15.78	
3:30 min/sec	15.70	
4:00 min	15.65	
4:30 min/sec	15.62	
5:00 min	15.60	
6:00 min	15.58	

Comments:

Pumping (Slug Tests)

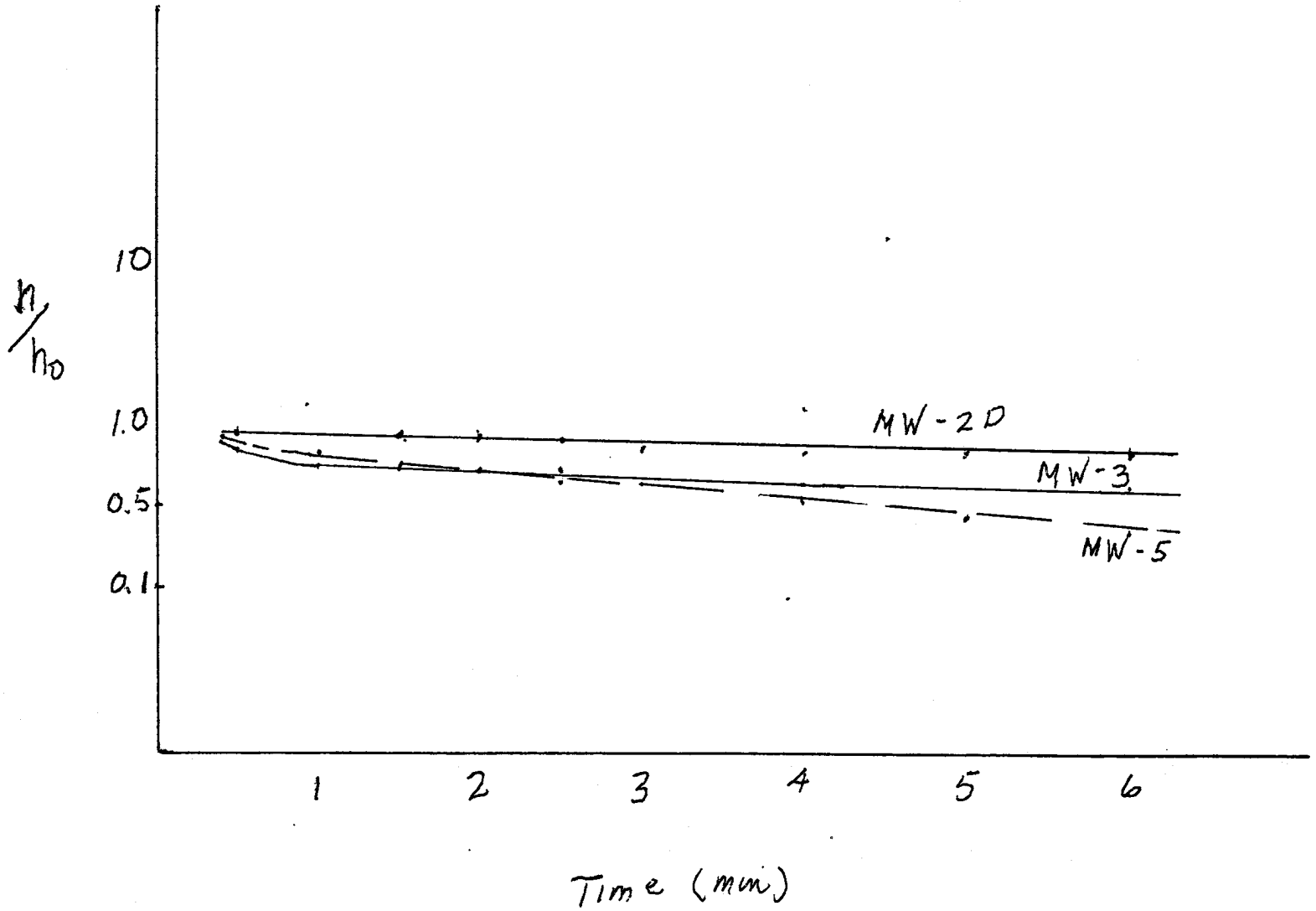
Min. Since Displace Tube Removed	Water Level Below Mw Pt. (Feet)			Head, ft		
				$h_o = 34.5'$	$h_o = 7.94'$	$h_o = 11.81'$
	MW-20	MW-3	MW-5	MW-20	MW-3	MW-5
.25	32.38	21.10	16.95			
.50	32.02	19.94	16.60	34.14	6.78	11.46
.75	31.68	19.31	16.47	33.80	6.15	11.33
1.0	31.31	19.20	16.35	33.43	6.04	10.96
1.25	30.98	19.09	16.28	33.10	5.93	10.63
1.50	30.65	18.96	16.16	32.77	5.80	10.30
1.75	30.34	18.86	16.08	32.46	5.70	9.97
2.0	30.01	18.76	16.00	32.13	5.60	9.64
2.25	29.70	18.70	15.94	31.82	5.54	9.33
2.50	29.41	18.60	15.88	31.53	5.44	9.04
2.75	29.14	18.54	15.83	31.26	5.38	8.77
3.0	28.90	18.50	15.78	31.02	5.34	8.53
3.5	28.38	18.44	15.70	30.50	5.28	8.01
4.0	27.89	18.39	15.65	30.01	5.23	7.52
4.5	27.41	18.34	15.62	29.53	5.18	7.05
5.0	26.94	18.30	15.60	29.06	5.14	6.58
6.0	26.11	18.24	15.58	28.23	5.08	5.75

Time. (min)	h/h_o MW-2D	MW-3	MW-5
0.50	0.99	0.85	0.97
0.75	0.98	0.77	0.96
1.0	0.97	0.76	0.93
1.25	0.96	0.75	0.90
1.50	0.95	0.73	0.87
1.75	0.94	0.72	0.84
2.0	0.93	0.71	0.82
2.25	0.92	0.70	0.79
2.50	0.91	0.69	0.77
2.75	0.906		
3.0	0.88	0.67	0.72
3.5	0.87		
4.0	0.86	0.66	0.64
4.5	0.856		0.60
5.0	0.84		0.56
6.0	0.82	0.64	0.49

Detwiler Site - UST Permit # 15729

Semi-log Plot, h/h_o vs Time

Wells MW-2D, MW-3, MW-5



Pumping Test Results - Detwiler Site - UST Permit #15729

	MW-2D	MW-3	MW-5
Depth, ft.	47.0	23.0	25.00
WL, ft	22.44	18.08	15.57
Init Rise, ft.	- 1.76	- 3.02	- 1.38
WC Ht, ft.	24.56	4.92	9.43
L, ft.	5.0	10.0	10.0
Y_o, ft	34.14	21.10	16.95
Y_T, ft	26.11	18.24	15.58
h_o, ft	34.50	7.94	11.81

Well Parameters

$r_c^2 = 0.0076\ ft^2$, $r_w = 0.33$ ft., $L/r_w = 30.30$
for MWs 3 & 5, $L/r_w = 15.15$ for MW-2D

$$K = r_c^2 \ln (Re/r_w) + \frac{1}{T} \ln Y_o/Y_T$$

$$\ln (Re/r_w) = \left[\frac{1.1}{\ln H/r_w} + 2.5 + 0.5 \ln \frac{(D-H)}{r_w} \right]^{-1}$$

for MW-2D

$D = 47'$, $L = 5'$, $Y_o = 34.14'$, $Y_T = 26.11'$, $T = 6$ min.

$\frac{(0.0259\ cm/s)(.005)}{(.3)} = 4.748 \times 10^{-4}\ cm/s$

$= 41\ cm/d$

(5)

$$\ln (R_e/r_w) = \left[\frac{1.1}{2.77} + 2.5 + 0.5 \ln \frac{(47-5)}{0.33} \right]^{-1}$$

$$= [0.404 + 2.5 + 0.5\ (4.85)]^{-1}$$

$$= (5.33)^{-1} = 0.188$$

$$\therefore K_{MW-20} = 0.0076 \times 0.188 + \frac{1}{6} \ln Y_0/Y_T$$

$$= 0.00143 + 0.045$$

$$K_{MW-20} = 0.0464\ cm/sec$$

For MW-3

$$\ln (R_e/r_w) = \left[\frac{1.1}{3.411} + 2.5 + 0.5 \ln 39.39 \right]^{-1}$$

$$= [0.322 + 2.5 + 1.837]^{-1} = 0.215$$

$$\therefore K = 0.0076 \times 0.215 + \frac{1}{6} \ln \left(\frac{21.10}{18.24} \right)$$

$$= 0.0016 + 0.0243 = 0.0259\ cm/sec$$

For MW-5

$$\ln (R_e/r_w) = [0.322 + 2.5 + 0.5 \ln 45]^{-1}$$

$$= 0.211$$

$$\therefore K = 0.0076 \times .211 + .0140 = 0.0156\ cm/sec$$

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. GK4210

2. Page 1 of

3. Generator's Name and Mailing Address
DETWILER CONSTRUCTION
31 S. CHURCH STREET
SUMMERTON, SC

4. Generator's Phone ( )

5. Transporter 1 Company Name
G & K TANK SERVICES, INC

6. US EPA ID Number

A. Transporter's Phone
803-494-4593

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
G & K TANK SERVICES, INC
5070 BROAD STREET EXT
SUMTER, SC 29151

10. US EPA ID Number

C. Facility's Phone
803-494-4593

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. NON HAZARDOUS PETROLEUM CONTAMINATED SOIL	~~[illegible]~~ 21 DR			
b. NON HAZARDOUS PETROLEUM CONTAMINANTED WATER	07DR			
c. NON HAZARDOUS PETROLEUM CONTAMINANTED PRODUCT	01DR			
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERALD
PO BOX 3050
SUMTER, SC 29151

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Richard Smoot	Richard Smoot	03	15	02

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
S. [illegible]	S. [illegible]	03	15	02

GENERATOR

TRANSPORTER

FACILITY

ORIGINAL - RETURN TO GENERATOR

G & K
TANK SERVICES, INC.
Broad St. Extension • PO Box 1384 • Sumter, SC 29151
(803) 494-2694 • 1-800-800-6840 • FAX: (803) 494-8598

Certificate of Disposal

Tons 21 Drums

Detwiler Construction
Summerton, SC

Contaminant NonHazardous Petroleum
Contaminanted Soil

This is to cerify the above soil has been processed and disposed of by G & K Tank Services, Inc., in accordance with and exceeding EPA regulations on petroleum contaminated soils.

Certified by S. Coles

Date 03/15/02

G & K
TANK SERVICES, INC.

Broad St. Extension • PO Box 1384 • Sumter SC 29151
(803) 494-2694 • 1-800-800-8840 • FAX: (803) 494-8888

Certificate of Disposal

Tons 7 Drums

Contaminant NonHazardous Petroleum Contaminated Water

Detwiler Construction
Summerton, SC

This is to cerify the above ~~soil~~ water has been processed and disposed of by G & K Tank Services, Inc., in accordance with and exceeding EPA regulations on petroleum contaminated soils.

Certified by S. Scott

Date 03 15 02

G & K
TANK SERVICES, INC.
Broad St. Extension • PO Box 1384 • Sumter, SC 29151
(803) 494-2694 • 1-800-800-6840 • FAX (803) 494-8598

Certificate of Disposal

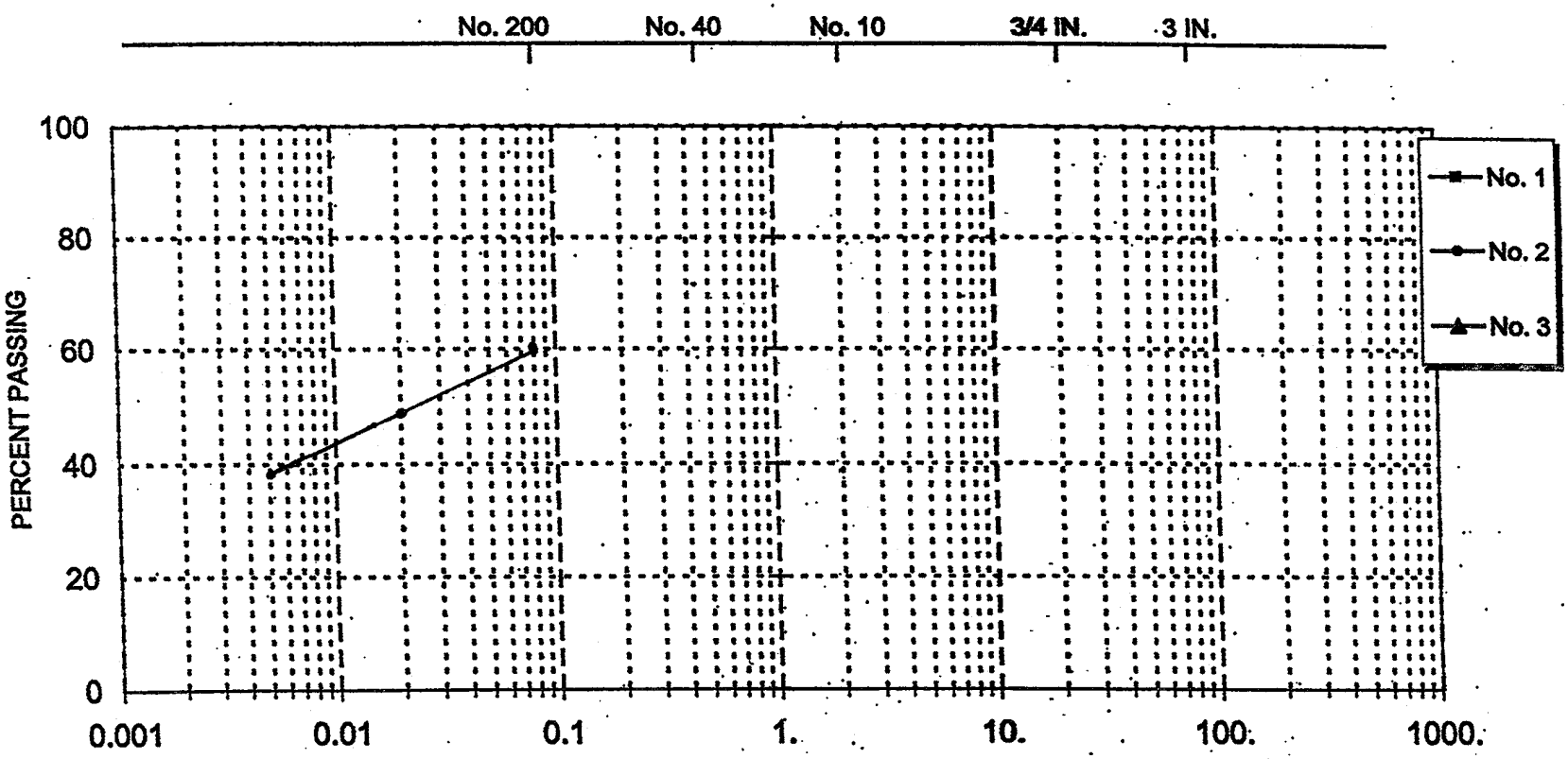
Tons 1 Drum
Detwiler Construction
Summerton, SC

Contaminant NonHazardous Petroleum
Contaminanted Product

This is to cerify the above ~~Soil~~ product has been processed and disposed of by G & K Tank Services, Inc., in accordance with and exceeding EPA regulations on petroleum contaminated soils.

Certified by S. Kelley Date 03/15/02

U.S. STANDARD SIEVE SIZE



GRAIN SIZE IN MILLIMETERS

CLAY	SILT	SAND			GRAVEL		COBBLES
		Fine	Medium	Coarse	Fine	Coarse	

KEY	NO.	DEPTH	DESCRIPTION OF SOIL SAMPLE TESTED	CLASS.
No. 1	SB03	10'	SAND = 40% SILT = 21% CLAY = 39%	
No. 2				
No. 3				

Schnabel
Schnabel Engineering Associates, Inc.

GRADATION CURVES

Detwiler

CONTRACT NO. 0091052.13

DATE 01-18-02

Q:\Templates\xls\[SIEVE2001 Hydro.XLT.xls]A

SCDHEC :: Domenico Model version 1.0c

Site ID: 15729 04/22/2002 CoC : Benzene

Source: MW-1 Receptor: Scott's Branch

Input Parameters:

CoC Concentration:	227.000	mg/L
Width across flow dir.:	18.2900	m
Estimated Source Depth:	3.000	m
Distance along x-axis:	274.000	m
Distance along y-axis:	0.000	m
Distance along z-axis:	0.000	m
Seepage Velocity:	0.0000012400	m/s
Time of transport:	10.0	years
First Order Decay Rate	0.0000000110	/s

Calculations:

EXP(-2.0219)	=	0.1324
ERFC(-1.3292)	=	1.9458
ERF(0.0914)	=	0.1029
ERF(0.0774)	=	0.0872

Decay is considered

Ax:	27.4000
Ay:	9.1333
Az:	1.3700

Results:

C(x,y,z,t) :	0.2622783	mg/L
C(x,y,z,t) :	262.2783	ug/L

Contents of this program and its use are the sole property of the South Carolina Department of Health and Environmental Control(SCDHEC).

Program Developed by Sriram Madabhushi.
Unauthorized use is strictly prohibited.

SCDHEC :: Domenico Model version 1.0c

Site ID: 15729 04/22/2002 CoC : Toluene

Source: MW-1 Receptor: Scott's Branch

Input Parameters:

CoC Concentration:	301.000	mg/L
Width across flow dir.:	18.2900	m
Estimated Source Depth:	3.000	m
Distance along x-axis:	274.000	m
Distance along y-axis:	0.000	m
Distance along z-axis:	0.000	m
Seepage Velocity:	0.0000012400	m/s
Time of transport:	10.0	years
First Order Decay Rate	0.0000000110	/s

Calculations:

EXP(-2.0219)	=	0.1324
ERFC(-1.3292)	=	1.9458
ERF(0.0914)	=	0.1029
ERF(0.0774)	=	0.0872

Decay is considered

Ax:	27.4000
Ay:	9.1333
Az:	1.3700

Results:

C(x,y,z,t) :	0.3477787	mg/L
C(x,y,z,t) :	347.7787	ug/L

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Unauthorized use is strictly prohibited.

SCDHEC :: Domenico Model version 1.0c

Site ID: 15729 04/22/2002 CoC : Ethylbenzene

Source: MW-1 Receptor: Scott's Branch

Input Parameters:

CoC Concentration:	280.000	mg/L
Width across flow dir.:	18.2900	m
Estimated Source Depth:	3.000	m
Distance along x-axis:	274.000	m
Distance along y-axis:	0.000	m
Distance along z-axis:	0.000	m
Seepage Velocity:	0.0000012400	m/s
Time of transport:	10.0	years
First Order Decay Rate	0.0000000110	/s

Calculations:

EXP(-2.0219)	=	0.1324
ERFC(-1.3292)	=	1.9458
ERF(0.0914)	=	0.1029
ERF(0.0774)	=	0.0872

Decay is considered

Ax:	27.4000
Ay:	9.1333
Az:	1.3700

Results:

C(x,y,z,t) :	0.3235151	mg/L
C(x,y,z,t) :	323.5151	ug/L

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Program Developed by Sriram Madabhushi.
Unauthorized use is strictly prohibited.

SCDHEC :: Domenico Model version 1.0c

Site ID: 15729 04/22/2002 CoC : Xylenes

Source: MW-1 Receptor: Scott's Branch

Input Parameters:

CoC Concentration:	278.000	mg/L
Width across flow dir.:	18.2900	m
Estimated Source Depth:	3.000	m
Distance along x-axis:	274.000	m
Distance along y-axis:	0.000	m
Distance along z-axis:	0.000	m
Seepage Velocity:	0.0000012400	m/s
Time of transport:	10.0	years
First Order Decay Rate	0.0000000110	/s

Calculations:

EXP(-2.0219)	=	0.1324
ERFC(-1.3292)	=	1.9458
ERF(0.0914)	=	0.1029
ERF(0.0774)	=	0.0872

Decay is considered

Ax:	27.4000
Ay:	9.1333
Az:	1.3700

Results:

C(x,y,z,t) :	0.3212043	mg/L
C(x,y,z,t) :	321.2043	ug/L

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Figure 1 - Bioscreen Data Input Sheet - Benzene Only

BIOSCREEN Natural Attenuation Decision Support System

Air Force Center for Environmental Excellence — *Version 1.4*

Detwiler Site
UST # 15729
Run Name

Data Input Instructions:

2500 or 0.02
1. Enter value directly...or
2. Calculate by filling in grey cells below. (To restore formulas, hit button below).

Variable* — Data used directly in model.
20 — Value calculated by model. (Don't enter any data).

1. HYDROGEOLOGY

Seepage Velocity*	Vs	111.4	(ft/yr)
or		or	
Hydraulic Conductivity	K	2.1E-03	(cm/sec)
Hydraulic Gradient	i	0.0055	(ft/ft)
Porosity	n	0.47	(-)

2. DISPERSION

Longitudinal Dispersivity*	alpha x	28.9	(ft)
Transverse Dispersivity*	alpha y	2.9	(ft)
Vertical Dispersivity*	alpha z	0.0	(ft)
or		or	
Estimated Plume Length	Lp	1500	(ft)

3. ADSORPTION

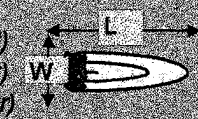
Retardation Factor*	R	1.5	(-)
or		or	
Soil Bulk Density	rho	1.5	(kg/l)
Partition Coefficient	Koc	176	(L/kg)
FractionOrganicCarbon	foc	1.0E-6	(-)

4. BIODEGRADATION

1st Order Decay Coeff*	lambda	3.5E-1	(per yr)
or		or	
Solute Half-Life	t-half	2.00	(year)
or Instantaneous Reaction Model			
Delta Oxygen*	DO	0.525	(mg/L)
Delta Nitrate*	NO3	0.25	(mg/L)
Observed Ferrous Iron*	Fe2+	3.58	(mg/L)
Delta Sulfate*	SO4	0.78	(mg/L)
Observed Methane*	CH4	1.8	(mg/L)

5. GENERAL

Modeled Area Length*	1600	(ft)
Modeled Area Width*	60	(ft)
Simulation Time*	10	(yr)



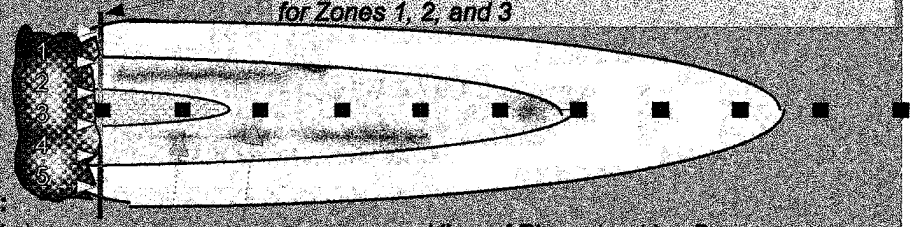
6. SOURCE DATA

Source Thickness in Sat.Zone* 10 (ft)

Source Zones:

Width* (ft)	Conc. (mg/L)*
0	0
0	0
60	227
0	0
0	0

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Source Halflife (see Help):

Infinite	Infinite	(yr)
Inst. React.	1st Order	
	Infinite	(Kg)

In Source NAPL, Soil

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)				7.0							
Dist. from Source (ft)	0	160	320	480	640	800	960	1120	1280	1440	1600

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE — View Output

RUN ARRAY — View Output

Help

Recalculate This Sheet

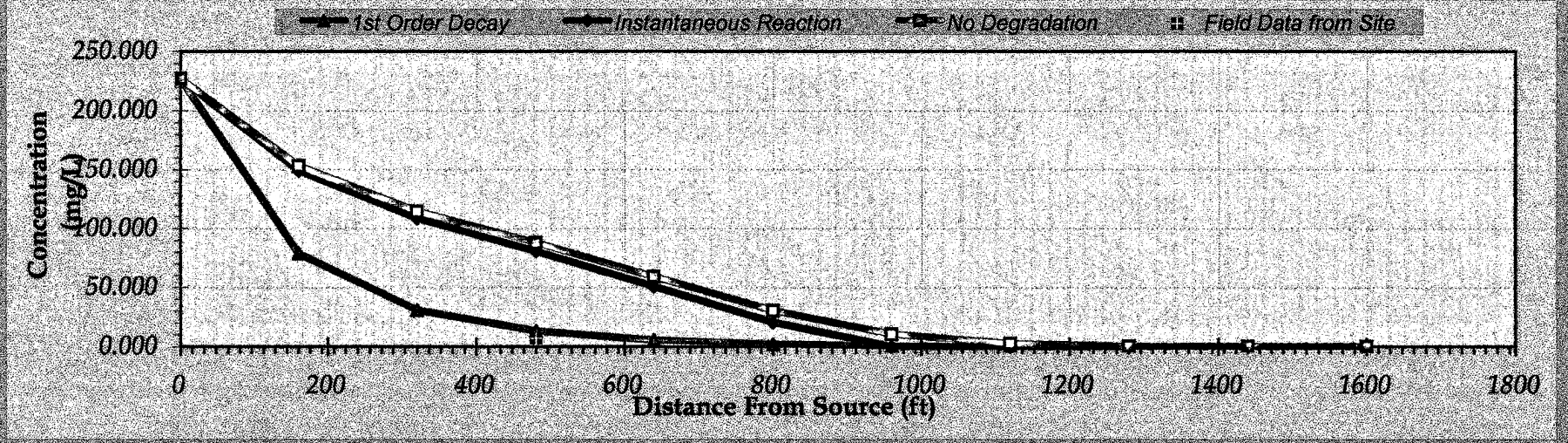
Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

Figure 2 - Dissolved Benzene Concentration Along Plume Centerline

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

	Distance from Source (ft)										
TYPE OF MODEL	0	160	320	480	640	800	960	1120	1280	1440	1600
No Degradation	227.000	153.126	114.412	87.842	59.238	30.263	10.445	2.261	0.294	0.022	0.001
1st Order Decay	227.000	78.827	30.758	13.038	5.453	1.994	0.555	0.105	0.012	0.001	0.000
Inst. Reaction	227.000	149.409	108.749	80.842	50.799	20.366	0.000	0.000	0.000	0.000	0.000
Field Data from Site				7.000							



Time:

10 Years

Calculate Animation

Return to Input

Recalculate This Sheet

SCDHEC :: SSTL Model version 1.0c

Site ID: 15729 04/23/2002 CoC : Benzene

Source: MW-1 Receptor: Scott's Branch

Input Parameters:

CoC RBSL:	0.005	mg/L
Width across flow dir.:	18.2900	m
Estimated Source Depth:	3.000	m
Distance along x-axis:	274.000	m
Distance along y-axis:	0.000	m
Distance along z-axis:	0.000	m
Seepage Velocity:	0.0000012400	m/s
Time of transport:	10.0	years
First Order Decay Rate	0.0000000110	/s

Calculations:

EXP(-2.0219)	=	0.1324
ERFC(-1.3292)	=	1.9458
ERF(0.0914)	=	0.1029
ERF(0.0774)	=	0.0872

Decay is considered

Ax:	27.4000
Ay:	9.1333
Az:	1.3700

Results:

Csstl :	4327.4645	ug/L
Csstl :	4.3274645	mg/L

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Program Developed by Sriram Madabhushi.
Unauthorized use is strictly prohibited.

SCDHEC :: SSTL Model version 1.0c

Site ID: 15729 04/23/2002 CoC : Toluene

Source: MW-1 Receptor: Scott's Branch

Input Parameters:

CoC RBSL:	1.000	mg/L
Width across flow dir.:	18.2900	m
Estimated Source Depth:	3.000	m
Distance along x-axis:	274.000	m
Distance along y-axis:	0.000	m
Distance along z-axis:	0.000	m
Seepage Velocity:	0.0000012400	m/s
Time of transport:	10.0	years
First Order Decay Rate	0.0000000110	/s

Calculations:

EXP(-2.0219)	=	0.1324
ERFC(-1.3292)	=	1.9458
ERF(0.0914)	=	0.1029
ERF(0.0774)	=	0.0872

Decay is considered

Ax:	27.4000
Ay:	9.1333
Az:	1.3700

Results:

Csstl :	**********	ug/L
Csstl :	865.4929036	mg/L

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SCDHEC :: SSTL Model version 1.0c

Site ID: 15729 04/23/2002 CoC : Ethylbenzene

Source: MW-1 Receptor: Scott's Branch

Input Parameters:

CoC RBSL:	0.700	mg/L
Width across flow dir.:	18.2900	m
Estimated Source Depth:	3.000	m
Distance along x-axis:	274.000	m
Distance along y-axis:	0.000	m
Distance along z-axis:	0.000	m
Seepage Velocity:	0.0000012400	m/s
Time of transport:	10.0	years
First Order Decay Rate	0.0000000110	/s

Calculations:

EXP(-2.0219)	=	0.1324
ERFC(-1.3292)	=	1.9458
ERF(0.0914)	=	0.1029
ERF(0.0774)	=	0.0872

Decay is considered

Ax:	27.4000
Ay:	9.1333
Az:	1.3700

Results:

Csstl :	**********	ug/L
Csstl :	605.8450325	mg/L

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SCDHEC :: SSTL Model version 1.0c

Site ID: 15729 04/23/2002 CoC : Napthalene

Source: MW-1 Receptor: Scott's Branch

Input Parameters:

CoC RBSL:	0.025	mg/L
Width across flow dir.:	18.2900	m
Estimated Source Depth:	3.000	m
Distance along x-axis:	274.000	m
Distance along y-axis:	0.000	m
Distance along z-axis:	0.000	m
Seepage Velocity:	0.0000012400	m/s
Time of transport:	10.0	years
First Order Decay Rate	0.0000000110	/s

Calculations:

EXP(-2.0219)	=	0.1324
ERFC(-1.3292)	=	1.9458
ERF(0.0914)	=	0.1029
ERF(0.0774)	=	0.0872

Decay is considered

Ax:	27.4000
Ay:	9.1333
Az:	1.3700

Results:

Csstl :	21637.3226	ug/L
Csstl :	21.6373226	mg/L

Contents of this program and its use are the sole property of the South Carolina Department of Health and Environmental Control(SCDHEC).

Program Developed by Sriram Madabhushi.
Unauthorized use is strictly prohibited.

SCDHEC :: SSTL Model version 1.0c

Site ID: 15729 04/23/2002 CoC : Xylenes

Source: MW-1 Receptor: Scott's Branch

Input Parameters:

CoC RBSL:	10.000	mg/L
Width across flow dir.:	18.2900	m
Estimated Source Depth:	3.000	m
Distance along x-axis:	274.000	m
Distance along y-axis:	0.000	m
Distance along z-axis:	0.000	m
Seepage Velocity:	0.0000012400	m/s
Time of transport:	10.0	years
First Order Decay Rate	0.0000000110	/s

Calculations:

EXP(-2.0219).	=	0.1324
ERFC(-1.3292)	=	1.9458
ERF(0.0914)	=	0.1029
ERF(0.0774)	=	0.0872

Decay is considered

Ax:	27.4000
Ay:	9.1333
Az:	1.3700

Results:

Csstl :	**********	ug/L
Csstl :	8654.9290362	mg/L

Contents of this program and its use are the sole property of the South Carolina Department of Health and Environmental Control(SCDHEC).

Program Developed by Sriram Madabhushi.
Unauthorized use is strictly prohibited.

SCDHEC :: SSTL Model version 1.0c

Site ID: 15729 04/23/2002 CoC : MTBE

Source: MW-9 Receptor: Scott's Branch

Input Parameters:

CoC RBSL:	0.040	mg/L
Width across flow dir.:	18.2900	m
Estimated Source Depth:	3.000	m
Distance along x-axis:	22.860	m
Distance along y-axis:	0.000	m
Distance along z-axis:	0.000	m
Seepage Velocity:	0.0000012400	m/s
Time of transport:	10.0	years
First Order Decay Rate	0.0000000110	/s

Calculations:

EXP(-0.1988)	=	0.8197
ERFC(-6.4173)	=	2.0000
ERF(1.0956)	=	0.8849
ERF(0.9280)	=	0.8160

Decay is considered

Ax:	2.2860
Ay:	0.7620
Az:	0.1143

Results:

Csstl :	67.5767	ug/L
Csstl :	0.0675767	mg/L

Contents of this program and its use are the sole property of the South Carolina Department of Health and Environmental Control(SCDHEC).

Program Developed by Sriram Madabhushi.
Unauthorized use is strictly prohibited.

SCDHEC :: SSTL Model version 1.0c

Site ID: 15729 04/23/2002 CoC : MTBE

Source: MW-9 Receptor: Sewer

Input Parameters:

CoC RBSL:	0.040	mg/L
Width across flow dir.:	18.2900	m
Estimated Source Depth:	3.000	m
Distance along x-axis:	2.000	m
Distance along y-axis:	4.570	m
Distance along z-axis:	0.000	m
Seepage Velocity:	0.0000012400	m/s
Time of transport:	10.0	years
First Order Decay Rate	0.0000000110	/s

Calculations:

EXP(-0.0177)	=	0.9824
ERFC(-22.0742)	=	2.0000
ERF(18.7800)	=	1.0000
ERF(10.6066)	=	1.0000

Decay is considered

Ax:	0.2000
Ay:	0.0667
Az:	0.0100

Results:

Csstl :	40.7147	ug/L
Csstl :	0.0407147	mg/L

Contents of this program and its use are the sole property of the South Carolina Department of Health and Environmental Control(SCDHEC).

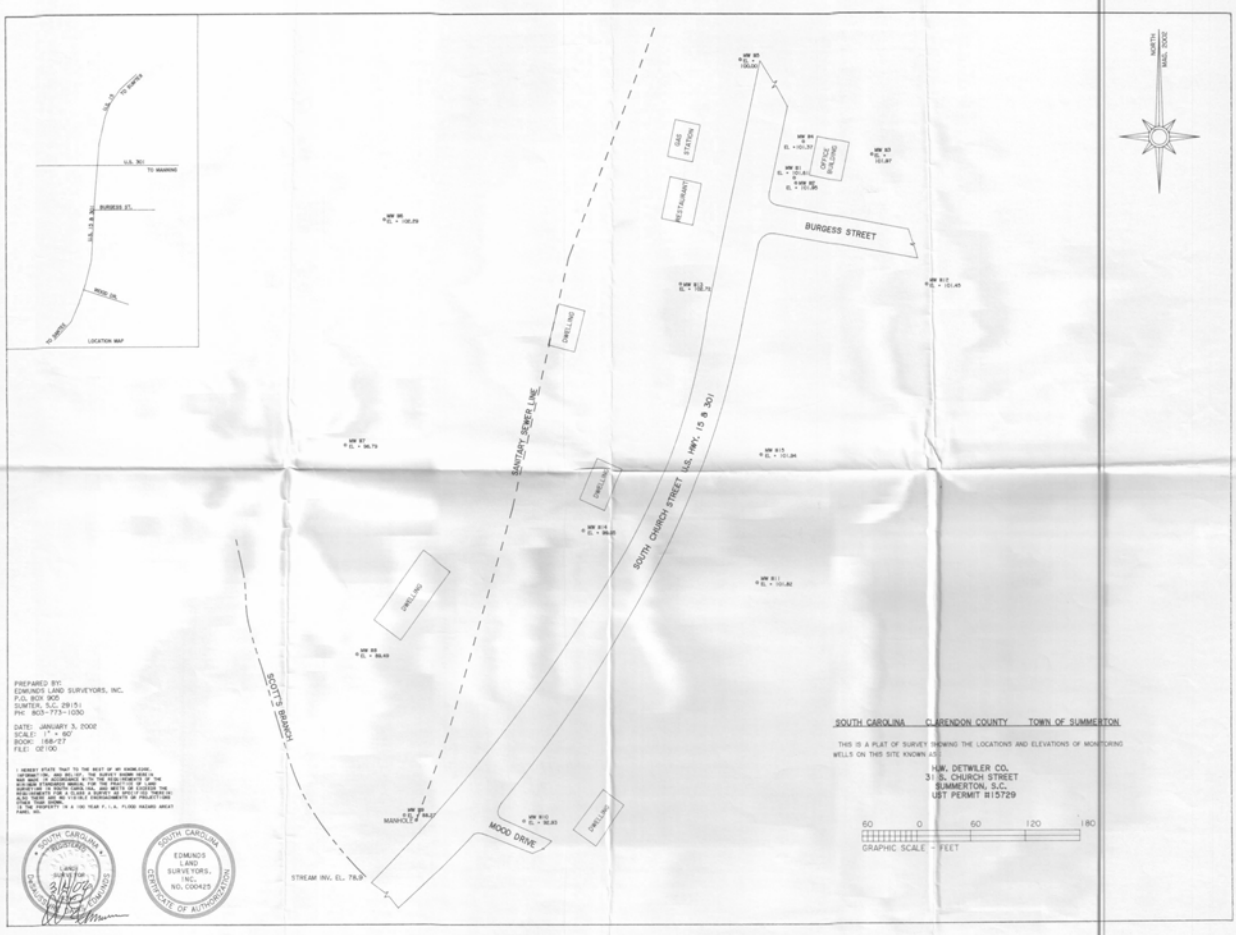
Program Developed by Sriram Madabhushi.
Unauthorized use is strictly prohibited.

TAX MAP INFORMATION
FOR
H.W. DETWILER SITE
SUMMERTON, SC

	TAX MAP NO.	OWNER INFORMATION
1.	078-11-02-008	Sharon W. Detwiler P.O. Box 769 Summerton, SC 29148
2.	078-11-02-007 (124 Church St.)	Ann J. Pence P.O. Box 492 Summerton, SC 29148
3.	078-11-02-009	Sharon W. Detwiler
4.	078-11-01-011 (Summerton Auto Service)	Harold W. Detwiler, Jr. P.O. Box 769 Summerton, SC 29148
5.	078-11-01-012 (301 Church St.)	Lois J. Hughes Files P.O. Box 104 Summerton, SC 29148
6.	078-12-01-011 (Church St. & US 301)	Willie D. Spigner P.O. Box 597 Summerton, SC 29148
7.	078-12-01-010 (Church St. & US 301)	Malachi & Laura B. Duncan P.O. Box 1277 Summerton, SC 29148
8.	078-12-02-001 (Corner of Church & Burgess St.)	Barksdale, Marian Burgess, et al. c/o Anne Nealy 606 Lexington Road Asheboro, NC 27203
9.	078-12-02-003 (Church St. & US 301)	Charlie & Jean E. Johnson P.O. Box 698 Summerton, SC 29148
10.	078-12-02-004 (Church St. & US 301)	Leroy Hilton P.O. Box 741 Summerton, SC 29148

TAX MAP INFORMATION
FOR
H.W. DETWILER SITE
SUMMERTON, SC - CONT'D

11.	078-12-02-006 (39 S. Church St.)	Andrew Eddie & Jamie Lee Garrett 39 S. Church St. Summerton, SC 29148
12.	078-12-02-007 (Church St. & Mood Dr.)	Eleanor M. Keels P.O. Box 278 Summerton, SC 29148
13.	078-12-02-005 (13 Mood Drive)	James F. Gardner, Jr. c/o Kimberly B. Gardner P.O. Box 211 Summerton, SC 29148



PREPARED BY:
EDMUNDS LAND SURVEYORS, INC.
P.O. BOX 905
SUMTER, S.C. 29151
PH: 803-773-1030

DATE: JANUARY 3, 2002
SCALE: 1" = 60'
BOOK: 168-27
FILE: 02100

I HEREBY STATE THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF, THE SURVEY SHOWN HEREIN WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE MINIMUM STANDARDS MANUAL FOR THE PRACTICE OF LAND SURVEYING IN SOUTH CAROLINA, AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A CLASS A SURVEY AS SPECIFIED THEREIN; ALSO THERE ARE NO VISIBLE ENCROACHMENTS OR PROJECTIONS OTHER THAN SHOWN.
IS THE PROPERTY IN A 100 YEAR F.I.A. FLOOD HAZARD AREAS PANEL NO.

SOUTH CAROLINA REGISTERED LAND SURVEYOR DEBRUSSY EDMUNDS 3/4/04

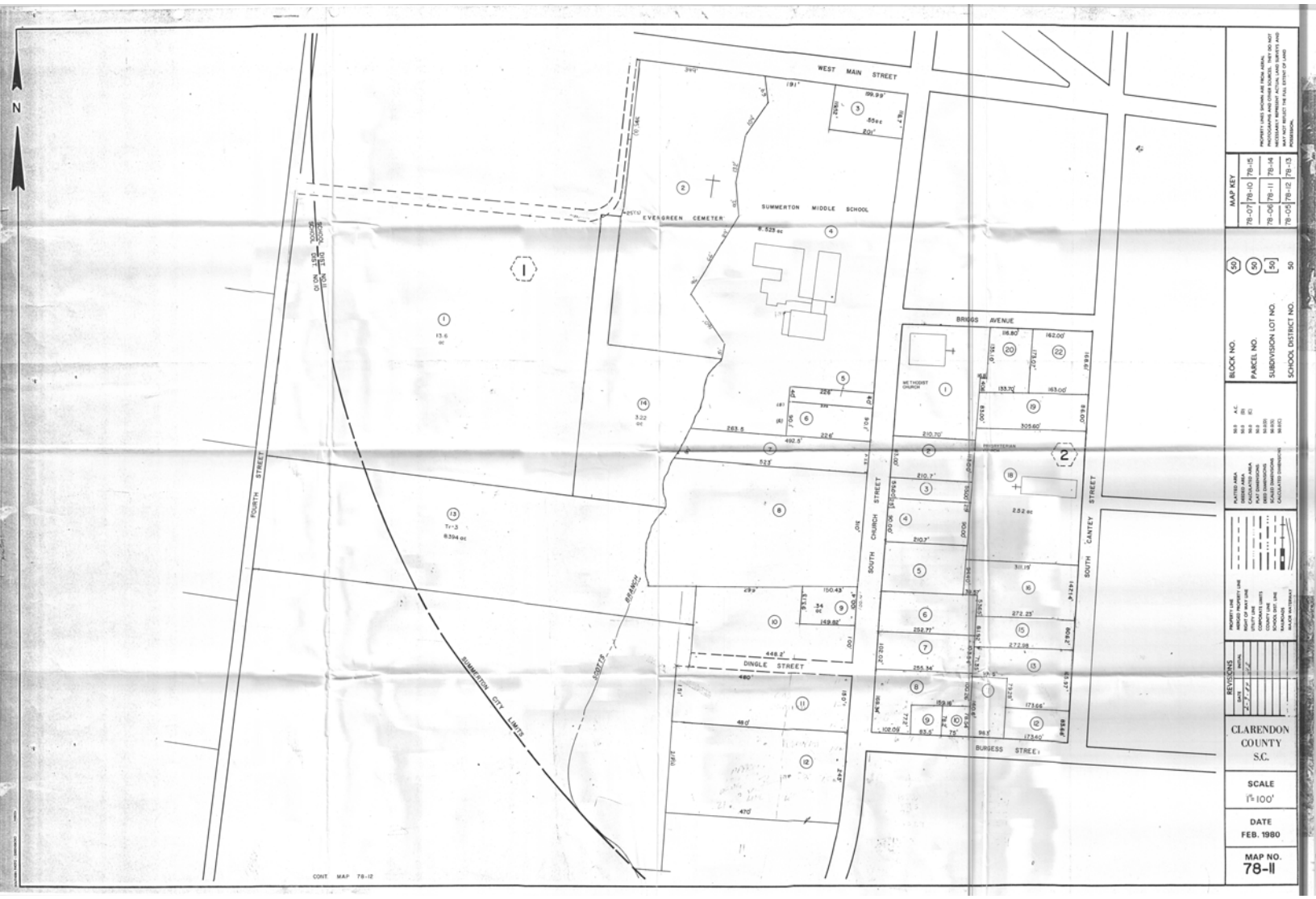
SOUTH CAROLINA EDMUNDS LAND SURVEYORS, INC. NO. C00425 CERTIFICATE OF AUTHORIZATION

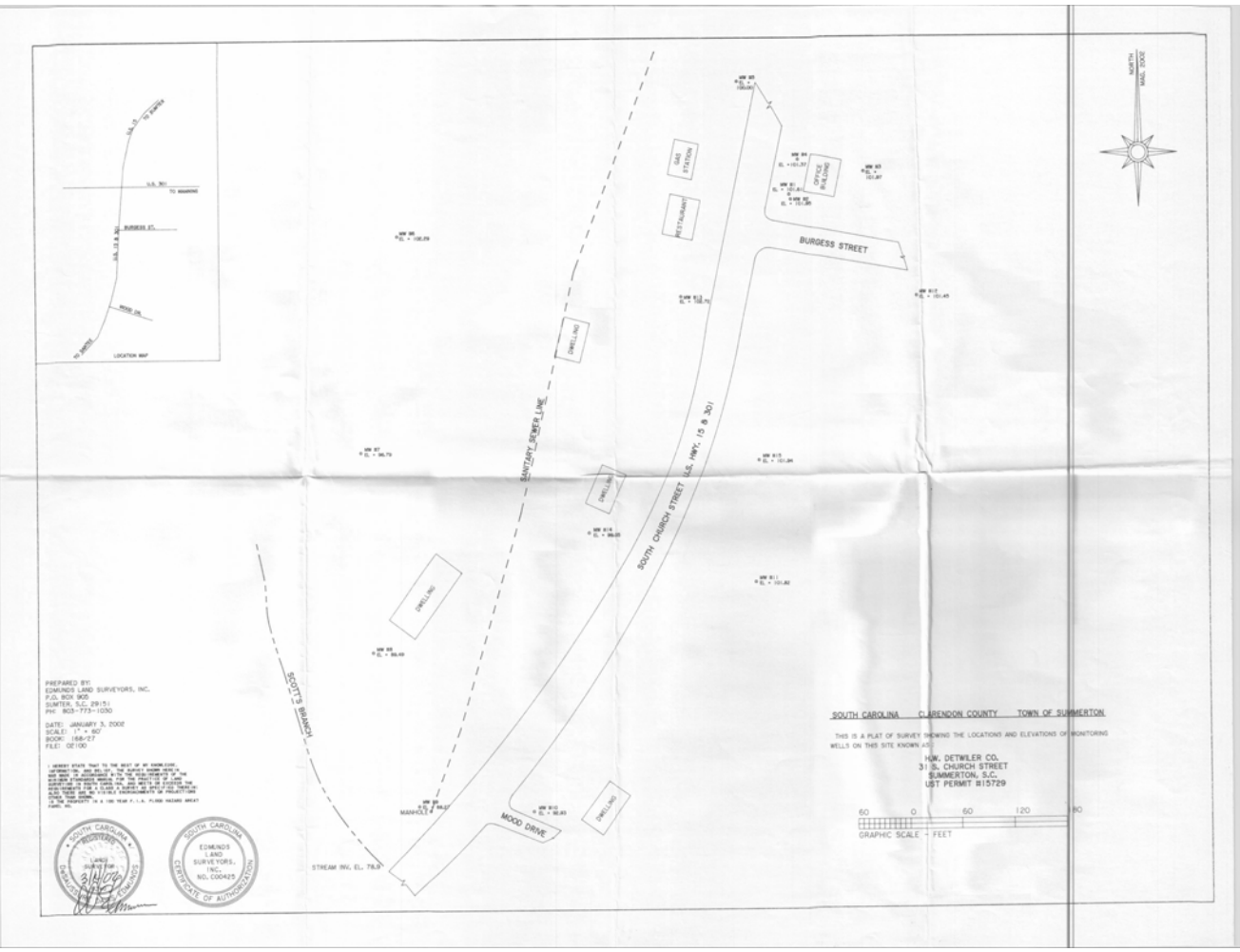
SOUTH CAROLINA CLARENDON COUNTY TOWN OF SUMMERTON

THIS IS A PLAT OF SURVEY SHOWING THE LOCATIONS AND ELEVATIONS OF MONITORING WELLS ON THIS SITE KNOWN AS:

H.W. DETWILER CO.
31 S. CHURCH STREET
SUMMERTON, S.C.
UST PERMIT #15729

60 0 60 120 180
GRAPHIC SCALE - FEET


N
WEST MAIN STREET
EVERGREEN CEMETER
SUMMERTON MIDDLE SCHOOL
BRIGGS AVENUE
METHODIST CHURCH
PRIORITERIAN
FOURTH STREET
SOUTH CHURCH STREET
SOUTH CANTEY STREET
DINGLE STREET
BURGESS STREET
SUMMERTON CITY LIMITS
SCOTTS BRANCH
SCHOOL DIST NO 10
CONT. MAP 78-12
MAP KEY
78-07 78-10 78-15
78-06 78-11 78-14
78-05 78-12 78-13
BLOCK NO. 50
PARCEL NO. 50
SUBDIVISION LOT NO. 50
SCHOOL DISTRICT NO. 50
REVISIONS
CLARENDON COUNTY S.C.
SCALE 1"=100'
DATE FEB. 1980
MAP NO. 78-11



NORTH
MAG. 2002
BURGESS STREET
SOUTH CHURCH STREET U.S. HWY. 15 & 301
SANITARY SEWER LINE
SCOTT'S BRANCH
MOOD DRIVE
GAS STATION
RESTAURANT
OFFICE BUILDING
DWELLING
MANHOLE
STREAM INV. EL. 78.9
LOCATION MAP
U.S. 301
TO WAMMING
BURGESS ST.
U.S. 15 & 301
TO SUMTER
PREPARED BY:
EDMUNDS LAND SURVEYORS, INC.
P.O. BOX 905
SUMTER, S.C. 29151
PH: 803-773-1030
DATE: JANUARY 3, 2002
SCALE: 1" = 60'
BOOK: 168/27
FILE: 02100
SOUTH CAROLINA CLARENDON COUNTY TOWN OF SUMMERTON
THIS IS A PLAT OF SURVEY SHOWING THE LOCATIONS AND ELEVATIONS OF MONITORING WELLS ON THIS SITE KNOWN AS:
H.W. DETWILER CO.
31 S. CHURCH STREET
SUMMERTON, S.C.
UST PERMIT #15729
60 0 60 120 180
GRAPHIC SCALE - FEET
SOUTH CAROLINA REGISTERED LAND SURVEYOR
3/4/04
SOUTH CAROLINA EDMUNDS LAND SURVEYORS, INC. NO. C00425 CERTIFICATE OF AUTHORIZATION

) H E C
ROMOTE PROTECT PROSPER
00 Bull Street
olumbia, SC 29201-1708

Monitoring Well Installation Approval Form

Date of Issue: December 14, 2001 Approval No.: **UMW-15729AMENDED**

Approval is hereby granted to: Emerald, Inc.
On behalf of: H. W. Detwiler Company
UST Permit #: 15729
County: Clarendon

This approval is for the construction of thirteen shallow and one deep permanent monitoring wells, and up to 482 feet of field screening in accordance with the construction plans and technical specifications outlined in the Tier II Assessment Document. The wells are to be constructed within the surficial aquifer for the intended purpose of monitoring ground-water quality and/or water level(s) at the referenced facility. Approval is provided with the following conditions:

1. The latitude and longitude, surveyed elevations, boring and/or geologist logs and actual (as built) construction details for each well will be submitted with the technical report.

2. Each well will be labeled with an identification plate constructed of a durable material affixed to the casing or surface pad where it is readily visible. The plate will provide monitoring well I.D.#, date of construction, static water level, and driller name and state certification #.

3. Well construction and sampling derived waste including, but not necessarily limited to, drill cuttings, drilling fluids, development and purge water should be managed properly and in compliance with applicable requirements. If containerized, each vessel should be clearly labeled with regard to contents, source, and date of activity.

4. A minimum of forty-eight (48) hours prior to initiation of drilling activities, please provide notice to Eric Owens at (803) 898-4343 or owensme@columb26.dhec.state.sc.us.

5. Please provide ground-water quality analytical data (chemical analysis and/or water level(s)) and associated measurements (i.e., in-situ field measurements) to me with the technical report.

6. Monitoring wells and temporary monitoring wells will be installed by or under the direct supervision of a licensed well driller certified by the State of South Carolina.

7. Monitoring wells and temporary monitoring wells will be abandoned by or under the direct supervision of a licensed well driller certified by the State of South Carolina. Temporary monitoring wells shall not remain in place for longer than 30 days from the date of installation. Monitoring wells may be abandoned only upon concurrence by this Bureau.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and the Department of Health and Environmental Control Regulations R.61-71. Please remember to have a copy of this approval on the site during well installation.

Approved by:

Eric Owens, Hydrogeologist
Owner/Operator Assistance Section
UST Program

UST PROGRAM
DOCKETING # [illegible] 04A

cc: Wateree District EQC
Mr. Harold W. Detwiler, Jr., P.O. Box 769, Summerton, SC 29148-0769
Technical File

EMERALD, INC.

Consulting and Engineering
Services in Environmental Affairs

214 West Liberty Street
P. O. Box 3050
Sumter, S. C. 29151

Phone: (803)773-5454
Fax: (803)775-1970

COVER SHEET FOR TELEFAX TRANSMITTAL

DATE: 3/8/01 TIME:

TELEFAX NUMBER: (803) 898-4330

TO: SCDHEC - UST PROGRAM

ATTN: SCOTT McINNIS, P.G.

FROM: Ronny Lowder

OUR FAX NUMBER (803) 775-1970

3 PAGE(S) BEING TRANSMITTED (INCLUDING THIS SHEET)

REMARKS: DETWILER SITE

RE: UST PERMIT # 15729

RECEIVED
MAR 8 2001
Underground Storage
Tank Program

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CP 1758
48420.75

DOCKETING # 04B Tech

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

214 WEST LIBERTY STREET • POST OFFICE BOX 3050 • SUMTER, SC 29151

E-MAIL:
rlemerald@CPIS.net

TELEPHONE (803) 773-5454
FAX (803) 775-1970

March 8, 2001

Memorandum

To : W. A. (Scotty) McInnis, III, P.G. Hydrogeologist
Owner/Operator Assistance Section

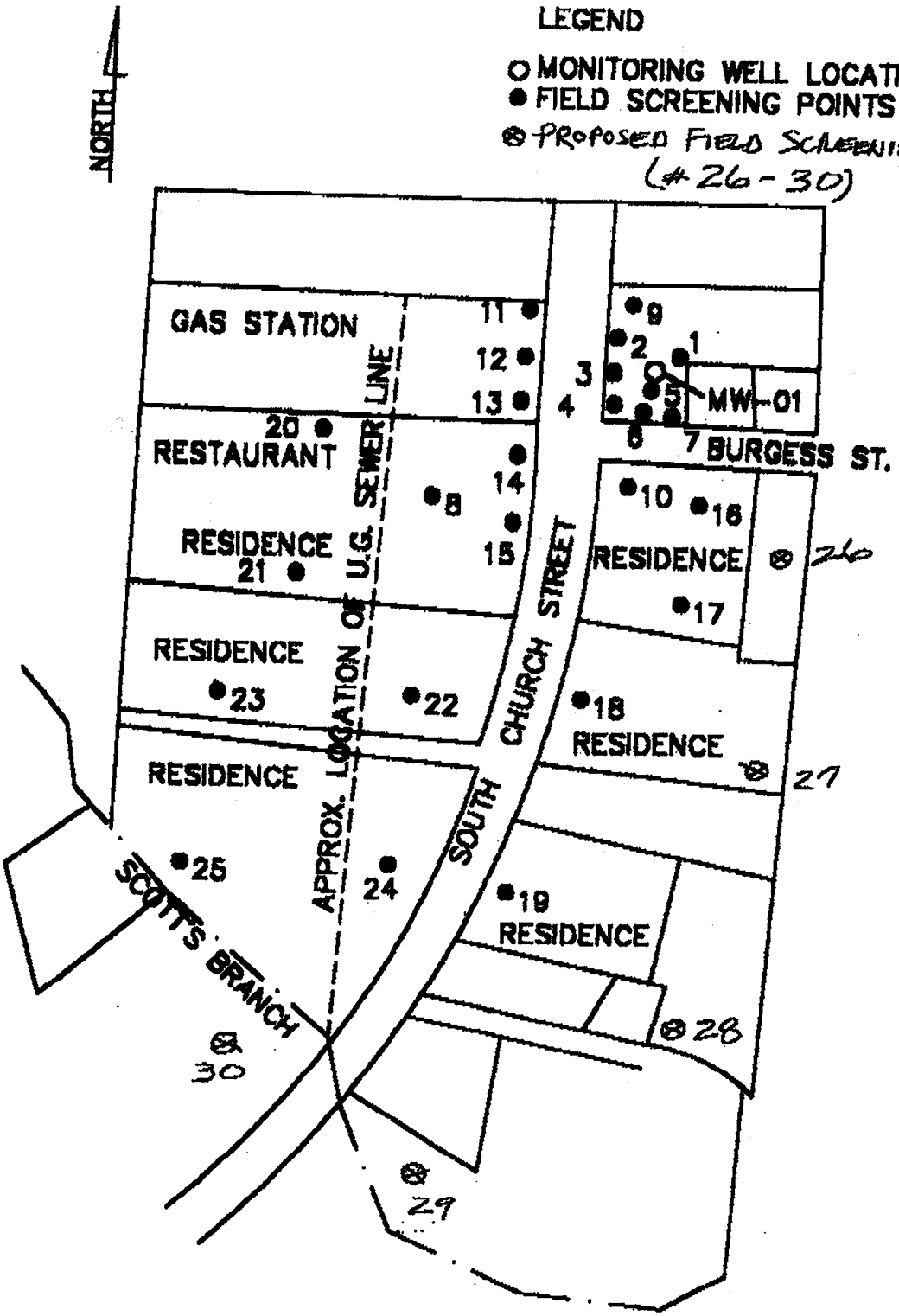
FROM: Ronny Lowder
Emerald, Inc.

SUBJECT: H.W. Detwiler Co.
UST Permit #15729
Additional Field Screening - Phase III

Per our telephone conversation dated March 5, 2001, I am providing you with the proposed additional footage (Phase III) at the Detwiler site. A site map is enclosed with the location of the proposed field screening points. For safety measures, I am requesting an additional 150 feet in case we need to move farther out during the field activity. In addition, you have requested that we sample Scotts Branch Creek both upgradient and downgradient of the potential impact point. If you have any questions, please give me a call or e-mail.

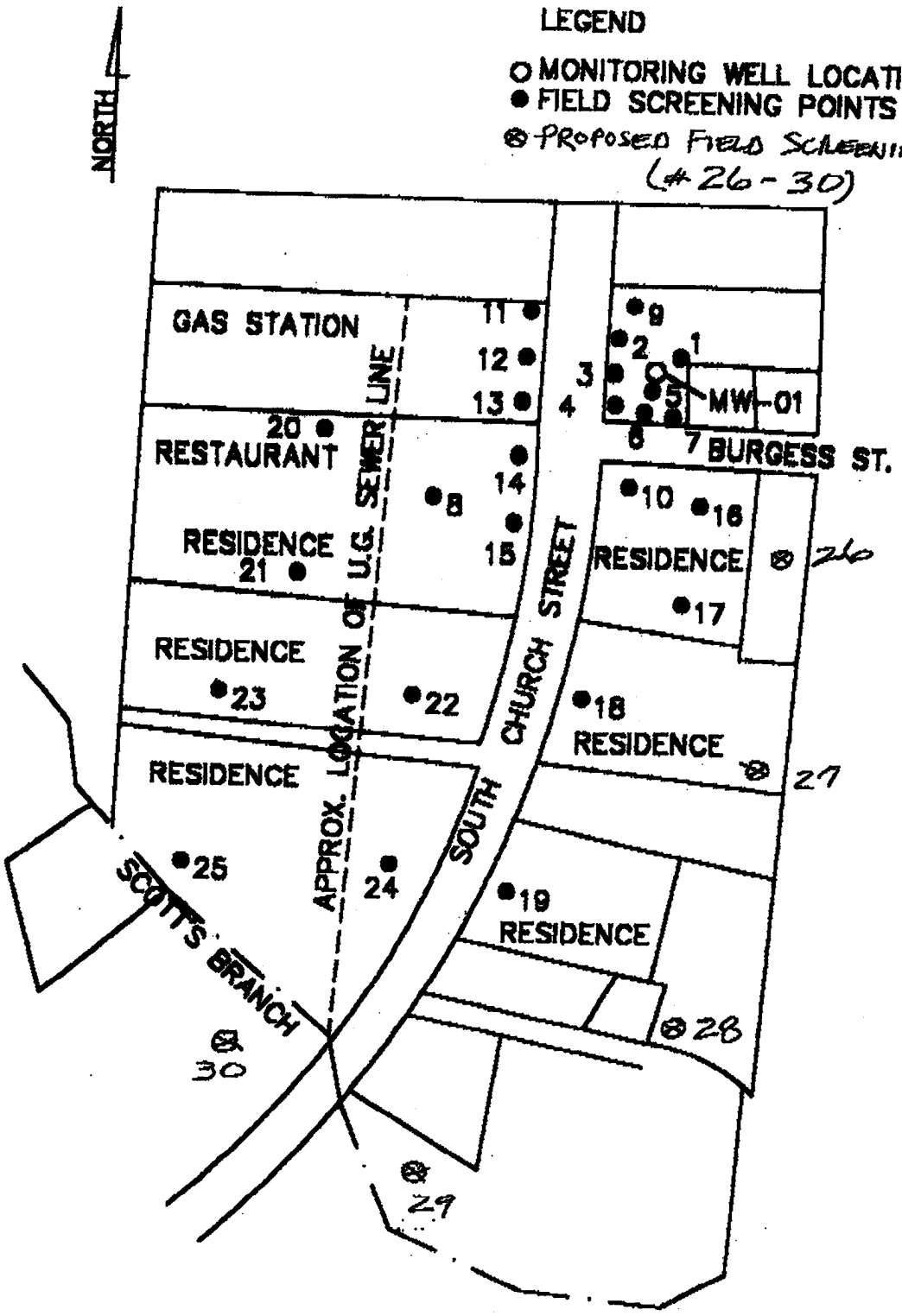
Thank you in advance for your cooperation.

Thanks,
Ronny



SCALE: 1" = 200'

H.W. DETWILER CO. 31 S. CHURCH STREET SUMMERTON, S.C. UST PERMIT #15728	FIELD SCREENING POINTS 1/24/01 & 2/01/01	Emerald, Inc. Sumter, SC E484HOLO



SCALE: 1" = 200'

H.W. DETWILER CO. 31 S. CHURCH STREET SUMMERTON, S.C. UST PERMIT #15728	FIELD SCREENING POINTS 1/24/01 & 2/01/01	Emerald, Inc. Sumter, SC E484HOLO

EMERALD, INC.

Consulting and Engineering
Services in Environmental Affairs

214 West Liberty Street
P. O. Box 3050
Sumter, S. C. 29151

Phone: (803)773-5454
Fax: (803)775-1970

COVER SHEET FOR TELEFAX TRANSMITTAL

DATE: 3/2/01 TIME: 3:20 PM

TELEFAX NUMBER: (803) 898-4330

TO: SCDHEC - UST PROGRAM

ATTN: SCOTTY MCINNIS, P.G.

FROM: Ronny Lowder

RECEIVED
MAR 0 2 2001
Bureau of Underground
Storage Tank Management

OUR FAX NUMBER (803) 775-1970

4 PAGE(S) BEING TRANSMITTED (INCLUDING THIS SHEET)

REMARKS: DETWILER SITE

RE: UST PERMIT # 1579
- FIELD SCREENING RESULTS

PLEASE ADVISE, THANKS,

Ronny

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DOCKETING # 04C Tech

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

214 WEST LIBERTY STREET • POST OFFICE BOX 3050 • SUMTER, SC 29151

E-MAIL:
rlemerald@CPIS.net

TELEPHONE (803) 773-5454
FAX (803) 775-1970

February 28, 2001

Memorandum

To : W. A. (Scotty) McInnis, III, P.G. Hydrogeologist
Owner/Operator Assistance Section

FROM: Ronny Lowder
Emerald, Inc.

SUBJECT: H.W. Detwiler Co.
UST Permit #15729
Field Screening Results/2nd Round

As a follow-up to my memorandum dated January 24, 2001 concerning the first round of field screening, I am providing you with the results of our second round of field screening dated February 1, 2001. As the results and associated map show, the plume is definitely moving to the south toward Scott's Branch. In fact, based upon the contaminant levels at field screening point GP-24, I would highly suspect that there is contamination being discharged to the creek which flows to the east-southeast. Several other factors are worth mentioning. One, the underground sewer line shown on the map is buried approximately 20 feet below the surface according to the Summerton Utilities Director. The shallow aquifer at or near the sewer line is ± 19-20 feet below the surface. It appears, and the field screening results tend to support such, that the contamination is following the sewer line along the western side of the plume. Secondly, the field screening along the eastern side of the plume has not been defined and there may be some other contributing factors. When seeking permission from the land owner on the southeastern corner of Burgess Street and S. Church Street (Hwy. 15) this last time, she (an elderly lady who lives out of the state) informed me that when she was a child (I estimate 60 or 70 years ago) there was a gasoline station in the front yard of the residence east of field screening point GP-18. Given the results of GP-18 and the points along the same side of the road south of such, it appears that there could be contribution from another source that has co-mingled with the Detwiler source.

Given the above facts, do you want us to propose monitoring well locations or conduct additional field screening? Please advise.

Thanks,
Ronny

H.W. DETWILER CO.
FIELD SCREENING RESULTS

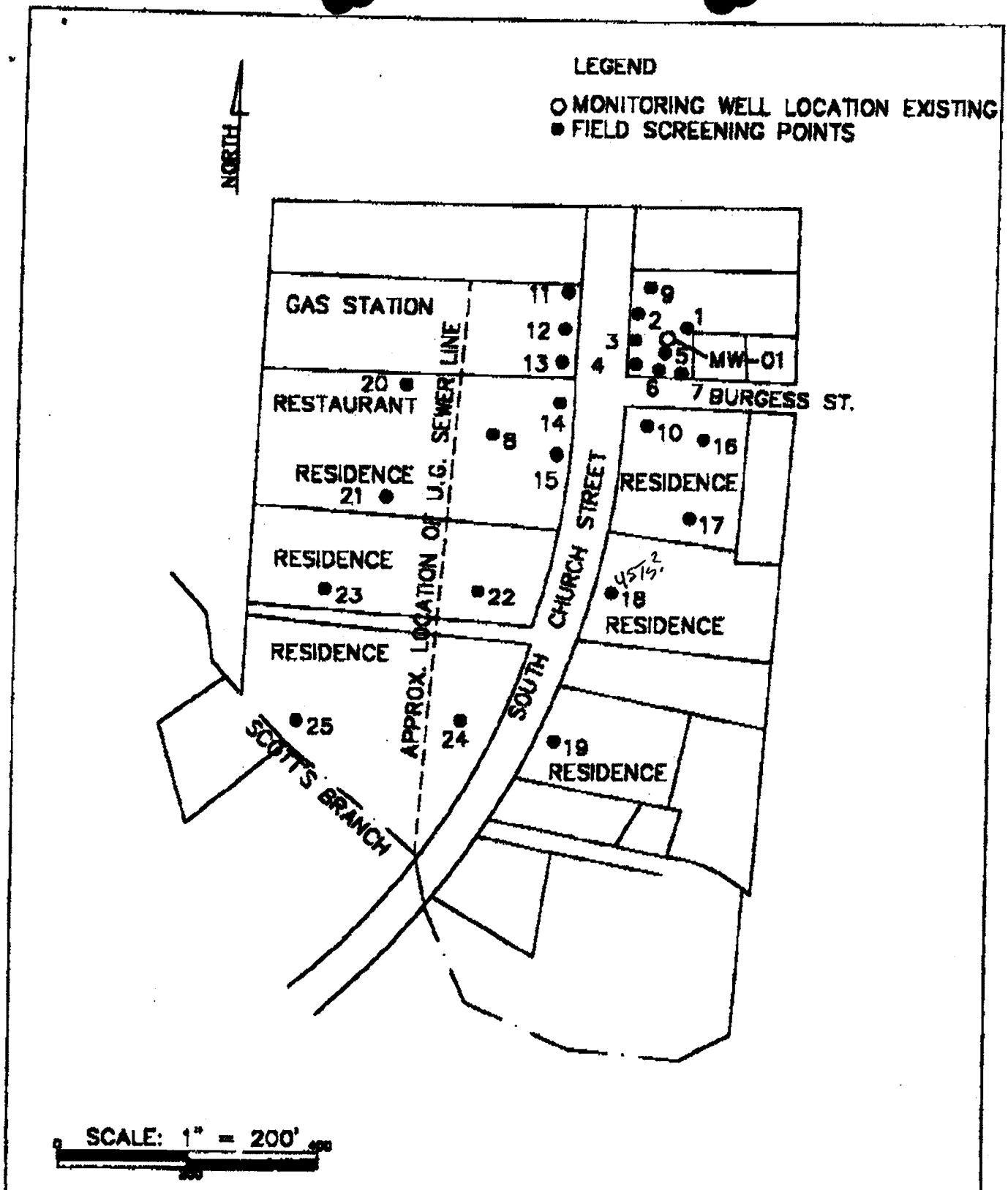
Date: 01/24/01

FIELD SCREENING POINT	Benzene	Toluene	Ethyl Benzene	Xylene	MTBE	Naphthalene
GP - 1	ND	ND	ND	ND	ND	ND
GP - 2	535	232	105	450	24.5	84
GP - 3	638	48	47	27	33	63
GP - 4	963	148	52	166	45	101
GP - 5	325	171	45	201	ND	75
GP - 6	18.7	77.1	35.1	64.8	ND	14.5
GP - 7	ND	ND	ND	ND	ND	ND
GP - 8	3380	470	840	260	1020	ND
GP - 9	16	2.1	23.9	ND	ND	15.1
GP -10	6880	1780	850	790	ND	ND
GP -11	10.5	34.5	8.6	31.7	ND	8.3
GP -12	150	101	24.6	84.4	10.9	17.7
GP -13	10.7	28.1	5.5	16.4	ND	5.3
GP -14	8260	6090	1090	1640	340	ND
GP -15	5940	5510	830	1440	210	ND

DATE: 02/01/01

GP-16	640	300	160	180	ND	ND
GP-17	1900	200	210	ND	ND	ND
GP-18	11500	5000	2000	1050	60	230
GP-19	1700	14	72	14	7	8
GP-20	ND	ND	ND	ND	1680	ND
GP-21	ND	ND	ND	ND	187	ND
GP-22	5700	3500	1400	2000	ND	ND
GP-23	ND	ND	ND	ND	440	ND
GP-24	6000	1000	1600	ND	ND	ND
GP-25	6	5	3	4	190	ND

NOTE: GP - Geoprobe
ND - Not Detected
All results are ug/l



H.W. DETWILER CO. 31 S. CHURCH STREET SUMMERTON, S.C. UST PERMIT #15728	FIELD SCREENING POINTS 1/24/01 & 2/01/01	Emerald, Inc. Sumter, SC

1-25-01 message

EMERALD, INC.

Consulting and Engineering
Services in Environmental Affairs

214 West Liberty Street
P. O. Box 3050
Sumter, S. C. 29151

Phone: (803)773-5454
Fax: (803)775-1970

COVER SHEET FOR TELEFAX TRANSMITTAL

RECEIVED
JAN 2 4 2001
Bureau of Underground
Storage Tank Management

DATE: 1/24/01 TIME: 3:45 PM

TELEFAX NUMBER: (803) 898-4330

TO: SCDHEC - UST PROGRAM

ATTN: SCOTTY McINNIS, P.G.

FROM: Ronny Lowder

OUR FAX NUMBER (803) 775-1970

4 PAGE(S) BEING TRANSMITTED (INCLUDING THIS SHEET)

REMARKS: H.W. DETWILER CO.

RE: UST PERMIT # 1579
FIELD SCREENING RESULTS

PLEASE ADVISE. THANKS,
Ronny

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UST PROGRAM
DOCKETING # 04D Tech

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

214 WEST LIBERTY STREET • POST OFFICE BOX 3050 • SUMTER, SC 29151

E-MAIL:
rlemerald@CPIS.net

TELEPHONE (803) 773-5454
FAX (803) 775-1970

January 24, 2001

Memorandum

TO: W.A. (Scotty) McInnis, III, P.G., Hydrogeologist
Owner/Operator Assistance Section

FROM: Ronny Lowder
Emerald, Inc.

SUBJECT: H.W. Detwiler Co.
UST Permit #15729
Field Screening Results

12758

DATE: January 24, 2001

Per the Tier II Plan approval dated December 12, 2000, Emerald, Inc. has conducted the initial field screening at the Detwiler location. I have enclosed a portion of a tax map showing the field screening points along with a chart showing the analytical results for each sample. As you will see, the plume appears to be moving toward the south-southwest toward Scott Branch. The results show heavy contamination off-site in residential and commercial areas, and the plume has not been defined. We have used 360 feet of the 400 feet allowed for field screening and it is our opinion that we need an additional 200 feet for field screening. At this point, we are also not sure if the gas station across the street is contributing to the contamination. Please advise.

Thanks

Ronny

44510.75

H.W. DETWILER CO.
FIELD SCREENING RESULTS

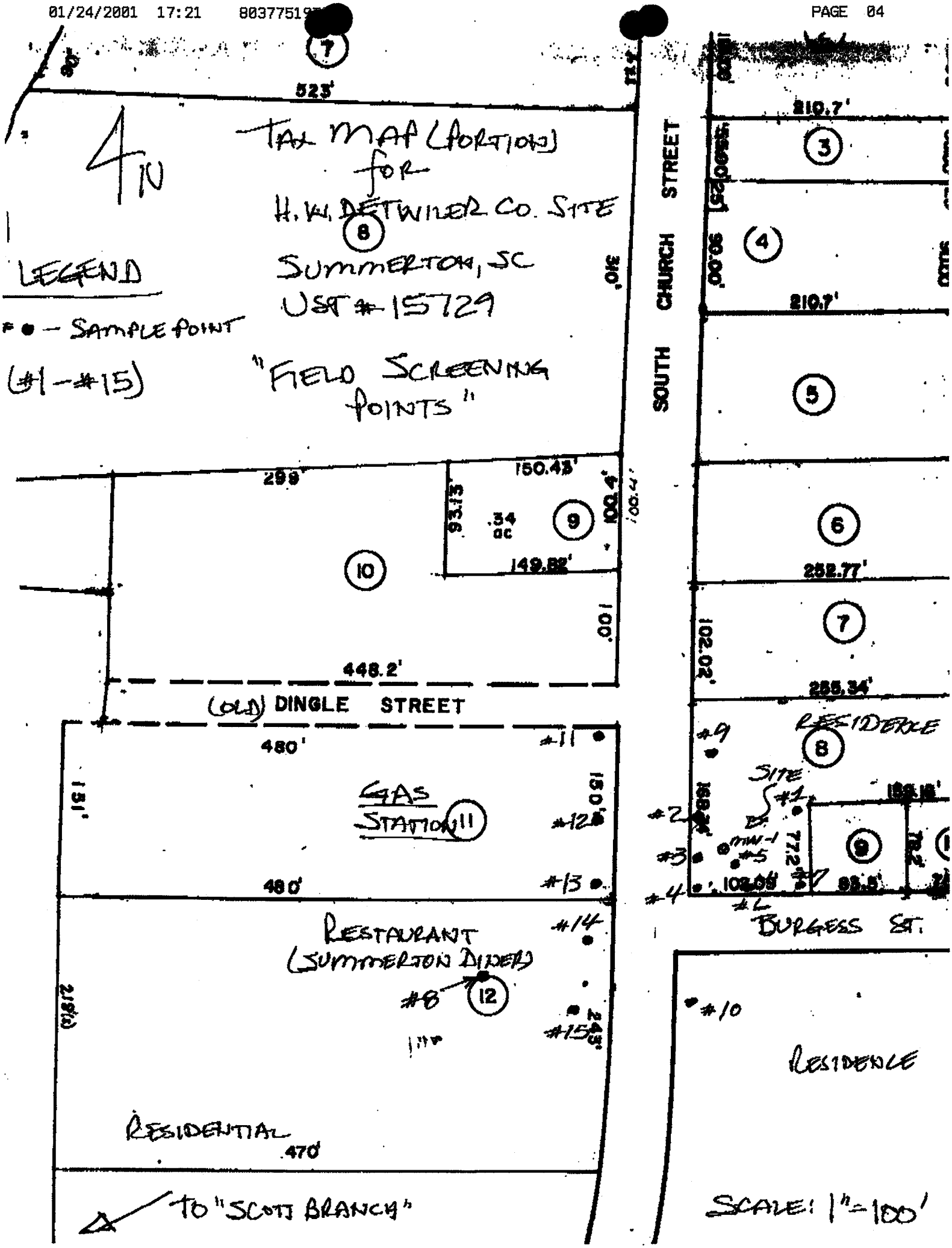
Date: 01/24/01

FIELD SCREENING POINT	Benzene	Toluene	Ethyl Benzene	Xylene	MTBE	Naphthalene
GP - 1	ND	ND	ND	ND	ND	ND
GP - 2	535	232	105	450	24.5	84
GP - 3	638	48	47	27	33	83
GP - 4	963	148	52	166	45	101
GP - 5	325	171	45	201	ND	75
GP - 6	18.7	77.1	35.1	84.8	ND	14.5
GP - 7	ND	ND	ND	ND	ND	ND
GP - 8	3380	470	840	260	1020	ND
GP - 9	16	2.1	23.9	ND	ND	15.1
GP -10	6880	1780	850	790	ND	ND
GP -11	10.5	34.5	8.6	31.7	ND	6.3
GP -12	150	101	24.6	84.4	10.9	17.7
GP -13	10.7	26.1	5.5	16.4	ND	5.3
GP -14	8260	6090	1080	1640	340	ND
GP -15	5940	5510	830	1440	210	ND

NOTE: GP - GEOPROBE

NP - NOT DETECTED

ALL RESULTS ARE ug/l


TAX MAP (PORTION) for H.W. DETWILER CO. SITE
SUMMERTON, SC
UST # 15729
"FIELD SCREENING POINTS"
LEGEND
● - SAMPLE POINT
(#1-#15)
N
SOUTH CHURCH STREET
(OLD) DINGLE STREET
BURGESS ST.
RESIDENCE
SITE #1
GAS STATION
RESTAURANT (SUMMERTON DINER)
RESIDENTIAL
TO "SCOTT BRANCH"
SCALE: 1"=100'
523'
210.7'
299'
150.43'
149.82'
448.2'
252.77'
255.34'
480'
480'
470'
310'
100'
102.02'
151'
150'
243'
77.2'
93.5'
#1
#2
#3
#4
#5
#6
#7
#8
#9
#10
#11
#12
#13
#14
#15
MW-1
.34 ac

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

214 WEST LIBERTY STREET • POST OFFICE BOX 3050 • SUMTER, SC 29151

E-MAIL:
rllemerald@CPIS.net

TELEPHONE (803) 773-5454
FAX (803) 775-1970

August 9, 2000

Pamela DuBois, Hydrogeologist
Assessment and Corrective Action Division
Owner/Operator Assistance Section
Bureau of Underground Storage Tank Management
SCDHEC
2600 Bull Street
Columbia, SC 29201-1708

RECEIVED
AUG 14 2000
Bureau of Underground
Storage Tank Management

Re: H. W. Detwiler Co.
UST Permit #15729; CP #10760
IGWA Report
Clarendon County

Dear Miss DuBois:

On behalf of Mr. Detwiler, we are submitting to you the enclosed IGWA Report as per your request dated April 11, 2000. Please note that the monitoring well was not sampled due to the fact that the well contains 1.51 feet of free product. If you have any questions, please give me a call at your convenience.

In addition, I have enclosed the IGWA invoice for SUPERB payment.

Thank you in advance for your cooperation.

Yours very truly,
Emerald, Inc.

Ronny L. Lowder
President

RLL/be
enclosure
cc: Harold Detwiler, Jr.

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

214 WEST LIBERTY STREET • POST OFFICE BOX 3050 • SUMTER, SC 29151

E-MAIL:
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TELEPHONE (803) 773-5454
FAX (803) 775-1970

INITIAL GROUND-WATER ASSESSMENT REPORT (IGWA)
H. W. DETWILER CO.
31 S. CHURCH STREET
SUMMMERTON, SOUTH CAROLINA
SITE ID# 15729

RECEIVED
Bureau of Underground Storage Tank Management

Prepared For:

Harold Detwiler, Jr.
P.O. Box 760
Summerton, South Carolina 29148

Prepared By:

EMERALD, INC.
P.O. Box 3050
214 W. Liberty Street
Sumter, SC 29151

August 9, 2000

PROGRAM
DOCKETING # 05Tech

TABLE OF CONTENTS

- IGWA Report
- Appendices

INITIAL GROUND-WATER ASSESSMENT REPORT

Facility Name: H. W. Detwiler Co.

UST Permit Number: 15729

UST Owner or Operator's Name: Harold Detwiler, Jr.

Address: P.O. Box 760, Summerton, SC 29148

Phone Number: (803) 485 - 2665

Property Owner's Names: (if different than UST owner/operator):

Address:

Phone Number:

Contractor: Emerald, Inc. Cert. # 67

Address: P.O. Box 3050, Sumter, SC 29151

Phone Number: (803) 773-5454

Well Driller: Saedacco / Richy Lemire Cert. # 1423

Address: 1041 John Price Rd., Charlotte, NC 28273

Phone Number: (704) 504-9195

Receptor and Site Data
Please place a check in the appropriate answer block for each question:

Receptor Survey Questions	No	Yes *
Is there a drinking water supply well (public or private) or surface water supply intake within 1000 feet of the UST?	X	
Are irrigation or other non-drinking water wells located within 1000 feet of the UST?	X	
Are there other potential receptors (i.e., utilities, surface waters, wetlands) less than 500 feet from UST?		X

* If "yes" provide additional information:

Underground utilities including public water and sewer plus storm drains located adjacent to site.

Were any water wells within 250 ft radius samples? ____Yes ___X_No

Is a public water supply line in the area? ___X__Yes _____No

Is the current use of the facility and surrounding properties commercial, residential, agricultural or industrial?

Site: Commercial Adjacent Properties: Residential

See Appendix F for Chain of Custody Form and Laboratory Data.

Soil and Boring/Monitoring Well Data

Primary Soil Type: Sandy Clay

Well Installation Method and Date: Conventional rig-bored 05/30/00

Development Method: Removal of 3 Well Volumes

Soil Sample obtained at 4 - 6 feet.

SOIL ANALYTICAL DATA

Benzene (ug/kg)	Toluene (ug/kg)	Ethylbenzene (ug/kg)	Xylenes (ug/kg)	Naphthalene (ug/kg)
1540	31,260	77,700	29,140	10,830

Benzo(a)-anthracene (ug/kg)	Benzo(b)-fluoranthene (ug/kg)	Benzo(k)-fluoranthene (ug/kg)	Chrysene (ug/kg)	Dibenz(a,h) anthracene (ug/kg)
ND	ND	ND	ND	ND

Total PAH (ug/kg)	Lead (ug/kg)
2460	NA

*For waste oil UST releases only: NA

Total Chromium* (ug/kg)	Mercury* (ug/kg)	Selenium* (ug/kg)	Silver* (ug/kg)

Arsenic* (ug/kg)	Barium* (ug/kg)	Cadium* (ug/kg)

Ground-Water Data

Depth to Ground Water: 6.25 Ft.

Well Purging/Sampling Method: NA

Date Sampled: 07/14/00

Free Product Thickness: 1.51 Ft.

Equilibrated values: N/A

Temperature: _____ pH: _____

Dissolved Oxygen:_____ Specific Conductance:_____

Soil/Water Disposal Method: G & K Tank Services, Inc.

GROUND-WATER ANALYTICAL DATA

Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene ug/l	Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)
NA	NA	NA	NA	NA	NA

Benzo(a)-anthracene (ug/l)	Benzo(b)-fluoranthene (ug/l)	Benzo(k)-fluoranthene (ug/l)	Chrysene (ug/l)	Dibenz(a,h) anthracene (ug/l)
NA	NA	NA	NA	NA

EDB (ug/L)	Total PAH (ug/L)	Lead (ug/L)
NA	NA	NA

*For waste oil UST releases.

Total Chromium* (ug/kg)	Mercury* (ug/kg)	Selenium* (kg/ug)	Silver* (kg/ug)

Arsenic* (ug/L)	Barium* (ug/L)	Cadmium* (ug/L)

Appendices

The appendices required for this report are as follows:

Appendix A. Well Construction Log
Appendix B. Laboratory Data
Appendix C. Topographic map with site location marked.
Appendix D. Site Base Map
Appendix E. Disposal Manifest(s). (Must be included for payment from SUPERB)
Appendix F. Additional Data (Sampling Results of Existing Ground-Water Wells)

Report Completed By: _____ Contractor Cert.# 67
(Signature)

Date: August 9, 2000

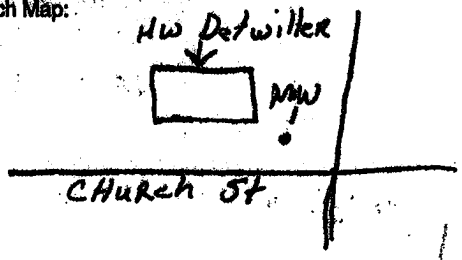
APPENDIX A

WELL CONSTRUCTION LOG

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:
County: CLARENDON
System Name: H. W. DETWILER CO 31 S. CHURCH ST. SUMMERTON, SC
Latitude:
Longitude:
Distance and Direction from Road Intersections: 20 Feet off CHURCH St at 31 S Church St Summerton S.C.
Street Address & City of Well Location:
Sketch Map:



2. CUTTING SAMPLES: ☒ Yes ☐ No
Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
4-6 Red Clay		
9-11 Red Clay		
14-16 Red Clay		
19-21 Red Sand		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

3. REMARKS:

4. OWNER OF WELL: H. W. DETWILER CO.
Address: 31 S. CHURCH ST. SUMMERTON, SC
Telephone No.:
Engineer: EMERALD, INC.
Address: P.O. BOX 3050 SUMTER, SC 29151
Telephone No.: (803) 773-5454

5. WELL DEPTH (completed) 23 ft.
Date Started: 5-30-00
Date Completed: 5-30-00

6. ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. USE: ☐ Domestic ☐ Public Supply–Permit No. ____ ☐ Industry ☐ Irrigation ☐ Air Conditioning ☐ Commercial ☐ Test Well ☒ Monitor Well ☐ ____

8. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 13 ft. depth
____ in. to ____ ft. depth
Height: Above/Below Surface ____ ft.
Weight ____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

9. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: .010 Length: 10'
Set Between: 13 ft. and 23 ft. NOTE: MULTIPLE SCREENS USE SECOND SHEET
____ ft. and ____ ft.
Sieve Analysis ☐ Yes (please enclose) ☐ No

10. STATIC WATER LEVEL ____ ft. below land surface after 24 hours

11. PUMPING LEVEL Below Land Surface, ____ ft. after ____ hrs. Pumping ____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: ____

12. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

13. ARTIFICIAL FILTER (gravel pack) ☒ Yes ☐ No
Installed from 11 ft. to 23 ft.
Effective size #2 Uniformity Coefficient Sand

14. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other ____
Depth: From 0 ft. to 9 ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
____ Type well disinfected ☐ Yes Type: ____
upon completion ☐ No Amount: ____

16. PUMP: Date Installed: ____ Not installed ☐
Mfr. Name: ____ Model No.: ____
H.P. ____ Volts ____ Length of drop pipe ____ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

17. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Registered Business Name: SAEDACCO Date: 5-30-00
Address: 10401 John Price Rd Charlotte NC
Signed: [signature] Cert. No. 1423
Authorized Representative

DHEC 1903 (10/96) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

APPENDIX B

LABORATORY DATA

TestAmerica
INCORPORATED

2960 Foster Creighton Dr
Nashville, TN 37204
615-726-0177
Fax: 615-726-0954

ANALYTICAL REPORT

EMERALD, INC. 8583
RON LOWDER
PO BOX 3050
SUMTER, SC 29151

Lab Number: 00-A74677
Sample ID: MW-01(4-6)
Sample Type: Soil
Site ID:

Project: HWD
Project Name:
Sampler: RL

Date Collected: 5/30/00
Time Collected: 14:55
Date Received: 6/ 1/00
Time Received: 9:00

Analyte	Result	Units	Report Limit	Run Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Naphthalene	2.46	mg/kg	0.076	0.066	1	6/ 3/00	3:11	J.Shelton	8270C	8325
Acenaphthene	ND	mg/kg	0.076	0.066	1	6/ 3/00	3:11	J.Shelton	8270C	8325
Anthracene	ND	mg/kg	0.076	0.066	1	6/ 3/00	3:11	J.Shelton	8270C	8325
Fluoranthene	ND	mg/kg	0.076	0.066	1	6/ 3/00	3:11	J.Shelton	8270C	8325
Fluorene	ND	mg/kg	0.076	0.066	1	6/ 3/00	3:11	J.Shelton	8270C	8325
Pyrene	ND	mg/kg	0.076	0.066	1	6/ 3/00	3:11	J.Shelton	8270C	8325
Benzo(a)anthracene	ND	mg/kg	0.076	0.066	1	6/ 3/00	3:11	J.Shelton	8270C	8325
Benzo(a)pyrene	ND	mg/kg	0.076	0.066	1	6/ 3/00	3:11	J.Shelton	8270C	8325
Benzo(b)fluoranthene	ND	mg/kg	0.076	0.066	1	6/ 3/00	3:11	J.Shelton	8270C	8325
Benzo(k)fluoranthene	ND	mg/kg	0.076	0.066	1	6/ 3/00	3:11	J.Shelton	8270C	8325
Chrysene	ND	mg/kg	0.076	0.066	1	6/ 3/00	3:11	J.Shelton	8270C	8325
Dibenzo(a,h)anthracene	ND	mg/kg	0.076	0.066	1	6/ 3/00	3:11	J.Shelton	8270C	8325
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.076	0.066	1	6/ 3/00	3:11	J.Shelton	8270C	8325
Acenaphthylene	ND	mg/kg	0.076	0.066	1	6/ 3/00	3:11	J.Shelton	8270C	8325
Benzo(g,h,i)perylene	ND	mg/kg	0.076	0.066	1	6/ 3/00	3:11	J.Shelton	8270C	8325
Phenanthrene	ND	mg/kg	0.076	0.066	1	6/ 3/00	3:11	J.Shelton	8270C	8325
VOLATILE ORGANICS										
Benzene	1.540	mg/kg	0.2299	0.0020	100	6/ 2/00	18:56	K.Hill	8260B	9332
Ethylbenzene	77.70	mg/kg	2.299	0.0020	1000	6/ 3/00	22:07	K.Hill	8260B	9332
Naphthalene	10.83	mg/kg	0.5747	0.0020	100	6/ 2/00	18:56	K.Hill	8260B	9332
Toluene	31.26	mg/kg	2.299	0.0020	1000	6/ 3/00	22:07	K.Hill	8260B	9332
Xylenes	291.4	mg/kg	2.299	0.0020	1000	6/ 3/00	22:07	K.Hill	8260B	9332
GENERAL CHEMISTRY PARAMETERS										
% Dry Weight	87.	%			1	6/ 2/00	15:07	J. Rudden	CLP	6758

ND = Not detected at the report limit.

Sample report continued . . .

TestAmerica
INCORPORATED

2960 Foster Creighton Dr
Nashville, TN 37204
615-726-0177
Fax: 615-726-0954

ANALYTICAL REPORT

Laboratory Number: 00-A74677
Sample ID: MW-01(4-6)

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
BNA's	29.9 gm	1.0 ml	6/ 2/00	J. Rudden	3550
Volatile Organics	4.2 g	5.0 ml	5/30/00	K.Hill	5035

Surrogate	% Recovery	Target Range
surr-1,2-Dichloroethane, d4	93.	41. - 138.
surr-Toluene d8	100.	55. - 136.
surr-4-Bromofluorobenzene	85.	53. - 132.
surr-Dibromofluoromethane	107.	60. - 146.
surr-Nitrobenzene-d5	68.	21. - 125.
surr-2-Fluorobiphenyl	75.	25. - 114.
surr-Terphenyl d14	101.	27. - 120.

These results relate only to the items tested.
This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By: T. J. Duello Report Date: 6/ 6/00

Theodore J. Duello, Ph.D., Technical Serv.
Michael H. Dunn, M.S., Technical Director
Johnny A. Mitchell, Dir. Technical Serv
Eric S. Smith, Assistant Technical Director
Gail A Lage, Technical Serv.
Paul E. Lane, Jr., Lab Director
Glenn L. Norton, Technical Serv.
Kelly R. Comstock, Technical Serv
Pamela A. Langford, Technical Serv.

Laboratory Certification Number: 84009

End of Sample Report.

TestAmerica
INCORPORATED

2960 Foster Creighton Dr
Nashville, TN 37204
615-726-0177
Fax: 615-726-0954

PROJECT QUALITY CONTROL DATA

Matrix Spike Recovery

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Sample Spiked
Naphthalene	ng/kg	0.231	< 0.165	3.33	N/A	54. - 128.	8325	00-A74660
Acenaphthene	ng/kg	< 0.066	1.52	3.33	46@	32. - 120.	8325	00-A74660
Anthracene	ng/kg	< 0.066	< 0.165	3.33	N/A	58. - 132.	8325	00-A74660
Fluoranthene	ng/kg	< 0.066	< 0.165	3.33	N/A	38. - 139.	8325	00-A74660
Fluorene	ng/kg	< 0.066	< 0.165	3.33	N/A	63. - 136.	8325	00-A74660
Pyrene	ng/kg	< 0.066	1.93	3.33	5?	27. - 137.	8325	00-A74660
Benzo(a)anthracene	ng/kg	< 0.066	< 0.165	3.33	N/A	59. - 120.	8325	00-A74660
Benzo(a)pyrene	ng/kg	< 0.066	< 0.165	3.33	N/A	42. - 142.	8325	00-A74660
Benzo(b)Fluoranthene	ng/kg	< 0.066	< 0.165	3.33	N/A	47. - 128.	8325	00-A74660
Benzo(k)Fluoranthene	ng/kg	< 0.066	< 0.165	3.33	N/A	52. - 146.	8325	00-A74660
Chrysene	ng/kg	< 0.066	< 0.165	3.33	N/A	68. - 132.	8325	00-A74660
Dibenzo(a,h)anthracene	ng/kg	< 0.066	< 0.165	3.33	N/A	51. - 139.	8325	00-A74660
Indeno(1,2,3-cd)pyrene	ng/kg	< 0.066	< 0.165	3.33	N/A	53. - 153.	8325	00-A74660
Acenaphthylene	ng/kg	< 0.066	< 0.165	3.33	N/A	60. - 118.	8325	00-A74660
Benzo(g,h,i)perylene	ng/kg	< 0.066	< 0.165	3.33	N/A	58. - 112.	8325	00-A74660
Phenanthrene	ng/kg	< 0.066	< 0.165	3.33	N/A	67. - 129.	8325	00-A74660
Benzene	ng/kg	< 0.0020	0.0475	0.0500	95	62. - 147.	9332	00-A76222
Toluene	ng/kg	< 0.0020	0.0448	0.0500	90	57. - 156.	9332	00-A76222

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
Naphthalene	ng/kg	< 0.165	< 0.165	N/A	15.	8325
Acenaphthene	ng/kg	1.52	1.39	8.93	18.	8325
Anthracene	ng/kg	< 0.165	< 0.165	N/A	17.	8325
Fluoranthene	ng/kg	< 0.165	< 0.165	N/A	15.	8325
Fluorene	ng/kg	< 0.165	< 0.165	N/A	16.	8325
Pyrene	ng/kg	1.93	1.85	5.26	20.	8325
Benzo(a)anthracene	ng/kg	< 0.165	< 0.165	N/A	21.	8325
Benzo(a)pyrene	ng/kg	< 0.165	< 0.165	N/A	20.	8325
Benzo(b)Fluoranthene	ng/kg	< 0.165	< 0.165	N/A	25.	8325
Benzo(k)Fluoranthene	ng/kg	< 0.165	< 0.165	N/A	43.	8325
Chrysene	ng/kg	< 0.165	< 0.165	N/A	11.	8325
Dibenzo(a,h)anthracene	ng/kg	< 0.165	< 0.165	N/A	37.	8325
Indeno(1,2,3-cd)pyrene	ng/kg	< 0.165	< 0.165	N/A	48.	8325
Acenaphthylene	ng/kg	< 0.165	< 0.165	N/A	20.	8325
Benzo(g,h,i)perylene	ng/kg	< 0.165	< 0.165	N/A	46.	8325
Phenanthrene	ng/kg	< 0.165	< 0.165	N/A	17.	8325
Benzene	ng/kg	0.0475	0.0460	3.21	20.	9332
Toluene	ng/kg	0.0448	0.0430	4.10	20.	9332

Project QC continued . . .

TestAmerica
INCORPORATED

2960 Foster Creighton Dr
Nashville, TN 37204
615-726-0177
Fax: 615-726-0954

PROJECT QUALITY CONTROL DATA

Laboratory Control Data

Analyte	Units	Known Val.	Analyzed Val	% Recovery	Target Range	B.C. Batch
Naphthalene	ng/kg	1.67	1.35	81	32 - 123	8325
Acenaphthene	ng/kg	1.67	1.42	85	36 - 131	8325
Anthracene	ng/kg	1.67	1.52	91	39 - 142	8325
Fluoranthene	ng/kg	1.67	1.48	89	44 - 144	8325
Fluorene	ng/kg	1.67	1.52	91	38 - 136	8325
Pyrene	ng/kg	1.67	1.88	113	38 - 152	8325
Benzo(a)anthracene	ng/kg	1.67	1.62	97	41 - 152	8325
Benzo(e)pyrene	ng/kg	1.67	1.58	95	40 - 151	8325
Benzo(a)fluoranthene	ng/kg	1.67	1.42	85	26 - 146	8325
Benzo(k)fluoranthene	ng/kg	1.67	1.68	101	37 - 199	8325
Chrysene	ng/kg	1.67	1.48	89	44 - 156	8325
Dibenzo(a,h)anthracene	ng/kg	1.67	1.32	79	41 - 154	8325
Indeno(1,2,3-cd)pyrene	ng/kg	1.67	1.32	79	41 - 152	8325
Acenaphthylene	ng/kg	1.67	1.45	87	37 - 134	8325
Benzo(g,h,i)perylene	ng/kg	1.67	1.32	79	38 - 156	8325
Phenanthrene	ng/kg	1.67	1.52	91	41 - 145	8325
Benzene	ng/kg	0.0500	0.0510	102	74 - 129	9332
Ethylbenzene	ng/kg	0.0500	0.0495	99	70 - 135	9332
Naphthalene	ng/kg	0.0500	0.0421	84	59 - 141	9332
Toluene	ng/kg	0.0500	0.0491	98	72 - 125	9332
Xylenes	ng/kg	0.1500	0.1351	90	70 - 134	9332

Blank Data

Analyte	Blank Value	Units	B.C. Batch
Naphthalene	< 0.165	ng/kg	8325
Acenaphthene	< 0.165	ng/kg	8325
Anthracene	< 0.165	ng/kg	8325
Fluoranthene	< 0.165	ng/kg	8325
Fluorene	< 0.165	ng/kg	8325
Pyrene	< 0.165	ng/kg	8325
Benzo(a)anthracene	< 0.165	ng/kg	8325
Benzo(e)pyrene	< 0.165	ng/kg	8325
Benzo(b)fluoranthene	< 0.165	ng/kg	8325
Benzo(k)fluoranthene	< 0.165	ng/kg	8325
Chrysene	< 0.165	ng/kg	8325
Dibenzo(a,h)anthracene	< 0.165	ng/kg	8325
Indeno(1,2,3-cd)pyrene	< 0.165	ng/kg	8325
Acenaphthylene	< 0.165	ng/kg	8325
Benzo(g,h,i)perylene	< 0.165	ng/kg	8325
Phenanthrene	< 0.165	ng/kg	8325
Benzene	< 0.0020	ng/kg	9332
Ethylbenzene	< 0.0020	ng/kg	9332

Project QC continued . . .

TestAmerica
INCORPORATED

2960 Foster Creighton Dr
Nashville, TN 37204
615-726-0177
Fax: 615-726-0954

PROJECT QUALITY CONTROL DATA

Blank Data

Analyte	Blank Value	Units	Q.C. Batch
Naphthalene	< 0.0050	mg/kg	9332
Toluene	< 0.0020	mg/kg	9332
Xylenes	< 0.0020	mg/kg	9332

COPY 3

TESTAMERICA INC.

Chain of Custody Record 194034

❒ Asheville, NC (828) 254-5169
❒ Norcross, GA (770) 368-0636
❒ Charlotte, NC (704) 392-1164
❒ Frankfort KY (502) 223-0251
❒ Morrisville, NC (919) 380-9699
❒ Lumberton, NC (910) 738-6190
❒ Lexington, SC (803) 796-8989
❒ Brighton, CO (303) 659-0497
❒ Macon, GA (912) 757-0811
❒ Orlando, FL (407) 851-2560

Client: EMERALD, INC.	Project No.: HWD
Report Address: P.O. BOX 3050 SUMTER, SC 29151	Invoice Address: SAME
Attn: R. LOWDER	Attn: SAME
Phone No.: (803) 773-5454	Sampled By: RL
Fax No.: (803) 775-1970	P.O. No: —
	State Samples Collected SC

TURNAROUND TIME
❒ 24 Hours ❒ 48 Hours
❒ 5 Days ❒ 10 Days
Date Needed: 6/8/00

REQUESTED PARAMETERS

BTEX (NAPH (8260B) PAHs

LAB CODE I.D.
A = Asheville, NC
C = Charlotte, NC
D = Denver, CO
E = Lexington, SC
G = Macon, GA
K = Frankfort, KY
L = Lumberton, NC
M = Morrisville, NC
N = Norcross, GA
O = Orlando, FL
S = Subcontracted

Sample ID	Date	Time	Comp/ Grab	Matrix	Containers	← Preserv.	REMARKS
MW-01 (4-6)	5/30/00	2155	G	SOIL	5	✓ L	74677

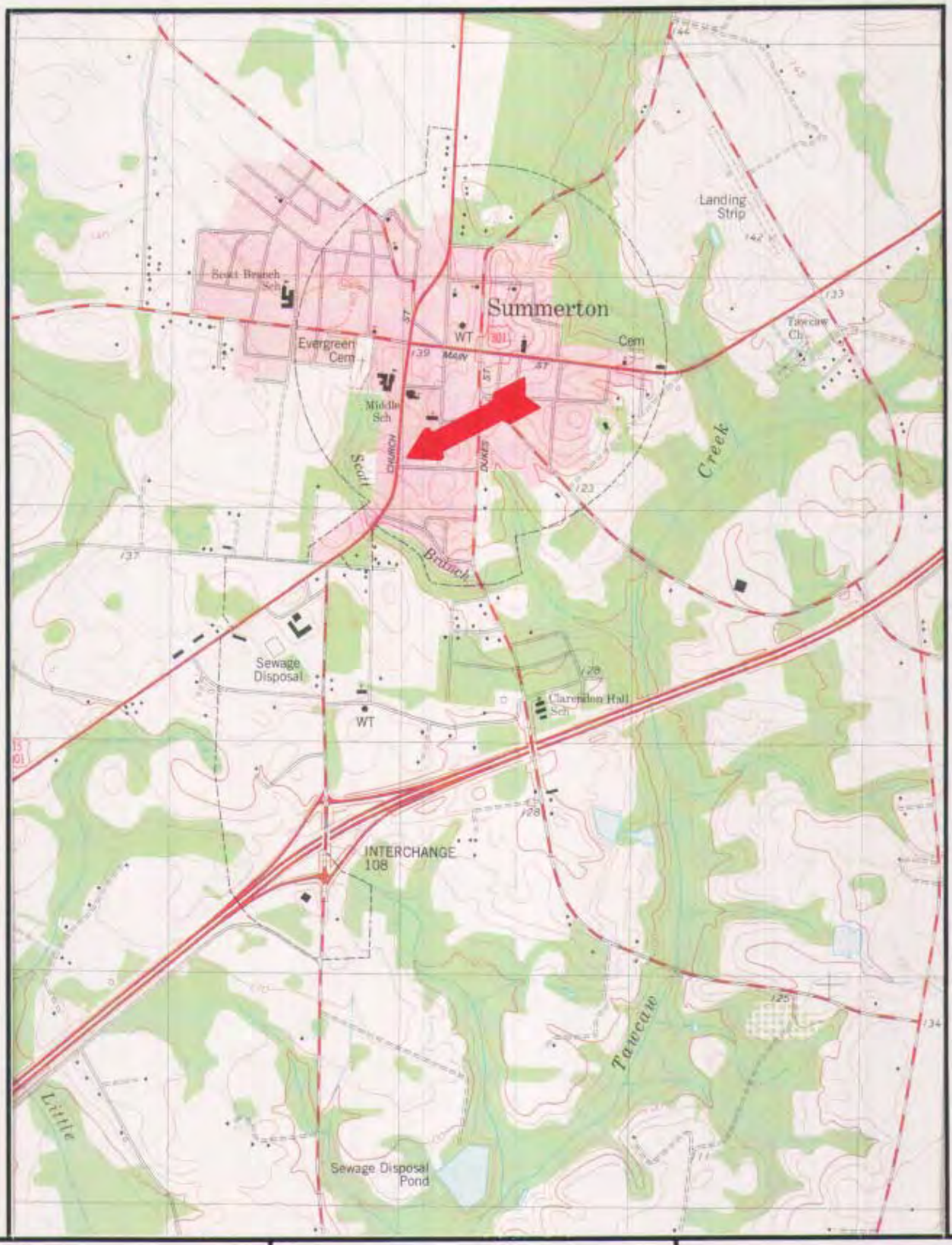
Lab Use Only — Custody Seal: ❒ Yes ❒ No ❒ N/A — Init Lab Temp. — Rec. Lab Temp 2.0

COMMENTS:

	Date	Time		Date	Time	Lab Use Only:
Relinquished By:	5/31/00	6:00 PM	Received By: FED EX			
Relinquished By:			Received By:			
Relinquished By:			Received By:			
Relinquished By:			Received By:	6.1.00	0900	

APPENDIX C

TOPOGRAPHIC MAP WITH SITE LOCATION MARKED



H. W. DETWILER CO.
31 S. CHURCH STREET
SUMMERTON, S.C.

USGS TOPOGRAPHIC MAP
7.5 MINUTE SERIES
"SUMMERTON, SC" QUADRANGLE
SCALE: 1 : 24000

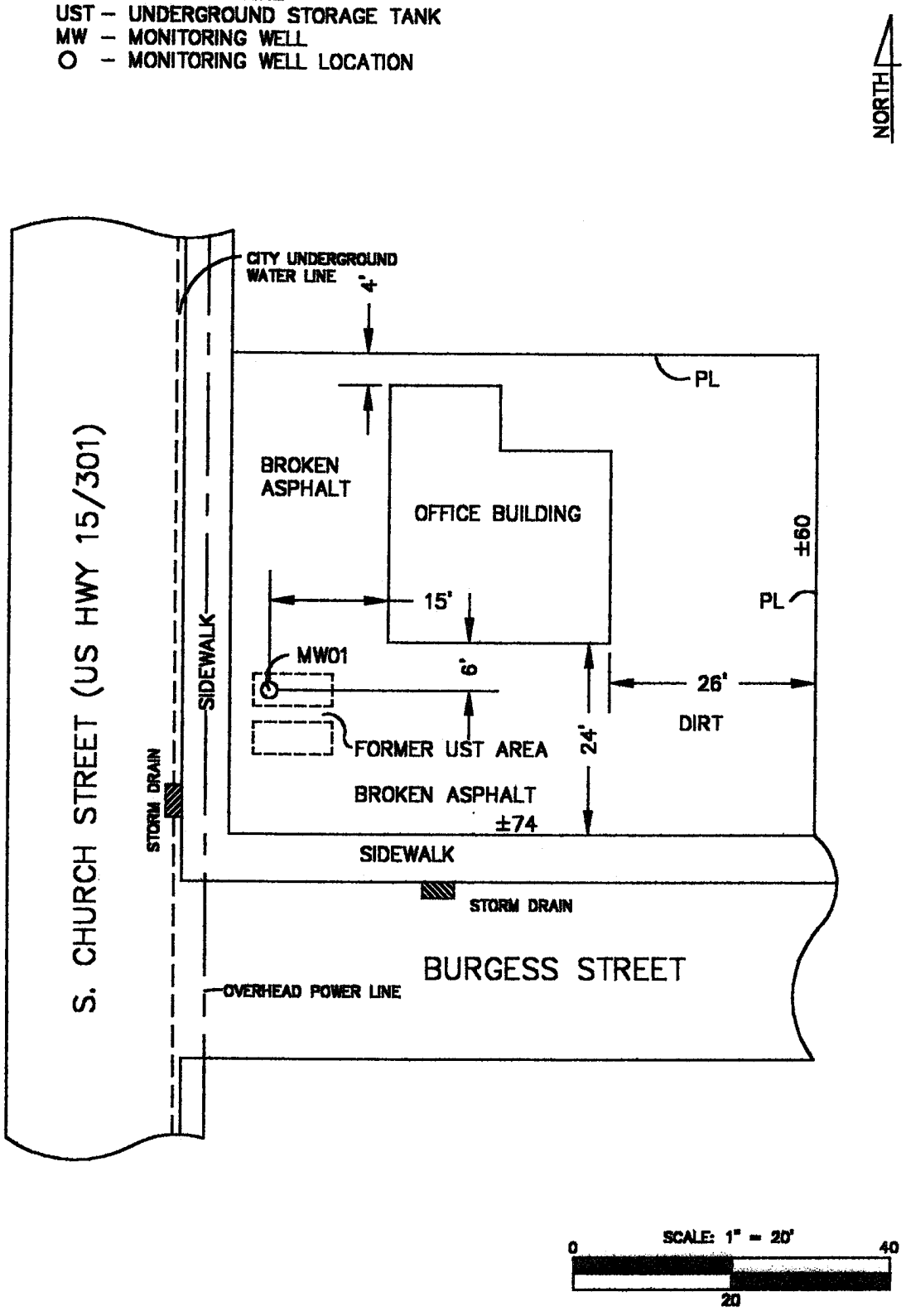
Emerald, Inc.
Sumter, SC

APPENDIX D

SITE BASE MAP

LEGEND

PL – PROPERTY LINE
UST – UNDERGROUND STORAGE TANK
MW – MONITORING WELL
O – MONITORING WELL LOCATION



H.W. DETWILER CO. 31 S. CHURCH ST. SUMMERTON, S.C. UST PERMIT #15729	IGWA MONITORING WELL LOCATION 7/14/00	**Emerald, Inc.** **Sumter, SC** E448HOL0

APPENDIX E

DISPOSAL MANIFEST (S)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of
	GK3255	07-26-00

GENERATOR

3. Generator's Name and Mailing Address
HW DETWILER CO
S. CHURCH ST & BURGESS ST.
SUMMERTON, SC

4. Generator's Phone ( )

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
G & K TANK SERVICES, INC		803-494-4593
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone

9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
G & K TANK SERVICES, INC 5070 BROAD STREET EXT SUMTER, SC 29151		803-494-4593

11. Waste Shipping Name and Description	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol
a. NON HAZARDOUS PETROLEUM CONTAMINATED DRILL CUTTINGS	001	DR		
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above	E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERALD
PO BOX 3050
SUMTER, SC 29151

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Tommy Keels	Tommy Keels	07	27	00

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
Tax Pearson	Tax Pearson	07	27	00

ORIGINAL - RETURN TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of	
	GK3255		07-26-00

GENERATOR

3. Generator's Name and Mailing Address: HW DETWILER CO
S. CHURCH ST & BURGESS ST.
SUMMERTON, SC

4. Generator's Phone ( )

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
G & K TANK SERVICES, INC		803-494-4593
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
9. Designated Facility Name and Site Address: G & K TANK SERVICES, INC 5070 BROAD STREET EXT SUMTER, SC 29151	10. US EPA ID Number	C. Facility's Phone 803-494-4593

11. Waste Shipping Name and Description	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol
a. NON HAZARDOUS PETROLEUM CONTAMINATED DRILL CUTTINGS	04	DR		
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above	E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERALD
PO BOX 3050
SUMTER, SC 29151

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Tommy Keels	Tommy Keels	07	27	00

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
[illegible]	[illegible]	07	27	00

TRANSPORTER #2

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of	
. . . . .	GK3255		07-26-00

GENERATOR

3. Generator's Name and Mailing Address: HW DETWILER CO
S CHURCH ST & BURGESS ST.
SUMMERTON, SC

4. Generator's Phone ( )

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
G & K TANK SERVICES, INC	. . . . .	803-494-4593
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
	. . . . .	
9. Designated Facility Name and Site Address: G & K TANK SERVICES, INC 5020 BROAD STREET EXT SUMTER, SC 29151	10. US EPA ID Number	C. Facility's Phone 803-494-4593

11. Waste Shipping Name and Description	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol
a. NON HAZARDOUS PETROLEUM CONTAMINATED DRILL CUTTINGS	01 2	DR		
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above	E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERALD
PO BOX 3050
SUMTER, SC 29151

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Tommy Keels	Tommy Keels	07	27	00

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
[illegible]	[illegible]	07	27	00

GENERATOR'S COPY

G & K
TANK SERVICES, INC.
Broad St. Extension • PO Box 1384 • Sumter SC 29151
(803) 494-2694 • 1-800-800-6840 • FAX: (803) 494-8888

Certificate of Disposal

Tons 2 DRUMS
HW DETWILER CO. SUMMERTON, SC

Contaminant NON HAZARDOUS PETROELUM DRILL CUTTINGS

This is to cerify the above soil has been processed and disposed of by G & K Tank Services, Inc., in accordance with and exceeding EPA regulations on petroleum contaminated soils.

Certified by _____ Date 7/28/00

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

214 WEST LIBERTY STREET • POST OFFICE BOX 3050 • SUMTER, SC 29151

E-MAIL:
rllemerald@CPIS.net

TELEPHONE (803) 773-5454
FAX (803) 775-1970

5273

TIER II ASSESSMENT PLAN
&
COST PROPOSAL
H. W. DETWILER CO.
UST PERMIT #15729
SUMMERTON, SC

Tier II Assessment Plan 11/1/2000 ? missing
#15729

Prepared For:

Harold Detwiler, Jr.
P.O. Box 760
Summerton, SC 29148

Prepared By:

Emerald, Inc.
P.O. Box 3050
Sumter, SC 29151

October 31, 2000

RECEIVED
NOV 0 1 2000
Bureau of Underground
Storage Tank Management

DOCKETING # 0508

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND S[redacted]GE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, South Carolina 29201
Phone (800) 826-5435 Fax (803) 898-4330

DEC 12 2000

HAROLD W DETWILER, JR.
P.O. BOX 760 OR DRAWER 1200
SUMMERTON, SC 29148

Re: H W. Detwiler Co.
UST Permit # 15729; CP # 12758
Cost Proposal Received November 1, 2000
Clarendon County

Dear Mr. Detwiler:

The referenced cost proposal has been reviewed by the Bureau of Land and Waste Management of the South Carolina Department of Health and Environmental Control (SCDHEC). SCDHEC has reviewed the Assessment Component Cost Proposal for a Tier II Assessment submitted by Emerald, Inc.

Cost Proposal **#12758** has been approved to complete the necessary work. Please note the following adjustments to the submitted cost proposal:

- Item 6- (Soil Borings) a reduction of $4,760.00.
- Item 8- (Abandonment) a reduction of $1,120.00. Item 8 has been changed to reflect the Item 6.
- Item 9B- (Water Table) a reduction of $3,040.00. Based on the Department's experience, 240 feet should be sufficient to complete the Tier II Assessment. Please be advised that any wells not installed in accordance with the Tier II Guidance Document dated March 15, 2000 will not be reimbursed.

The Cost Agreement is approved up to the amount of the enclosed cost agreement form. All applicable S.C. certification requirements apply to the laboratory services, well installation and report preparation. Please note that all rehabilitation activities associated with a UST release must be performed by a SCDHEC certified site rehabilitation contractor as required by R.61-98. A Tier II Report should be submitted **within 90 days of the date of this correspondence.** If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available. Please note that payment from the SUPERB account will be made upon review of the report and confirmation that all work performed was technically justified.

The Bureau grants preapproval for transportation of virgin petroleum contaminated water and soil from the referenced sites to an approved disposal facility. The contaminated soil and/or ground water must be properly stored in labeled containers. The contaminated soil and/or ground water must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the final report. If the levels of petroleum contamination based on laboratory analysis are below risk-based screening levels, please contact the project manager for approval to dispose of soil and/or ground water on site. The SUPERB Account will not compensate transportation or treatment of clean soil and/or ground water.

Emerald can submit an invoice for direct billing from the SUPERB Account. Please note that all applicable South Carolina certification requirements apply to the laboratory services, well installation, and report preparation. Please note that Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the Department is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be preapproved by the Department for the cost to be paid. **The SCDHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, SCDHEC**

UST PROGRAM
DOCKETING # 05A Tech

reserves the right to question and/or reject costs if deemed unreasonable or excessive. The SCDHEC reserves the right to audit project records at any time during the project or after completion of work.

Please be advised that only EPA Method 8260B will be accepted for purgeable aromatics.

On all correspondence regarding this site, please reference UST Permit **#15729, CP #12758.** If you have any questions concerning this correspondence, please contact Scott McInnis at 803-898-4365 or 800-826-5435 (within SC only).

Sincerely,

W.A. (Scotty) McInnis, III, P.G., Hydrogeologist
Owner/Operator Assistance Section

enc: Approved Assessment Component Cost Proposal
Monitor Well Approval

cc: Emerald, Inc., P.O. Box 3050, Sumter, SC 29151 (w/enc)
Financial Section (w/copy of CP)
Read and Technical File (n/enc)

15729t2.dir
DHEC/UST/111600

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF
UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 898-4350 Fax (803) 898-4330

AUG 15 2000

Mr. Harold Detwiler, Jr.
PO Box 760
Summerton, SC 29148

Re: H.W. Detwiler **(UST Permit #15729)**
Initial Ground Water Assessment Report received August 14, 2000
Clarendon County

Dear Mr. Detwiler:

The Bureau of Underground Storage Tank Management has reviewed the referenced Initial Ground Assessment Report. Currently, the release reported on June 22, 1993, at the referenced site has a priority classification of 2A. Therefore, SUPERB (State Underground Petroleum Environmental Response Bank) funds are available to implement the next necessary scope of work. The scope of work to be implemented is a **Tier II Assessment.**

Our records show that you have selected Emerald, Inc. as the contractor to perform assessment activities at the site. Please have your contractor complete and submit the enclosed Assessment Component Cost Proposal form and Tier II Assessment Plan form within thirty days of the date of this letter. Every component may not be necessary to complete the above scope of work. The SUPERB allowable cost for each component is included on the Assessment Component Cost Proposal form.

On all correspondence or inquiries regarding this project, please reference **UST Permit #15729.** If you have any questions, please feel free to contact me at (803) 898-4334 or 1 (800) 826-5435 (within South Carolina only).

Sincerely,

Pamela DuBois, Hydrogeologist
Owner/Operator Assistance Section
Assessment and Corrective Action Division
Bureau of Underground Storage Tank Management

enc: Tier II Assessment Plan
Assessment Component Cost Proposal

cc: Emerald, Inc., PO Box 3050, Sumter, SC 29151 (with enclosures)
Technical File

SCDHEC/UST/PMD/081500

UST PROGRAM DOCKET 05 Tech

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF
UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 898-4350 Fax (803) 898-4330

APR 11 2000

Mr. Harold Detwiler, Jr.
PO Box 760
Summerton, SC 29148

Re: H W Detwiler Co.
UST Permit #15729; CP #10760; MWA #12636
Release Date: June 22, 1993
Initial Ground-Water Assessment Approval
Clarendon County

Dear Mr. Detwiler:

The Bureau of Underground Storage Tank (UST) Management has reviewed the release at your site and understands that you plan to proceed with site rehabilitation activities.

An **Initial Ground-Water Assessment (IGWA)** is the next scope of work deemed necessary to characterize any possible risk to human health or to sensitive environmental receptors. Since the above scope of work is detailed in the IGWA Guidance Document, a separate plan is not required. The cost agreement has been approved in the amount of **$1,395.00**. Monitoring Well approval has been provided to your environmental consultant. A copy of the approval form is enclosed for your records. Implementation of the IGWA may proceed upon receipt of this correspondence. All wells must be installed under the supervision of a well driller licensed in the State of South Carolina. All laboratories utilized must be certified within the state of South Carolina for the analysis used. Please note that all rehabilitation activities associated with a UST release must be performed by a SCDHEC certified site rehabilitation contractor as required by R.61-98. The IGWA report and associated invoice should be submitted within **60 days from the date of this letter.** If the invoice is not submitted **within 120 days** from the date of this correspondence, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

The Department grants approval for transportation of **virgin petroleum contaminated soil and/or contaminated ground water** from the referenced site to a permitted treatment facility. The contaminated soil and water must be properly stored in labeled containers or covered with plastic as appropriate. The contaminated soil and water must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be submitted before any payment can be made.

UST PROGRAM
DOCKETING # 05C Tech

On all future correspondence, please reference the **UST Permit #15729.** On the IGWA invoice please reference the site identification number and **Cost Proposal #10760.** Questions concerning the above should be addressed to me at (803) 898-4334 or (800) 826-5435 (within SC only).

Sincerely,

Pamela DuBois

Pamela DuBois, Hydrogeologist
Assessment and Corrective Action Division
Owner/Operator Assistance Section
Bureau of Underground Storage Tank Management

enc: IGWA Invoice form
Monitoring Well Approval

cc: Emerald, Inc., PO Box 3050, Sumter, SC 29151 (with enc. and original MWA)
Financial Section
Technical File (with MWA copy)

SCDHEC/UST/032700

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

Monitoring Well Installation Approval Form

Date of Issue: March 27, 2000 Approval No.: 12636

Approval is hereby granted to: Emerald, Inc.
(On behalf of): Harold Detwiler, Jr.
UST Permit #: 15729
County: Clarendon

This approval is for the construction of one permanent monitoring well in accordance with the construction plans and technical specifications outlined in the **Initial Ground-Water Assessment** Document. The well is to be constructed within the surficial aquifer for the intended purpose of monitoring ground-water quality and/or water level(s) at the referenced facility. Approval is provided with the following conditions:

1. The latitude and longitude, surveyed elevations, boring and/or geologist logs and actual (as built) construction details for each well will be submitted with the technical report.

2. Each well will be labeled with an identification plate constructed of a durable material affixed to the casing or surface pad where it is readily visible. The plate will provide monitoring well I.D.#, date of construction, static water level, and driller name and state certification #.

3. Well construction and sampling derived waste including, but not necessarily limited to, drill cuttings, drilling fluids, development and purge water should be managed properly and in compliance with applicable requirements. If containerized, each vessel should be clearly labeled with regard to contents, source, and date of activity.

4. A minimum of forty-eight (48) hours prior to initiation of drilling activities, please provide notice to Pamela DuBois at (803) 898-4334 or duboispm@columb26.dhec.state.sc.us.

5. Please provide ground-water quality analytical data (chemical analysis and/or water level(s)) and associated measurements (i.e., in-situ field measurements) to Pamela DuBois with the technical report.

6. Monitoring wells and temporary monitoring wells will be installed by or under the direct supervision of a licensed well driller certified by the State of South Carolina.

7. Monitoring wells and temporary monitoring wells will be abandoned by or under the direct supervision of a licensed well driller certified by the State of South Carolina. Temporary monitoring wells shall not remain in place for longer than 30 days from the date of installation. Monitoring wells may be abandoned only upon concurrence by this Bureau.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and the Department of Health and Environmental Control Regulations R.61-71. Please remember to have a copy of this approval on the site during well installation.

Approved by: Pamela DuBois

Pamela DuBois, Hydrogeologist
Owner/Operator Assistance Section
Bureau of UST Management

cc: Wateree District EQC
Mr. Harold Detwiler, Jr., PO Box 760, Summerton, SC 29148
Technical File

Pam

UNDERGROUND STORAGE TANK (UST) OWNER/OPERATOR LEAD INFORMATION SHEET

1. CONTRACTOR OF CHOICE

As the UST Owner/Operator of UST Permit # 15729 I would like to use the contractor or person(s)* listed below and request that they represent me for: (check one)

☐ <IGWA, SLA, Rapid Assessment>

☐ Other (please specify)_____

☒ all future assessments scopes. **

Name of Contractor/Person(s) EMERALD, INC

Address PO BOX 3050

SUMTER, SC 29151

Telephone Number 803-773-5454

Note: Site rehabilitation activities must be performed by a SCDHEC Certified Site Rehabilitation Contractor in accordance with R.61-98.

*indicate if the person listed is your own employee

** if you would like the contractor to perform all future assessment activities at this and/or other facilities that have confirmed releases, please provide a list of all sites on your letterhead and provide the information requested in items 2 and 3 below within the context of the letter.

2. FINANCIAL OR FAMILIAL RELATIONSHIP

Does a financial or familial relationship, as defined below, exist between you and the contractor/person that you listed above? ____ Yes X No (please initial)
HMD.

Financial Relationship: A connection or association through a material interest of sources of income which exceed five percent of annual gross income from a business entity.

Familial Relationship: A connection or association by family or relatives, in which a family member or relative has a material interest. Family or relatives include: father, mother, son, daughter, brother, sister, uncle, aunt, first cousin, nephew, niece, husband, wife, father-in-law, mother-in-law, son-in-law, daughter-in-law, stepfather, stepmother, stepson, stepdaughter, stepbrother, stepsister, half brother, half sister, grandparent, grandchild, great grandchild, step grandparent, step great grandparent, step grandchild, step great grandchild, or fiancee.

3. PAYMENT

You can pay the contractor and, upon the submittal of the canceled check (or a notarized statement from the contractor), be compensated from the SUPERB Account, or have payment issued directly from us to the contractor.

I request that payment be made to me after I have paid the contractor. ____ Yes ____ No (please initial)
I request that payment be made directly to the contractor. X Yes ____ No (please initial)
HMD

Note: All costs must receive prior financial approval from the Department regardless of payment option.

Underground Storage Tank Owner/Operator Signature [signature]

Date 3/23/00

RECEIVED

MAR 27 2000

Bureau of Underground Storage Tank Management

UST ... GRAM ... CKETING # 05D Tech MW # 12636 CP # 10760

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF
UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 898-4350 Fax (803) 898-4330

Certified Mail
Z 178 518 862

Harold Detwiler Jr.
PO Drawer 1200
Summerton, South Carolina 29148

MAR 0 8 2000

Re: **H. W. Detwiler Co.**
Facility ID #15729
Notice of Violation
Clarendon County

Dear Mr. Detwiler:

The Bureau of Underground Storage Tank (UST) Management of the South Carolina Department of Health and Environmental Control directed you to complete an Initial Ground-Water Assessment (IGWA) in July 1999. To date, the required report has not been received. In accordance with Section 280.65 of the South Carolina Underground Storage Tank Regulations, the assessment must be conducted as documented chemicals of concern are above the risk-based-screening levels.

The enclosed Owner/Operator Lead Information Sheet and Insurance Statement Form should be completed and returned to my attention within 10 days. Upon submittal of the information sheet and Insurance Statement Form, a cost proposal number will be assigned under which the IGWA invoice will be submitted to the Department upon completion of work. The IGWA report will be due within 30 days after the cost proposal number is issued. **However, if the information sheet and Insurance Statement Form are not returned within 10 days, enforcement procedures will be initiated.**

Please reference **UST Permit #15729** in all correspondence concerning this project. If you have any questions or need additional information, please call me at 1-800-826-5435 (within SC only) or (803) 898-4334. Thank you for your time and cooperation in this matter.

Sincerely,

Pamela DuBois, Hydrogeologist
Owner/Operator Assistance Section
Assessment & Corrective Action Division
Bureau of Underground Storage Tank Management

enc: Information Sheet
List of Certified Contractors
Insurance Statement
cc: ~~Technical File~~

SCDHEC/UST/030700

UST PROGRAM
DOCKETING # 05E Tech

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF
UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 898-4350 Fax (803) 898-4330

Certified Mail
Z 178 518 840

Mr. Harold Detwiler, Jr.
PO Box 760
Summerton, SC 29148

FEB 25 2000

Re: H W Detwiler Co.
UST Permit #15729
Notice of Violation
Clarendon County

Dear Mr. Detwiler:

The Bureau of Underground Storage Tank (UST) Management of the South Carolina Department of Health and Environmental Control directed you to complete an Initial Ground-Water Assessment (IGWA) in July 1999. To date, the required report has not been received. In accordance with Section 280.65 of the South Carolina Underground Storage Tank Regulations, the assessment must be conducted as documented chemicals of concern are above the risk-based-screening levels.

The enclosed Owner/Operator Lead Information Sheet should be completed and returned to my attention within 10 days. Upon submittal of the information sheet, a cost proposal number will be assigned under which the IGWA invoice will be submitted to the Department upon completion of work. The IGWA report will be due within 30 days after the cost proposal number is issued. **However, if the information sheet is not returned within 10 days, enforcement procedures will be initiated.**

Please reference **UST Permit #15729** in all correspondence concerning this project. If you have any questions or need additional information, please call me at 1-800-826-5435 (within SC only) or (803) 898-4334. Thank you for your time and cooperation in this matter.

Sincerely,

Pamela DuBois

Pamela DuBois, Hydrogeologist
Owner/Operator Assistance Section
Assessment & Corrective Action Division
Bureau of Underground Storage Tank Management

enc: Information Sheet
List of Certified Contractors
cc: Technical File

SCDHEC/UST/022400

UST PROGRAM
DOCKETING # 05 F Tech

DIVISION OF UST MGMT.

D H E C

PROMOTE PROTECT PROSPER

0 Bull Street
mbia, SC 29201-1708

Return Service Requested

Harold Detwiler
35 Church St.
Summerton SC 29148

CERTIFIED

Z 178 518 840

MAIL

COLUMBIA FEB 25'00

$ 3.20

Insufficient Address
Moved, Left No Address
Unclaimed
Attempted - Not Known
No Such Street
No Such Number
No Receptacle
Not Deliverable As Addressed
Unable To Forward

RECEIVED

MAR 0 6 2000

Storage Tank Management

First Notice 2/29
Second Notice 3/1
Returned 3/1

Pam P.

29148-9760

Fold at line over top of envelope to the right of the return address

02383
02420
10540

PO Drawer
1200
803 485-2665

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- ☐ Complete items 1 and/or 2 for additional services. Complete items 3, 4a, and 4b.
- ☐ Print your name and address on the reverse of this form so that we can return this card to you.
- ☐ Attach this form to the front of the mailpiece, or on the back if space does not permit.
- ☐ Write *"Return Receipt Requested"* on the mailpiece below the article number.
- ☐ The Return Receipt will show to whom the article was delivered and the date delivered. 15729

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

3. Article Addressed to:
Mr. Harold Detwiler, Jr.
PO Box 760
Summerton, SC 29148

4a. Article Number
2 178 518 840

4b. Service Type
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☒ Return Receipt for Merchandise ☐ COD

7. Date of Delivery

5. Received By: *(Print Name)*

8. Addressee's Address *(Only if requested and fee is paid)*

6. Signature *(Addressee or Agent)*

PS Form **3811**, December 1994 102595-99-B-0223 Domestic Return Receipt

Thank you for using Return Receipt Service.

20% POST CONSUMER FIBER

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF
UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 898-4350 Fax (803) 898-4330

Certified Mail
Z 178 518 840

Mr. Harold Detwiler, Jr.
PO Box 760
Summerton, SC 29148

FEB 25 2000

Re: H W Detwiler Co.
UST Permit #15729
Notice of Violation
Clarendon County

Dear Mr. Detwiler:

The Bureau of Underground Storage Tank (UST) Management of the South Carolina Department of Health and Environmental Control directed you to complete an Initial Ground-Water Assessment (IGWA) in July 1999. To date, the required report has not been received. In accordance with Section 280.65 of the South Carolina Underground Storage Tank Regulations, the assessment must be conducted as documented chemicals of concern are above the risk-based-screening levels.

The enclosed Owner/Operator Lead Information Sheet should be completed and returned to my attention within 10 days. Upon submittal of the information sheet, a cost proposal number will be assigned under which the IGWA invoice will be submitted to the Department upon completion of work. The IGWA report will be due within 30 days after the cost proposal number is issued. **However, if the information sheet is not returned within 10 days, enforcement procedures will be initiated.**

Please reference **UST Permit #15729** in all correspondence concerning this project. If you have any questions or need additional information, please call me at 1-800-826-5435 (within SC only) or (803) 898-4334. Thank you for your time and cooperation in this matter.

Sincerely,

Pamela DuBois

Pamela DuBois, Hydrogeologist
Owner/Operator Assistance Section
Assessment & Corrective Action Division
Bureau of Underground Storage Tank Management

enc: Information Sheet
List of Certified Contractors
cc: Technical File

SCDHEC/UST/022400

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

DIVISION OF UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 898-4350 Fax (803) 898-4330

Certified Mail - Z 453 657 000
Harold Detwiler Jr.
PO Box 760
Summerton, South Carolina 29148

JUL 21 1999

Re: **H. W. Detwiler Co.**
Facility ID #15729
Availibilty of SUPERB Funding
Clarendon County

Dear Mr. Detwiler:

The Division of Underground Storage Tank Management has reviewed the technical file of the referenced facility. Currently, the release reported on **June 22, 1993** at the referenced site has a priority classification of **5A**. Therefore, SUPERB funds are available, or will soon be available, to implement the next necessary scope of work. As indicated in a previous directve letter dated December 14, 1998, the next scope of work to be implemented is an **Initial Ground Water Assessment.**

To date, our records do not indicate that you have selected a contractor to perform assessment activities at this facility. If you wish to select your own contractor, please indicate your choice on the enclosed Information Sheet and return to my attention within 10 days in order for the necessary technical and financial approvals to be issued. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor. Enclosed is a list of companies to assist you in finding a certified contractor.

If you wish, the SCDHEC can directly procure the services of a site rehabilitation contractor on your behalf. If you would like more information on this method of implementing the necessary scope of work, please contact Pamela DuBois within 10 days of this letter. Submittal of the enclosed Information Sheet is not required if you select this method. If you choose this option, additional forms will be forwarded to you for SCDHEC and its contractor to access the property.

On all correspondence or inquiries regarding this project, please reference **UST Permit #15729.** If you have any questions, please feel free to contact Pamela DuBois at (803) 898-4334 or 1 (800) 826-5435 (within South Carolina only).

Sincerely,

Owner/Operator Assistance Section
Assessment and Corrective Action Branch
Division of Underground Storage Tank Management
Pamela DuBois
Pamela DuBois, Hydrogeologist
Lee A. Monts
Lee A. Monts, Manager

Enc: Information Sheet
List of Certified Contractors
Directive Letter Dated 12/14/98
cc: Technical File (without enc.)

SCDHEC/UST/PMD/071499

UST PROGRAM
DOCKETING # 06Tech

D H E C

DIVISION OF
UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 898-4350 Fax (803) 898-4330

PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

Harold Detwiler Jr.
PO Box 760
Summerton, South Carolina 29148

DEC 14 1998

Re: **H. W. Detwiler Co.**
Facility ID #15729
Availibilty of SUPERB Funding
Clarendon County

Dear Mr. Detwiler:

The Division of Underground Storage Tank Management has reviewed the technical file of the referenced facility. Currently, the release reported on **June 22, 1993** at the referenced site has a priority classification of **5A**. Therefore, SUPERB funds are available, or will soon be available, to implement the next necessary scope of work. Based upon geotechnical data submitted to the Department in the previous technical reports, the next scope of work to be implemented is an **Initial Ground Water Assessment Report**.

Our records do not indicate that you have selected a contractor to perform assessment activities at this facility. If you wish to select your own contractor, please indicate your choice on the enclosed Information Sheet and return to my attention within 10 days in order for the necessary technical and financial approvals to be issued. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor. Enclosed is a list of companies to assist you in finding a certified contractor.

If you wish, the SCDHEC can directly procure the services of a site rehabilitation contractor on your behalf. If you would like more information on this method of implementing the necessary scope of work, please contact Pamela DuBois within 10 days of this letter. Submittal of the enclosed Information Sheet is not required if you select this method. If you choose this option, additional forms will be forwarded to you for SCDHEC and its contractor to access the property.

On all correspondence or inquiries regarding this project, please reference **Facility ID #15729.** If you have any questions, please feel free to contact Pamela DuBois at (803) 898-4334 or 1 (800) 826-5435 (within South Carolina only).

Sincerely,

Owner/Operator Assistance Section
Assessment and Corrective Action Branch
Division of Underground Storage Tank Management

Pamela DuBois

Pamela DuBois, Hydrogeologist

Lee A. Monts

Lee A. Monts, Manager

Enc: Information Sheet
List of Certified Contractors

cc: Technical File (without enc.)

UST PROGRAM
DOCKETING # 07 Tech

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

Commissioner: Douglas E. Bryant

Board: John H. Burriss, Chairman
William M. Hull, Jr., MD, Vice Chairman
Roger Leaks, Jr., Secretary

Richard E. Jabbour, DDS
Cyndi C. Mosteller
Brian K. Smith
Rodney L. Grandy

Promoting Health, Protecting the Environment

12/19 jw

December 19, 1995

Mr. Harold Detwiler
PO Box 760
Summerton, SC 29148-760

Re: Detwiler Company Site
Site ID #15729
SUPERB qualification
Tank Closure Report received July 13, 1993
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank Program has reviewed tank closure report dated July 1993. The report documents that a release has been confirmed at the site and that additional actions will be necessary.

The site has been evaluated for participation in the State Underground Petroleum Environmental Response Bank Act of 1988 (SUPERB). None of the exclusions listed in Section 44-2-110 and -130 of the Act apply to the site and the Department has determined that the site is qualified for SUPERB. This means that you are eligible for compensation from the SUPERB Account in accordance with applicable criteria and regulations.

All releases from regulated underground storage tanks that have been reported to this Department have been prioritized using a ranking system that evaluates the risk to human health and the environment. The priority classification system identifies those sites that represent an immediate or short term risk to human health where the Department should be allocating available SUPERB monies. Based on the available data, your site's priority classification is 5A and does not pose an immediate or short term risk to human health. Therefore, monies cannot be made available via a direct billing account for additional site investigative activities at this time. You will be informed when monies become available for this site.

Should you wish to proceed with site rehabilitation activities, you can fund the necessary activities and seek payment from the SUPERB Account when, and if, funds become available. The enclosed contract outlines the conditions upon which reimbursement can occur. A signed contract must be submitted in order to seek potential reimbursement. Please notify the Department of your intent within 14 days from the date of this letter.

UST PROGRAM
DOCKETING # 08 Tech

recycled paper

On all correspondence concerning this site, please reference Site ID #15729. If there are any questions concerning this project, please call me at (803) 734-4671.

Sincerely,

Jan Cooke

Jan Cooke, Hydrogeologist
Technical Section
Underground Storage Tank Program

JTC/15729.no$

Enc: Contract Form

cc: Chris McCluskey, Wateree District EQC

INSURANCE STATEMENT FORM

Site #15729 is potentially eligible to receive state monies to assist you in site rehabilitation, if required. Before eligibility for State Underground Petroleum Environmental Response Bank (SUPERB) funds can be determined, written confirmation of the existence or non-existence of an environmental insurance policy for this site is required. Please complete the following information:

✓ I do not have any insurance that would cover releases from underground storage tanks.

_____ I have an insurance policy that covers releases from underground storage tanks.

My policy provider is: _____
The policy deductible is: _____
The policy limit is: _____

If you have this type of insurance, please include a copy of the policy with this report.

Signature: _____

Date: 12-11-95

RECEIVED
DEC 15 1995

To be Completed by Notary Public:

Sworn before me this 14th day of Dec., 1995.

HAROLD W. DETWILER
(Name) Harold W. Detwiler

Notary Public for the state of South Carolina.

My commission expires 2-28-99.

UST PROGRAM
DOCKETING # 09 Tech

Please affix State Seal if you are commissioned outside South Carolina.

UNITED STATES POS SERVICE

Official Business

PENALTY FOR PRIVATE
USE TO AVOID PAYMENT
OF POSTAGE, $300

U.S. MAIL

RECEIVED
DEC 15 1994
Groundwater Protection
Division

Print your name, address and ZIP Code here

UST PROGRAM
GROUND-WATER PROTECTION DIVISION
S. C. DEPARTMENT OF HEALTH AND
ENVIRONMENTAL CONTROL
2600 BULL STREET
COLUMBIA, SC 29201

Corbie

SENDER:

- Complete items 1 [redacted] 2 for additional services.
- Complete items 3, [redacted] 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I al[redacted]vish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Mr. Harold Detwiler, Jr.
P.O. Box 760
Sumpterton, SC 29148-760

4a. Article Number

Z 761 897 315

4b. Service Type

☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

5. Signature (Addressee)

7. Date of Delivery

6. Signature (Agent)

12/14/95

8. Addressee's Address (Only if requested and fee is paid)

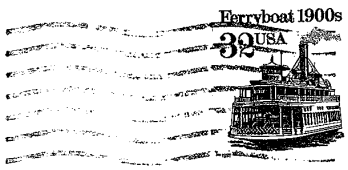
PS Form 3811, December 1991 ☆U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

s your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

H. DeTwiler
PO Box 760
Summerton, SC 29148

COLUMBIA SC 292
PM
14 DEC
1995



Jan Cooke, Hydrogeologist
Dept. of Health and Environmental Control
Technical Section - UGST
2600 Bull St.
Columbia, SC 29201

Site #15729

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

UST DOCKET Heeh

DEC 10 2009

HAROLD W DETWILER JR
HW DETWILER CO
PO BOX 769
SUMMERTON SC 29706-9061

Re: Groundwater Sampling Directive
HW Detwiler Co., 37 S Church St., Summerton, SC
UST Permit # 15729; CA #37777
Release reported June 22, 1993
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (SCDHEC) recognizes your commitment to continue work at this site using your own contractor. **All monitoring wells should be purged prior to sampling**. All monitoring wells should be sampled for BTEX, Naphthalene, MTBE, lead, EDB and 1,2 DCA. All water supply wells located within 1000 feet of the site should be sampled for BTEX, Naphthalene, MTBE, 1,2-DCA, and EDB. The groundwater samples should be analyzed in accordance with *Analytical Methodology* dated August 24, 2005. A copy of this publication is available on line at http://www.scdhec.gov/eqc/lwm/ forms/analmetpdf.

The monitoring report and invoice are due within sixty (60) days from the date of this letter. Please have your contractor submit the sampling results to the Department in a monitoring report containing the following:

- A narrative portion documenting current site conditions and noting the names of field personnel, date, time, ambient air temperature, and general weather conditions during the sampling event. The report shall also contain well purging data, pH, specific conductivity, dissolved oxygen, water temperature, PID readings (where applicable) and turbidity comments.
- Groundwater elevations, depth to groundwater, measurable free product thickness (where applicable), total well depth and screened interval for all monitoring wells associated with the site, unless otherwise directed by the Program, shall be presented in tabular form. Groundwater laboratory analytical data for this and all previous sampling events for all monitoring wells shall be presented in tabular format.
- A groundwater elevation contour map of the site based on current groundwater potentiometric data.
- A CoC map based on current groundwater laboratory analytical data. The groundwater data should be adjacent to the relevant monitoring well.
- Manifests for any contaminated soil and/or groundwater removed from the site for treatment and/or disposal.
- Signature and seal by a professional geologist or engineer registered in the State of South Carolina.

Applicable South Carolina certification requirements apply to the laboratory services, well installation, and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

Also, note that Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the Department is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated costs must be pre-approved by the Department for the costs to be paid. The SCDHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, SCDHEC reserves the right to question and/or reject costs if deemed unreasonable and to audit project records at any time during the project or after completion of work.

The Department grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. IDW should not be stored on-site longer than ninety (90) days. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the report. If the COC concentrations, based on laboratory analysis, are below Risk Based Screening Levels (RBSLs), please contact the project manager for approval to dispose of soil and/or groundwater on site. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

On all correspondence concerning this site, please reference UST Permit # 15729. If there are any questions concerning this project, please contact me at (803) 896-6395. I can also be reached by email at johnsoms@dhec.sc.gov or by fax at (803) 896-6245.

Sincerely,

Minda Johnson, Hydrogeologist
Assessment Section
UST Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement

cc: Emerald, Inc., 214 W Liberty St., Sumter, SC 29150 (w/CA)
Technical file (w/CA)

Approved Cost Agreement 37777

Facility: 15729 H W DETWILER CO
JOHNSOMS
PO Number:

Task / Description	Categories	Item Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB					
		B PERSONNEL	2.0000	290.00	580.00
10 SAMPLE COLLECTION					
		A GROUND WATER	23.0000	55.00	1,265.00
11 ANALYSES					
	GW GROUNDWATER	A BTEX+NAPTH+MTBE	23.0000	100.00	2,300.00
		BB 1,2-DCA	23.0000	10.75	247.25
		E LEAD	23.0000	20.00	460.00
		F EDB	23.0000	55.00	1,265.00
17 DISPOSAL					
		A1 WASTEWATER - PURGING/SAMPLING	7.0000	90.00	630.00
19 RPT/PROJECT MNGT & COORDINATIO					
		PCT PERCENT	0.1500	6,747.25	1,012.09
			Total Amount		7,759.34

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

MR HAROLD DETWILER JR
PO BOX 760
SUMMERTON SC 29148-0760

JAN 31 2012

UST BOCKETING

Re: Monitoring well installation directive
H.W. Detwiler Company, 37 South Church Street, Summerton, SC
UST Permit #15729; CA #42498; MWA #UMW-24438
Release reported June 22, 1993
Quality Assurance Project Plan (QAPP) Addendum received January 23, 2012
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed and approved the referenced QAPP Addendum submitted by Emerald, Inc. Monitoring well installation as outlined in the Addendum may proceed immediately upon receipt of this letter. The installation must be conducted in accordance with the UST QAPP. A copy of the QAPP is available at http://www.dhec.sc.gov/environment/lwm/html/ust.htm.

Cost Agreement (CA) #42498 has been approved in the amount shown on the enclosed cost agreement form for the installation of twenty-two shallow monitoring wells. The necessary monitoring well approval (MWA) is enclosed. The wells should be installed at the locations proposed in the QAPP Addendum. Please note that all applicable South Carolina certification requirements apply to the well installation and preparation of an assessment report. Further, all site rehabilitation activities must be performed and submitted by a South Carolina-Certified Underground Storage Tank Site Rehabilitation Contractor.

An assessment report, contractor checklist (QAPP Appendix K), and invoice are due within 90 days from the date of this letter. Your contractor may directly bill the State Underground Petroleum Environmental Response Bank (SUPERB) Account. Interim invoices may not be submitted for this scope of work. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the SCDHEC is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be pre-approved by the

Department for the cost to be paid. SCDHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, SCDHEC reserves the right to question and/or reject costs if deemed unreasonable and the right to audit project records at any time during the project or after completion of work.

The Division grants pre-approval for transportation of petroleum-contaminated, investigative-derived waste (IDW) from the referenced site to a permitted treatment/disposal facility. The transport and disposal must be conducted in accordance with the QAPP.

On all correspondence concerning this facility, please reference UST Permit #15729. If there are any questions concerning this project, feel free to contact me by telephone at (803) 896-6398, by fax at (803) 896-6245, or by e-mail at padgetjp@dhec.sc.gov.

Sincerely,

Joel P. Padgett, P.G., Geologist/Hydrologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

JPP/jpp
15729.4

enc: QAPP Addendum title and approval page
Approved cost agreement form
Monitoring well approval

cc: Emerald, Inc., P.O. Box 3050, Sumter, SC 29151 (w/enc)
Technical file (w/enc)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

Monitoring Well Approval

Approval is hereby granted to:	Emerald, Inc.
(On behalf of):	Mr. Harold W. Detwiler, Jr.
Facility:	H. W. Detwiler
UST Permit Number:	15729
County:	Clarendon

This approval is for the installation of twenty-two shallow monitoring wells. The wells are to be installed in the approved locations in accordance with the South Carolina Well Standards, R.61-71, and the applicable guidance documents.

Please note that R.61-71 requires the following:

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.
2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.
3. A Water Well Record Form or other form provided or approved by the Department shall be completed and submitted to the Department within 30 days after well completion or abandonment unless another schedule has been approved by the Department. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f
4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Department within 30 days of receipt of laboratory results unless another schedule has been approved by the Department as required by R.61-71.H.1.d.
5. If any of the information provided to the Department changes, notification to Joel Padgett (tel: (803) 896-6398 or e-mail: padgetjp@dhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.
6. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.
7. Departmental approval is required prior to abandonment of all monitoring wells as required by R.61-71.H.1.a.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and R.61-71 of the South Carolina Well Standards and Regulations, dated April 26, 2002. A copy of this approval should be on the site during well installation.

Date of Issue: January 27, 2012 **Approval #:** UMW-24438

Joel P. Padgett, P.G., Geologist/Hydrologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan Revision 2
Addendum to the SC DHEC UST Programmatic QAPP
For
H.W. Detwiler Company
SCDHEC Site ID# 15729

37 South Church Street
Summerton, South Carolina

Prepared by
William C. McClary, P.G.
Project Manager
Emerald, Inc
2520 Tahoe Drive
Sumter, South Carolina
SCDHEC Site Rehabilitation Contractor Certification Number UCC-067
Phone : 803-469-5454

Date: January 19, 2012

Approvals

Joel P. Padgett, P.G. SC DHEC Project Manager	Signature	Date 1/27/12
Ronny L Lowder Project QA Manager	Signature	Date 1/20/2012
William C. McClary, P.G. Project Manager	Signature	Date 1-20-12
for Jeff Graham Laboratory Director	Signature	Date 1/19/2012

Approved Cost Agreement 42498

Facility: 15729 H W DETWILER CO

PADGETJP

PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
01 PLAN						
		C	TIER II/COMP. PLAN/QAPP APP B	1.0000	525.00	525.00
04 MOB/DEMOB						
		A	EQUIPMENT	1.0000	575.00	575.00
		B	PERSONNEL	2.0000	290.00	580.00
09 WELL INSTALLATION						
		B	WATER TABLE (DRILLED)	550.0000	38.00	20,900.00
11 ANALYSES						
	SOIL SOIL	Q	BTEX+NAPTH	7.0000	100.00	700.00
16 SUBSEQUENT SURVEY						
			SUBSEQUENT SURVEY	1.0000	300.00	300.00
17 DISPOSAL						
		A	WASTEWATER	110.0000	0.80	88.00
		C	SOIL (TREATMENT/DISPOSAL)	22.0000	72.50	1,595.00
19 RPT/PROJECT MNGT & COORDINATIO						
		PCT	PERCENT	0.1500	25,263.00	3,789.45
				Total Amount		29,052.45

Padgett, Joel P. <padgetjp@dhec.sc.gov>

H.W. Detwiler (Permit 15729)

1 message

Chad McClary <cmcclary@emeraldinc-us.com> Thu, Apr 26, 2012 at 1:58 PM
To: padgetjp@dhec.sc.gov

After looking over the cost agreement for the recent well installation at the Detwiler site, Emerald would like to request two additional comprehensive surveys (Two 500x500 ft areas should do it)be added to the cost agreement. With the addition of 20 monitoring wells spread out over such a large area, I think it would be best to have a RLS survey in the locations of these wells. In addition , we would like to add the wells installed in conjunction with work conducted at the Summerton Auto Parts site to our map. I think this would be a big help to anyone bidding on the upcoming corrective action at the site. Please let me know what you think so I can line our surveyor up. Thanks.

William (Chad) McClary, P.G.

Project Manager

Emerald, Inc.

(O) 803-469-5454

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cmcclary@emeraldinc-us.com

UST DOCKETING

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

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June 4, 2012

Joel P. Padgett, P.G., Geologist / Hydrologist
Corrective Action Section
UST Management Division
Underground Storage Tank Management Division
Bureau of Land and Waste Management
SCDHEC
2600 Bull Street
Columbia, S.C. 29201

Re: H.W. Detwiler Co., 37 S. Church St., Summerton, SC
UST Permit #15729; CA #42954
Report of Monitoring Well Installation
Clarendon County

Dear Mr. Padgett:

On behalf of Mr. Harold Detwiler, Emerald, Inc. is providing you with one copy of the completed Report of Monitoring Well Installation for the Detwiler site. As the report states, twenty shallow monitoring wells were installed at the site to better define the free product plume at the subject site. We have made recommendations in Section 3.0 for AFVR and groundwater sampling events.

If you have any questions regarding the report and its findings, please contact either Chad McClary or myself at (803) 469-5454.

Yours very truly,
Emerald, Inc.

Ronny L. Lowder
President

RLL/jrb
Enclosure

cc: Mr. Harold W. Detwiler, Jr.

Emerald, Inc.

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REPORT OF MONITORING WELL INSTALLATION
H. W. DETWILER COMPANY
37 SOUTH CHURCH STREET
SUMMERTON, SOUTH CAROLINA
Site ID # 15729
CA # 42498

Prepared For:

South Carolina Department of Health and Environmental Control
Bureau of Land & Waste Management
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

Prepared By:

Emerald, Inc.
UST Site Rehabilitation Contractor #67
P.O. Box 3050
2520 Tahoe Drive
Sumter, South Carolina 29151

June 1, 2012

Signature Page

This document entitled "Report of Monitoring Well Installation", has been prepared for the South Carolina Department of Health and Environmental Control to describe investigative activities initiated at the H. W. Detwiler Company site located in Summerton, South Carolina. It has been prepared under the direct supervision of William C. McClary in accordance with the UST Quality Assurance Division Plan and signed Contractor Addendum dated January 27, 2012. All questions or comments concerning this report should be directed to Ronny L. Lowder or William C. McClary, P.G., Emerald, Inc., at 803-469-5454.

Emerald, Inc.

Ronny L. Lowder
President

Emerald, Inc.

William C. McClary, P.G.
South Carolina Registration #2386

Report of Monitoring Well Installation
H. W. Detwiler Company
37 South Church Street
Summerton, South Carolina

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B) Analytical Data Sheets
C) Disposal Manifests
D) Site Survey Map
E) QAPP Contractor Checklist

1.0 Introduction

The H.W. Detwiler Company (Detwiler) site is located within the City of Summerton at 37 South Church Street (S.C. Hwy. 15). The subject site is currently used as an office building. Formerly, the site was used by a construction company which stored gasoline in two (2) underground storage tanks (USTs) for its fleet of vehicles. The two (2) USTs, 1000 gallons each, were permanently closed by removal in June 1993 by G&K Tank Services. The Detwiler site is located within an area of mixed use. Commercial activities including a restaurant, a former gasoline service station (Summerton Auto Service SCDHEC Site ID# 02420) and a convenience store currently maintaining UST's (A&P Convenience SCDHEC Site ID# 13013 and SC650 SCDHEC Site ID# 02422) are located west and northwest of the subject site respectively. The areas north, east and south of the subject site are used for residential purposes. According to local sources, a former gasoline station was located approximately 300 feet south of the Detwiler site (along the eastern side of S. Church Street) in the 1940s and 1950s. (This area is near MW-15 as seen in Figure 3). A general site location map and a site topographic map are provided in Figures 1 and 2 respectively.

A site assessment was conducted by Duncan Environmental Associates, Inc. at the time of closure and a release notification was sent to SCDHEC on June 22, 1993. This assessment indicated soil contamination above the reporting limits for BTEX and TPH compounds.

In July 2000, an Initial Ground Water Assessment (IGWA) was conducted by Emerald, Inc at the subject site. This assessment included the installation of one groundwater monitoring well. Gauging of this well indicated the presence of free product adjacent to the former UST basin. In April 2002 Emerald, Inc. submitted a Tier II assessment report for the subject site. This assessment included field screening, the

installation of fourteen additional monitoring wells, aquifer testing, and monitoring well sampling. Groundwater sampling indicated the groundwater contaminant plume was not fully defined. In April 2003, Emerald, Inc. submitted a Tier II Assessment Report (Addendum 01). This assessment included field screening, monitoring well installation, monitoring well sampling and surface water sampling. This assessment was conducted to better define the horizontal and vertical extent of the contaminant plume.

In December 2009, SCDHEC requested a comprehensive groundwater sampling event (report dated February 26, 2010) for the site. This sampling event was conducted to provide current groundwater quality data for the subject site. During this sampling event, four monitoring wells were not located and possibly destroyed.

In August 2010, SCDHEC requested Aggressive Fluid Vapor Recovery Event (AFVR), additional monitoring well installation and monitoring well sampling at the subject site.

In April 2011, SCDHEC requested the installation of ten additional shallow monitoring wells, groundwater sampling and inflow permeability tests at the subject site.

In January 2012, Emerald, Inc. received an approved QAPP Contractor Addendum for the installation of additional groundwater monitoring wells to better define the free product plume at the subject site, collect soil samples from selected wells, and a survey to locate the new wells. This report presents the findings of this event.

2.0 Site Activities

Emerald, Inc. personnel conducted this additional well installation and soil sampling to meet the SCDHEC requirements of (1) better definition of the extent of free phase product detected at the site through the installation of monitoring wells, (2) collection of soil samples near a suspected second source area, and (3) conduct a survey of the site to

locate the horizontal and vertical locations of the newly installed monitoring wells. Field activities required to generate site-specific information for the H. W. Detwiler site are described in detail within this section. Figure 3 contains a site map for the subject site showing monitoring wells, receptors and relevant structures.

2.1 Monitoring Well Installation

From April 16 through 20, 2012, twenty shallow wells (MW-46 through MW-64 and MW-66) were installed at the site. Well drilling activities were performed using an ATV-mounted drilling rig equipped with hollow-stem augers to construct the borehole. An ATV drilling rig was utilized to minimize disturbance to property owners yards. Personnel from Geologic Exploration (Vincent Federle C 01930) located in Statesville, NC, performed drilling activities under the supervision of Emerald, Inc. personnel. Shallow monitoring wells were installed to bracket the watertable at each location utilizing a ten foot screen.

After well installation, each newly installed well that did not contain free product was developed by pumping until the water produced was clear, free of sediment and the well was determined to be functioning properly. Wells containing free product were not developed after installation. Monitoring wells were developed on April 17 through 21, 2012, by Geologic Exploration and Emerald, Inc. personnel.

During the installation of the groundwater monitoring wells, the soil in each boring was field screened at five foot intervals using a PID (Photoionization Detector). The descriptions of the soil along with the PID readings were entered into the Monitoring Well Installation Log as seen in Appendix A. Soil cuttings produced during drilling activities were containerized and transported by Emerald, Inc personnel to the Waste Management Richland County Landfill for disposal. Development water was treated on-site using an activated carbon drum. (See Appendix C for copies of the disposal manifests.)

2.2 Soil Sampling and Chemical Analysis

During installation of selected monitoring wells, soil samples were also collected from the depth with the highest PID response above the watertable for laboratory analysis. In addition to a sample from these selected wells, one duplicate sample (MW-51), one field blank and one trip blank were also collected. Following sample collection, each sample was placed in laboratory supplied coolers for transport to the lab. Each sample was documented as to the cooler in which it was placed, and a dedicated trip blank was included in each cooler for quality control purposes. These samples were packed on ice and shipped to Pace Analytical Services, Inc. of Huntersville, NC (SC Certification # 99006001) for laboratory analysis. Each sample was analyzed for BTEX, Naphthalene(EPA Method 8260B). Table 1 presents the soil analytical results for monitoring wells with the laboratory reports included in Appendix B.

2.3 Site Survey

A comprehensive survey was performed by Construction Support Services, Inc. (Jay S. Joshi PLS# 14811) of Columbia, SC. This survey was conducted to locate monitoring wells, buildings, roadways and utilities on and surrounding the subject site. In addition to locating wells associated with the subject site, monitoring wells installed in conjunction with the Summerton Auto Service (Permit 02420) were also surveyed. Appendix D contains a copy of the site survey map.

3.0 Results, Conclusions and Recommendations

During this work effort, monitoring well installation, soil sampling, and surveying were conducted at the subject site. These additional monitoring wells were installed, at locations selected by SCDHEC, to better define the free product plume at the subject site. In conjunction with the well installation, several soil samples were collected in the vicinity of a former gasoline service station, located south of the subject site. According to the property owner, prior to construction of the residence on the property a gasoline service station maintaining USTs was located on the northwestern portion of the property. Laboratory reports for soil samples collected from above the water table indicate petroleum impact in the vicinity of the former gasoline service station.

Given the above findings during this Tier II assessment at the site, Emerald, Inc. recommends (1) initiation of a series of AFVR events at the site to determine the effectiveness of SCDHEC directed AFVR events. If after a series of AFVR events progress is not made in the removal of free product, active corrective action may be warranted at the site (2) approximately 30 days after the last AFVR event a comprehensive groundwater sampling event should be conducted to determine the effectiveness of the AFVR events and provide current groundwater quality for the site.

TABLES

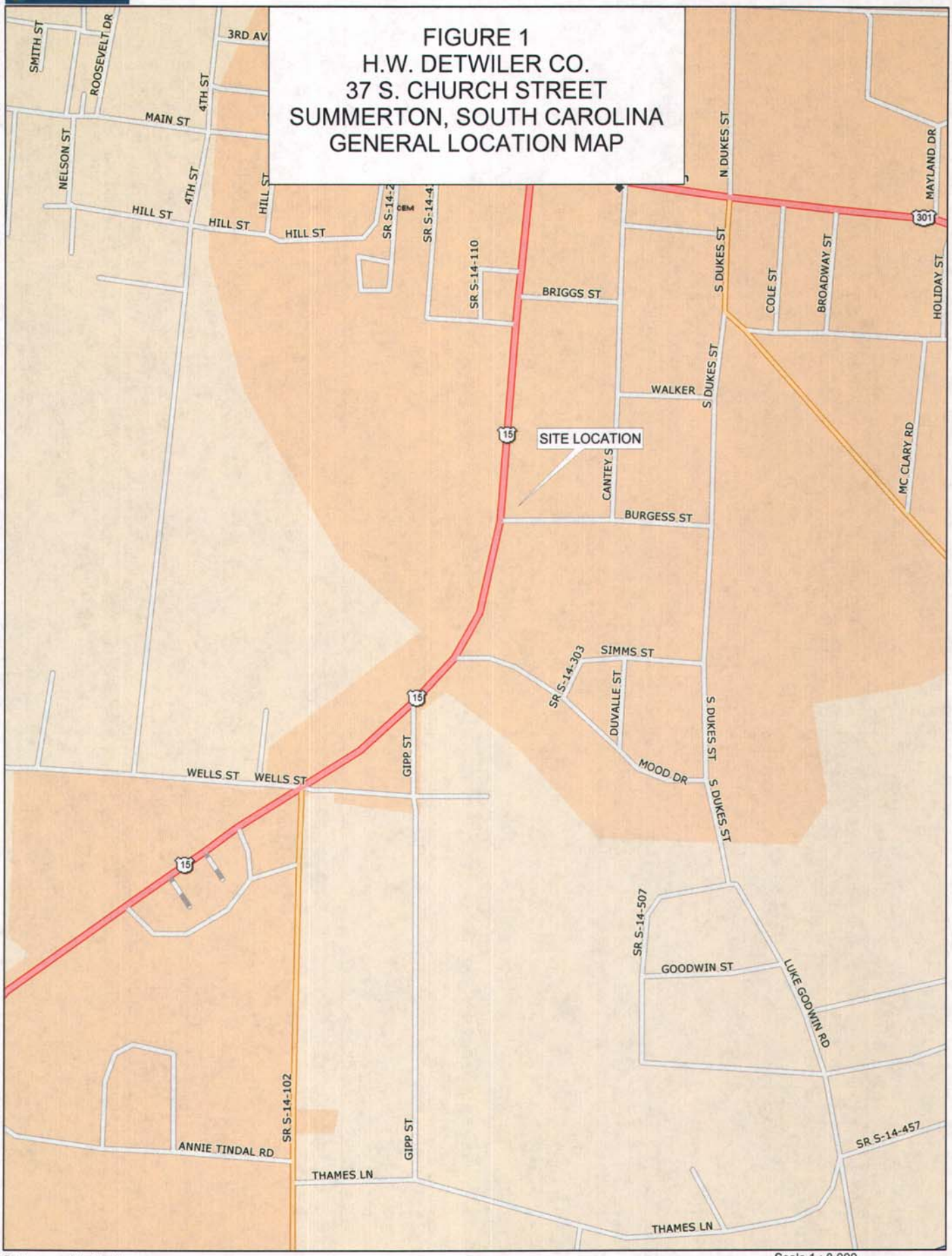
TABLE 1
SOIL ANALYTICAL DATA
H.W. DETWILER
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729

Well Number	Sample Depth (BGS)	Benzene (ug/kg)	Toluene (ug/kg)	Ethylbenzene (ug/kg)	Total Xylenes (ug/kg)	Naphthalene (ug/kg)
15729 MW-51	11-15	**7.7**	**41.7**	**15.1**	**79.7**	**15.4**
15729 MW-51 DUP	11-15	**4.0**	**16.2**	**6.1**	**32.8**	**4.7**
15729 MW-52	1-5	<4.4	**8.3**	**3.0J**	**16.6**	**6.5**
15729 MW-53	11-15	<4.8	<4.8	<4.8	<9.7	**1.4J**
15729 MW-54	11-15	<260	<260	**164J**	<520	**527**
15729 TRIP BLANK	---	<5.0	<5.0	<5.0	<10.0	<5.0
Sample Number	**Sample Depth (ft. BGS)**	**Benzene (ug/l)**	**Toluene (ug/l)**	**Ethylbenzene (ug/l)**	**Total Xylenes (ug/l)**	**Naphthalene (ug/l)**
15729 FIELD BLANK	---	<5.0	<5.0	<5.0	<10.0	<5.0

Notes:

1. ug/kg = micrograms per kilogram
2. mg/kg = milligrams per kilogram
3. ug/l = micrograms per liter
4. BGS = Below Ground Surface
5. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

FIGURE 1
H.W. DETWILER CO.
37 S. CHURCH STREET
SUMMERTON, SOUTH CAROLINA
GENERAL LOCATION MAP



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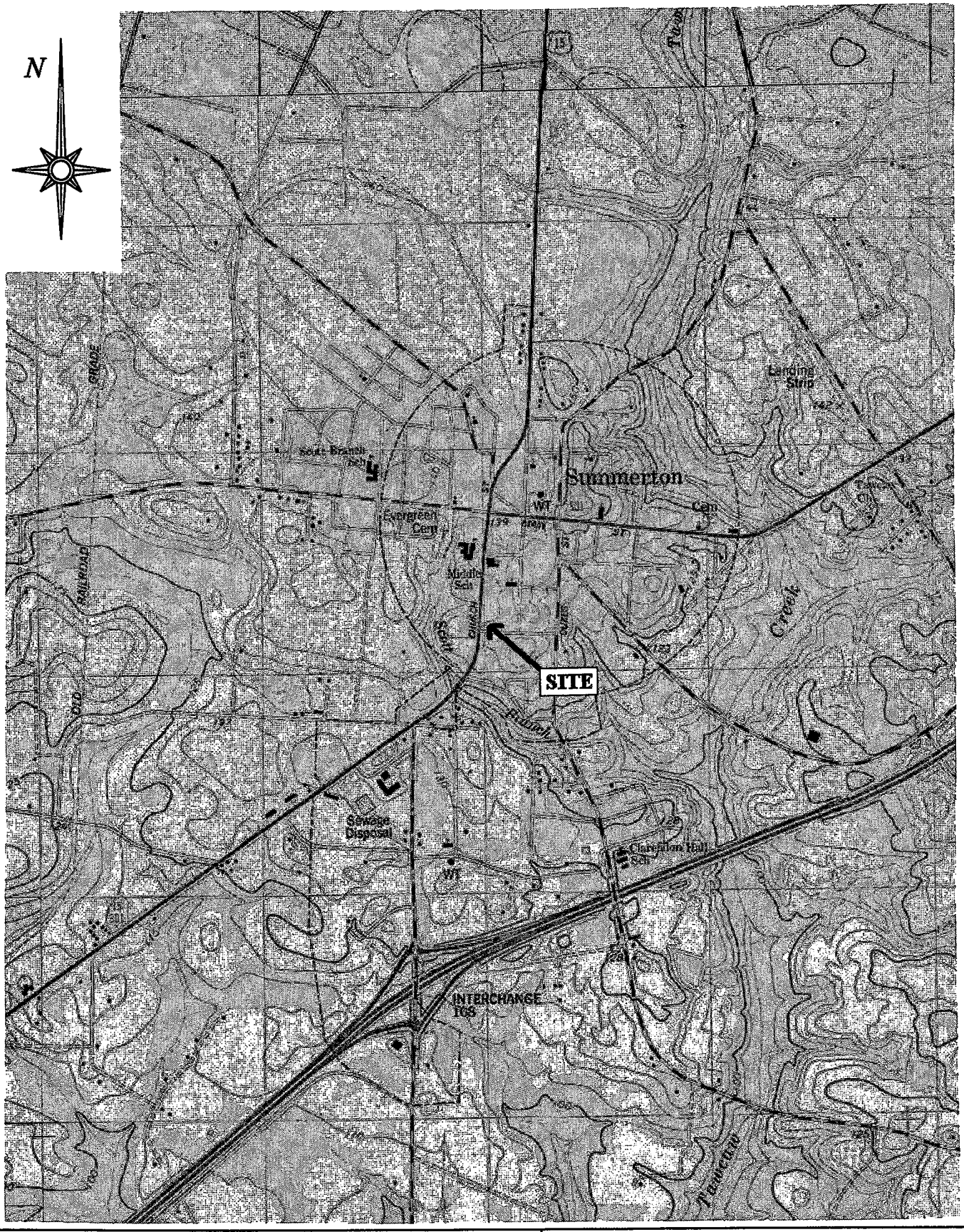
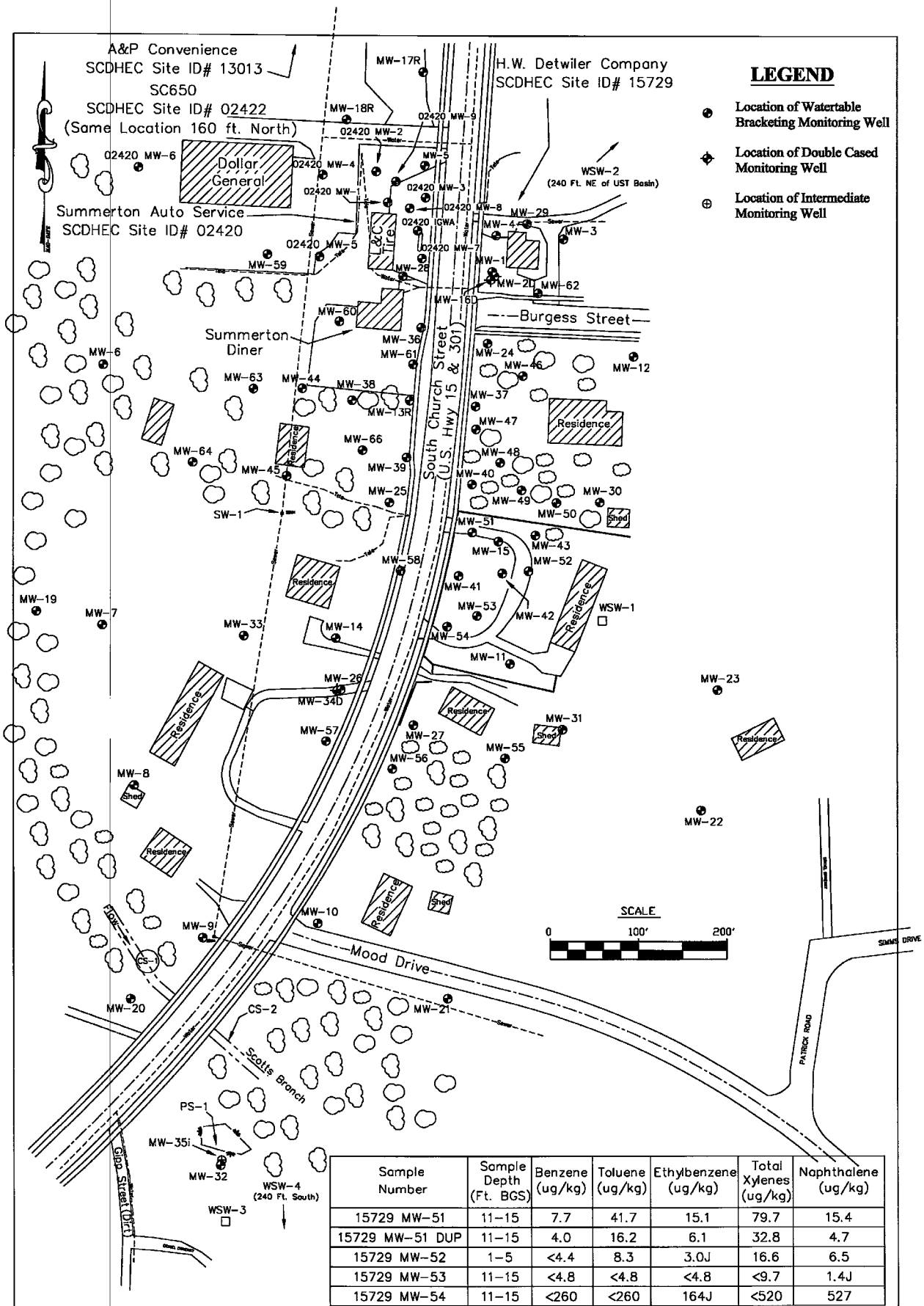
www.delorme.com

TN
MN (7.4°W)

Scale 1 : 8,000
1" = 666.7 ft
Data Zoom 14-6



H.W. Detwiler Company 37 South Church Street Summerton, SC SCDHEC Site ID# 15729	Figure 2 USGS Topographic Map 7.5 Minute Map 'Summerton, SC' Quadrangle Scale 1 to 2,000	EMERALD, INC. Sumter, SC



Sample Number	Sample Depth (Ft. BGS)	Benzene (ug/kg)	Toluene (ug/kg)	Ethylbenzene (ug/kg)	Total Xylenes (ug/kg)	Naphthalene (ug/kg)
15729 MW-51	11-15	7.7	41.7	15.1	79.7	15.4
15729 MW-51 DUP	11-15	4.0	16.2	6.1	32.8	4.7
15729 MW-52	1-5	<4.4	8.3	3.0J	16.6	6.5
15729 MW-53	11-15	<4.8	<4.8	<4.8	<9.7	1.4J
15729 MW-54	11-15	<260	<260	164J	<520	527

PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 SITE MAP	E1591DWLO DATE: 6/1/12	SUMTER, SOUTH CAROLINA

APPENDIX A

BORING LOGS
&
WATER WELL RECORDS

EMERALD, INC.

MONITORING WELL INSTALLATION LOG

Site: H.W. Detwiler

Date: 4/16/12 thru 4/20/12

Personnel: Emerald, Inc. D. Reames - GEX Vincent Federle C 01930

LOCATION	DATE DRILLED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-46	4/16/12	5'	17	Red, Clayey Fine to Medium SAND	Dry	Grass at Surface Posthole to 4 ft. No petroleum odor
		10'	57	SAA	Dry	6'-12' very tight soils No petroleum odor
		15'	78	Orange, Fine to Medium Sandy CLAY	Dry	No petroleum odor
		20'	>5,000	Orange, Clayey Silty Fine to Medium SAND	Wet	Strong petroleum odor Sheen observed on Auger cuttings
		25'	>5,000	SAA with some coarse sand	Saturated	Strong petroleum odor
				Monitoring well set at 25 ft. BGS with 10 ft. screen		Well not developed due to free product
MW-47	4/16/12	5'	93	Red, Clayey Fine to Medium SAND	Dry	Grass at Surface Posthole to 4 ft. No petroleum odor
		10'	188	SAA	Dry	6'-12' very tight soils No petroleum odor
		15'	193	Orange, Fine to Medium Sandy CLAY	Dry	No petroleum odor
		20'	191	Orange, Clayey Silty Fine to Medium SAND	Damp	No petroleum odor
		25'	70	SAA with some coarse sand	Saturated	Slight petroleum odor
				Monitoring well set at 25 ft. BGS with 10 ft. screen		Developed 15 gal. from well by pumping

EMERALD, INC.

MONITORING WELL INSTALLATION LOG

Site: H.W. Detwiler

Date: 4/16/12 thru 4/20/12

Personnel: Emerald, Inc. D. Reames - GEX Vincent Federle C 01930

LOCATION	DATE DRILLED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-48	4/16/12	5'	115	Red, Clayey Fine to Medium SAND	Dry	Grass at Surface Posthole to 4 ft. No petroleum odor
		10'	89	SAA	Dry	6'-12' very tight soils No petroleum odor
		15'	ND	Orange, Fine to Medium Sandy CLAY	Dry	No petroleum odor
		20'	ND	Orange, Clayey Silty Fine to Medium SAND	Dry to Damp	No petroleum odor
		25'	10.4	SAA with some coarse sand	Wet	No petroleum odor
				Monitoring well set at 25 ft. BGS with 10 ft. screen		Developed 15 gal. from well by pumping
MW-49	4/16/12	5'	73	Red, Clayey Fine to Medium SAND	Dry	Grass at Surface Posthole to 4 ft. No petroleum odor
		10'	ND	SAA	Dry	6'-12' very tight soils No petroleum odor
		15'	46	Orange, Fine to Medium Sandy CLAY	Dry	No petroleum odor
		20'	3,292	Orange, Fine to Medium Sandy Silty CLAY	Damp	Strong Petroleum Odor
		25'	2,660	Tan, Clayey Silty Fine to Medium SAND with some coarse	Wet	Strong Petroleum Odor
				Monitoring well set at 25 ft. BGS with 10 ft. screen		Well not developed due to free product

EMERALD, INC.

MONITORING WELL INSTALLATION LOG

Site: H.W. Detwiler

Date: 4/16/12 thru 4/20/12

Personnel: Emerald, Inc. D. Reames - GEX Vincent Federle C 01930

LOCATION	DATE DRILLED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-50	4/16/12	5'	37	Orange, Clayey Fine to Medium SAND	Dry	Grass at Surface Posthole to 4 ft. No petroleum odor
		10'	48	SAA	Dry	No petroleum odor
		15'	161	Orange, Fine to Medium Sandy CLAY	Dry	No petroleum odor
		20'	190	Orange, Fine to Medium Sandy Silty CLAY	Damp	No petroleum odor
		25'	389	Tan, Clayey Silty Fine to Medium SAND with some coarse	Wet	Slight petroleum odor
				Monitoring well set at 25 ft. BGS with 10 ft. screen		Developed 15 gal. from well
MW-51	4/17/12	5'	27	Red, Clayey Fine to Medium SAND	Dry	Grass at Surface Posthole to 4 ft. No petroleum odor
		10'	48	SAA	Dry	6'-12' very tight soils No petroleum odor
		15'	337	Orange, Fine to Medium Sandy CLAY	Dry	Slight petroleum odor
		20'	522	Orange, Fine to Medium Sandy Silty CLAY	Damp	Strong petroleum odor
		25'	2,253	Yellow and Orange, Clayey Silty Fine to Medium SAND with some small pebbles	Saturated	Product came to surface with Augers
				Monitoring well set at 25 ft. BGS with 10 ft. screen		Well not developed due to free product

EMERALD, INC.

MONITORING WELL INSTALLATION LOG

Site: H.W. Detwiler

Date: 4/16/12 thru 4/20/12

Personnel: Emerald, Inc. D. Reames - GEX Vincent Federle C 01930

LOCATION	DATE DRILLED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-52	4/17/12	5'	191	Red, Clayey Fine to Medium SAND	Dry	Grass at Surface Posthole to 4 ft. No petroleum odor
		10'	90	SAA	Dry	6'-12' very tight soils No Petroleum Odor
		15'	112	Orange, Fine to Medium Sandy CLAY	Dry	No Petroleum Odor
		20'	141	Orange, Fine to Medium Sandy Silty CLAY	Damp	No Petroleum Odor
		25'	123	Tan, Clayey Silty Fine to Medium SAND with some coarse	Wet	No Petroleum Odor
				Monitoring well set at 25 ft. BGS with 10 ft. screen		Developed 15 gal. from well
MW-53	4/17/12	5'	151	Orange, Clayey Fine to Medium SAND	Dry	Grass at Surface Posthole to 4 ft. No petroleum odor
		10'	241	SAA	Dry	No petroleum odor
		15'	337	Orange, Fine to Medium Sandy CLAY	Dry	No petroleum odor
		20'	389	Orange, Clayey Fine to Medium SAND	Damp	No petroleum odor
		25'	744	Tan, Clayey Silty Fine to Medium SAND with some pebbles	Wet	Mild petroleum odor
				Monitoring well set at 25 ft. BGS with 10 ft. screen		Developed 15 gal. from well

EMERALD, INC.

MONITORING WELL INSTALLATION LOG

Site: H.W. Detwiler

Date: 4/16/12 thru 4/20/12

Personnel: Emerald, Inc. D. Reames - GEX Vincent Federle C 01930

LOCATION	DATE DRILLED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-54	4/17/12	5'	186	Orange, Clayey Fine to Medium SAND	Dry	Grass at Surface Posthole to 4 ft. No petroleum odor
		10'	190	SAA	Dry	No petroleum odor
		15'	1,319	Orange, Fine to Medium Sandy CLAY	Dry	Petroleum odor
		20'	2,453	Orange, Clayey Silty Fine to Medium SAND	Damp	Strong petroleum odor
		25'	791	Tan, Clayey Silty Fine to Medium SAND with some coarse	Wet	Petroleum odor
				Monitoring well set at 25 ft. BGS with 10 ft. screen		Developed 15 gal. from well
MW-55	4/17/12	5'	13	Red, Clayey Fine to Medium SAND	Dry	Grass at Surface Posthole to 4 ft. No petroleum odor
		10'	24	SAA	Dry	No Petroleum Odor
		15'	27	Orange, Fine to Medium Sandy CLAY with some small pebbles	Dry	No Petroleum Odor
		20'	21	Orange, Clayey Silty Fine to Medium SAND	Wet	No Petroleum Odor
		24'	12	Tan, Clayey Silty Fine to Medium SAND with some coarse	Saturated	No Petroleum Odor
				Monitoring well set at 24 ft. BGS with 10 ft. screen		Developed 15 gal. from well

EMERALD, INC.

MONITORING WELL INSTALLATION LOG

Site: H.W. Detwiler

Date: 4/16/12 thru 4/20/12

Personnel: Emerald, Inc. D. Reames - GEX Vincent Federle C 01930

LOCATION	DATE DRILLED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-56	4/17/12	5'	22	Orange, Clayey Fine to Medium SAND	Dry	Grass at Surface Posthole to 4 ft. No petroleum odor
		10'	60	SAA	Dry	No petroleum odor
		15'	50	Orange, Fine to Medium Sandy CLAY with some pebbles	Dry	No petroleum odor
		20'	39	Orange, Clayey Silty Medium to Coarse SAND	Wet	No petroleum odor
		23'	30	SAA	Saturated	No petroleum odor
				Monitoring well set at 23 ft. BGS with 10 ft. screen		Developed 15 gal. from well
MW-57	4/18/12	5'	91	Orange, Clayey Fine to Medium SAND	Dry	Grass at Surface Posthole to 4 ft. No petroleum odor
		10'	13	SAA	Dry	No petroleum odor
		15'	92	Orange, Fine to Medium Sandy CLAY with some pebbles	Dry	No petroleum odor
		20'	208	Orange, Clayey Silty Medium to Coarse SAND	Wet	Slight petroleum odor
		22'	277	SAA	Saturated	Petroleum odor
				Monitoring well set at 22 ft. BGS with 10 ft. screen		Developed 15 gal. from well

EMERALD, INC.

MONITORING WELL INSTALLATION LOG

Site: H.W. Detwiler

Date: 4/16/12 thru 4/20/12

Personnel: Emerald, Inc. D. Reames - GEX Vincent Federle C 01930

LOCATION	DATE DRILLED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-58	4/18/12	5'	26	Orange, Clayey Fine to Medium SAND	Dry	Grass at Surface Posthole to 4 ft. No petroleum odor
		10'	22	SAA	Dry	6'-12' very tight soils No petroleum odor
		15'	38	Orange, Fine to Medium Sandy Silty CLAY	Dry	No petroleum odor
		20'	101	Orange, Clayey Silty Fine to Medium SAND	Wet	Slight Odor
		24'	113	SAA	Saturated	Slight Odor
				Monitoring well set at 24 ft. BGS with 10 ft. screen		Developed 15 gal. from well
MW-59	4/19/12	5'	42	Red, Clayey Fine to Medium SAND	Dry	Grass at Surface Posthole to 4 ft. No petroleum odor
		10'	49	SAA	Dry	No petroleum odor
		15'	42	Orange, Fine to Medium Sandy CLAY	Dry	No petroleum odor
		20'	29	Tan, Clayey Silty Medium to Coarse SAND	Wet	Slight petroleum odor
		24'	13	SAA	Wet	No petroleum odor
				Monitoring well set at 23 ft. BGS with 10 ft. screen		Developed 15 gal. from well

EMERALD, INC.

MONITORING WELL INSTALLATION LOG

Site: H.W. Detwiler

Date: 4/16/12 thru 4/20/12

Personnel: Emerald, Inc. D. Reames - GEX Vincent Federle C 01930

LOCATION	DATE DRILLED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-60	4/19/12	5'	19	Red, Clayey Fine to Medium SAND	Dry	Asphalt at Surface Posthole to 4 ft. No petroleum odor
		10'	5	SAA	Dry	6'-12' very tight soils No petroleum odor
		15'	347	Orange, Fine to Medium Sandy CLAY	Dry	No petroleum odor
		20'	2,409	Orange, Fine to Medium Sandy Silty CLAY	Damp	Strong petroleum odor
		25'	2,834	Yellow and Orange, Clayey Silty Fine to Medium SAND	Wet	Strong petroleum odor
				Monitoring well set at 25 ft. BGS with 10 ft. screen		Developed 15 gal. from well
MW-61	4/19/12	5'	10	Orange, Clayey Fine to Medium SAND	Dry	Asphalt at Surface Posthole to 4 ft. No petroleum odor
		10'	83	SAA	Dry	6'-12' very tight soils No petroleum odor
		15'	1,708	Orange, Fine to Medium Sandy CLAY	Dry	Petroleum odor
		20'	>5,000	Orange, Fine to Medium Sandy Silty CLAY	Damp	Strong petroleum odor
		25'	1,447	Tan, Clayey Silty Fine to Medium SAND	Saturated	Strong petroleum odor
				Monitoring well set at 25 ft. BGS with 10 ft. screen		Well not developed due to free product

EMERALD, INC.

MONITORING WELL INSTALLATION LOG

Site: H.W. Detwiler

Date: 4/16/12 thru 4/20/12

Personnel: Emerald, Inc. D. Reames - GEX Vincent Federle C 01930

LOCATION	DATE DRILLED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-62	4/20/12	5'	7	Orange, Clayey Fine to Medium SAND	Dry	Gravel/Asphalt at Surface Posthole to 4 ft. No petroleum odor
		10'	13	SAA	Dry	6'-12' very tight soils No petroleum odor
		15'	57	Orange, Fine to Medium Sandy CLAY	Dry	No petroleum odor
		20'	12	Orange, Fine to Medium Sandy Silty CLAY	Damp	No petroleum odor
		25'	6	Tan, Clayey Silty Fine to Medium SAND	Wet	No petroleum odor
				Monitoring well set at 25 ft. BGS with 10 ft. screen		Developed 15 gal. from well
MW-63	4/18/12	5'	8	Orange, Clayey Fine to Medium SAND	Dry	No petroleum odor
	4/19/12	10'	17	SAA	Dry	No petroleum odor
		15'	38	Orange, Fine to Medium Sandy CLAY	Dry	No petroleum odor
		20'	97	Orange, Fine to Medium Sandy Silty CLAY with small pebbles	Wet	No petroleum odor
		24'	12	Tan, Clayey Silty Medium to Coarse SAND	Saturated	No petroleum odor
				Monitoring well set at 24 ft. BGS with 10 ft. screen		Developed 15 gal. from well

EMERALD, INC.

MONITORING WELL INSTALLATION LOG

Site: H.W. Detwiler

Date: 4/16/12 thru 4/20/12

Personnel: Emerald, Inc. D. Reames - GEX Vincent Federle C 01930

LOCATION	DATE DRILLED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-64	4/18/12	5'	3	Orange, Clayey Fine to Medium SAND	Dry	Grass at Surface Posthole to 4 ft.
		10'	6	SAA	Dry	No petroleum odor
		15'	6	Orange, Fine to Medium Sandy CLAY	Dry	No petroleum odor
		20'	ND	Orange, Fine to Medium Sandy Silty CLAY	Damp	No petroleum odor
		24'	ND	Tan, Clayey Silty Medium to Coarse SAND with pebbles	Wet	No petroleum odor
				Monitoring well set at 24 ft. BGS with 10 ft. screen		Developed 15 gal. from well
MW-66	4/19/12	5'	24	Orange, Clayey Fine to Medium SAND	Dry	Grass at Surface Posthole to 4' No petroleum odor
		10'	38	SAA	Dry	6'-12' very tight soils No petroleum odor
		15'	52	Orange and Red, Fine to Medium Sandy CLAY	Dry	No petroleum odor
		20'	59	Orange, Fine to Medium Sandy Silty CLAY	Damp	No petroleum odor
		24'	412	Tan, Clayey Silty Medium to Coarse SAND	Wet	Slight petroleum odor
				Monitoring well set at 24 ft. BGS with 10 ft. screen		Developed 15 gal. from well

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: BARLOW, LELIA (last) (first)
Address: 635 CLARK AVENUE
City: PERT AMBOY State: NJ Zip: 08861
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 12.51" Longitude: 80° 21' 11.12"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SANDY CLAY	19.0	20.0
SILTY CLAYEY SAND	5.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-46 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 15729

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 04/16/12
25.0 ft. Date Completed: 04/16/12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 20.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Date: 04/26/12
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: BARLOW, LELIA (last) (first)
Address: 635 CLARK AVENUE
City: PERT AMBOY State: NJ Zip: 08861
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 12.00" Longitude: 80° 21' 11.88"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SANDY CLAY	19.0	20.0
SILTY CLAYEY SAND	5.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-47 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 15729

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 25.0 ft. Date Started: 04/16/12 Date Completed: 04/16/12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 20.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 04/26/12

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: BARLOW, LELIA (last) (first)
Address: 635 CLARK AVENUE
City: PERT AMBOY State: NJ Zip: 08861
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 11.17" Longitude: 80° 21' 11.40"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SANDY CLAY	19.0	20.0
SILTY CLAYEY SAND	5.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-48 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 15729

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 25.0 ft. Date Started: 04/16/12 Date Completed: 04/16/12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft. **NOTE: MULTIPLE SCREENS**
_____ ft. and _____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 20.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 04/26/12

If D Level Driller, provide supervising driller's name:

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: BARLOW, LELIA (last) (first)
Address: 635 CLARK AVENUE
City: PERT AMBOY State: NJ Zip: 08861
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 11.59" Longitude: 80° 21' 12.02"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SANDY CLAY	19.0	20.0
SILTY CLAYEY SAND	5.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-49 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 15729

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 25.0 ft. Date Started: 04/16/12 Date Completed: 04/16/12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 20.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A B C D (circle one) ☐ ☐ ☑ ☐
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 04/26/12

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: BARLOW, LELIA (last) (first)
Address: 635 CLARK AVENUE
City: PERT AMBOY State: NJ Zip: 08861
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 11.08" Longitude: 80° 21' 10.78"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SANDY CLAY	19.0	20.0
SILTY CLAYEY SAND	5.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-50 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 15729

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 25.0 ft. Date Started: 04/16/12 Date Completed: 04/16/12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 20.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 04/26/12

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: JOHNSON, CHARLIE & CLAUDE (last) (first)
Address: PO BOX 698
City: SUMMERTON State: SC Zip: 29148
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 10.87" Longitude: 80° 21' 11.94"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SANDY CLAY	19.0	20.0
SILTY CLAYEY SAND	5.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-51 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 15729

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 25.0 ft. Date Started: 04/17/12 Date Completed: 04/17/12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 20.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 04/26/12

If D Level Driller, provide supervising driller's name:

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: JOHNSON, CHARLIE & CLAUDE (last) (first)
Address: PO BOX 698
City: SUMMERTON State: SC Zip: 29148
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 10.28" Longitude: 80° 21' 11.20"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SANDY CLAY	19.0	20.0
SILTY CLAYEY SAND	5.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-52 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 15729

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 25.0 ft. Date Started: 04/17/12 Date Completed: 04/17/12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 20.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A B C D (circle one) ☐ ☐ ☑ ☐
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 04/26/12

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: JOHNSON, CHARLIE & CLAUDE (last) (first)
Address: PO BOX 698
City: SUMMERTON State: SC Zip: 29148
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 09.90" Longitude: 80° 21' 11.54"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SANDY CLAY	19.0	20.0
SILTY CLAYEY SAND	5.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-53 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 15729

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 25.0 ft. Date Started: 04/17/12 Date Completed: 04/17/12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 20.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 04/26/12

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: JOHNSON, CHARLIE & CLAUDE (last) (first)
Address: PO BOX 698
City: SUMMERTON State: SC Zip: 29148
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 09.62" Longitude: 80° 21' 12.40"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SANDY CLAY	19.0	20.0
SILTY CLAYEY SAND	5.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-54 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 15729

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 25.0 ft. Date Started: 04/17/12 Date Completed: 04/17/12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 20.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 04/26/12

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: JONES, MICHAEL (last) (first)
Address: PO BOX 4732
City: COLUMBIA State: SC Zip: 29240
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 08.25" Longitude: 80° 21' 11.48"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SANDY CLAY	19.0	20.0
SILTY CLAYEY SAND	4.0	24.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-55 BENTONITE SEAL FROM 10.0 TO 12.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 15729

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 04/17/12
24.0 ft. Date Completed: 04/17/12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 14.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 14.0 ft. and 24.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 18.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 12.0 ft. to 24.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 10.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Date: 04/26/12
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE. PROTECT. PROSPER.

1. WELL OWNER INFORMATION:
Name: JONES, MICHAEL (last) (first)
Address: PO BOX 4732
City: COLUMBIA State: SC Zip: 29240
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 08.11" Longitude: 80° 21' 13.40"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SANDY CLAY	19.0	20.0
SILTY CLAYEY SAND	3.0	23.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-56 BENTONITE SEAL FROM 9.0 TO 11.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 15729

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 23.0 ft. Date Started: 04/17/12 Date Completed: 04/17/12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 13.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 13.0 ft. and 23.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 17.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 11.0 ft. to 23.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 9.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 04/26/12

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: DUNCAN, MALACHI & LAURA (last) (first)
Address: PO BOX 1277
City: SUMMERTON State: SC Zip: 29148
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 08.45" Longitude: 80° 21' 14.14"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SANDY CLAY	19.0	20.0
SILTY CLAYEY SAND	2.0	22.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-57 BENTONITE SEAL FROM 8.0 TO 10.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 15729

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 22.0 ft. Date Started: 04/18/12 Date Completed: 04/18/12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 12.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 12.0 ft. and 22.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 17.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 10.0 ft. to 22.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 8.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 04/26/12

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: SCDOT (last) (first)
Address: 955 PARK STREET
City: COLUMBIA State: SC Zip: 29201
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 10.49" Longitude: 80° 21' 12.84"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SANDY CLAY	19.0	20.0
SILTY CLAYEY SAND	4.0	24.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-58 BENTONITE SEAL FROM 10.0 TO 12.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 15729

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 24.0 ft. Date Started: 04/18/12 Date Completed: 04/18/12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 14.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 14.0 ft. and 24.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 18.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 12.0 ft. to 24.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 10.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 04/26/12

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: SHAMAH INVESTMENTS, LLC (last) (first)
Address: PO BOX 70196
City: MYRTLE BEACH State: SC Zip: 29572
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 14.29" Longitude: 80° 21' 14.82"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
CONCRETE/GRAVEL	1.0	1.0
RED/BROWN SANDY CLAY	19.0	20.0
SILTY CLAYEY SAND	5.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-59 BENTONITE SEAL FROM 10.0 TO 12.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 15729

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 24.0 ft. Date Started: 04/19/12 Date Completed: 04/19/12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 14.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 14.0 ft. and 24.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 17.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 12.0 ft. to 24.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 10.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 04/26/12

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: WELLS, BRIDGET & KEN (last) (first)
Address: PO BOX 44
City: SUMMERTON State: SC Zip: 29148
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 13.10" Longitude: 80° 21' 13.40"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ASPHALT/GRAVEL	1.0	1.0
RED/BROWN SANDY CLAY	19.0	20.0
SILTY CLAYEY SAND	5.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-60 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 15729

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 25.0 ft. Date Started: 04/19/12 Date Completed: 04/19/12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 19.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 04/26/12

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: WELLS, BRIDGET & KEN (last) (first)
Address: PO BOX 44
City: SUMMERTON State: SC Zip: 29148
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 12.55" Longitude: 80° 21' 12.76"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ASPHALT/GRAVEL	1.0	1.0
RED/BROWN SANDY CLAY	19.0	20.0
SILTY CLAYEY SAND	5.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-61 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 15729

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 25.0 ft. Date Started: 04/19/12 Date Completed: 04/19/12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft. **NOTE: MULTIPLE SCREENS**
_____ ft. and _____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 19.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 04/26/12

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: DETWILER JR, HAROLD (last) (first)
Address: PO BOX 760
City: SUMMERTON State: SC Zip: 29148
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 13.44" Longitude: 80° 21' 11.04"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ASPHALT/GRAVEL	1.0	1.0
RED/BROWN SANDY CLAY	19.0	20.0
SILTY CLAYEY SAND	5.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-62 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 15729

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 04/20/12
25.0 ft. Date Completed: 04/20/12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft. **NOTE: MULTIPLE SCREENS**
_____ ft. and _____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 20.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 04/26/12

If D Level Driller, provide supervising driller's name:

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: BLACKWELL, LYNETTE & HUGHES, GARY (last) (first)
Address: 312 AQUA VISTA COURT
City: MYRTLE BEACH State: SC Zip: 29588
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 12.34" Longitude: 80° 21' 15.38"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SANDY CLAY	19.0	20.0
SILTY CLAYEY SAND	4.0	24.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-63 BENTONITE SEAL FROM 10.0 TO 12.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 15729

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 24.0 ft. Date Started: 04/18/12 Date Completed: 04/19/12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 14.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 14.0 ft. and 24.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 18.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 12.0 ft. to 24.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 10.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date Installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 04/26/12

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: BLACKWELL, LYNETTE & HUGHES, GARY (last) (first)
Address: 312 AQUA VISTA COURT
City: MYRTLE BEACH State: SC Zip: 29588
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 13.99" Longitude: 80° 21' 18.46"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SANDY CLAY	19.0	20.0
SILTY CLAYEY SAND	4.0	24.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-64 BENTONITE SEAL FROM 10.0 TO 12.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 15729

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 24.0 ft. Date Started: 04/18/12 Date Completed: 04/18/12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 14.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 14.0 ft. and 24.0 ft. **NOTE: MULTIPLE SCREENS**
_____ ft. and _____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 18.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 12.0 ft. to 24.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 10.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 04/26/12

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
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Address: 312 AQUA VISTA COURT
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Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 11.69" Longitude: 80° 21' 13.32"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SANDY CLAY	19.0	20.0
SILTY CLAYEY SAND	4.0	24.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-66 BENTONITE SEAL FROM 10.0 TO 12.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 15729

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 24.0 ft. Date Started: 04/19/12 Date Completed: 04/19/12

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 14.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 14.0 ft. and 24.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 18.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 12.0 ft. to 24.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 10.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

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Signed: Vincent R. Federle Well Driller Date: 04/26/12

If D Level Driller, provide supervising driller's name:

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

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(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

April 27, 2012

Mr. Ronny Lowder
Emerald, Inc.
2520 Tahoe Drive
Sumter, SC 29150

RE: Project: H.W. DETWILER CO. 15729
Pace Project No.: 92116841

Dear Mr. Lowder:
Enclosed are the analytical results for sample(s) received by the laboratory on April 19, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Renee Spencer

Renee Spencer

renee.spencer@pacelabs.com
Project Manager

Enclosures

cc: Ms. Robbin Brown, Emerald, Inc.

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Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 92116841

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
South Carolina Drinking Water Cert. #: 99006003
Virginia Drinking Water Certification #: 00213
Connecticut Certification #: PH-0104
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Louisiana DHH Drinking Water # LA 100031
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460144

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SAMPLE SUMMARY

Project: H.W. DETWILER CO. 15729
Pace Project No.: 92116841

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92116841001	15729 MW-51 (15')	Solid	04/17/12 12:50	04/19/12 16:05
92116841002	15729 MW-52 (5')	Solid	04/17/12 14:25	04/19/12 16:05
92116841003	15729 MW-53 (15')	Solid	04/17/12 11:25	04/19/12 16:05
92116841004	15729 MW-54 (15')	Solid	04/17/12 09:15	04/19/12 16:05
92116841005	15729 TRIP BLANK	Solid	04/17/12 11:50	04/19/12 16:05
92116841006	15729 FIELD BLANK	Water	04/17/12 11:40	04/19/12 16:05
92116841007	15729 MW-51 (15') DUP	Solid	04/17/12 12:50	04/19/12 16:05

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SAMPLE ANALYTE COUNT

Project: H.W. DETWILER CO. 15729
Pace Project No.: 92116841

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92116841001	15729 MW-51 (15')	EPA 8260	DLK	11	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92116841002	15729 MW-52 (5')	EPA 8260	DLK	11	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92116841003	15729 MW-53 (15')	EPA 8260	DLK	11	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92116841004	15729 MW-54 (15')	EPA 8260	DLK	11	PASI-C
		ASTM D2974-87	TNM	1	PASI-C
92116841005	15729 TRIP BLANK	EPA 8260	DLK	11	PASI-C
92116841006	15729 FIELD BLANK	EPA 8260	KJM	12	PASI-C
92116841007	15729 MW-51 (15') DUP	EPA 8260	DLK	11	PASI-C
		ASTM D2974-87	TNM	1	PASI-C

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 92116841

Sample: 15729 MW-51 (15') **Lab ID: 92116841001** Collected: 04/17/12 12:50 Received: 04/19/12 16:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A SC Volatile Org	Analytical Method: EPA 8260								
Benzene	**7.7**	ug/kg	4.4	1.4	1		04/20/12 20:14	71-43-2	
Ethylbenzene	**15.1**	ug/kg	4.4	1.6	1		04/20/12 20:14	100-41-4	
Naphthalene	**15.4**	ug/kg	4.4	1.1	1		04/20/12 20:14	91-20-3	
Toluene	**41.7**	ug/kg	4.4	1.6	1		04/20/12 20:14	108-88-3	
Xylene (Total)	**79.7**	ug/kg	8.8	3.2	1		04/20/12 20:14	1330-20-7	
m&p-Xylene	**54.6**	ug/kg	8.8	3.2	1		04/20/12 20:14	179601-23-1	
o-Xylene	**25.1**	ug/kg	4.4	1.7	1		04/20/12 20:14	95-47-6	
Surrogates									
Dibromofluoromethane (S)	96	%	70-130		1		04/20/12 20:14	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		04/20/12 20:14	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130		1		04/20/12 20:14	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	70-130		1		04/20/12 20:14	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**14.0**	%	0.10	0.10	1		04/20/12 12:45		

Sample: 15729 MW-52 (5') **Lab ID: 92116841002** Collected: 04/17/12 14:25 Received: 04/19/12 16:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035A SC Volatile Org	Analytical Method: EPA 8260								
Benzene	ND	ug/kg	4.4	1.4	1		04/20/12 20:32	71-43-2	
Ethylbenzene	**3.0J**	ug/kg	4.4	1.6	1		04/20/12 20:32	100-41-4	
Naphthalene	**6.5**	ug/kg	4.4	1.1	1		04/20/12 20:32	91-20-3	
Toluene	**8.3**	ug/kg	4.4	1.6	1		04/20/12 20:32	108-88-3	
Xylene (Total)	**16.6**	ug/kg	8.8	3.2	1		04/20/12 20:32	1330-20-7	
m&p-Xylene	**10.7**	ug/kg	8.8	3.2	1		04/20/12 20:32	179601-23-1	
o-Xylene	**5.9**	ug/kg	4.4	1.7	1		04/20/12 20:32	95-47-6	
Surrogates									
Dibromofluoromethane (S)	92	%	70-130		1		04/20/12 20:32	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		04/20/12 20:32	2037-26-5	
4-Bromofluorobenzene (S)	102	%	70-130		1		04/20/12 20:32	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		04/20/12 20:32	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**15.2**	%	0.10	0.10	1		04/20/12 12:45		

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 92116841

Sample: 15729 MW-53 (15') **Lab ID: 92116841003** Collected: 04/17/12 11:25 Received: 04/19/12 16:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035ASC Volatile Org	Analytical Method: EPA 8260								
Benzene	ND	ug/kg	4.8	1.5	1		04/20/12 20:51	71-43-2	
Ethylbenzene	ND	ug/kg	4.8	1.7	1		04/20/12 20:51	100-41-4	
Naphthalene	**1.4J**	ug/kg	4.8	1.2	1		04/20/12 20:51	91-20-3	
Toluene	ND	ug/kg	4.8	1.7	1		04/20/12 20:51	108-88-3	
Xylene (Total)	ND	ug/kg	9.7	3.5	1		04/20/12 20:51	1330-20-7	
m&p-Xylene	ND	ug/kg	9.7	3.5	1		04/20/12 20:51	179601-23-1	
o-Xylene	ND	ug/kg	4.8	1.8	1		04/20/12 20:51	95-47-6	
Surrogates									
Dibromofluoromethane (S)	104	%	70-130		1		04/20/12 20:51	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		04/20/12 20:51	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		1		04/20/12 20:51	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		04/20/12 20:51	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**16.2**	%	0.10	0.10	1		04/20/12 12:45		

Sample: 15729 MW-54 (15') **Lab ID: 92116841004** Collected: 04/17/12 09:15 Received: 04/19/12 16:05 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035ASC Volatile Org	Analytical Method: EPA 8260								
Benzene	ND	ug/kg	260	83.2	50		04/20/12 22:40	71-43-2	D3
Ethylbenzene	**164J**	ug/kg	260	93.5	50		04/20/12 22:40	100-41-4	
Naphthalene	**527**	ug/kg	260	62.4	50		04/20/12 22:40	91-20-3	
Toluene	ND	ug/kg	260	93.5	50		04/20/12 22:40	108-88-3	
Xylene (Total)	ND	ug/kg	520	187	50		04/20/12 22:40	1330-20-7	
m&p-Xylene	ND	ug/kg	520	187	50		04/20/12 22:40	179601-23-1	
o-Xylene	ND	ug/kg	260	98.7	50		04/20/12 22:40	95-47-6	
Surrogates									
Dibromofluoromethane (S)	94	%	70-130		50		04/20/12 22:40	1868-53-7	
Toluene-d8 (S)	101	%	70-130		50		04/20/12 22:40	2037-26-5	
4-Bromofluorobenzene (S)	101	%	70-130		50		04/20/12 22:40	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		50		04/20/12 22:40	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**18.3**	%	0.10	0.10	1		04/20/12 12:45		

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 92116841

Sample: 15729 TRIP BLANK **Lab ID: 92116841005** Collected: 04/17/12 11:50 Received: 04/19/12 16:05 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035ASC Volatile Org	Analytical Method: EPA 8260								
Benzene	ND	ug/kg	5.0	1.6	1		04/23/12 15:12	71-43-2	
Ethylbenzene	ND	ug/kg	5.0	1.8	1		04/23/12 15:12	100-41-4	
Naphthalene	ND	ug/kg	5.0	1.2	1		04/23/12 15:12	91-20-3	
Toluene	ND	ug/kg	5.0	1.8	1		04/23/12 15:12	108-88-3	
Xylene (Total)	ND	ug/kg	10.0	3.6	1		04/23/12 15:12	1330-20-7	
m&p-Xylene	ND	ug/kg	10.0	3.6	1		04/23/12 15:12	179601-23-1	
o-Xylene	ND	ug/kg	5.0	1.9	1		04/23/12 15:12	95-47-6	
Surrogates									
Dibromofluoromethane (S)	105	%	70-130		1		04/23/12 15:12	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		04/23/12 15:12	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		1		04/23/12 15:12	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		04/23/12 15:12	17060-07-0	

Sample: 15729 FIELD BLANK **Lab ID: 92116841006** Collected: 04/17/12 11:40 Received: 04/19/12 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.7	1		04/20/12 14:32	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		04/20/12 14:32	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.6	1		04/20/12 14:32	100-41-4	
Naphthalene	ND	ug/L	5.0	2.0	1		04/20/12 14:32	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		04/20/12 14:32	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		04/20/12 14:32	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		04/20/12 14:32	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		04/20/12 14:32	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		04/20/12 14:32	460-00-4	
Dibromofluoromethane (S)	100	%	70-130		1		04/20/12 14:32	1868-53-7	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		04/20/12 14:32	17060-07-0	
Toluene-d8 (S)	96	%	70-130		1		04/20/12 14:32	2037-26-5	

Sample: 15729 MW-51 (15') DUP **Lab ID: 92116841007** Collected: 04/17/12 12:50 Received: 04/19/12 16:05 Matrix: Solid

Results reported on a "dry-weight" basis

Comments: • Extra vial from 5035 soil kit for sample 001 (MW-51 15') was used for Duplicate sample 007 (MW-51 15' Dup)

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035ASC Volatile Org	Analytical Method: EPA 8260								
Benzene	**4.0**	ug/kg	3.5	1.1	1		04/26/12 14:31	71-43-2	
Ethylbenzene	**6.1**	ug/kg	3.5	1.2	1		04/26/12 14:31	100-41-4	
Naphthalene	**4.7**	ug/kg	3.5	0.83	1		04/26/12 14:31	91-20-3	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 92116841

Sample: 15729 MW-51 (15') DUP **Lab ID: 92116841007** Collected: 04/17/12 12:50 Received: 04/19/12 16:05 Matrix: Solid

Results reported on a "dry-weight" basis
Comments: • Extra vial from 5035 soil kit for sample 001 (MW-51 15') was used for Duplicate sample 007 (MW-51 15' Dup)

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260/5035ASC Volatile Org	Analytical Method: EPA 8260								
Toluene	**16.2**	ug/kg	3.5	1.2	1		04/26/12 14:31	108-88-3	
Xylene (Total)	**32.8**	ug/kg	6.9	2.5	1		04/26/12 14:31	1330-20-7	
m&p-Xylene	**22.4**	ug/kg	6.9	2.5	1		04/26/12 14:31	179601-23-1	
o-Xylene	**10.4**	ug/kg	3.5	1.3	1		04/26/12 14:31	95-47-6	
Surrogates									
Dibromofluoromethane (S)	99	%	70-130		1		04/26/12 14:31	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		04/26/12 14:31	2037-26-5	
4-Bromofluorobenzene (S)	101	%	70-130		1		04/26/12 14:31	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		04/26/12 14:31	17060-07-0	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**0.22**	%	0.10	0.10	1		04/20/12 08:39		

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 92116841

QC Batch: MSV/18859
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV SC
Associated Lab Samples: 92116841006

METHOD BLANK: 752807
Matrix: Water
Associated Lab Samples: 92116841006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	04/20/12 11:08	
Benzene	ug/L	ND	5.0	04/20/12 11:08	
Ethylbenzene	ug/L	ND	5.0	04/20/12 11:08	
m&p-Xylene	ug/L	ND	10.0	04/20/12 11:08	
Naphthalene	ug/L	ND	5.0	04/20/12 11:08	
o-Xylene	ug/L	ND	5.0	04/20/12 11:08	
Toluene	ug/L	ND	5.0	04/20/12 11:08	
Xylene (Total)	ug/L	ND	10.0	04/20/12 11:08	
1,2-Dichloroethane-d4 (S)	%	94	70-130	04/20/12 11:08	
4-Bromofluorobenzene (S)	%	107	70-130	04/20/12 11:08	
Dibromofluoromethane (S)	%	97	70-130	04/20/12 11:08	
Toluene-d8 (S)	%	88	70-130	04/20/12 11:08	

LABORATORY CONTROL SAMPLE: 752808

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.4	97	70-130	
Benzene	ug/L	50	48.0	96	70-130	
Ethylbenzene	ug/L	50	49.7	99	70-130	
m&p-Xylene	ug/L	100	100	100	70-130	
Naphthalene	ug/L	50	51.1	102	70-130	
o-Xylene	ug/L	50	46.1	92	70-130	
Toluene	ug/L	50	49.7	99	70-130	
Xylene (Total)	ug/L	150	146	98	70-130	
1,2-Dichloroethane-d4 (S)	%			95	70-130	
4-Bromofluorobenzene (S)	%			109	70-130	
Dibromofluoromethane (S)	%			99	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 752809 752810

Parameter	Units	92116839004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	54.5	54.2	109	108	70-130	1	30	
Benzene	ug/L	ND	50	50	55.1	58.7	110	117	70-130	6	30	
Ethylbenzene	ug/L	ND	50	50	56.1	55.3	112	111	70-130	2	30	
m&p-Xylene	ug/L	ND	100	100	110	108	110	108	70-130	1	30	
Naphthalene	ug/L	ND	50	50	55.7	58.1	110	115	70-130	4	30	
o-Xylene	ug/L	ND	50	50	51.2	50.5	102	101	70-130	1	30	
Toluene	ug/L	ND	50	50	56.7	58.1	113	116	70-130	3	30	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 92116841

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 752809 752810

Parameter	Units	92116839004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane-d4 (S)	%						101	100	70-130			
4-Bromofluorobenzene (S)	%						103	103	70-130			
Dibromofluoromethane (S)	%						101	102	70-130			
Toluene-d8 (S)	%						102	106	70-130			

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 92116841

QC Batch: MSV/18866 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 92116841001, 92116841002, 92116841003, 92116841004

METHOD BLANK: 752882 Matrix: Solid
Associated Lab Samples: 92116841001, 92116841002, 92116841003, 92116841004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	6.7	04/20/12 15:03	
Ethylbenzene	ug/kg	ND	6.7	04/20/12 15:03	
m&p-Xylene	ug/kg	ND	13.4	04/20/12 15:03	
Naphthalene	ug/kg	2.3J	6.7	04/20/12 15:03	
o-Xylene	ug/kg	ND	6.7	04/20/12 15:03	
Toluene	ug/kg	ND	6.7	04/20/12 15:03	
Xylene (Total)	ug/kg	ND	13.4	04/20/12 15:03	
1,2-Dichloroethane-d4 (S)	%	100	70-130	04/20/12 15:03	
4-Bromofluorobenzene (S)	%	97	70-130	04/20/12 15:03	
Dibromofluoromethane (S)	%	104	70-130	04/20/12 15:03	
Toluene-d8 (S)	%	99	70-130	04/20/12 15:03	

LABORATORY CONTROL SAMPLE: 752883

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	54	56.1	104	70-130	
Ethylbenzene	ug/kg	54	53.5	99	70-130	
m&p-Xylene	ug/kg	108	107	99	70-130	
Naphthalene	ug/kg	54	60.5	112	70-130	
o-Xylene	ug/kg	54	51.3	95	70-130	
Toluene	ug/kg	54	54.9	102	70-130	
Xylene (Total)	ug/kg	162	158	97	70-130	
1,2-Dichloroethane-d4 (S)	%			100	70-130	
4-Bromofluorobenzene (S)	%			96	70-130	
Dibromofluoromethane (S)	%			102	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE SAMPLE: 753662

Parameter	Units	92116841003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	ND	46.1	58.1	126	70-130	
Ethylbenzene	ug/kg	ND	46.1	57.9	126	70-130	
m&p-Xylene	ug/kg	ND	92.2	112	120	70-130	
Naphthalene	ug/kg	1.4J	46.1	52.5	111	70-130	
o-Xylene	ug/kg	ND	46.1	53.6	116	70-130	
Toluene	ug/kg	ND	46.1	55.7	118	70-130	
1,2-Dichloroethane-d4 (S)	%				113	70-130	
4-Bromofluorobenzene (S)	%				100	70-130	
Dibromofluoromethane (S)	%				113	70-130	
Toluene-d8 (S)	%				101	70-130	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 92116841

SAMPLE DUPLICATE: 753661

Parameter	Units	92116751001 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/kg	ND	ND		30	
Ethylbenzene	ug/kg	ND	ND		30	
m&p-Xylene	ug/kg	ND	ND		30	
Naphthalene	ug/kg	ND	0.65J		30	
o-Xylene	ug/kg	ND	ND		30	
Toluene	ug/kg	ND	ND		30	
Xylene (Total)	ug/kg	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	99	107	11		
4-Bromofluorobenzene (S)	%	91	95	15		
Dibromofluoromethane (S)	%	95	109	6		
Toluene-d8 (S)	%	98	101	17		

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 92116841

QC Batch: MSV/18883
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 92116841005

METHOD BLANK: 753701
Matrix: Solid
Associated Lab Samples: 92116841005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	5.6	04/23/12 14:17	
Ethylbenzene	ug/kg	ND	5.6	04/23/12 14:17	
m&p-Xylene	ug/kg	ND	11.2	04/23/12 14:17	
Naphthalene	ug/kg	1.7J	5.6	04/23/12 14:17	
o-Xylene	ug/kg	ND	5.6	04/23/12 14:17	
Toluene	ug/kg	ND	5.6	04/23/12 14:17	
Xylene (Total)	ug/kg	ND	11.2	04/23/12 14:17	
1,2-Dichloroethane-d4 (S)	%	106	70-130	04/23/12 14:17	
4-Bromofluorobenzene (S)	%	98	70-130	04/23/12 14:17	
Dibromofluoromethane (S)	%	104	70-130	04/23/12 14:17	
Toluene-d8 (S)	%	101	70-130	04/23/12 14:17	

LABORATORY CONTROL SAMPLE: 753702

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	54.5	59.8	110	70-130	
Ethylbenzene	ug/kg	54.5	57.4	105	70-130	
m&p-Xylene	ug/kg	109	113	103	70-130	
Naphthalene	ug/kg	54.5	61.6	113	70-130	
o-Xylene	ug/kg	54.5	55.2	101	70-130	
Toluene	ug/kg	54.5	59.2	109	70-130	
Xylene (Total)	ug/kg	163	168	103	70-130	
1,2-Dichloroethane-d4 (S)	%			102	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Dibromofluoromethane (S)	%			104	70-130	
Toluene-d8 (S)	%			102	70-130	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 92116841

QC Batch: MSV/18913
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 92116841007

METHOD BLANK: 754922
Matrix: Solid
Associated Lab Samples: 92116841007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	5.7	04/26/12 11:10	
Ethylbenzene	ug/kg	ND	5.7	04/26/12 11:10	
m&p-Xylene	ug/kg	ND	11.5	04/26/12 11:10	
Naphthalene	ug/kg	ND	5.7	04/26/12 11:10	
o-Xylene	ug/kg	ND	5.7	04/26/12 11:10	
Toluene	ug/kg	ND	5.7	04/26/12 11:10	
Xylene (Total)	ug/kg	ND	11.5	04/26/12 11:10	
1,2-Dichloroethane-d4 (S)	%	105	70-130	04/26/12 11:10	
4-Bromofluorobenzene (S)	%	101	70-130	04/26/12 11:10	
Dibromofluoromethane (S)	%	101	70-130	04/26/12 11:10	
Toluene-d8 (S)	%	100	70-130	04/26/12 11:10	

LABORATORY CONTROL SAMPLE: 754923

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	56.7	54.7	97	70-130	
Ethylbenzene	ug/kg	56.7	52.9	93	70-130	
m&p-Xylene	ug/kg	113	105	92	70-130	
Naphthalene	ug/kg	56.7	66.1	117	70-130	
o-Xylene	ug/kg	56.7	49.9	88	70-130	
Toluene	ug/kg	56.7	53.5	94	70-130	
Xylene (Total)	ug/kg	170	155	91	70-130	
1,2-Dichloroethane-d4 (S)	%			108	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Dibromofluoromethane (S)	%			107	70-130	
Toluene-d8 (S)	%			99	70-130	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 92116841

QC Batch: PMST/4706 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 92116841001, 92116841002, 92116841003, 92116841004

SAMPLE DUPLICATE: 752696

Parameter	Units	92116848001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	0.22	0.22	1	25	

SAMPLE DUPLICATE: 752698

Parameter	Units	92116841004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	18.3	18.0	2	25	

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QUALIFIERS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 92116841

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine(8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The resultreported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

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LABORATORIES

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: H.W. DETWILER CO. 15729
Pace Project No.: 92116841

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92116841006	15729 FIELD BLANK	EPA 8260	MSV/18859		
92116841001	15729 MW-51 (15')	EPA 8260	MSV/18866		
92116841002	15729 MW-52 (5')	EPA 8260	MSV/18866		
92116841003	15729 MW-53 (15')	EPA 8260	MSV/18866		
92116841004	15729 MW-54 (15')	EPA 8260	MSV/18866		
92116841005	15729 TRIP BLANK	EPA 8260	MSV/18883		
92116841007	15729 MW-51 (15') DUP	EPA 8260	MSV/18913		
92116841001	15729 MW-51 (15')	ASTM D2974-87	PMST/4706		
92116841002	15729 MW-52 (5')	ASTM D2974-87	PMST/4706		
92116841003	15729 MW-53 (15')	ASTM D2974-87	PMST/4706		
92116841004	15729 MW-54 (15')	ASTM D2974-87	PMST/4706		
92116841007	15729 MW-51 (15') DUP	ASTM D2974-87	PMST/4722		

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Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1528325

Section A Required Client Information:
Company: Emerald, Inc.
Address: 2520 Tahoe Dr. Sumter, SC 29150
Email To:
Phone: 803-469-5454 Fax:
Requested Due Date/TAT: Standard

Section B Required Project Information:
Report To: R. Lowder
Copy To:
Purchase Order No.:
Project Name: H.W. Detwiler Co.
Project Number: 15729

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: R Spencer
Pace Profile #:

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER
Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE
Drinking Water DW
Water WT
Waste Water WW
Product P
Soil/Solid SL
Oil OL
Wipe WP
Air AR
Tissue TS
Other OT

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other Bi Sulfate	Y/N	Analysis Test: BTEX, Naph (8260)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	15229 MW-51 (15')	SL	G	4/17/12	1250				4	1						1	2	X	X		9211684
2	MW-52 (5')	SL	G		1425				4	1						1	2				001
3	MW-53 (15')	SL	G		1105				4	1						1	2				002
4	MW-54 (15')	SL	G		0915				4	1						1	2				003
5	Field Blank	WT	G		1140				3				3								004
6	Trip Blank			↓	1150				2								2	↓			005
7																					006
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
		4/18/12		DStrole	4-18-12	16:45				
	Beaver			D Moody - Pace	4-19-12	12:30				
	D Moody	4-30-12	16:05		4-19-12	16:05	3.4	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Dalton Reames
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 4/17/12

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: January 30, 2012 Page 1 of 2
	Document Number: F-CHR-CS-03-rev.06	Issuing Authority: Pace Huntersville Quality Office

Client Name: Emerald Project # 9211/6841

Where Received: ☑ Huntersville ☐ Asheville ☐ Eden

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun (T1101) T1102 **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

Temp Correction Factor T1101: No Correction T1102: Subtract 1.2°C

Corrected Cooler Temp.: 3.4° C **Biological Tissue is Frozen:** Yes No N/A

Date and initials of person examining contents: JMM 4-19-12

Temp should be above freezing to 6°C **Comments:**

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: TB = SL		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	Initial when completed
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☑Yes ☐No ☐N/A	16.
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Chad McClary Date/Time: _____

Comments/ Resolution:

Sample 007 is duplicate run of Sample 001

SCURF Review: RLS **Date:** 4/19/12 **SRF Review:** BKM **Date:** 4/23/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

June 1, 2012

Mr. Joel Padgett, PG, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, SC 29201-1708

RE: Purge Water Treatment
H. W. Detwiler Company
37South Church Street
Summerton, South Carolina
UST Permit # 15729
Clarendon County

Dear Mr. Padgett:

Emerald, Inc. is providing this letter to certify the on-site treatment of purge water at the subject site. This purge water was treated in compliance with the conditions set forth in "Proposed Conditions for use of Portable Activated Carbon Units for the Treatment of Small Volumes of Petroleum Hydrocarbon Contaminated Groundwater".

Applicability:

Groundwater to be treated is generated from well development and sampling.

Conditions:

1. The purge and development water is mixed prior to treatment by the activated carbon unit.
2. Free product was not detected in the purge water.
3. Groundwater analytical results from monitoring wells indicate average concentrations of hydrocarbons to be less than 5,000 parts per billion (ppb) Benzene and less than 20,000 ppb total BTEX.
4. The carbon filter material will be replaced after 5,000 gallons of treatment.

5. A record of usage will be maintained by the Contractor.
6. The manufacturer's recommendations have been adhered to.
7. Any SCDHEC recommendations and any conditions set forth by SCDHEC will be adhered to.

Purge waters were treated on-site by Emerald, Inc. personnel using a treatment drum loaded with approximately 50 pounds of activated carbon. This carbon will be loaded to a maximum amount of 3 pounds of total organic carbon or 5,000 gallons of development/purge water, whichever occurs first. Cumulative organic compounds absorbed by the activated carbon is tracked to ensure the capacity of the carbon is not exceeded.

Origin of Water	Treatment Date	Amount
Purge Water	4/18/12 thru 4/20/12	240 Gallons

If you have any additional questions please contact Emerald, Inc. at your convenience. Emerald, Inc can be reached at 803-469-5454.

Yours very truly,
EMERALD, INC.

William C. McClary, P.G.
Project Geologist

WASTE MANAGEMENT

Richland County LF
1047 Highway Church Road
Elgin, SC, 29045
Ph: (803) 788-3054

Original
Ticket# 1164933

Customer Name EMERALDINC_901 EMERALD INC
Ticket Date 04/18/2012
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 0
Destination
PO
Profile 102214SC (NON HAZ PETROLEUM CONTAMINATED SOIL)
Generator 126-EMERALDINCVAR EMERALD INC - VARIOUS

Carrier Emerald
Vehicle# F350
Container
Driver
Check#
Billing # 0000901
Gen EPA ID NR

Volume

	Time	Scale	ScaleMaster		
In	04/18/2012 08:39:58	Scale1	wcurry	Gross	17700 lb
Out	04/18/2012 09:08:55	Scale2	wcurry	Tare	12020 lb
				Net	5680 lb
				Tons	2.84

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	ContSoilPet-Tons-C	100	2.84	Tons				40-RICHLAN
2	FUEL-Fuel Surcharg	100		%				40-RICHLAN
3	EVF-P-Standard Env	100		%				40-RICHLAN

Total Fees
Total Ticket

SIGNATURE

403WM

SPECIAL WASTE MANIFEST 016-01

Detailer

102214SC	*Richland Landfill* 1047 Highway Church Road Elgin, SC 29045 Special Waste Phone: 803-788-3054 x1012 Fax: 866-904-7194
EXPIRATION DATE January 24, 2014	
	Prepared by: Shafonte Burrell/Carol Weldon

GENERATOR OF WASTE: Emerald, Inc. - various

CUSTOMER Emerald, Inc. ACCOUNT NUMBER: 820-901

LOCATION OF WASTE: Site:

CITY: COUNTY: Richland

PHONE NUM 803-469-5454 CONTACT:

FAX NUMBI 803-469-5465

GENERATOR'S SIGNATURE DATE:

TRANSPORTER OF WASTE: Emerald, Inc.

DATE: 4/18/12 TRUCK NUMBER: F350

DRIVER'S SIGNATURE Dalton Reames Dalton Reames

**** TO BE COMPLETED BY RICHLAND LANDFILL******

DISPOSAL SITE: RICHLAND LANDFILL ELGIN, SC

Waste Class: Soil

DESCRIPTION OF WASTE: Non-Hazardous Petroleum contaminated Soil

TICKET NUMBER: 1164933

RECEIVED BY: WC

WASTE MANAGEMENT

Richland County LF
1047 Highway Church Road
Elgin, SC, 29045
Ph: (803) 788-3054

Original
Ticket# 1167002

Customer Name EMERALDINC_901 EMERALD INC
Ticket Date 04/30/2012
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 0
Destination
PO
Profile 102214SC (NON HAZ PETROLEUM CONTAMINATED SOIL)
Generator 126-EMERALDINCVAR EMERALD INC - VARIOUS

Carrier Emerald
Vehicle# 1
Container
Driver
Check#
Billing # 0000901
Gen EPA ID NR

Volume

	Time	Scale	ScaleMaster		
In	04/30/2012 13:04:28	Scale1	JOYCE	Gross	21720 lb
Out	04/30/2012 14:04:01	Scale1	JOYCE	Tare	11880 lb
				Net	9840 lb
				Tons	4.92

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	ContSoilPet-Tons-C	100	4.92	Tons				40-RICHLAN
2	FUEL-Fuel Surcharg	100		%				40-RICHLAN
3	EVF-P-Standard Env	100		%				40-RICHLAN

Total Fees
Total Ticket

SIGNATURE Robbie Robertson

403WM

SPECIAL WASTE MANIFEST 016-02

Detwiler

102214SC	*Richland Landfill* 1047 Highway Church Road Elgin, SC 29045
EXPIRATION DATE January 24, 2014	Special Waste Phone: 803-788-3054 x1012 Fax: 866-904-7194
Prepared by:	Shafonte Burrell/Carol Weldon

GENERATOR OF WASTE: Emerald, Inc. - various

CUSTOMER Emerald, Inc. ACCOUNT NUMBER: 820-901

LOCATION OF WASTE: Site:

CITY: COUNTY: Richland

PHONE NUM 803-469-5454 CONTACT:

FAX NUMBI 803-469-5465

GENERATOR'S SIGNATURE DATE:

TRANSPORTER OF WASTE: Emerald, Inc.

DATE: 4/30/12 TRUCK NUMBER: F-350

DRIVER'S SIGNATURE Robbie Roberson

**** TO BE COMPLETED BY RICHLAND LANDFILL******

DISPOSAL SITE: RICHLAND LANDFILL ELGIN, SC

Waste Class: Soil

DESCRIPTION OF WASTE: Non-Hazardous Petroleum contaminated Soil

TICKET NUMBER: 1167002

RECEIVED BY: JH

- Detwiler's - 70% = 3.44 tons
- Pib SuperSaver - 30% = 1.48 tons

South Carolina
Underground Storage Tank Program

H. W. Detwiler Company
SCDHEC ID# 15729
June 1, 2012

Contractor Checklist

For each report submitted to the UST Management Division, the contractor will be required to verify that all data elements for the required scope of work have been provided. For items not required for the scope of work, the N/A box should be checked. For items required and not completed or provided, the No box should be checked and a thorough description of the reason must be provided.

Item #	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?	X		
3	Is name, address, & phone number of current property owner provided?	X		
4	Is the DHEC Certified UST Site Rehabilitation contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed boring/monitoring wells provided?	X		
6	Is the name, address, telephone number, and certification number of the certified laboratory(ies) performing analytical analyses provided?	X		
7	Has the facility history been summarized?	X		
8	Has the regional geology and hydrogeology been described?			X
9	Are the receptor survey results provided as required?			X
10	Has current use of the site and adjacent land been described?	X		
11	Has the site-specific geology and hydrogeology been described?			X
12	Has the primary soil type been described?	X		
13	Have field screening results been described?			X
14	Has a description of the soil sample collection and preservation been detailed?	X		
15	Has the field screening methodology and procedure been detailed?			X
16	Has the monitoring well installation and development dates been provided?	X		
17	Has the method of well development been detailed?	X		
18	Has justification been provided for the locations of the monitoring wells?	X		
19	Have the monitoring wells been labeled in accordance with the UST QAPP guidelines?	X		
20	Has the groundwater sampling methodology been detailed?	X		
21	Have the groundwater sampling dates and groundwater measurements been provided?			X
22	Has the purging methodology been detailed?			X
23	Has the volume of water purged from each well provided along with measurements to verify that purging is complete? (Appendix A)			X
24	If free-product is present, has the thickness been provided?			X
25	Does the report include a brief discussion of the assessment done and the results?	X		
26	Does the report include a brief discussion of the aquifer evaluation and results?			X
27	Does the report include a brief discussion of the fate & transport models used?			X

Item #	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			X
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			X
30	Have the SSTLs for each compund and pathway been calculated? (Tier 2 Risk Evaluation)			X
31	Have recommendations for further action been provided and explained?	X		
32	Has the soil analytical data for the site been provided in tabular format?	X		
33	Has the potentiometric data for the site been provided in tabular format? (Table 1)			X
34	Has the current and historical laboratory data been provided in tabular format? (Table 2 & 3)			X
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			X
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			X
37	Has the topographic map been provided with all required elements? (Figure 2)	X		
38	Has the site base map been provided with all required elements? (Figure 3)	X		
39	Have the CoC site maps been provided? (Figure 5 & 6)			X
40	Has the site potentiometric map been provided? (Figure 4)			X
41	Have the geologic cross-sections been provided? (Figure 7, 7A & 7B)			X
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			X
43	Has the site survey been provided and include all necessary elements?			X
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	X		
45	Is the laboratory performing the analyses properly certified?	X		
46	Has the tax map been included with all necessary elements?			X
47	Have the soil boring/field screening logs been provided?			X
48	Have the well completion logs and SCDHEC Form 1903 been provided?	X		
49	Have the aquifer evaluation forms, data, graphs, equation, etc. been provided?			X
50	Have the disposal manifests been provided? (Appendix C)	X		
51	Has a copy of the local zoning regulations been provided?			X
52	Has all fate and transport modeling been provided?			X
53	Have copies of all access agreements obtained by the contractor been provided?			X
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided? (Appendix D)	X		

H.W. Detwiler
UST Permit #15729

Shaw

	IGWA	Tier II	AR	MR	AR	AR
MW-1	7/14/00	3/10/02	4/12/03	12/22/09	11/19/10	7/13/11
DTW	FP	FP	FP	FP	FP	FP
Benzene	(1.51')	(1.78')	(3.69')	(0.51')	(0.88')	(0.88')
Toluene						
Ethylbenzene						
Xylenes						
MTBE						
Naphthalene						
DCA						
EDB						
Lead						
TAA						

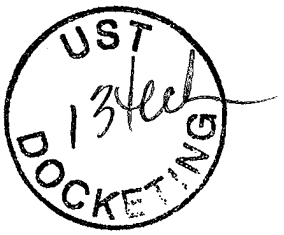
MW-2D		3/10/02	4/12/03	12/22/09	11/19/10	7/13/11
DTW		18.29	14.80	16.68	17.96	18.23
Benzene		**160**	**23**	<1	<5	<5
Toluene		163	20	<1	<5	<5
Ethylbenzene		91	28	2	<5	<5
Xylenes		444	48	2	<10	<10
MTBE		nd	<1	<1	<5	<5
Naphthalene		**27**	10	1	<5	<5
DCA		na	na	<1	<5	<5
EDB		**4.19**	**0.15**	<0.02	<0.02	<0.02
Lead		**17**	na	8	<5	na
TAA		na	na	na	na	<100

MW-3		3/10/02	4/12/03	12/22/09	11/19/10	7/13/11
DTW		18.09	13.45	16.53	17.75	17.71
Benzene		nd	<1	<1	<5	<5
Toluene		nd	1	<1	<5	<5
Ethylbenzene		nd	<1	<1	<5	<5
Xylenes		nd	<1	<3	<10	<10
MTBE		nd	<1	<1	<5	<5
Naphthalene		nd	<5	<1	<5	<5
DCA		na	na	<1	<5	<5
EDB		nd	<0.02	<0.02	<0.02	<0.02
Lead		**295**	na	3	<5	na
TAA		na	na	na	na	<100

MW-4		3/10/02	4/12/03	12/22/09	11/19/10	7/13/11
DTW		17.39	11.98	15.95	17.02	16.99
Benzene		**1050**	**2860**	**114**	**169**	**688**
Toluene		163	**1330**	6	3	184
Ethylbenzene		125	581	22	3	129
Xylenes		345	1490	6	<10	283
MTBE		**84**	**198**	3	5	26
Naphthalene		**51**	**146**	10	7	**53**
DCA		na	na	<1	**5**	**18**
EDB		**2.96**	**13.60**	**0.17**	**0.13**	**4.90**
Lead		**31**	na	14	<5	na
TAA		na	na	na	na	**1460**

MW-5		3/10/02	4/12/03	12/22/09	11/19/10	7/13/11
DTW		15.52	10.66	14.13	15.25	nm
Benzene		**382**	**1650**	**2610**	**64**	ns
Toluene		801	**3000**	**5820**	154	
Ethylbenzene		168	372	**735**	22	
Xylenes		848	1640	3370	107	
MTBE		**66**	**246**	**65**	<5	
Naphthalene		**66**	**95**	**156**	6	
DCA		na	na	<1	<5	
EDB		**3.57**	**22.00**	**34.78**	**0.91**	
Lead		**152**	na	**84**	<5	
TAA		na	na	na	na	

MW-6		3/10/02	4/12/03	12/22/09	11/19/10	7/13/11
DTW		18.56	15.70	17.74	18.51	18.42
Benzene		nd	<1	<1	<5	<5
Toluene		nd	2	<1	<5	<5
Ethylbenzene		nd	<1	<1	<5	<5
Xylenes		nd	2	<3	<10	<10
MTBE		nd	7	3	<5	<5
Naphthalene		nd	<5	<5	<5	<5
DCA		na	na	<1	<5	<5
EDB		nd	<0.02	<0.02	<0.02	<0.02
Lead		**138**	na	**33**	<5	<5
TAA		na	na	na	na	<100



MW-7		3/10/02	4/12/03	12/22/09	11/19/10	7/13/11
DTW		14.55	12.09	13.85	14.57	14.80
Benzene		nd	<1	<1	<5	<5
Toluene		nd	<1	<1	<5	<5
Ethylbenzene		nd	<1	<1	<5	<5
Xylenes		nd	<1	<3	<10	<10
MTBE		**55**	15	3	3	<5
Naphthalene		nd	<5	<5	<5	<5
DCA		na	na	<1	<5	<5
EDB		nd	<0.02	<0.02	<0.02	<0.02
Lead		**100**	na	**31**	<5	<5
TAA		na	na	na	na	<100

MW-8		3/10/02	4/12/03	12/22/09	11/19/10	7/13/11
DTW		8.35	3.10	3.70	8.36	5.72
Benzene		nd	<1	<1	<5	<5
Toluene		nd	<1	<1	<5	<5
Ethylbenzene		nd	<1	<1	<5	<5
Xylenes		nd	<1	<3	<10	<10
MTBE		**83**	3	<1	<5	<5
Naphthalene		nd	<5	<5	<5	<5
DCA		na	na	<1	<5	<5
EDB		nd	<0.02	<0.02	<0.02	<0.02
Lead		**275**	na	**21**	<5	<5
TAA		na	na	na	na	<100

MW-9		3/10/02	4/12/03	12/22/09	11/19/10	7/13/11
DTW		8.21	5.40	7.37	8.14	8.22
Benzene		nd	1	<1	<5	<5
Toluene		nd	<1	<1	<5	<5
Ethylbenzene		nd	<1	<1	<5	<5
Xylenes		nd	<1	<3	<10	<10
MTBE		**342**	**181**	7	6	2
Naphthalene		nd	<5	<5	<5	<5
DCA		na	na	<1	<5	<5
EDB		nd	<0.02	<0.02	<0.02	<0.02
Lead		**32**	na	**136**	**18**	<5
TAA		na	na	na	na	<100

MW-10		3/10/02	4/12/03	12/22/09	11/19/10	7/13/11
DTW		12.81	10.02	11.88	12.75	12.82
Benzene		**1780**	**2000**	**1250**	**42**	**777**
Toluene		18	34	20	<5	5
Ethylbenzene		30	169	45	4	15
Xylenes		5	25	15	<10	8
MTBE		37	39	**58**	38	**54**
Naphthalene		7	23	12	<5	6
DCA		na	na	<1	**14**	**12**
EDB		**0.24**	<0.02	**0.17**	<0.02	<0.02
Lead		**50**	na	**44**	<5	na
TAA		na	na	na	na	**1960**

MW-11		3/10/02	4/12/03	12/22/09	11/19/10	7/13/11
DTW		20.61	13.66	19.46	20.36	20.26
Benzene		**1060**	**1100**	**181**	**64**	**73**
Toluene		5	4	32	<5	21
Ethylbenzene		9	11	20	1	9
Xylenes		6	3	7	<10	19
MTBE		nd	<1	1	2	<5
Naphthalene		6	9	9	4	4
DCA		nd	na	<1	<5	3
EDB		**0.48**	**0.23**	<0.02	<0.02	<0.02
Lead		**122**	na	**34**	<5	na
TAA		na	na	na	na	128

MW-12		3/10/02	4/12/03	12/22/09	11/19/10	7/13/11
DTW		20.29	13.52	18.57	19.75	19.70
Benzene		nd	<1	<1	<5	<5
Toluene		nd	1	<1	<5	<5
Ethylbenzene		nd	<1	<1	<5	<5
Xylenes		nd	1	<3	<10	<10
MTBE		nd	<1	<1	6	<5
Naphthalene		nd	<5	2	<5	<5
DCA		na	na	<1	<5	<5
EDB		nd	<0.02	<0.02	<0.02	<0.02
Lead		**17**	na	**18**	<5	<5
TAA		na	na	na	na	<100

MW-13		3/10/02	4/12/03	12/22/09		
DTW		FP	FP	well		
Benzene		(1.28')	(0.48')	destroyed		
Toluene						
Ethylbenzene						
Xylenes						
MTBE						
Naphthalene						
DCA						
EDB						
Lead						
TAA						

MW-13R					11/19/10	7/13/11
DTW					FP	FP
Benzene					(1.23')	(0.11')
Toluene						
Ethylbenzene						
Xylenes						
MTBE						
Naphthalene						
DCA						
EDB						
Lead						
TAA						

MW-14		3/10/02	4/12/03	12/22/09	11/19/10	7/13/11
DTW		17.33	12.39	16.40	17.20	12.19
Benzene		**2900**	**1190**	**1720**	<5	**323**
Toluene		**1660**	501	**2730**	<5	<5
Ethylbenzene		**986**	390	633	<5	79
Xylenes		1020	344	1640	<10	<10
MTBE		**440**	**2110**	**93**	6	4
Naphthalene		**163**	**41**	**93**	<5	5
DCA		na	na	<1	<5	<5
EDB		**0.56**	**0.12**	**0.11**	<0.02	<0.02
Lead		14	na	**30**	<5	na
TAA		na	na	na	na	**333**

MW-15		3/10/02	4/12/03	12/22/09	11/19/10	7/13/11
DTW		19.75	12.94	18.61	FP	FP
Benzene		**2070**	**7160**	**6690**	(0.21')	(0.30')
Toluene		**1500**	**15300**	**18000**		
Ethylbenzene		300	**1850**	**3700**		
Xylenes		344	8350	**13700**		
MTBE		nd	<10	6		
Naphthalene		**46**	**282**	**844**		
DCA		na	na	<1		
EDB		**11.10**	**152.00**	**46.78**		
Lead		**605**	na	**244**		
TAA		na	na	na		

MW-16D			4/12/03	12/22/09	11/19/10	7/13/11
DTW			12.10	16.93	18.18	18.31
Benzene			4	<1	<5	<5
Toluene			17	1	<5	2
Ethylbenzene			5	2	<5	<5
Xylenes			20	4	<10	<10
MTBE			<1	<1	6	<5
Naphthalene			<5	<1	<5	<5
DCA			na	<1	<5	<5
EDB			<0.02	<0.02	<0.02	<0.02
Lead			na	4	<5	<5
TAA			na	na	na	<100

MW-17			4/12/03	12/22/09		
DTW			9.50	well		
Benzene			**200**	destroyed		
Toluene			700			
Ethylbenzene			<200			
Xylenes			720			
MTBE			**<200**			
Naphthalene			**<1000**			
DCA			na			
EDB			0.04			
Lead			na			
TAA			na			

MW-17R					11/19/10	7/13/11
DTW					13.40	nm
Benzene					<5	ns
Toluene					<5	
Ethylbenzene					<5	
Xylenes					<10	
MTBE					<5	
Naphthalene					<5	
DCA					<5	
EDB					<0.02	
Lead					<5	
TAA					na	

MW-18			4/12/03	12/22/09		
DTW			13.45	well		
Benzene			6	destroyed		
Toluene			426			
Ethylbenzene			327			
Xylenes			978			
MTBE			71			
Naphthalene			49			
DCA			na			
EDB			<0.02			
Lead			na			
TAA			na			

MW-18R					11/19/10	7/13/11
DTW					14.38	nm
Benzene					<5	ns
Toluene					<5	
Ethylbenzene					<5	
Xylenes					<10	
MTBE					4	
Naphthalene					<5	
DCA					<5	
EDB					<0.02	
Lead					<5	
TAA					na	

MW-19			4/12/03	12/22/09	11/19/10	7/13/11
DTW			7.60	9.90	10.58	10.61
Benzene			<1	<1	<5	<5
Toluene			<1	<1	<5	<5
Ethylbenzene			<1	<1	<5	<5
Xylenes			<1	<3	<10	<10
MTBE			2	2	4	<5
Naphthalene			<5	<5	<5	<5
DCA			na	<1	<5	<5
EDB			<0.02	<0.02	<0.02	<0.02
Lead			na	210	<5	<5
TAA			na	na	na	<100

MW-20			4/12/03	12/22/09	11/19/10	7/13/11
DTW			3.52	4.89	5.47	5.57
Benzene			<1	<1	<5	<5
Toluene			<1	<1	<5	<5
Ethylbenzene			<1	<1	<5	<5
Xylenes			<1	<3	<10	<10
MTBE			2	<1	<5	<5
Naphthalene			<5	<5	<5	<5
DCA			na	<1	<5	<5
EDB			<0.02	<0.02	<0.02	<0.02
Lead			na	214	7	<5
TAA			na	na	na	<100

MW-21			4/12/03	12/22/09	11/19/10	7/13/11
DTW			5.05	8.67	9.90	10.00
Benzene			<1	<1	<5	<5
Toluene			<1	<1	<5	<5
Ethylbenzene			<1	<1	<5	<5
Xylenes			<1	<3	<10	<10
MTBE			2	<1	<5	<5
Naphthalene			<5	<5	<5	<5
DCA			na	<1	<5	<5
EDB			<0.02	<0.02	<0.02	0.03
Lead			na	63	<5	<5
TAA			na	na	na	<100

MW-22			4/12/03	12/22/09	11/19/10	7/13/11
DTW			11.96	19.87	20.77	20.70
Benzene			<1	<1	<5	<5
Toluene			<1	<1	<5	<5
Ethylbenzene			<1	<1	<5	<5
Xylenes			<1	<3	<10	<10
MTBE			2	<1	<5	<5
Naphthalene			<5	<5	<5	<5
DCA			na	<1	<5	<5
EDB			<0.02	<0.02	<0.02	<0.02
Lead			na	**49**	<5	<5
TAA			na	na	na	<100

MW-23			4/12/03	12/22/09		
DTW			13.87	well		
Benzene			<1	destroyed		
Toluene			<1			
Ethylbenzene			<1			
Xylenes			<1			
MTBE			2			
Naphthalene			<5			
DCA			na			
EDB			<0.02			
Lead			na			
TAA			na			

MW-24					11/19/10	7/13/11
DTW					19.48	19.39
Benzene					**6830**	**4940**
Toluene					**17300**	**10200**
Ethylbenzene					**2320**	**1080**
Xylenes					**10400**	6800
MTBE					**<500**	**<500**
Naphthalene					**397**	**226**
DCA					**<500**	**<500**
EDB					**87.80**	**146.00**
Lead					**65**	na
TAA					na	**<10000**

MW-25					11/19/10	7/13/11
DTW					18.26	18.19
Benzene					**4060**	**4440**
Toluene					**5550**	**7500**
Ethylbenzene					471	**890**
Xylenes					1720	2740
MTBE					**266**	**103**
Naphthalene					**<500**	**142**
DCA					**<500**	**<250**
EDB					**54.90**	**30.90**
Lead					**17**	na
TAA					na	**5710**

MW-26					11/19/10	7/13/11
DTW					16.49	16.50
Benzene					**211**	**257**
Toluene					11	73
Ethylbenzene					15	81
Xylenes					18	103
MTBE					12	7
Naphthalene					4	11
DCA					2	**<10**
EDB					<0.02	<0.02
Lead					<5	na
TAA					na	**417**

MW-27					11/19/10	7/13/11
DTW					17.89	17.85
Benzene					**177**	**461**
Toluene					2	4
Ethylbenzene					8	12
Xylenes					<10	23
MTBE					9	12
Naphthalene					<5	9
DCA					4	**9**
EDB					<0.02	0.04
Lead					<5	na
TAA					na	**791**

MW-28					11/19/10	7/13/11
DTW					17.33	nm
Benzene					**3410**	ns
Toluene					**5070**	
Ethylbenzene					698	
Xylenes					3250	
MTBE					**164**	
Naphthalene					**173**	
DCA					**<250**	
EDB					**22.80**	
Lead					**52**	
TAA					na	

MW-29					11/19/10	7/13/11
DTW					16.39	16.36
Benzene					<5	<5
Toluene					<5	<5
Ethylbenzene					<5	<5
Xylenes					<10	<10
MTBE					<5	<5
Naphthalene					<5	<5
DCA					<5	<5
EDB					<0.02	<0.02
Lead					<5	<5
TAA					na	<100

MW-30					11/19/10	7/13/11
DTW					20.49	20.24
Benzene					<5	<5
Toluene					<5	<5
Ethylbenzene					<5	<5
Xylenes					<10	<10
MTBE					<5	<5
Naphthalene					<5	<5
DCA					<5	<5
EDB					<0.02	<0.02
Lead					<5	<5
TAA					na	<100

MW-31					11/19/10	7/13/11
DTW					18.80	18.71
Benzene					<5	<5
Toluene					<5	<5
Ethylbenzene					<5	<5
Xylenes					<10	<10
MTBE					<5	<5
Naphthalene					<5	<5
DCA					<5	<5
EDB					**0.18**	**0.08**
Lead					<5	<5
TAA					na	<100

MW-32					11/19/10	7/13/11
DTW					4.24	4.49
Benzene					<5	<5
Toluene					<5	<5
Ethylbenzene					<5	<5
Xylenes					<10	<10
MTBE					<5	<5
Naphthalene					<5	<5
DCA					<5	<5
EDB					<0.02	<0.02
Lead					<5	<5
TAA					na	<100

MW-33					11/19/10*	7/13/11
DTW					16.31	16.35
Benzene					**144**	<5
Toluene					714	<5
Ethylbenzene					152	<5
Xylenes					419	<10
MTBE					**<50**	<5
Naphthalene					**<50**	<5
DCA					**<50**	<5
EDB					**0.20**	<0.02
Lead					<5	<5
TAA					na	<100

MW-34D					11/19/10	7/13/11
DTW					16.68	16.73
Benzene					<5	<5
Toluene					<5	<5
Ethylbenzene					<5	<5
Xylenes					<10	<10
MTBE					4	<5
Naphthalene					<5	2
DCA					<5	<5
EDB					<0.02	<0.02
Lead					<5	<5
TAA					na	<100

MW-35i					11/19/10	7/13/11
DTW					4.07	4.31
Benzene					<5	<5
Toluene					<5	<5
Ethylbenzene					<5	<5
Xylenes					<10	<10
MTBE					<5	<5
Naphthalene					<5	<5
DCA					<5	<5
EDB					<0.02	<0.02
Lead					<5	<5
TAA					na	<100

MW-36						7/13/11
DTW						17.74
Benzene						**2130**
Toluene						**2790**
Ethylbenzene						527
Xylenes						2180
MTBE						**95**
Naphthalene						**126**
DCA						**<100**
EDB						**14.10**
Lead						na
TAA						**2600**

MW-37						7/13/11
DTW						19.68
Benzene						**2760**
Toluene						**1580**
Ethylbenzene						409
Xylenes						808
MTBE						**<125**
Naphthalene						**86**
DCA						**75**
EDB						**14.50**
Lead						na
TAA						**7390**

MW-38						7/13/11
DTW						18.20
Benzene						**2790**
Toluene						**16700**
Ethylbenzene						**2690**
Xylenes						**12300**
MTBE						**<500**
Naphthalene						**349**
DCA						**<500**
EDB						**20.70**
Lead						na
TAA						**<10000**

MW-39						7/13/11
DTW						**FP**
Benzene						(1.95')
Toluene						
Ethylbenzene						
Xylenes						
MTBE						
Naphthalene						
DCA						
EDB						
Lead						
TAA						

MW-40						7/13/11
DTW						FP
Benzene						(1.92')
Toluene						
Ethylbenzene						
Xylenes						
MTBE						
Naphthalene						
DCA						
EDB						
Lead						
TAA						

MW-41						7/13/11
DTW						FP
Benzene						(sheen)
Toluene						
Ethylbenzene						
Xylenes						
MTBE						
Naphthalene						
DCA						
EDB						
Lead						
TAA						

MW-42						7/13/11
DTW						19.11
Benzene						**337**
Toluene						613
Ethylbenzene						462
Xylenes						865
MTBE						<25
Naphthalene						**94**
DCA						**<25**
EDB						**1.10**
Lead						na
TAA						**849**

MW-43						7/13/11
DTW						FP
Benzene						(1.66')
Toluene						
Ethylbenzene						
Xylenes						
MTBE						
Naphthalene						
DCA						
EDB						
Lead						
TAA						

MW-44						7/13/11
DTW						18.70
Benzene						**4040**
Toluene						**11800**
Ethylbenzene						**1690**
Xylenes						7260
MTBE						**<500**
Naphthalene						**245**
DCA						**<500**
EDB						**107.00**
Lead						na
TAA						**8400**

MW-45						7/13/11
DTW						18.33
Benzene						**2000**
Toluene						**11000**
Ethylbenzene						**1960**
Xylenes						7570
MTBE						**<500**
Naphthalene						**<500**
DCA						**<500**
EDB						**13.60**
Lead						na
TAA						**<10000**

CS-1	7/14/00	3/10/02	4/12/03	12/22/09	11/19/10	7/13/11
DTW						
Benzene	ns	ns	ns	<1	<1	<1
Toluene				<1	<1	<1
Ethylbenzene				<1	<1	<1
Xylenes				<3	<3	<3
MTBE				<1	<1	<1
Naphthalene				<5	<1	<1
DCA				na	<1	<1
EDB				na	<0.02	<0.02
Lead				na	na	na
TAA				na	na	na

CS-2	7/14/00	3/10/02	4/12/03	12/22/09	11/19/10	7/13/11
DTW						
Benzene	ns	ns	ns	<1	<1	<1
Toluene				<1	<1	<1
Ethylbenzene				<1	<1	<1
Xylenes				<3	<3	<3
MTBE				<1	<1	<1
Naphthalene				<5	<1	<1
DCA				na	<1	<1
EDB				na	<0.02	<0.02
Lead				na	na	na
TAA				na	na	na

WSW-1	7/14/00	3/10/02	4/12/03	12/22/09	11/19/10	7/13/11
DTW						
Benzene	ns	nd	ns	<1	<1	<1
Toluene		nd		<1	<1	<1
Ethylbenzene		nd		<1	<1	<1
Xylenes		nd		<3	<3	<3
MTBE		nd		<1	<1	<1
Naphthalene		nd		<5	<1	<1
DCA		na		<1	<1	<1
EDB		na		<0.02	<0.02	<0.02
Lead		na		na	na	na
TAA		na		na	na	na

WSW-2	7/14/00	3/10/02	4/12/03	12/22/09	11/19/10	7/13/11
DTW						
Benzene	ns	ns	ns	<1	ns	<1
Toluene				<1		<1
Ethylbenzene				<1		<1
Xylenes				<3		<3
MTBE				<1		<1
Naphthalene				<5		<1
DCA				<1		<1
EDB				<0.02		<0.02
Lead				na		na
TAA				na		na

WSW-3	7/14/00	3/10/02	4/12/03	12/22/09	11/19/10	7/13/11
DTW						
Benzene	ns	ns	ns	ns	<1	<1
Toluene					<1	<1
Ethylbenzene					<1	<1
Xylenes					<3	<3
MTBE					<1	<1
Naphthalene					<1	<1
DCA					<1	<1
EDB					<0.02	<0.02
Lead					na	na
TAA					na	na

WSW-4	7/14/00	3/10/02	4/12/03	12/22/09	11/19/10	7/13/11
DTW						
Benzene	ns	ns	ns	ns	<1	<1
Toluene					<1	<1
Ethylbenzene					<1	<1
Xylenes					<3	<3
MTBE					<1	<1
Naphthalene					<1	<1
DCA					<1	<1
EDB					<0.02	<0.02
Lead					na	na
TAA					na	na

FP- free-phase product
na- not analyzed
ns- not sampled
nm- not measured
unk- unknown
* - data suspect

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

MR HAROLD W DETWILER JR
PO BOX 769
SUMMERTON SC 29148-0769

AUG 0 2 2012

UST DOCKETING

Re: **Corrective Action Options**
H.W. Detwiler Co.
37 South Church Street, Summerton, SC 29148
UST Permit # 15729
Release reported June 22, 1993
Assessment Report Received June 7, 2011
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Management Division (Division) of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced assessment report submitted by Emerald, Inc., on your behalf. The report indicates that active corrective action is necessary at the site to mitigate petroleum impact and ensure that there is no detrimental exposure to human health or the environment.

Funds from the State Underground Petroleum Environmental Response Bank (SUPERB) Account will soon be available for active corrective action. The selected technology must reduce free product and petroleum chemicals of concern (CoC) concentrations to site-specific target levels (SSTLs) determined by the Division.

The SUPERB Site Rehabilitation and Fund Access Regulations R.61-98 require the UST owner/operator to develop and implement a reasonable, cost-effective corrective action to be performed by an Agency-certified site rehabilitation contractor. As the owner/operator for the release reported on June 22, 1993, you may choose one of two options as to how to proceed with this requirement: state lead or owner/operator lead.

State Lead Option:

- If you choose the state lead option, the Division will procure a certified site rehabilitation contractor to perform corrective action on your behalf. The Agency will enter into an enforceable contract with the awarded contractor. As long as you do not interfere with or prohibit the work at your site, you will not be responsible in the event the state selected contractor does not perform appropriately or does not make satisfactory progress towards achieving the established corrective action goals. To utilize the state lead option, please sign and return the applicable Permission and Right-of-Entry forms within 15 days of the date of this letter.

Owner/Operator Lead Option:

- If you select the owner/operator lead option, you will be required to select a contractor to perform the corrective action. In order to assist you in determining the clean-up technology, time frame, clean-up levels, and associated costs, the Division will prepare a technical specification package and provide you copies to send to contractors of your choice. In addition, the Division will announce the request for solicitations in the South Carolina Business Opportunities, a bi-weekly state government publication, to ensure that an adequate solicitation response is obtained so that a fair and competitive price can be established. This announcement will clearly indicate that you will select the contractor to implement the corrective action.

- Compensation to the contractor will be from the SUPERB Account, but you may have the obligation to pay your selected contractor for any costs not approved by the Agency.
- The Division strongly suggests that a written contract between you and the selected contractor be developed following the completion of the solicitation process. The parties to this contract would be you and the contractor you choose; the Agency would not be a party to this contract. The Division's function would be to monitor and ensure progress of corrective action activities.
- If the contractor you select does not or cannot complete the required activities, you will be required to find another certified contractor to complete the required activities for the remainder of the existing financial approval amount. No additional funding from the SUPERB Account may be allowed. Under R.61-92, Part 280: Underground Storage Tank Control Regulations, you as the owner/operator are ultimately responsible to the Agency for the actions of your contractor. The Agency will pursue enforcement actions against you if the contractor you select does not make satisfactory progress towards achieving established corrective actions goals. To utilize the owner/operator lead option, please sign and return the enclosed Active Corrective Action Options Form within 15 days of the date of this letter.

On all correspondence or inquiries regarding this project, please reference UST Permit #15729. If you have any questions, please contact me by phone (803)896-6396, fax (803)896-6245 or by email at ShullSS@dhec.sc.gov.

Sincerely,

Shane S. Shull, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management

enc: Permission/Right-of-Entry forms
Active Corrective Action Options form

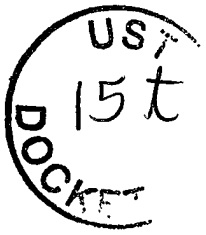
cc: Technical file (w/o enc)

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment



MR HAROLD W DETWILER JR
31 SOUTH CHURCH STREET
SUMMERTON SC 29706

AUG 2 0 2012

Re: **Corrective Action Options**
H.W. Detwiler Co.
37 South Church Street, Summerton, SC 29148
UST Permit # 15729
Release reported June 22, 1993
Assessment Report Received June 7, 2011
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Management Division (Division) of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced assessment report submitted by Emerald, Inc., on your behalf. The report indicates that active corrective action is necessary at the site to mitigate petroleum impact and ensure that there is no detrimental exposure to human health or the environment.

Funds from the State Underground Petroleum Environmental Response Bank (SUPERB) Account will soon be available for active corrective action. The selected technology must reduce free product and petroleum chemicals of concern (CoC) concentrations to site-specific target levels (SSTLs) determined by the Division.

The SUPERB Site Rehabilitation and Fund Access Regulations R.61-98 require the UST owner/operator to develop and implement a reasonable, cost-effective corrective action to be performed by an Agency-certified site rehabilitation contractor. As the owner/operator for the release reported on June 22, 1993, you may choose one of two options as to how to proceed with this requirement: state lead or owner/operator lead.

State Lead Option:

- If you choose the state lead option, the Division will procure a certified site rehabilitation contractor to perform corrective action on your behalf. The Agency will enter into an enforceable contract with the awarded contractor. As long as you do not interfere with or prohibit the work at your site, you will not be responsible in the event the state selected contractor does not perform appropriately or does not make satisfactory progress towards achieving the established corrective action goals. To utilize the state lead option, please sign and return the applicable Permission and Right-of-Entry forms within 15 days of the date of this letter.

Owner/Operator Lead Option:

- If you select the owner/operator lead option, you will be required to select a contractor to perform the corrective action. In order to assist you in determining the clean-up technology, time frame, clean-up levels, and associated costs, the Division will prepare a technical specification package and provide you copies to send to contractors of your choice.

In addition, the Division will announce the request for solicitations in the South Carolina Business Opportunities, a bi-weekly state government publication, to ensure that an adequate solicitation response is obtained so that a fair and competitive price can be established. This announcement will clearly indicate that you will select the contractor to implement the corrective action.

- Compensation to the contractor will be from the SUPERB Account, but you may have the obligation to pay your selected contractor for any costs not approved by the Agency.
- The Division strongly suggests that a written contract between you and the selected contractor be developed following the completion of the solicitation process. The parties to this contract would be you and the contractor you choose; the Agency would not be a party to this contract. The Division's function would be to monitor and ensure progress of corrective action activities.
- If the contractor you select does not or cannot complete the required activities, you will be required to find another certified contractor to complete the required activities for the remainder of the existing financial approval amount. No additional funding from the SUPERB Account may be allowed. Under R.61-92, Part 280: Underground Storage Tank Control Regulations, you as the owner/operator are ultimately responsible to the Agency for the actions of your contractor. The Agency will pursue enforcement actions against you if the contractor you select does not make satisfactory progress towards achieving established corrective actions goals. To utilize the owner/operator lead option, please sign and return the enclosed Active Corrective Action Options Form within 15 days of the date of this letter.

On all correspondence or inquiries regarding this project, please reference UST Permit #15729. If you have any questions, please contact me by phone (803)896-6396, fax (803)896-6245 or by email at ShullSS@dhec.sc.gov.

Sincerely,

Shane S. Shull, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management

enc: Permission/Right-of-Entry forms
Active Corrective Action Options form

cc: Technical file (w/o enc)

D H E C
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Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

MR HAROLD W DETWILER JR
31 SOUTH CHURCH STREET
SUMMERTON SC 29706

NOV 2 0 2012

UST DOCKETING 16 Ted

Re: **QAPP Contractor Addendum**
HW Detwiler Company
37 South Church Street, Summerton, SC 29148
UST Permit #15729
Release Reported June 22, 1993
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Management Division (Division) of the South Carolina Department of Health and Environmental Control (Agency) recognizes your commitment to continue work at this site using Emerald, Inc., as your contractor. The next scope of work is a groundwater sampling event as outlined in the UST Quality Assurance Program Plan (QAPP). Please have your contractor plan to conduct a comprehensive groundwater sampling for BTEX, Naphthalene, Oxygenates, 1,2-DCA, MTBE and EDB in accordance with the QAPP and in compliance with all applicable regulations. A copy of the QAPP is available at http://www.scdhec.gov/environment/lwm/usthome/Qapp.htm.

Your contractor must complete and submit a QAPP Contractor Addendum and cost agreement for the aforementioned scope of work within 30 days of the date of this letter. Upon review and approval of the Addendum and cost agreement, the Division will issue a directive to you for the work.

On all correspondence concerning this site, please reference UST Permit # 15729. If there are any questions, feel free to contact me by telephone at (803) 896-6396, by fax at (803) 896-6245, or by e-mail at ShullSS@dhec.sc.gov.

Sincerely,

Shane S. Shull, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

cc: Emerald, Inc., P.O. Box 3050, Sumter, SC 29151
Technical File

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

November 26, 2012

Mr. Shane S. Shull, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, SC 29201

QAPP Contractor Addendum
HW Detwiler Company
37 South Church Street
Summerton, South Carolina
UST Permit # 15729

Mr. Shull,

Please find the attached QAPP Contractor's Addendum, example chain of custody, proposed costs, and figures for the comprehensive groundwater sampling event at the subject site. If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454.

Sincerely,

William C. McClary, P.G.
Project Manager

Attachments
Appendix A - Quality Assurance Program Plan (Contractor's Addendum)
Appendix B - Example Chain of Custody
Appendix C - Assessment Plan and Cost Agreement
Appendix D - Figures

Appendix A

Quality Assurance Program Plan

(Contractor's Addendum)

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For
HW Detwiler Company
SCDHEC Site ID #15729

37 South Church Street
Summerton, South Carolina

Prepared by
William C. McClary, P.G.
Project Manager
Emerald, Inc.
2520 Tahoe Drive
Sumter, South Carolina
SCDHEC Site Rehabilitation Contractor Certification Number UCC-067
Phone: 803-469-5454

Date: November 26, 2012

Approvals

Shane S. Shull, Hydrogeologist SC DHEC Project Manager	_____ Signature	Date_____
Ronny L. Lowder Project QA Manager	_____ Signature	Date 11/27/2012
William C. McClary, P.G. Project Manager	_____ Signature	Date 11-27-12
Jeff Graham Laboratory Director	_____ Signature	Date 11/26/2012

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A3 Distribution List

Name	Title	Organization/Address	Telephone Number	Fax Number	Email Address
Shane Shull	SC DHEC Technical Project Manager	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6396	803-896-6245	shullss@dhec.sc.gov
Ronny Lowder	Project QA Officer	Emerald, Inc. P.O. Box 3050 Sumter, SC 29151	803-469-5454	803-469-5465	rlowder@emeraldinc-us.com
William McClary, P.G.	Project Manager/ Site Rehabilitation Contractor	Emerald, Inc. P.O. Box 3050 Sumter, SC 29151	803-469-5454	803-469-5465	cmcclary@emeraldinc-us.com
Jeff Graham	Laboratory Director	Pace Analytical Services 9800 Kincey Ave Suite 100 Huntersville, NC 28078	704-875-9092	704-875-9091	jeff.graham@pacelabs.com

Table 1A Addendum Distribution List

A4 Project Organization

Role from the UST Master QAPP	Person in this Role for Project	Organization/Address	Telephone Number	Fax Number	Email Address
SCDHEC Project Manager	Shane Shull	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6396	803-896-6245	shullss@dhec.sc.gov
Project QA Officer	Ronny Lowder	Emerald, Inc. P.O. Box 3050 Sumter, SC 29151	803-469-5454	803-469-5465	rlowder@emeraldinc-us.com
Project Manager/Site Rehabilitation Contractor	William McClary, P.G.	Emerald, Inc. P.O. Box 3050 Sumter, SC 29151	803-469-5454	803-469-5465	cmcclary@emeraldinc-us.com
Analytical Laboratory Director	Jeff Graham	Pace Analytical Services 9800 Kincey Ave Suite 100 Huntersville, NC 28078	704-875-9092	704-875-9091	jeff.graham@pacelabs.com

Table 2A Addendum Role Identification and Contact Information

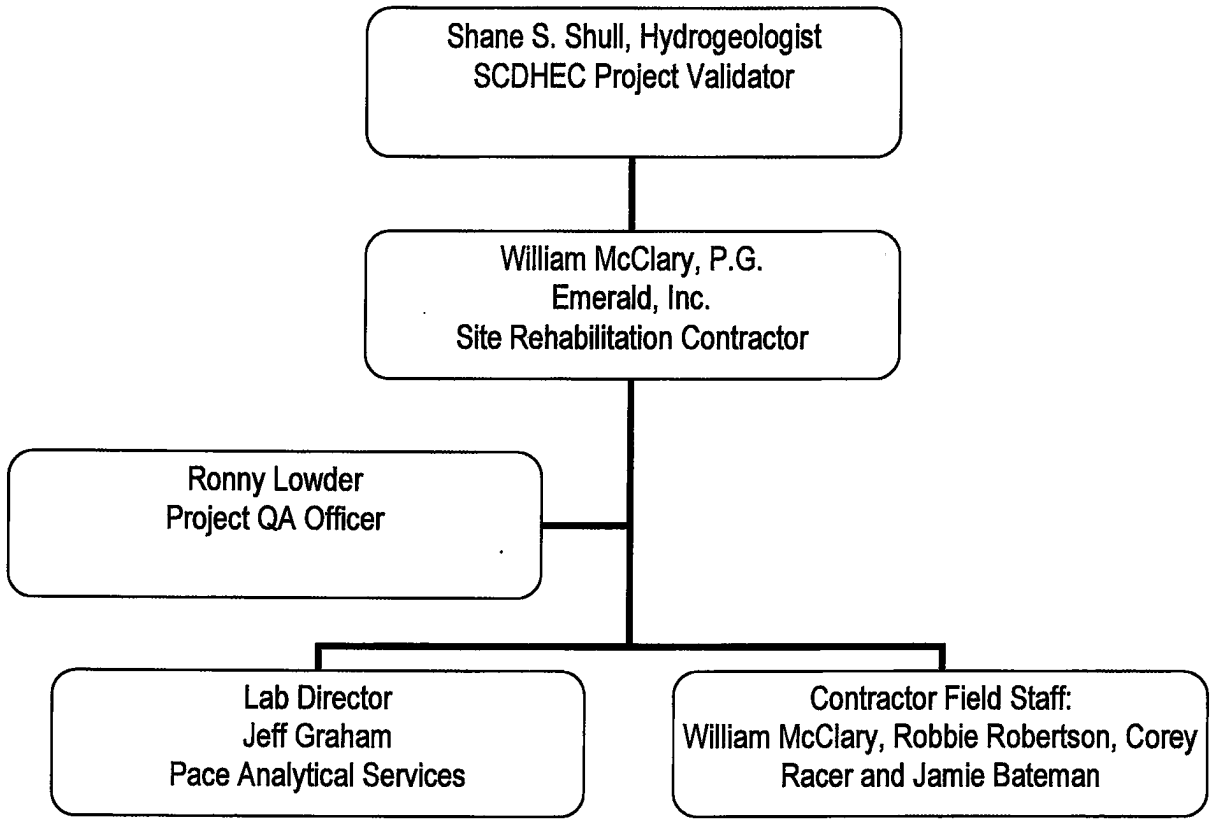


Figure 1A Organizational Chart

Definitions of Project Roles

Project QA Officer

The project QA officer (Mr. Ronny Lowder) provides review of field work, documentation of calibration for field instruments, laboratory data, and technical review of reports produced utilizing this data. The QA officer will independently review data generated from this project and determine if the data meets QA/QC criteria as set forth in the SCDHEC UST Programmatic QAPP.

Project Manager

The project manager (Mr. William C. McClary, P.G.) will be responsible for work conducted during this scope of work and the primary point of contact. His duties will include development of the site specific QAPP, supervising field work, documenting any QA failures, determining corrective actions to QA failures, and preparing reports for submission to SCDHEC. The Project Manager is responsible for overseeing adherence to the site specific QAPP during all phases of work.

Contractor Field Staff

The contractor field staff will perform sampling and field activities per the QAPP document under the direction of the Project Manager. Field staff will be responsible for drilling supervision, collection of sampling related data and calibration of field instruments. The Project Manager, in certain situations, may also be a member of the Field Staff.

A5 Problem Definition/Background

Discuss the background (as much as is known) of the site and appropriate historical information, and why this site is being assessed.

The H.W. Detwiler Company site is located at 37 South Church Street in Summerton, Clarendon County, SC. The site is currently utilized as an office building and formerly maintained two gasoline USTs of unknown size. A release of petroleum product was reported to SCDHEC in June of 1993 and confirmed in July of 1993. The current monitoring well network at the subject site contains a total of sixty-five groundwater monitoring wells. In June 2012, Emerald submitted a Report of Monitoring Well Installation documenting the installation of twenty additional shallow monitoring wells at the subject site to better define the free product plume.

In November 2012, SCDHEC requested a comprehensive groundwater sampling event at the subject site to obtain current groundwater quality data.

Please answer the following: Does this project fall under UST or Brownfields area?
UST area

A6 Project/Task Description

1. ***Summarize what is known about the work to be done. This can be a short sentence indicating what the Scope of this project is (see Master QAPP Section A6).***
   As requested by SCDHEC, Emerald, Inc. will gauge free product or collect samples from 65 monitoring wells (MW-1, MW-2D, MW-3 through MW-12, MW-13R, MW-14, MW-15, MW-16D, MW-17R, MW-18R, MW-19 through MW-33, MW-34D, MW-35i, MW-36 through MW-64 and MW-66) at the subject site. In addition, four water supply wells and two surface water samples (CS-1 and CS-2) previously identified within 1,000 feet of the site will be sampled. These samples are being collected to provide current groundwater quality data for the site.

2. ***The work will begin within*** 20 days ***after cost approval and sampling should be complete within*** 90 days.

3. ***Are there are time or resource constraints? Include those factors that may interfere with the tentative schedule.***
   The proposed schedule may be affected by factors including weather, equipment malfunctions, and scheduling during the holiday season.

A7 Data Quality

Objectives (DQOs) and Data Quality Indicators (DQIs)

A site location map (Figure 1) showing the location of the site in relation to roadways, a USGS topographic map (Figure 2), a site map (Figure 3) presenting sampling locations are included in Appendix D.

A8 Training and Certificates

Required training and licenses:

Title/Job	Name	Training Required	Date training received	Type of License	License Number
Contractor	William C. McClary, P.G.			Certified Contractor	67
Project Manager	William C. McClary, P.G.	Professional Geologist	2004	P.G.	2386
		OSHA 8hr Refresher	5/10/12		
Field Staff	Robbie Robertson	OSHA 8hr Refresher	8/14/12		
Field Staff	Corey Racer	OSHA 40 hr	10/12/12		
Field Staff	Jamie Bateman	OSHA 8hr Refresher	5/10/12		
Lab Director	Jeff Graham	BS Chemistry	May 1984	Lab Certification	SC 99006001

Table 3A Required Training and Licenses

William C. McClary of Emerald, Inc. is responsible to ensuring that personnel participating in this project receive the proper training. All training records will be stored in the following location: 2520 Tahoe Drive, Sumter, SC.

It is understood that training records will be produced if requested by SC DHEC.

The Following Laboratory(ies) will be used for this Project: Pace Analytical Services, Inc.

Commercial Lab(s)

Please give the information as listed below for each Laboratory that is being used for sample analysis.

Full Name of the Laboratory Pace Analytical Services, Inc.-Huntersville
Name of Lab Director Jeff Graham
SC DHEC Certification Number 99006001

Parameters this Lab will analyze for this project:

BTEX, Naphthalene, MTBE, 1,2-DCA, 8 Oxygenates by EPA Method 8260B
EDB by EPA Method 8011

Please note: SC DHEC may require that the contractor submit some or all of the Laboratory's SOPs as part of this QAPP.

A9 Documents and Records

Personnel will receive the most current version of the QAPP Addendum via: (Check all that apply)

__X__US Mail ____Courier __X__Hand delivered

Record	Produced By	Hardcopy/ Electronic	Storage Location For how long?	Archival
Instrument Raw Data	Target software	Electronic	To Disc –offsite storage for 5 years	Yes
Laboratory Reports	Pace Analytical, Inc.	Hardcopy/Electronic	At Office/minimum 5 Years	Yes
Final Reports	LIMS	Electronic	Tape backup – offsite storage for 5 years	Yes
Monitoring Report	Emerald, Inc.	Hardcopy/Electronic	At Office/minimum 5 Years	Electronic Copy

Table 4A Record Identification, Storage, and Disposal

Section B Measurement/Data Acquisition

B1 Sampling Process/Experimental Design

Item	Start Date	End Date	Comments
QAPP Preparation	11/26/12	11/26/12	
QAPP Approval	11/26/12	12/4/12	Estimated 1 week turnaround
Sample Collection	12/17/12	12/21/12	
Water Disposal	12/17/12	12/21/12	Disposed of with carbon drum
Samples Delivered to Laboratory	12/18/12	12/21/12	Delivered to Lab via BeavEx or FedEX
Samples are Analyzed by Laboratory	12/21/12	1/5/13	
Project data verified and report prepared	1/6/13	1/16/13	
Report submitted to SCDHEC project manager	1/20/13	NA	

Table 5A Sampling Activities

B2 Sampling Methods

Please note: The contractor must follow sampling protocols as given in the UST QAPP.

Estimate the number of samples of each matrix that are expected to be collected:

Gauge Well Only ____7____ (Possibly 7 wells with product)

Ground Water (purge)	58 (greater than 1 year since sampling)
Groundwater (no purge)	_____ (pre-existing shallow)
Surface water/water supply wells	6 (4 WSWs, CS-1 and CS-2)
Duplicate Samples	4 (for BTEX, N, M, 1-2 DCA and Oxys)
Field Blanks	5 (possibly 5 field days)
Trip Blanks	5 (possibly 5 coolers)
Total number of Samples	85

The samples will be (check as many as apply): X Grab ____Split

For the sample matrices indicated above, please describe how samples will be collected and the equipment needed. Monitoring well samples will be collected using a disposable PVC bailer lowered into the monitoring well using disposable string or rope. Groundwater samples will be poured directly from the bailer into appropriate laboratory supplied containers. Since each monitoring well has not sampled within the last year, each will be purged by hand bailing until, the pH, conductivity, temperature and turbidity readings are within 10% of each other. If these parameters do not equilibrate, purging will be conducted until a maximum of three well volumes are removed from the well or dryness, whichever occurs first. Purge water produced during sampling will be treated by filtration through an activated carbon drum. Water supply well samples will be collected as close as possible to the wellhead. Samples will be collected after allowing the water to run for approximately ten minutes or until the well pump turns on.

Will Sampling Equipment have to be cleaned and decontaminated or is everything disposable?
Sampling equipment requiring decontamination will include the interface probe. Ph, Dissolved oxygen, turbidity, conductivity and temperature meters will not be used downhole, but will be decontaminated as needed. PVC bailers, twine, rope and nitrile gloves will be disposed of appropriately after one use.

If sampling equipment must be cleaned please give a detailed description of how this is done and the disposal of by-products from the cleaning and decontamination.
Equipment requiring decontamination will be cleaned by rinsing with distilled water, cleaned with a solution of detergent soap, rinsed with distilled water and rinsed a second time with distilled water. If any particulates are observed on the sampling equipment after the initial decontamination, a soft brush will be used to remove the particles and the process will be repeated. Decontamination water will be containerized and treated on-site, along with purge water, by an activated carbon drum.

Identify any equipment and support facilities needed. This may include such things as Fed-ex to ship the samples, a Geoprobe, field analysis done by another contractor (who must be certified), and electricity to run sampling equipment.

Samples will be placed in laboratory supplied coolers filled with wet ice obtained from the Emerald, Inc. office. Samples will be shipped overnight to Pace Analytical Services, Inc. in Huntersville, NC by FedEx or BeavEx based on availability.

Address the actions to be taken when problems occur in the field, and the person responsible for taking corrective action and how the corrective action will be documented.

Failure	Response	Documentation	Individual Responsible
Equipment Failure (any)	Contact William McClary (PM) Clean and attempt to repair in the field. Use alternate equipment if available or remove from service.	Record on field sheets noting date, problem and actions taken to correct problem.	William McClary, P.G.
Loss or Delay of Samples	Resample	Notice by Pace Analytical	Pace Analytical
Sample failure (out of hold, temp. limit exceeded, etc.)	Resample	Notice by Pace Analytical	Pace Analytical

Table 6A Field Corrective Action

B3 Sample Handling and Custody

1. ***How will the samples get from the Site to the Lab to ensure holding requirements are met?***
Samples will be shipped by overnight courier to Pace Analytical Services, Inc. in Huntersville, NC. Short hold time samples will be shipped on the date collected. Non-short hold time samples will be shipped on the day collected or the following day.

2. ***How will the contactors cool the samples and keep the samples cool?***
Samples will be placed in ice filled coolers immediately after sample collection. In the field, ice levels will be monitored throughout the day to ensure proper sample temperatures are maintained. Prior to shipment, additional ice will be added to the coolers to maintain desired sample temperatures until arrival at the laboratory.

3. ***How will the lab determine the temperature of the samples upon receipt? Will they be using a temperature blank?***
Laboratory procedures are presented in the most recent revision of SOP S-CAR-C-001, Sample Management are used. The laboratory personnel will open the cooler and verify the temperature of the samples by taking the temperature of the temperature blank. If there is no temperature blank in the cooler, measure the temperature of a representative sample bottles using the infrared (IR) thermometer gun.

4. ***Where will the samples be stored in the Lab once they are received?***

The procedures in the most recent revision of SOP S-CAR-C-001, Sample Management are used. Once logged in and labeled, samples are place in the appropriate storage areas. Specific temperature requirements are outlined in the analytical methods, but general guidelines are outlined below.

Short hold samples are placed in the short hold storage area or delivered directly to the laboratory.

Volatile Analyses

Aqueous samples are stored by receiving date or by project number in a segregated volatiles cooler. Associated trip blanks are stored with the samples.

Soil and other solid samples received preserved in methanol are stored by receiving date or by project number in a segregated volatiles cooler. Associated trip blanks are stored with the samples.

Soil and other solid samples received preserved with a stir bar, or deionized water and a stir bar, are stored by receiving date or by project number in a segregated volatiles freezer. Associated trip blanks are stored with samples.

Soil and other solid samples received in 4oz containers or similar bottleware must be preserved within 48 hours. In order to preserve these samples, it is necessary to collect a 5g aliquot of the sample and transfer it to a 40mL vial. One of the following preservation options must be utilized:

The 5g aliquot is preserved with a stir bar, 5mL of deionized water and a stir bar, or 5mL of sodium bisulfate and a stir bar and stored in a freezer until analysis, or

Within 48 hours of collection in the field, the 5g aliquot must be immediately extracted with 5mL of methanol and stored in a segregated volatiles cooler until analysis, or

Within 48 hours of collection in the field, the 5g aliquot can be preserved with 10mL of deionized water and a stir bar, stored in a segregated volatiles cooler and analyzed within 48 hours of collection.

General Chemistry and Semi-volatile Analyses

Waters and other liquid samples are staged by receiving date or by project number on the shelves in the appropriate sample storage cooler.

Soils and other solid samples are staged by receiving date or by project number on the shelves in the appropriate sample storage cooler.

5. Describe the chain of custody procedure and attach a copy of each chain of custody that will be used. If a Chain of Custody SOP exists from the Lab and the Contractor is willing to adhere to it, then this may be attached.

Laboratory Chain of Custody procedures are outlined in the most recent revision of SOP S-CAR-C-001, Sample Management. Emerald, Inc. field personnel will prepare the chain of custody form in the field. The project manager will review the chain of custody upon return to the office. Prior to shipment of the samples, copy two of the chain of custody will be removed for Emerald's records. The remaining chain of custodies will be placed in the sample cooler in a waterproof bag.

B4 Analytical Methods

1. ***Identify the SOPs which will be used to analyze the samples, the method which the SOP references and the equipment or instrumentation that is needed:***

Parameter	SOP ID*	Method Referenced	Equipment	Comments
8260	S-CAR-0-023	8260B	Purge and Trap Mass Spectrometer System	
8011	S-CAR-O-020	8011	GC ECD	
8270	S-CAR-O-015	8270D	Direct Inject Mass Spectrometer System	
8270 SIM PAH	S-CAR-O-052	8270D	Direct Inject Mass Spectrometer System	
Lead	S-ASV-I-043	EPA 6010C	ICP Varian ICP Thermo Elemental	
Dissolved Oxygen		SM 4500-O-G	Exstik DO 600	Field Analysis - Calibrate by owner's manual prior to testing
Dissolved Oxygen		SM 4500-O-G	YSI 550A	Field Analysis - Calibrate by owner's manual prior to testing
pH		SM 4500-B	Exstik EC 500	Field Analysis - Calibrate by owner's manual prior to testing
pH		SM 4500-H+	YSI 63	Field Analysis - Calibrate by owner's manual prior to testing
Conductivity		SM 2520-B	Exstik EC 500	Field Analysis - Calibrate by owner's manual prior to testing
Conductivity		SM 2510-A	YSI 63	Field Analysis - Calibrate by owner's manual prior to testing
Turbidity		EPA 180.1	Hach Model 2100P	Field Analysis - Calibrate by owner's manual prior to testing

Table 7A Analytical SOPs and Referenced Methods

- **This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.**

Abbreviation	Lab Identification of this SOP	Full Name of the SOP
S-CAR-O-023	S-CAR-O-023-rev.08	Determination of Volatile Organic Compounds by GC/MS
S-CAR-O-020	S-CAR-O-020-rev.05	Determination of EDB, DBCP and TCP in Water by Microextraction
S-CAR-O-015	S-CAR-O-015-rev.05	Determination of Semi-Volatile Organic Compounds in Aqueous, Solid or Waste Samples by GC/MS
S-CAR-O-052	S-CAR-O-052-rev.2	Determination of Semivolatile Organics by GC/MS-SIM, Selective Ion Monitoring
S-ASV-I-043	S-ASV-I-043-Rev.02	DETERMINATION OF METALS BY INDUCTIVELY COUPLED PLASMA (ICP) SPECTROSCOPY BY SW-846 6010C
S-ASV-I-58	S-ASV-I-58-Rev.00	Ion Chromatography

Table 8A SOP Abbreviation Key

2. Identify procedures to follow when failures occur, identify the individual responsible for corrective action and appropriate documentation:

Quality Control	Failure	Response	Documented Where?	Individual Responsible
Method Blank, one per batch of 20 samples	If hits in Method Blank	Samples with hits above reporting limit are reextracted or reanalyzed. Samples with hits less than reporting limit are reported and the method blank is qualified. Samples with hits more than 10x the hit in the MB maybe footnoted with a B-flag	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor
Method Blank, one per batch of 20 samples	If Surrogates outside of control limits	All samples reextracted or reanalyzed if surrogate recovery is below control limits. Samples are reported and MB is footnoted if surrogate recovery is above control limits	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor
Laboratory Control Sample, one per batch of 20 samples	For any analytes outside of control limits or if the number of analytes outside control limits is over allowable number of exceedances.	If LCS analyte recoveries are above control limits, samples with a hit for the failing analyte above the reporting limit are reextracted or analyzed. If LCS analyte recoveries are below control limits, all samples are reextracted or reanalyzed. If LCS analyte recoveries are above control limits, samples without a hit for the failing analyte above the reporting limit are footnoted and reported. Samples may be reported if there is an acceptable matrix spike (where allowable) or laboratory control sample duplicate associated and the LCS is footnoted	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor
Laboratory Control Sample Duplicate, when needed	For any analytes outside of control limits or if the number of analytes outside control limits is over allowable number of exceedances.	Corrective actions are the same as Laboratory Control Sample. Samples are reported if LCS is acceptable and LCSD is footnoted	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor

Matrix Spike, one per batch of 20 samples	For any analytes outside of control limits or if the number of analytes outside control limits is over allowable number of exceedances.	Matrix spike is footnoted and samples are reported	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor
Matrix Spike Duplicate, when required	RPD outside control limits	Matrix spike duplicate is footnoted and samples are reported	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor
Matrix Spike Duplicate, when required	For any analytes outside of control limits or if the number of analytes outside control limits is over allowable number of exceedances.	Matrix spike duplicate is footnoted and samples are reported	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor
Surrogates, all samples	If Surrogates outside control limits	If surrogate recovery is high and samples are non-detected samples are reported with qualification. If surrogate recoveris are low samples are re-extracted or reanalyzed.	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor
Equipment Failure	Contact QA Officer	Attempt to repair, replace equipment, reschedule if or remove from service	Document in field notes and report	QA officer and field staff
QC Failure	Contact QA Officer	Discuss with DHEC Project Manager, resample if necessary	Document in report	QA officer
Sample Accident in Lab	Contact QA Officer	Discuss with DHEC Project Manager, resample if necessary	Document in report	Laboratory
Sample Accident in Transit	Contact QA Officer	Discuss with DHEC Project Manager, resample if necessary	Document in report	Laboratory
Insufficient sample for analysis	Contact QA Officer	Discuss with DHEC Project Manager, resample if necessary	Document in report	Laboratory

Table 9A Corrective Action Procedures

3. Identify sample disposal procedures.

Analysis	Matrix	Schedule for disposal	Method for disposal	Comments
All (Laboratory Samples)	Soil and Water	Monthly	Veolia Technical Solutions	All laboratory samples are disposed according to S-CHR-S-002, Waste Handling and Management
Dissolved Oxygen, pH, Conductivity, Temperature	Water	Daily	Activated Carbon Drum	Treated on-site

4. Provide SOPs for the Kerr Method or the Ferrous Iron Method if these are parameters for this study. This can be attached or written here. If attached please note that it is an attachment and where it is located (if applicable).

B5 Quality Control Requirements:

All QC will follow the requirements laid out in Section B5 of the UST Programmatic QAPP.

B6 Field Instrument and Equipment Testing, Inspection and Maintenance

1. Identify all field and laboratory equipment needing periodic maintenance, the schedule for this, and the person responsible. Note the availability and location of spare parts.

Instrument	Serial Number	Type of Maintenance	Frequency	Parts needed/Location	Person responsible
MiniRae Lite PID	590-902163	Check Batteries Calibration	Daily Daily	Field Kit / Office	William McClary
MiniRae Plus (PID)	102182	Check Batteries Calibration	Daily Daily	Field Kit / Office	William McClary
Heron H.01L (Interface Probe)	01-0337	Check Batteries Clean Probe	Daily	Field Kit / Office	William McClary
Heron SM.01L (Interface Probe)	02-0586	Check Batteries Clean Probe	Daily	Field Kit / Office	William McClary
Solonst (Waterleve Indicator)	26463	Check Batteries Clean Probe	Daily	Field Kit / Office	William McClary
Exstik DO 600 (DO Meter)	134718	Check Batteries Calibration Change Membrane	Daily Daily As Needed	Field Kit / Office	William McClary
Exstik DO 600 (DO Meter)	132109	Check Batteries Calibration Change Membrane	Daily Daily As Needed	Field Kit / Office	William McClary
YSI 550A	11K100954	Check Batteries	Daily	Field Kit / Office	William McClary

		Calibration Change Membrane	Daily As Needed		
YSI 550A	12B100282	Check Batteries Calibration Change Membrane	Daily Daily As Needed	Field Kit / Office	William McClary
YSI 63	12B100627	Check Batteries Calibration Change Probe	Daily Daily As Needed	Field Kit / Office	William McClary
Exstik EC 500 (pH, Conductivity)	133538	Check Batteries Calibration Check Calibration Solutions	Daily Daily Daily	Field Kit / Office	William McClary
Exstik EC 500 (pH, Conductivity)	131949	Check Batteries Calibration Check Calibration Solutions	Daily Daily Daily	Field Kit / Office	William McClary
Exstik EC 500 (pH, Conductivity)	165855	Check Batteries Calibration Check Calibration Solutions	Daily Daily Daily	Field Kit / Office	William McClary
Hach Model 2100P (Turbidity)	050100011167	Check Batteries Calibration Check Calibration Solutions	Daily Daily Daily	Field Kit / Office	William McClary
Hach Model 2100P (Turbidity)	040500035919	Check Batteries Calibration Check Calibration Solutions	Daily Daily Daily	Field Kit / Office	William McClary
Field Instruments	All	Inspect for damage	Weekly	Enviro-Equipment if repairs needed	William McClary
Volatiles Mass Spec	ALL	Change traps, clean ion source, replace filaments	Periodic	Laboratory	MSV Analyst
Semivolatile Mass Specc	ALL	Injection port maintenance, ion source maintenance, column replacement	Periodic	Laboratory	MSSV Analyst
ECD GC	ALL	Injection port maintenance, column replacement	Periodic	Laboratory	GC Analyst
Metrohm IC	ALL	Replace autosampler filter, tubing, line filter, sample Line and Waste Line, as needed. Clean Pump	Periodic	Laboratory	IC Analyst

		roller, Check Reagent levels, flow rate, waste line.			
ICP	ALL	Clean Sample introduction system , autosampler, torch, Change spray chamber, torch tubing, tubing	Periodic	Laboratory	ICP Analyst

Table 11A Instrument and Equipment Maintenance

2. Identify the testing criteria for each lab or field instrument that is used to ensure the equipment is performing properly. Indicate how deficiencies, if found, will be resolved, re-inspections performed, and effectiveness of corrective action determined and documented. Give the person responsible for this

Instrument/Equipment & Serial Number	Type of Inspection	Requirement	Individual Responsible	Resolution of Deficiencies
Volatiles Mass Spec	Daily calibration check	Method Requirements	MSV Analyst	Recalibration or instrument maintenance
Semivolatiles Mass Spec	Daily calibration check	Method Requirements	MSSV Analyst	Recalibration or instrument maintenance
ECD GC	Daily calibration check	Method Requirements	GC Analyst	Recalibration or instrument maintenance
ICP	Daily calibration check	Method Requirements	ICP Analyst	Recalibration or instrument maintenance
Flow Injection Analysis – Lachat 8000	Daily calibration check	Method Requirements	IC Analyst	Recalibration or instrument maintenance
Exstik DO 600 (DO Meter)	Daily Calibration Check	Within Manufacturer's Tolerance	Field Personnel	Recalibration or instrument maintenance
YSI 550A	Daily Calibration Check	Self Diagnostic	Field Personnel	Recalibration or instrument maintenance
YSI 63	Daily Calibration Monthly Calibration	Ph - within 0.2 pH units Conductivity - within 10us	Field Personnel	Recalibration or instrument maintenance
Exstik EC 500 (pH, Conductivity)	Daily Calibration Check	Ph - within 0.2 pH units Conductivity - within 10us	Field Personnel	Recalibration or instrument maintenance
Interface probe	Daily Check	Check Batteries Clean probe as necessary	Field Personnel	Recalibration or instrument maintenance
Hach Model 2100P (Turbidity)	Daily Check	Secondary Standards - Within 10% of standards	Field Personnel	Recalibration or instrument maintenance
MiniRae Lite PID	Daily Calibration Check	Within 15 parts per million	Field Personnel	Recalibration or instrument maintenance
MiniRae Plus (PID)	Daily Calibration Check	Within 15 parts per million	Field Personnel	Recalibration or instrument maintenance

Table 12A Instrument and Equipment Inspection

B7 Instrument Calibration and Frequency

1. Identify equipment, tools, and instruments for field or lab work that should be calibrated and the frequency.
2. Describe how the calibrations should be performed and documented, indicating test criteria and standards or certified equipment.
3. Identify how deficiencies should be resolved and documented. Identify the person responsible for corrective action.

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
Volatiles Mass Spec	5 calibration standards for all compounds	When indicated by daily calibration verification standard	Method Criteria	Detailed in SOP	MSV Analyst	S-CAR-O-023
Semivolatile Mass Spec	5 calibration standards for all compounds	When indicated by daily calibration verification standard	Method Criteria	Detailed in SOP	MSSV Analyst	S-CAR-O-015 S-CAR-O-052
GC ECD	5 calibration standards for all compounds	When indicated by daily calibration verification standard	Method Criteria	Detailed in SOP	GC Analyst	S-CAR-O-020
Metrohm IC	3 calibration standards for all compounds	When indicated by daily calibration verification standard	Method Criteria	Detailed in SOP	IC Analyst	S-ASV-058
ICP	3 calibration standards for all compounds	When indicated by daily calibration verification standard	Method Criteria	Detailed in SOP	ICP Analyst	S-ASV-043
YSI 550A	Per manuf. recommendations	Daily Calibration Check	Within calibration tolerances	Recalibration or instrument maintenance	Field Personnel	
YSI 63 (pH)	Calibrate using 4, 7 and 10 as recommended by manuf.	Daily Calibration Check	within 0.2 pH units	Recalibration or instrument maintenance	Field Personnel	
YSI 63 (Conductivity)	Calibrate to known standardizing solution as recommended by	Monthly Calibration Check	Within 10us	Recalibration or instrument maintenance	Field Personnel	

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
	manuf.					
Exstik DO 600 (DO Meter)	Calibrate using DI water as recommended by manuf.	Daily Calibration Check	Within 0.25 mg/l	Recalibration or instrument maintenance	Field Personnel	
Exstik EC 500 (pH)	Calibrate using 4, 7 and 10 as recommended by manuf.	Daily Calibration Check	within 0.2 pH units	Recalibration or instrument maintenance	Field Personnel	
Exstik EC 500 (Conductivity)	Calibrate to known standardizing solution as recommended by manuf	Monthly Calibration Check	within 10us	Recalibration or instrument maintenance	Field Personnel	
Interface Probe	Checked vs. standard	Monthly	+/-0.01 ft. per 10 ft. length	Replace probe tape	Field Personnel	
Hach Model 2100P (Turbidity)	As recommended by manuf.	Quarterly (Primary Standards) – daily with secondary standards	Within 10%	Recalibration or instrument maintenance	Field Personnel	
MiniRae Lite PID	Per manuf. recommendations	Daily	Within 15 ppm	Recalibration or instrument maintenance	Field Personnel	
MiniRae Plus (PID)	Per manuf. recommendations	Daily	Within 15 ppm	Recalibration or instrument maintenance	Field Personnel	

Table 13A Instrument Calibration Criteria and Corrective Action

*** This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.**

B8 Inspection/Acceptance Requirements for Supplies and Consumables

1. Identify critical supplies and consumables for field and laboratory, noting supply source, acceptance criteria, and procedures for tracking, storing and retrieving these materials.
2. Identify the individual(s) responsible for this.

Item	Vendor	Acceptance criteria	Handling/Storage Conditions	Person responsible for inspection and tracking
Laboratory Chemicals	Fisher,VWR,	Certificates of analysis and laboratory testing	Laboratory storage	Receiving and laboratory personnel

Laboratory standards	O2Si, Restek, Fisher, VWR, Inorganic Ventures, CPI	Certificates of analysis and laboratory verifications	Vendor specific storage conditions	Laboratory Analysts
Sample Containers	Daniels Scientific, Fisher, O2Si	Certificates of analysis and laboratory testing	Bottle storage area	Sample receiving personnel - Lab/ Warehouse - Emerald
Coolers	Pace Analytical	Clean, dry	Stored office warehouse	William C. McClary
PVC Bailers	Preferred Pump	Plastic covering intact	Stored office warehouse	William C. McClary
String	Lowes	Containerized to protect from contamination	Stored office warehouse	William C. McClary
Standards (pH, Cond., DO, Turbidity)	Enviro-Equipment or Geotech	Within Expiration Date	Stored office warehouse	William C. McClary
Nitrile Gloves/rope	Preferred Pump	Sealed	Stored office	William C. McClary
Batteries	Any	Sealed	Stored office	William C. McClary

Table 14A List of Consumables and Acceptance Criteria

B9 Data Acquisition Requirements (Non-Direct Measurements)

1. Identify data sources, for example, computer databases or literature files, or models that should be accessed or used.
2. Describe the intended use of this information and the rationale for their selection, i.e., its relevance to project.
3. Indicate the acceptance criteria for these data sources and/or models.

Data Source	Used for	Justification for use in this project	Comments
SCDHEC Files	Background Information	Historic depth to water measurements, CoC Data and UST Information	

Table 15A Non-Direct Measurements

4. Identify key resources/support facilities needed. Not Applicable.

B10 Data Management

1. Describe the data management scheme from field to final use and storage.

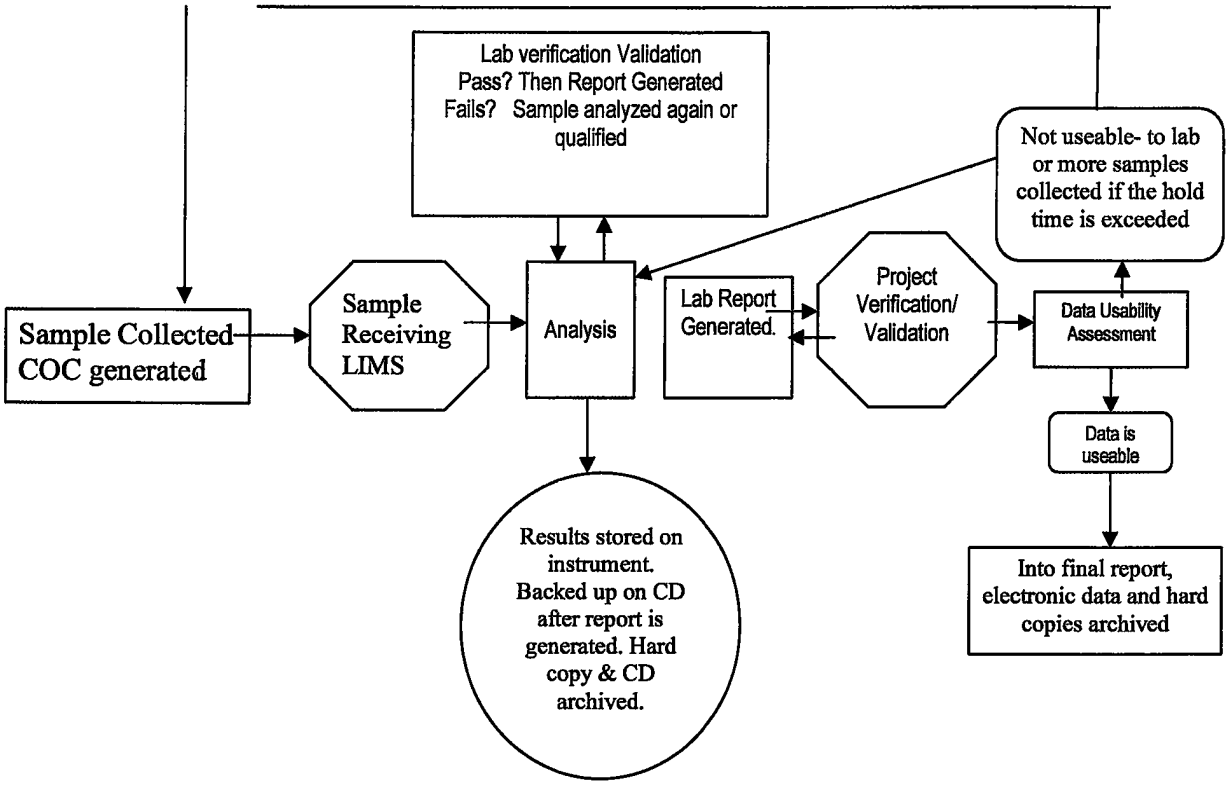


Figure 2 Example of a Data Management Scheme

2. How does the lab and field staff ensure that no unauthorized changes are made to the chain of custody, sampling notebooks, laboratory notebooks and computer records?

The laboratory maintains comprehensive Quality Control and Training Programs. All sample receipt data, sample log-in and analytical data is peer reviewed, including review for inappropriate changes. Data management, review procedures and the Quality Systems Program are documented in the laboratory's Quality Manual and Standard Operating Procedures. The Quality Management Department oversees adherence to and review of these programs.

Emerald, Inc. field notes will be written in pencil on dedicated field sheets documenting field activities. Any changes to field notes will be changed with a single line strikeout and must be initialed and dated by the Emerald, Inc. personnel with any comments noted in the comments section of the field sheet. Field notes will be filed in appropriate file upon return from field activities and archived in filing cabinets. Data obtained from field activities (laboratory reports and final reports) will be saved on the company server which is backed up on a weekly basis to preserve data. The project QA/QC officer will be responsible for oversight.

3. How does the lab ensure that there are no errors in samples records including times when sample information is compiled, data calculated and/or transmitted?

Sample data acquisition software included audit trails which are reviewed periodically under the Laboratory's Quality Systems Program. Laboratory data systems are backed up daily and able to be restored in the event of a system failure. These procedures are documented in laboratory SOPs S-ALL-IT-001, System Security and Integrity and S-ALL-IT-002, Server Backup. The IT System Manager is responsible for these systems and procedures.

4. How will the data be archived once the report is produced? How can it be retrieved? (This applies to both electronic and hard copies).

Laboratory Hardcopy data stored off site is logged, maintained and archived by the Quality Management Department. Laboratory Electronic Data Reports are maintained through IT back up under the responsibility of the IT Systems Manager and the Corporate IT Department.

Emerald, Inc. will archive field notes and paper copies in an on-site filing cabinet. Paper copies will be stored for a minimum of five years. Electronic copies of reports will be stored on the Emerald, Inc. server for future retrieval. Electronic copies will be maintained for a minimum of five years.

Section C Assessment and Oversight

C1 Assessment and Response Actions

1. *The Contractor is supposed to observe field personnel daily during sampling activities to ensure samples are collected and handled properly and report problems to DHEC within 24 hours. Please state who is responsible for doing this and what observations will be made. Will this person have the authority to stop work if severe problems are seen?*

Field audits will be conducted on a regular basis by Ronny Lowder Project QA officer, to ensure field personnel adherence to the QAPP. If problems are identified during the field audit, Ronny Lowder has the authority to suspend field activities until the problems are addressed. Audit results will be reviewed by William McClary, Project Manager and Ronny Lowder, Project QA officer.

2. *The SCDHEC UST QAPP states that the Lab will receive an Offsite Technical System Audit. For this project, what assessments will be done on the Commercial Lab(s) that are being used—other than their certification audit? When or how often are these done? Who will the results be given to and who has the ability to stop work if problems are severe?*

The laboratory participates in annual Proficiency Testing through an approved vendor, Environmental Resources Associates. Proficiency Testing results are provided to the Office of Environmental Laboratory Certification. Laboratory reports will include full QA/QC data and the data will be reviewed for quality control issues. Quality issues will be brought to the attention of the Laboratory Director for explanation and

resolution. The Emerald, Inc. Project QA officer and Project Manager will have authority to stop work and, upon approval from SCDHEC, chose an alternate laboratory.

C2 Reports to Management

See the SC DHEC UST Programmatic QAPP (UST Master QAPP).

Section D Data Validation and Usability

All data produced during these work activities will be validated by Ronny Lowder of Emerald, Inc. before submission to SCDHEC. See the SC DHEC UST Programmatic QAPP (UST Master QAPP).

Appendix B

Example Chain of Custody

Pace Analytical™
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: of

Section A
Required Client Information:

Company:	
Address:	
Email To:	
Phone:	Fax:
Requested Due Date/TAT:	Standard

Section B
Required Project Information:

Report To:	
Copy To:	
Purchase Order No.:	
Project Name:	
Project Number:	

Section C
Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Section D
Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COLLECTED: COMPOSITE START TIME	COLLECTED: COMPOSITE END/GRAB DATE	COLLECTED: COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	Preservatives: H_2SO_4	Preservatives: HNO_3	Preservatives: HCl	Preservatives: NaOH	Preservatives: $Na_2S_2O_3$	Preservatives: Methanol	Preservatives: Other	Analysis Test Y/N	Analysis Test: BTEX, Naph, MTBE 8260B	Analysis Test: Oxygenates 8260B	Analysis Test: 1,2 DCA 8260B	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1																						
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:					
SIGNATURE of SAMPLER:	DATE Signed (MM/DD/YY):				

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Appendix C

Assessment Plan and Proposed Cost Agreement

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

ASSESSMENT COMPONENT INVOICE

SOUTH CAROLINA

Department of Health and Environmental Control (DHEC)

Underground Storage Tank Program

ASSESSMENT COMPONENT INVOICE

UST PERMIT # 15729 COUNTY Clarendon

FACILITY NAME HW Detwiler Company

STREET ADDRESS 37 South Church Street, Summerton, SC

INVOICE # **PO #** **COST AGREEMENT #**

For work performed during (specify time period) to

I certify, under penalty of law, that I have personally examined and am familiar with the information submitted in this and all attached documents; and that based on my inquiry of those individuals responsible obtaining this information, and any other information I may be aware of, I believe that the submitted information is true, accurate, and complete. I further agree, in accordance with any DHEC demand letter, to promptly repay any overpayment received.

Please fill out **BOTH the Contractor and Responsible Party Sections (original signatures). Also indicate the Payee by placing a check in the box next to the Contractor or Responsible Party.**

Payee

[X] CONTRACTOR

Ronny Lowder — 57-0910049

Name (Type or Print) — Federal Tax ID or Social Security Number

Emerald, Inc. — 803-469-5454

Company — Telephone Number

PO Box 3050 — Sumter — SC — 29151

Address — City — State — Zip Code

Signature (please use non-black ink) — Title — Date Signed

Payee

[ ] OWNER OR OPERATOR/RESPONSIBLE PARTY **Please attach copies of Cancelled Checks (front &back)**

Harold W. Detwiler Jr.

Name (type or Print) — Federal Tax ID or Social Security Number

Company — Telephone Number

31 South Church Street — Summerton — SC — 29706

Address — City — State — Zip Code

Signature (please use non-black ink) — Title — Date Signed

If payment is to be sent to an address other than above, please indicate below:

Name of Individual or Company (please print) — Federal Tax ID or Social Security Number

Address (please print) — City — State — Zip Code

INVOICE AMOUNT: $21,079.50

LESS SUBMITTED/PAID WELL DRILLING COSTS:

SCDHEC USE ONLY

$

AMOUNT REQUESTED: $21,079.50

Amount Requested is for Assessment activities as Defined in the SCDHEC Letter.

INVOICE **INVOICE** **INVOICE** **INVOICE**

DHEC 3664 (rev 05/01)

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

ASSESSMENT COMPONENT INVOICE
SOUTH CAROLINA
Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account

Facility Name: HW Detwiler Company

UST Permit #: 15729 **Cost Agreement #:**

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
1. Plan*				
B. Tax Map		x	$50.00	$0.00
C. Tier II or Comp. Plan /QAPP Appendix B	1	x	$525.00	$525.00
2. Receptor Survey *		x	$500.00	$0.00
3. Survey (500 x 500 feet)				
A. Comprehensive Survey		x	$1,000.00	$0.00
B. Subsurface Geophysical Survey				
1. < 10 meters below grade		x	$2,750.00	$0.00
2. > 10 meters below grade		x	$3,250.00	$0.00
C. Geophysical UST or Drum Survey		x	$1,125.00	$0.00
4. Mob/Demob (Each)				
A. Equipment		x	$575.00	$0.00
B. Personnel	3	x	$290.00	$870.00
C. Adverse Terrain Vehicle to install wells		x	$575.00	$0.00
5. Soil Borings (hand auger)* (Feet)		feet x	$14.00	$0.00
6. Soil Borings (drilled) & Field Screening *				
Rate includes collection of water sample or soil sample, and lab or other analyses				
A. Standard		feet x	$17.00	$0.00
C. Fractured Rock		feet x	$27.50	$0.00
7. Soil Leachability Model (Each)		each x	$200.00	$0.00
8. Abandonment* (per foot)				
A. 2" diameter or less		feet x	$5.00	$0.00
B. Greater than 2" to 6" diameter		feet x	$5.50	$0.00
C. Dug/Bored well (up to 6 foot diameter)		feet x	$18.00	$0.00
9. Well Installation* (per foot)				
A. Water Table (hand augered)		feet x	$20.00	$0.00
B. Water Table (drill rig)		feet x	$38.00	$0.00
C. Telescoping/ Pit Cased		feet x	$58.00	$0.00
D. Rock Drilling		feet x	$58.00	$0.00
E. 2" Rock Coring		feet x	$45.00	$0.00
G. Rock Multi-sampling ports/screens		feet x	$47.20	$0.00
H. Recovery Well (4 inch diameter)		each x	$45.00	$0.00
I. Pushed Pre-packed screen (1.25 diameter)		each x	$18.50	$0.00
J. Rotosonic (2 inch diameter)		each x	$45.00	$0.00
10. Groundwater Sample Collection / Gauge Depth to Water or Product (Each)				
A. Groundwater Purge	58	wells x	$55.00	$3,190.00
B. Air or Vapors		samples x	$90.00	$0.00
C. Water Supply	6	samples x	$30.00	$180.00
D. Groundwater No Purge or Duplicate	4	samples x	$35.00	$140.00
E. Gauge Well only	7	per well x	$20.00	$140.00
F. Sample Below Product		wells x	$50.00	$0.00
G. Pasive Diffusion Bag		each x	$40.00	$0.00
H. Field Blank	5	each x	$5.00	$25.00
11. Laboratory Analyses-Groundwater (Each Sample)				
A1. BTEX+Naphth.+ Oxyg's+ 1,2 DCA + Ethanol	85	samples x	$100.00	$8,500.00
AA. Lead, Filtered		samples x	$46.00	$0.00
B1. Rush EPA Method 8260B (All of item A.)		samples x	$143.00	$0.00
C1. Trimethal, Butyl, and Isopropyl Benzenes		samples x	$40.00	$0.00
D. PAH's		samples x	$120.00	$0.00
E. Lead, Unfiltered		samples x	$20.00	$0.00
F. EDB by EPA 8011	80	samples x	$55.00	$4,400.00
FF. EDB by EPA Method 8011 Rush		samples x	$75.00	$0.00
G. 8 RCRA Metals		samples x	$140.00	$0.00
H. TPH (9070)		samples x	$55.00	$0.00
I. pH		samples x	$10.00	$0.00
J. BOD		samples x	$40.00	$0.00
P1. Ethanol		samples x	$21.50	$0.00

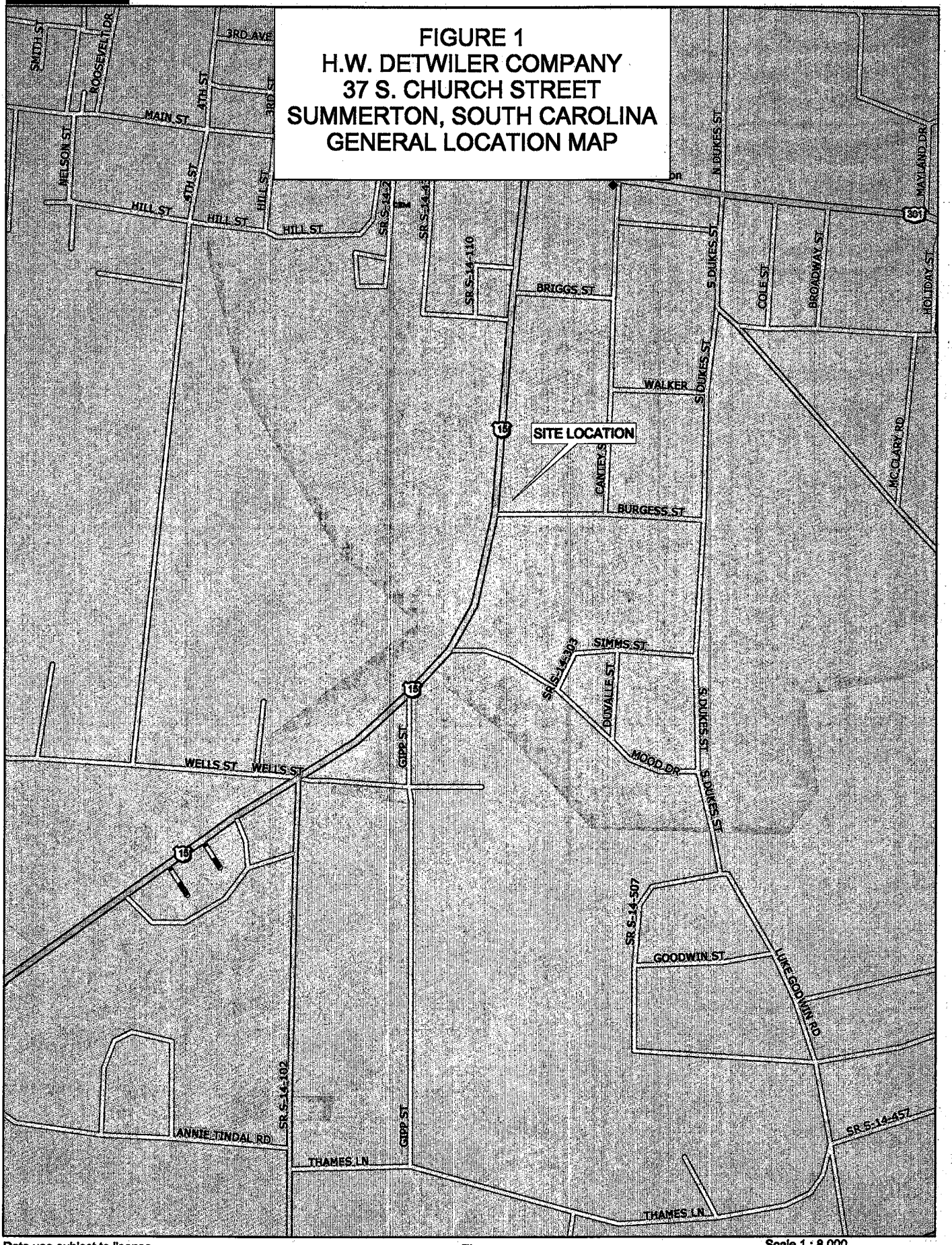
11. Analyses-Soil (Each Sample)					
Q. BTEX + Naphth.		samples x	$100.00		$0.00
R. PAH's		samples x	$120.00		$0.00
S. 8 RCRA Metals		samples x	$150.00		$0.00
T. Oil & Grease (9071)		samples x	$60.00		$0.00
U. TPH-DRO (3550B/8015B)		samples x	$65.00		$0.00
V. TPH- GRO (5030B/8015B)		samples x	$65.00		$0.00
W. Grain size/hydrometer		samples x	$99.00		$0.00
X. Total Organic Carbon		samples x	$35.00		$0.00
11. Analyses-Air (Each Sample)					
Y. BTEX + Naphthalene		samples x	$247.50		$0.00
11. Analyses-Free Phase Product (Each Sample)					
Z. Hydrocarbon Fuel Identification		samples x	$620.00		$0.00
12. Aquifer Characterization*					
A. Pumping Test		hours x	$120.00		$0.00
B. Slug Test*		tests x	$150.00		$0.00
C. Fractured Rock		tests x	$500.00		$0.00
13. Free Product Recovery Rate Test* (Each)		tests x	$120.00		$0.00
14. Fate/Transport Modeling					
A. Mathematical Model		each x	$300.00		$0.00
B. Computer Model		each x	$500.00		$0.00
15. Risk Evaluation					
A. Tier I Risk Evaluation		x	$301.00		$0.00
B. Tier II Risk Evaluation		x	$500.00		$0.00
16. Subsequent Survey*		x	$300.00		$0.00
17. Disposal* (gallons or tons)					
A. Wastewater	450	gallons x	$0.80		$360.00
B1. Free Product		gallons x	$0.85		$0.00
C. Soil Treatment/Disposal		tons x	$72.50		$0.00
D. Drilling fluids		gallons x	$0.80		$0.00
18. Miscellaneous (attach receipts)					
		x			$0.00
		x			$0.00
		x			$0.00
20. Tier I Assessment (Use DHEC 3665 form)		x			$0.00
21. IGWA (Use DHEC 3666 form)		x			$0.00
22. Corrective Action (Use DHEC 3667 form)		x			$0.00
23. Aggressive Fluid & Vapor Recovery (AFVR)					
A. 8-hour Event*		each x	$3,000.00		$0.00
B. AFVR per-hour Continuance		per hour x	$204.00		$0.00
C. Off-gas treatment per-hour Continuance		per hour x	$35.00		$0.00
24. Granulated Activated Carbon (GAC) filter system installation & service:					
A. New GAC System Installation*		each x	$2,500.00		$0.00
B1. Refurbished GAC Sys. Install*		each x	$1,180.00		$0.00
C. Filter replacement/removal*		each x	$450.00		$0.00
D1. GAC System removal, cleaning, & refurbishment*		each x	$600.00		$0.00
E. GAC System housing		each x	$450.00		$0.00
F. In-line particulate filter		each x	$150.00		$0.00
G. Additional piping & fittings		feet x	$4.00		$0.00
25. Well Repair					
A. Additional Copies of the Report Delivered		each x	$32.50		$0.00
B. Repair 2x2 MW pad		each x	$100.00		$0.00
C. Repair 4x4 MW pad		each x	$150.00		$0.00
D. Repair well vault		each x	$225.00		$0.00
F. Replace well cover bolts		each x	$10.00		$0.00
G. Replace locking well cap & lock		each x	$15.00		$0.00
H. Replace/Repair stick-up		each x	$137.50		$0.00
I. Convert Flush-mount to Stick-up		each x	$175.00		$0.00
J. Convert Stick-up to Flush-mount		each x	$125.00		$0.00
K. Replace missing/illegible well ID plate		each x	$22.50		$0.00
Report Prep & Project Management	15%	x	$18,330.00		$2,749.50
TOTAL					$21,079.50

*The appropriate mobilization cost can be added to complete these tasks, as necessary

Appendix D

Figures

FIGURE 1
H.W. DETWILER COMPANY
37 S. CHURCH STREET
SUMMERTON, SOUTH CAROLINA
GENERAL LOCATION MAP



Data use subject to license.

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www.delorme.com

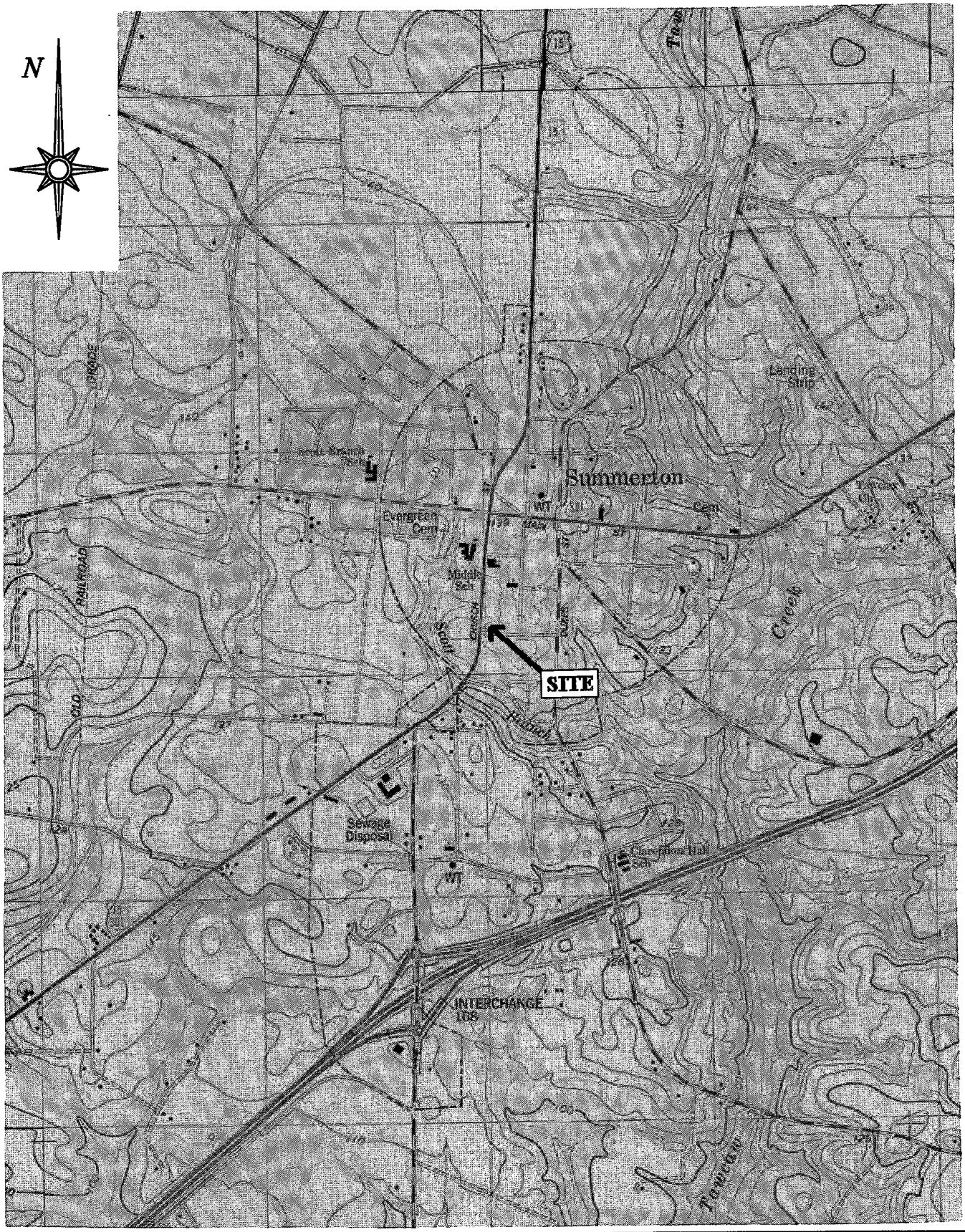
TN

MN (7.4°W)

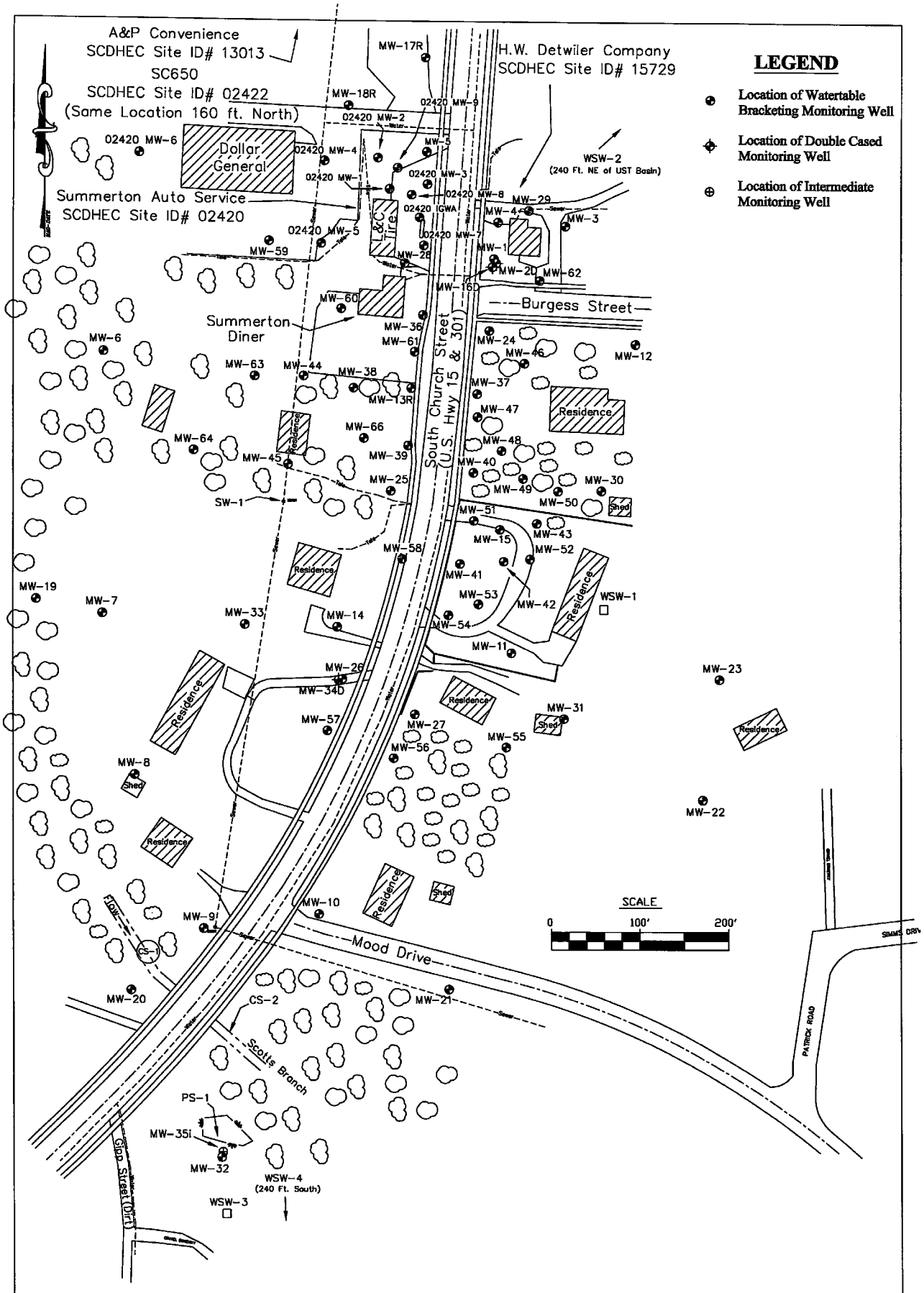
Scale 1 : 8,000

1" = 666.7 ft

Data Zoom 14-6



H.W. Detwiler Company 37 South Church Street Summerton, SC SCDHEC Site ID# 15729	Figure 2 USGS Topographic Map 7.5 Minute Map "Summerton, SC" Quadrangle Scale 1 to 2,000	EMERALD, INC. Sumter, SC



PROJECT:	SHEET TITLE:	DATE:	
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 SITE MAP	11/26/12	EMERALD, INC. SUMTER, SOUTH CAROLINA

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

MR HAROLD W DETWILER JR
31 SOUTH CHURCH STREET
SUMMERTON SC 29706

DEC 0 4 2012

Re: **Groundwater Sampling Directive**
HW Detwiler Company
37 South Church Street, Summerton, SC 29148
UST Permit #15729; CA # 44312
Release Reported June 22, 1993
QAPP Addendum Received November 28, 2012
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Management Division (Division) of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced addendum submitted on your behalf by Emerald, Inc. In order to evaluate the current site conditions, sampling of the monitoring wells is necessary. All work should be conducted in accordance with the UST Quality Assurance Program Plan and must be conducted in compliance with all applicable regulations. A copy of the Agency's Quality Assurance Program Plan (QAPP) for the UST Management Division is available at http://www.scdhec.gov/environment/lwm/usthome/Qapp.htm.

Activities at the site should begin immediately upon receipt of this letter. Cost agreement # 44312 has been approved for the amount shown on the enclosed cost agreement form for the sampling of the monitoring wells and analyses for BTEX, Naphthalene, MTBE, Oxygenates, 1,2-DCA, Ethanol, and EDB. Analyses should be in accordance with Appendix E of the QAPP to include duplicate samples, field and trip blanks.

The Monitoring Report and invoice are due within 60 days from the date of this letter. The report submitted at the completion of these activities should include the required information outlined in the QAPP. Please note that all applicable South Carolina certification requirements apply to the services and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

Emerald, Inc. can submit an invoice for direct payment from State Underground Petroleum Environmental Response Bank (SUPERB) Account for pre-approved costs. By law, the SUPERB Account cannot compensate any costs that are not pre-approved. Please note that applicable South Carolina certification requirements regarding the services and report preparation must be satisfied. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

Please note that Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the Agency is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be pre-approved by the Agency for the cost to be paid. The Agency reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, the Agency reserves the right to question and/or reject costs if deemed unreasonable and the right to audit project records at any time during the project or after completion of work.

Please note, if unnecessary dilutions are completed resulting in reporting limits of individual Chemicals of Concern (CoC) in excess of Risk-Based Screening Levels (RBSLs), the data cannot be used. In those cases, the Division may deny payment for any non-detect analysis where the reporting limit exceeds the RBSL. The UST Management Division encourages the use of 'J' values as necessary so the appropriate action can be determined for a release.

The Agency grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. The transport and disposal must be conducted in accordance with the QAPP. If the CoC concentrations based on laboratory analysis are below RBSLs, please contact the project manager for approval to dispose of soil and/or groundwater on site. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

On all correspondence regarding this site, please reference UST Permit #15729 and CA # 44312. If you have any questions regarding this correspondence, please contact me by telephone at (803) 896-6396, by fax at (803) 896-6245, or by e-mail at ShullSS@dhec.sc.gov.

Sincerely,

Shane S. Shull, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement
Signed Site Specific QAPP Contractor Addendum

cc: Emerald, Inc., P.O. Box 3050, Sumter, SC 29151 (w/enc)
Technical File (w/enc)

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For
HW Detwiler Company
SCDHEC Site ID #15729

37 South Church Street
Summerton, South Carolina

Prepared by
William C. McClary, P.G.
Project Manager
Emerald, Inc.
2520 Tahoe Drive
Sumter, South Carolina
SCDHEC Site Rehabilitation Contractor Certification Number UCC-067
Phone: 803-469-5454

Date: November 26, 2012

Approvals

Shane S. Shull, Hydrogeologist SC DHEC Project Manager	Signature	Date 11-29-12
Ronny L. Lowder Project QA Manager	Signature	Date 11/27/2012
William C. McClary, P.G. Project Manager	Signature	Date 11-27-12
Jeff Graham Laboratory Director	Signature	Date 11/26/2012

Approved Cost Agreement 44312

Facility: 15729 H W DETWILER CO
SHULLSS
PO Number:

Task / Description	Categories	Item Description	Qty / Pct	Unit Price	Amount
01 PLAN					
		C TIER II/COMP. PLAN/QAPP APP B	1.0000	525.00	525.00
04 MOB/DEMOB					
		B PERSONNEL	2.0000	290.00	580.00
10 SAMPLE COLLECTION					
		A GROUND WATER	58.0000	55.00	3,190.00
		C WATER SUPPLY	6.0000	30.00	180.00
		D GROUNDWATER NO-PURGE	4.0000	35.00	140.00
		E GAUGE WELL ONLY	7.0000	20.00	140.00
		H FIELD BLANK	5.0000	5.00	25.00
11 ANALYSES	GW GROUNDWATER				
		A1 BTEXNM+OXYGS+1,2-DCA+ETH-8260B	85.0000	100.00	8,500.00
		F EDB	85.0000	55.00	4,675.00
17 DISPOSAL					
		A WASTEWATER	450.0000	0.80	360.00
19 RPT/PROJECT MNGT & COORDINATIO					
		PCT PERCENT	0.1500	18,315.00	2,747.25
				Total Amount	21,062.25

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

February 23, 2013

Shane S. Shull, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management
SCDHEC
2600 Bull Street
Columbia, S.C. 29201

Re: H.W. Detwiler Co., 37 S. Church St., Summerton, SC 29148
UST Permit #15729; CA #44312
Report of Groundwater Sampling (February 21, 2013)
Clarendon County

Dear Mr. Shull:

On behalf of Mr. Harold Detwiler, Emerald, Inc. is providing you with one copy of the completed Report of Groundwater Sampling for the Detwiler site. As the report states, the horizontal and vertical extent of the groundwater contamination appears to be reasonably defined. Free phase product was detected in thirteen monitoring wells during this event. We have recommended a series of long duration AFVR events to remove the free product detected at the site and continued monitoring of the contaminant plume.

If you have any questions regarding the report and its findings, please contact either Chad McClary or myself at (803) 469-5454.

Yours very truly,
Emerald, Inc.

Ronny L. Lowder
President

RLL/jrb

Enclosure
cc: Mr. Harold W. Detwiler, Jr.

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
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TELEPHONE (803) 469-5454
FAX (803) 469-5465

REPORT OF GROUNDWATER SAMPLING
HW DETWILER COMPANY
37 SOUTH CHURCH STREET
SUMMERTON, SOUTH CAROLINA
UST PERMIT #15729
COST AGREEMENT #44312

Prepared For:

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

Prepared By:

Emerald, Inc.
UST Site Rehabilitation Contractor #67
P.O. Box 3050
2520 Tahoe Drive
Sumter, South Carolina 29151

February 21, 2013

Signature Page

This document entitled "Report of Groundwater Sampling", has been prepared for the South Carolina Department of Health and Environmental Control to describe investigative activities initiated at the HW Detwiler Company site located in Summerton, South Carolina. It has been prepared under the direct supervision of William C. McClary, P.G. in accordance with the UST Quality Assurance Division Plan and signed Contractor Addendum dated November 28, 2012. All questions or comments concerning this report should be directed to Ronny L. Lowder or William C. McClary, P.G., Emerald, Inc., at 803-469-5454.

Emerald, Inc.

Ronny L. Lowder
President

Emerald, Inc.

William C. McClary, P.G.
South Carolina Registration #2386

Report of Groundwater Sampling
HW Detwiler Company
37 South Church Street
Summerton, South Carolina

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Table 2) - Groundwater Analytical Data
Table 3) - Groundwater Analytical Data (Oxygenates)

Figures

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Figure 2) - USGS Topographic Map
Figure 3) - Site Map
Figure 4) - Groundwater Contour Map
Figure 5) - Groundwater CoC Map

Appendices

A) Purge Logs
B) Analytical Data Sheets
C) Disposal Manifests
D) QAPP Contractor's Checklist

1.0 Introduction

The HW Detwiler Company site is located at 37 South Church Street in Summerton, Clarendon County, SC. Figure 1 contains a general location map showing surrounding roadways, and Figure 2 contains a topographic map for the area. The site is currently utilized as an office building and formerly maintained two gasoline underground storage tanks (UST) of unknown size. A release of petroleum product was reported to SCDHEC in June 1993 and confirmed in July 1993. The current monitoring well network at the subject site contains a total of sixty-five groundwater monitoring wells. In June 2012, Emerald, Inc. submitted a Report of Monitoring Well Installation documenting the installation of twenty additional shallow monitoring wells at the subject site to better define the free product plume.

In November 2012, SCDHEC requested a QAPP Contractor Addendum for a comprehensive groundwater sampling event at the subject site to obtain current groundwater quality data. In January 2013, Emerald, Inc. initiated work under the approved QAPP signed November 28, 2012. This report represents the findings of this event.

2.0 Site Activities

Emerald, Inc. personnel conducted this comprehensive groundwater sampling event at the HW Detwiler Company to provide current groundwater quality data. Field activities required to generate site-specific information for the site are described in detail within this section. Figure 3 contains a site map for the site presenting well locations, relevant structures and utilities.

2.1 Static Water Level Measurement

Prior to well purging, sample collection or gauging of the 63 monitoring wells located at the subject site, water levels were taken to the nearest 0.01 foot using a graduated electronic indicator. Figure 3 contains a map for the HW Detwiler site presenting well locations, relevant

structures and utilities. Monitoring wells MW-20 and MW-23 were not located during this sampling event. Measurements were taken from the surveyed top of the well casing so they could be referenced to a common datum. Water levels and groundwater elevations are summarized in Table 1. Based upon the groundwater elevations recorded during this sampling event, groundwater flow in the shallow aquifer appears to be toward the south. Depth to water measurements obtained during the initial sampling event was used to prepare the groundwater contour map for the site. See Figure 4 for a Groundwater Contour Map for the shallow aquifer. Free phase product was detected in 13 monitoring wells gauged during this sampling event. The following table documents the thickness of free phase product for those monitoring wells at the HW Detwiler site:

Monitoring Well	Product Thickness (ft.)
15729 MW-1	0.98
15729 MW-13R	0.30
15729 MW-15	3.27
15729 MW-28	1.33
15729 MW-36	0.04
15729 MW-39	0.05
15729 MW-40	1.79
15729 MW-41	0.40
15729 MW-43	2.43
15729 MW-45	0.02
15729 MW-46	1.99
15729 MW-49	2.10
15729 MW-51	2.35

2.2 Groundwater Sampling

From January 11, 14, 15 and 21 through February 14, 2013, groundwater samples were collected from 50 monitoring wells (MW-2D, MW-3 through MW-12, MW-14, MW-16D, MW-17R, MW-18R, MW-19, MW-21, MW-22, MW-24 through MW-27, MW-29 through and MW-33, MW-34D, MW-35i, MW-37, MW-38, MW-42, MW-44, MW-47, MW-48, MW-50, MW-52 through MW-64 and MW-66) at the subject site. On February 14, 2013, Emerald, Inc. collected no-purge

groundwater samples from 13 monitoring wells (MW-6, MW-7, MW-19, MW-25, MW-38, MW-44, MW-47, MW-58, MW-60, MW-61, MW-63, MW-64 and MW-65) previously purged and sampled on January 15, 2013. This re-sampling was performed after review of laboratory data indicated possible carry over from samples analyzed on the instrument prior to the Detwiler samples. To ensure valid data was collected at the site, a resampling of the affected wells was scheduled after notification of the QA/QC issues to the SCDHEC project manager.

In addition to these groundwater samples, four duplicate samples (MW-24, MW-37, MW-38 and MW-44), four Field Blanks and four Trip Blanks were also collected. One trip blank was included in each cooler shipped to the laboratory. Each sample collected at the site was documented as to the cooler in which it was placed and a dedicated trip blank was included in each cooler for quality control purposes.

Since it has been greater than one year since the last sampling, each well was purged by hand bailing until three well volumes were removed from the well, the pH, conductivity, turbidity and temperature readings were within 10% or dryness, whichever occurred first (see Well Purge Logs in Appendix A). Field equipment was properly calibrated as described in the site specific QAPP prior to obtaining readings at the site. Following well purging or gauging, a groundwater sample was collected from each well using a new disposable PVC bailer. Each groundwater sample was poured directly from the bailer into appropriate laboratory supplied containers for analysis. Downhole sampling equipment was properly decontaminated between each sampling location. A total of 180.50 gallons of purge water was treated on-site using an activated carbon drum. (See Appendix C for a copy of the disposal manifest).

Samples were immediately packed in crushed ice in the field ice chest and shipped to Pace Analytical, Inc. of Huntersville, NC (SC Certification #99006001) for laboratory analysis. Each sample was analyzed for BTEX, Naphthalene, MTBE, 1-2 DCA, 8 Oxygenates (EPA Method 8260B) and EDB (EPA Method 8011). Analytical results for the groundwater samples are presented on Tables 2 and 3 with the laboratory reports in Appendix B.

2.3 Water Supply Well Sampling

On January 11 and 21, 2013, samples were collected from four nearby water supply wells. WSW-1 is an irrigation well located at 35 South Church Street (Property Owner - Jean and Charlie Johnson, P.O. Box 698, Summerton, SC). According to the property owner, this well is drilled to approx. 175 ft. and used for irrigation. This sample was collected from a sprinkler head in the front yard of the residence. WSW-2 is an irrigation well located at 24 South Cantey Street (Dubose Residence). A sample was collected from a spigot at the well pumphouse in the back yard of the residence. WSW-3 and WSW-4 are located at 1021 Gipp Street (David Van Wynsberghe, Rt. 1 Box 521, Summerton, SC). WSW-3 is a water supply well supplying water to the residence and was sampled at the well pump. WSW-4 is an irrigation well located at the rear of the same residence. WSW-4 does not currently have a well pump and was sampled by lowering a bailer into the well. Water supply well locations are presented on Figure 3.

Samples were collected after allowing the well pump to run for approximately 10 minutes or until the well pump turned on. Water supply well samples were packed in crushed ice in the field ice chest and shipped to Pace Analytical Services, Inc. of Huntersville, NC (SC Certification #99006001) for laboratory analysis. Each water supply well sample was documented as to the cooler in which it was placed and a dedicated trip blank was included in the cooler for quality control purposes. These samples were analyzed for BTEX, Naphthalene, MTBE, 1-2 DCA, 8 Oxygenates (EPA Method 8260B) and EDB (EPA Method 8011). Analytical results for these water supply well samples are presented on Tables 2 and 3 with the laboratory reports found in Appendix B.

2.4 Surface Water Sampling

On January 11, 2013, two surface water samples (CS-1 and CS-2) were collected at the subject site. CS-1 was collected from Scotts Branch, on the western side of U.S. Highway

301/15. CS-2 was collected from Scotts Branch, east of South Church Street. This sample was collected from the area surveyed for the stream cross section. Surface water sampling locations are presented on Figure 3.

Surface water samples were packed in crushed ice in the field ice chest and shipped to Pace Analytical Services, Inc. of Huntersville, NC (SC Certification #99006001) for laboratory analysis. These samples were documented as to the cooler in which it was placed and a dedicated trip blank was included in the cooler for quality control purposes. These samples were analyzed for BTEX, Naphthalene, MTBE, 1-2 DCA, 8 Oxygenates (EPA Method 8260B) and EDB (EPA Method 8011). Analytical results for these surface water samples are presented on Tables 2 and 3 with the laboratory reports found in Appendix B.

2.5 Analytical Results

Tables 2 and 3 summarize the groundwater analytical results at the subject site, and Appendix B contains a copy of the laboratory reports. Groundwater samples were collected from 50 monitoring wells and free product was gauged in 13 monitoring wells during this assessment. Measurable free product was detected in MW-1, MW-13R, MW-15, MW-28, MW-36, MW-39, MW-40, MW-41, MW-43, MW-45, MW-46, MW-49 and MW-51 during this sampling event. Concentrations of chemicals of concern have generally remained constant or increased since the last sampling event. Figure 5 presents a Groundwater CoC Map for the site.

3.0 Results, Conclusions, and Recommendations

During this assessment, groundwater samples were collected from 50 monitoring wells, 13 wells were gauged and found to contain free product, and four water supply well samples were collected at the HW Detwiler Company site. Measurable free product was detected in MW-1, MW-13R, MW-15, MW-28, MW-36, MW-39, MW-40, MW-41, MW-43, MW-45, MW-46, MW-49 and MW-51 during this sampling event. Analytical results from groundwater samples

indicate levels of petroleum concentrations of chemicals of concern (CoCs) associated with the site have generally remained constant or increased since the last sampling event. Data collected during the event indicates that the direction of groundwater flow in the shallow aquifer is to the south. Free product detected in monitoring wells MW-15, MW-40, MW-41, MW-43 and MW-51 may be associated with a former gasoline service station located on this property. According to the current property owner, a service station maintaining UST's was demolished prior to construction of the residence currently occupying the property.

Given the above findings during this Report of Groundwater Sampling at the site, Emerald, Inc. recommends a series of long duration AFVR events to remove free product detected at the site and continued monitoring of the contaminant plume.

TABLES

TABLE 1
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 1 OF 4

Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Turbidity (ntu)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
15729 MW-1	3/10/02	PROD	PROD	PROD	13-23	19.44	21.22	1.78	101.64	81.74
	4/12/03	PROD	PROD	PROD		11.40	15.09	3.69	101.64	89.28
	11/11/04	PROD	PROD	PROD		16.88	17.78	0.90	101.64	84.53
	12/21/09	PROD	PROD	PROD		16.34	16.85	0.51	101.64	85.17
	9/8/10	PROD	PROD	PROD		16.73	17.29	0.56	101.64	84.76
	11/19/10	PROD	PROD	PROD		17.25	18.13	0.88	101.64	84.16
	7/13/11	PROD	PROD	PROD		17.23	18.11	0.88	101.64	84.18
	1/21/13	PROD	PROD	PROD		17.00	17.98	0.98	101.64	84.39
15729 MW-2D	3/10/02	–	–	–	42-47	–	18.29	–	101.96	83.67
	4/12/03	–	–	–		–	14.80	–	101.96	87.16
	12/21/09	–	–	–		–	16.68	–	101.96	85.28
	11/22/10	3.51	24.3	–		–	17.96	–	101.96	84.00
	7/13/11	4.76	25.8	–		–	18.23	–	101.96	83.73
	1/21/13	2.32	18.4	59		–	17.50	–	101.96	84.46
15729 MW-3	3/10/02	–	–	–	13-23	–	18.09	–	102.01	83.92
	4/2/03	–	–	–		–	13.45	–	102.01	88.56
	12/21/09	–	–	–		–	16.53	–	102.01	85.48
	11/22/10	–	–	–		–	17.75	–	102.01	84.26
	7/13/11	5.09	23.6	–		–	17.71	–	102.01	84.30
	1/21/13	2.44	16.9	148		–	17.45	–	102.01	84.56
15729 MW-4	3/10/02	–	–	–	15-25	–	17.39	–	101.37	83.98
	4/2/03	–	–	–		–	11.98	–	101.37	89.39
	12/21/09	–	–	–		–	15.95	–	101.37	85.42
	11/22/10	–	–	–		–	17.02	–	101.37	84.35
	7/13/11	4.63	23.7	–		–	16.99	–	101.37	84.38
	1/21/13	1.15	18.8	50		–	16.74	–	101.37	84.63
15729 MW-5	3/10/02	–	–	–	15-25	–	15.52	–	100.04	84.52
	4/2/03	–	–	–		–	14.34	–	100.04	85.70
	12/21/09	–	–	–		–	14.13	–	100.04	85.91
	11/22/10	–	–	–		–	15.25	–	100.04	84.79
	1/21/13	1.45	21.5	27		–	14.87	–	100.04	85.17
15729 MW-6	3/10/02	–	–	–	15-25	–	18.56	–	102.29	83.73
	4/2/03	–	–	–		–	15.70	–	102.29	86.59
	12/22/09	–	–	–		–	17.74	–	102.29	84.55
	11/22/10	–	–	–		–	18.51	–	102.29	83.78
	7/11/11	3.81	26.6	–		–	18.42	–	102.29	83.87
	1/15/13	1.55	21.3	320		–	18.21	–	102.29	84.08
	2/14/13	1.31	16.9	30.5		–	17.98	–	102.29	84.31
15729 MW-7	3/10/02	–	–	–	10-20	–	14.55	–	96.77	82.22
	4/12/03	–	–	–		–	12.09	–	96.77	84.68
	12/22/09	–	–	–		–	13.85	–	96.77	82.92
	11/19/10	–	–	–		–	14.57	–	96.77	82.20
	7/11/11	1.60	25.3	–		–	14.80	–	96.77	81.97
	1/15/13	3.98	18.8	7		–	14.38	–	96.77	82.39
	2/14/13	3.92	17.2	32.7		–	13.83	–	96.77	82.94
15729 MW-8	3/10/02	–	–	–	5-15	–	8.35	–	89.44	81.09
	4/12/03	–	–	–		–	3.10	–	89.44	86.34
	12/22/09	–	–	–		–	3.70	–	89.44	85.74
	11/19/10	–	–	–		–	8.36	–	89.44	81.08
	7/11/11	2.71	24.7	–		–	5.72	–	89.44	83.72
	1/11/13	6.21	18.0	348		–	5.50	–	89.44	83.94
15729 MW-9	3/10/02	–	–	–	5-15	–	8.21	–	88.21	80.00
	4/12/03	–	–	–		–	5.40	–	88.21	82.81
	12/22/09	–	–	–		–	7.37	–	88.21	80.84
	11/19/10	–	–	–		–	8.14	–	88.21	80.07
	7/11/11	1.45	25.2	–		–	8.22	–	88.21	79.99
	1/11/13	3.82	19.0	>1,000		–	8.00	–	88.21	80.21
15729 MW-10	3/10/02	–	–	–	8-18	–	12.81	–	92.89	80.08
	4/12/03	–	–	–		–	10.02	–	92.89	82.87
	12/22/09	–	–	–		–	11.88	–	92.89	81.01
	11/19/10	–	–	–		–	12.75	–	92.89	80.14
	7/11/11	5.39	25.3	–		–	12.82	–	92.89	80.07
	1/11/13	2.79	21.9	284		–	12.56	–	92.89	80.33

Notes:

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4. NL = Not Located
5. PROD = Free Phase Product Detected
6. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline

TABLE 1
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
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Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Turbidity (ntu)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
15729 MW-11	3/10/02	–	–	–	15-25	–	20.61	–	101.81	81.20
	4/12/03	–	–	–		–	13.66	–	101.81	88.15
	12/21/09	–	–	–		–	19.46	–	101.81	82.35
	11/19/10	–	–	–		–	20.36	–	101.81	81.45
	7/11/11	3.00	26.3	–		–	20.26	–	101.81	81.55
	1/14/13	2.01	22.4	7		–	20.20	–	101.81	81.61
15729 MW-12	3/10/02	–	–	–	15-25	–	20.29	–	103.42	83.13
	4/2/03	–	–	–		–	13.52	–	103.42	89.90
	12/21/09	–	–	–		–	18.57	–	103.42	84.85
	11/22/10	–	–	–		–	19.75	–	103.42	83.67
	7/13/11	4.13	24.1	–		–	19.70	–	103.42	83.72
	1/21/13	3.71	19.8	221		–	19.50	–	103.42	83.92
15729 MW-13	3/10/02	PROD	PROD	PROD	15-25	19.10	20.38	1.28	102.69	83.26
	4/2/03	PROD	PROD	PROD		14.45	14.93	0.48	102.69	88.12
	11/11/04	PROD	PROD	PROD		18.40	19.10	0.70	102.69	84.11
	12/22/09	NL	NL	NL		NL	NL	NL	102.69	NL
15729 MW-13R	11/19/10	PROD	PROD	PROD	12-22	18.88	20.11	1.23	102.76	83.56
	7/11/11	PROD	PROD	PROD		19.08	19.19	0.11	102.76	83.65
	1/15/13	PROD	PROD	PROD		18.85	19.15	0.30	102.76	83.83
15729 MW-14	3/10/02	–	–	–	15-25	–	17.33	–	99.07	81.74
	4/12/03	–	–	–		–	12.39	–	99.07	86.68
	12/22/09	–	–	–		–	16.40	–	99.07	82.67
	11/19/10	–	–	–		–	17.20	–	99.07	81.87
	7/11/11	1.90	26.0	–		–	12.19	–	99.07	86.88
	1/14/13	1.50	20.4	5		–	17.00	–	99.07	82.07
15729 MW-15	3/10/02	–	–	–	15-25	–	19.75	–	101.93	82.18
	4/12/03	–	–	–		–	12.94	–	101.93	88.99
	12/21/09	–	–	–		–	18.61	–	101.93	83.32
	11/19/10	PROD	PROD	PROD		19.36	19.57	0.21	101.93	82.52
	7/11/11	PROD	PROD	PROD		19.26	19.56	0.30	101.93	82.59
	1/14/13	PROD	PROD	PROD		18.72	21.99	3.27	101.93	82.36
15729 MW-16D	4/2/03	–	–	–	65-75	–	12.10	–	101.84	89.74
	12/21/09	–	–	–		–	16.93	–	101.84	84.91
	11/22/10	4.21	24.4	–		–	18.18	–	101.84	83.66
	7/13/11	4.45	27.4	–		–	18.31	–	101.84	83.53
	1/21/13	1.18	16.3	21		–	17.90	–	101.84	83.94
15729 MW-17	4/2/03	–	–	–	8-18	–	9.50	–	98.81	89.31
	12/22/09	NL	NL	NL		NL	NL	NL	98.81	NL
15729 MW-17R	11/22/10	4.03	22.5	–	10-20	–	13.40	–	98.86	85.46
	1/21/13	1.21	21.8	12		–	12.97	–	98.86	85.89
15729 MW-18	4/2/03	–	–	–	13-23	–	13.45	–	100.86	87.41
	12/22/09	NL	NL	NL		NL	NL	NL	100.86	NL
15729 MW-18R	11/22/10	4.18	20.5	–	12-22	–	14.38	–	99.32	84.94
	1/21/13	0.85	20.6	72		–	14.35	–	99.32	84.97
15729 MW-19	4/12/03	–	–	–	5-15	–	7.60	–	92.78	85.18
	12/22/09	–	–	–		–	9.90	–	92.78	82.88
	11/19/10	–	–	–		–	10.58	–	92.78	82.20
	7/11/11	4.60	27.1	–		–	10.61	–	92.78	82.17
	1/15/13	1.30	17.9	121		–	10.38	–	92.78	82.40
	2/14/13	2.21	16.1	99		–	9.66	–	92.78	83.12
15729 MW-20	4/12/03	–	–	–	3-13	–	3.52	–	85.47	81.95
	12/22/09	–	–	–		–	4.89	–	85.47	80.58
	11/19/10	–	–	–		–	5.47	–	85.47	80.00
	7/11/11	1.70	26.3	–		–	5.57	–	85.47	79.90
	1/11/13	NL	NL	NL		NL	NL	NL	85.47	NL
15729 MW-21	4/12/03	–	–		3-13	–	5.05	–	89.24	84.19
	12/22/09	–	–			–	8.67	–	89.24	80.57
	11/19/10	–	–			–	9.90	–	89.24	79.34
	7/11/11	5.80	26.1			–	10.00	–	89.24	79.24
	1/11/13	1.33	21.7	533		–	9.60	–	89.24	79.64

Notes:
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6. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline

TABLE 1
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
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Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Turbidity (ntu)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
15729 MW-22	4/12/03	--	--	--	10-25	--	11.96	--	101.70	89.74
	12/22/09	--	--	--		--	19.87	--	101.70	81.83
	11/19/10	--	--	--		--	20.77	--	101.70	80.93
	7/11/11	4.83	26.7	--		--	20.70	--	101.70	81.00
	1/14/13	2.28	20.2	63		--	20.73	--	101.70	80.97
15729 MW-23	4/12/03	--	--	--	10-25	--	13.87	--	103.32	89.45
	12/22/09	NL	NL	NL		NL	NL	NL	103.32	NL
	1/11/13	NL	NL	NL		NL	NL	NL	103.32	NL
15729 MW-24	11/22/10	4.40	21.4	--	13-23	--	19.48	--	103.34	83.86
	7/11/11	3.33	26.1	--		--	19.39	--	103.34	83.95
	1/21/13	1.06	20.6	29		--	19.21	--	103.34	84.13
15729 MW-25	11/22/10	4.01	21.6	--	12-22	--	18.26	--	101.19	82.93
	7/11/11	1.91	27.0	--		--	18.19	--	101.19	83.00
	1/15/13	0.74	20.5	19		--	18.02	--	101.19	83.17
	2/14/13	1.96	18.1	47		--	17.85	--	101.19	83.34
15729 MW-26	11/19/10	6.41	19.4	--	12-22	--	16.49	--	97.73	81.24
	7/11/11	3.03	26.1	--		--	16.50	--	97.73	81.23
	1/14/13	3.82	20.6	9		--	16.30	--	97.73	81.43
15729 MW-27	11/19/10	5.40	21.0	--	12-22	--	17.89	--	99.04	81.15
	7/11/11	2.80	27.3	--		--	17.85	--	99.04	81.19
	1/14/13	1.02	21.6	97		--	17.68	--	99.04	81.36
15729 MW-28	11/22/10	3.51	24.7	--	12-22	--	17.33	--	101.46	84.13
	1/21/13	PROD	PROD	PROD		16.65	17.98	1.33	101.46	84.46
15729 MW-29	11/22/10	4.39	20.7	--	13-23	--	16.39	--	100.77	84.38
	7/13/11	4.11	23.8	--		--	16.36	--	100.77	84.41
	1/21/13	1.55	20.7	30		--	16.12	--	100.77	84.65
15729 MW-30	11/22/10	5.83	20.3	--	13-23	--	20.49	--	102.90	82.41
	7/11/11	4.41	26.9	--		--	20.24	--	102.90	82.66
	1/21/13	1.45	17.9	57		--	20.23	--	102.90	82.67
15729 MW-31	11/19/10	6.20	20.9	--	12-22	--	18.80	--	99.98	81.18
	7/11/11	3.03	27.1	--		--	18.71	--	99.98	81.27
	1/14/13	2.31	21.3	5		--	18.65	--	99.98	81.33
15729 MW-32	11/19/10	6.89	20.5	--	2-12	--	4.24	--	83.50	79.26
	7/11/11	1.05	24.2	--		--	4.49	--	83.50	79.01
	1/11/13	1.97	16.7	185		--	4.15	--	83.50	79.35
15729 MW-33	11/19/10	5.70	21.5	--	14-24	--	16.31	--	98.26	81.95
	7/11/11	2.10	24.9	--		--	16.35	--	98.26	81.91
	1/14/13	1.41	19.5	58		--	16.12	--	98.26	82.14
15729 MW-34D	11/19/10	4.11	21.2	--	45-50	--	16.68	--	97.98	81.30
	7/11/11	0.04	26.4	--		--	16.73	--	97.98	81.25
	1/14/13	1.71	20.7	34		--	16.50	--	97.98	81.48
15729 MW-35I	11/19/10	6.44	21.4	--	26-31	--	4.07	--	83.57	79.50
	7/11/11	1.50	25.0	--		--	4.31	--	83.57	79.26
	1/11/13	6.37	18.0	22		--	4.02	--	83.57	79.55
15729 MW-36	7/11/11	3.40	27.6	--	15-25	--	17.74	--	101.71	83.97
	1/15/13	PROD	PROD	PROD		17.32	17.36	0.04	101.71	84.38
15729 MW-37	7/13/11	4.96	27.1	--	15-25	--	19.68	--	103.21	83.53
	1/21/13	1.47	18.9	103		--	19.50	--	103.21	83.71
15729 MW-38	7/11/11	3.99	26.7	--	15-25	--	18.20	--	101.92	83.72
	1/15/13	0.85	23.8	42		--	18.12	--	101.92	83.80
	2/14/13	0.98	19.5	23		--	17.86	--	101.92	84.06
15729 MW-39	7/11/11	PROD	PROD	PROD	15-25	18.15	20.10	1.95	101.99	83.33
	1/15/13	PROD	PROD	PROD		18.23	18.28	0.05	101.99	83.75
15729 MW-40	7/11/11	PROD	PROD	PROD	15-25	18.45	20.37	1.92	102.15	83.20
	1/21/13	PROD	PROD	PROD		18.41	20.20	1.79	102.15	83.27

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6. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline

TABLE 1
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
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Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Turbidity (ntu)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
15729 MW-41	7/11/11	1.03	26.1	Sheen	15-25	Sheen	18.73	Sheen	101.29	82.56
	1/14/13	PROD	PROD	PROD		18.60	19.00	0.40	101.29	82.59
15729 MW-42	7/11/11	0.50	26.9	–	15-25	–	19.11	–	101.67	82.56
	1/14/13	0.63	22.1	4		–	19.08	–	101.67	82.59
15729 MW-43	7/11/11	PROD	PROD	PROD	15-25	18.88	20.54	1.66	101.92	82.61
	1/14/13	PROD	PROD	PROD		18.68	21.11	2.43	101.92	82.61
15729 MW-44	7/11/11	4.14	27.0	–	15-25	–	18.70	–	102.42	83.72
	1/15/13	1.11	22.6	38		–	18.48	–	102.42	83.94
	2/14/13	0.95	20.1	72.2		–	18.34	–	102.42	84.08
15729 MW-45	7/11/11	4.44	27.3	–	15-25	–	18.33	–	101.50	83.17
	1/15/13	PROD	PROD	PROD		17.50	17.52	0.02	101.50	83.99
15729 MW-46	1/21/13	PROD	PROD	PROD	15-25	18.90	20.89	1.99	103.26	83.84
15729 MW-47	1/15/13	1.19	23.4	371	15-25	–	19.60	–	103.19	83.59
	2/14/13	1.19	20.3	45.3		–	20.81	–	103.19	82.38
15729 MW-48	1/21/13	1.87	18.5	41	15-25	–	19.14	–	102.53	83.39
15729 MW-49	1/21/13	PROD	PROD	PROD	15-25	18.40	20.50	2.10	101.83	82.88
15729 MW-50	1/21/13	1.31	17.5	133	15-25	–	18.87	–	101.66	82.79
15729 MW-51	1/14/13	PROD	PROD	PROD	15-25	18.75	21.10	2.35	102.06	82.70
15729 MW-52	1/14/13	0.58	22.7	3	15-25	–	19.25	–	101.77	82.52
15729 MW-53	1/14/13	0.71	22.2	47	15-25	–	19.17	–	101.14	81.97
15729 MW-54	1/14/13	0.72	23.4	4	15-25	–	19.07	–	101.12	82.05
15729 MW-55	1/11/13	0.87	20.2	500	14-24	–	18.10	–	99.37	81.27
15729 MW-56	1/11/13	0.60	21.5	>1,000	13-23	–	16.65	–	97.92	81.27
15729 MW-57	1/11/13	0.11	21.4	>1,000	12-22	–	15.80	–	97.31	81.51
15729 MW-58	1/15/13	1.83	21.4	15	14-24	–	17.72	–	100.49	82.77
	2/14/13	2.48	19.5	28.6		–	17.42	–	100.49	83.07
15729 MW-59	1/21/13	1.14	20.4	16	13-23	–	16.92	–	101.59	84.67
15729 MW-60	1/15/13	0.77	22.6	21	15-25	–	18.82	–	103.08	84.26
	2/14/13	1.01	20.0	22.1		–	18.76	–	103.08	84.32
15729 MW-61	1/15/13	0.67	23.4	41	15-25	–	18.90	–	102.85	83.95
	2/14/13	0.66	20.8	14.6		–	18.84	–	102.85	84.01
15729 MW-62	1/21/13	3.03	16.8	55	15-25	–	17.74	–	101.99	84.25
15729 MW-63	1/15/13	0.91	22.5	27	14-24	–	18.01	–	102.01	84.00
	2/14/13	1.19	18.8	99.9		–	17.91	–	102.01	84.10
15729 MW-64	1/15/13	4.12	22.4	86	14-24	–	17.49	–	100.95	83.46
	2/14/13	3.65	17.6	48		–	17.22	–	100.95	83.73
15729 MW-66	1/15/13	2.48	23.3	113	14-24	–	18.42	–	101.97	83.55
	2/14/13	2.58	18.3	10.6		–	0.00	–	101.97	101.97
02420 IGWA SAS	11/19/10	PROD	PROD	PROD	10-20	16.28	16.33	0.05	100.80	84.51
02420 MW-1 SAS	11/19/10	–	–		10-20	–	16.10	–	100.83	84.73
02420 MW-2 SAS	11/19/10	–	–		10-20	–	15.49	–	100.28	84.79
02420 MW-3 SAS	11/19/10	–	–		10-20	–	15.73	–	100.38	84.65

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6. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline
7. SAS wells installed in association with Summerton Auto Service, SCDHEC Site ID #02420

TABLE 2
GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
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Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-1	4/2/03	Free Product - 3.69 Feet								
	12/21/09	Free Product - 0.51 Feet								
	7/13/11	Free Product - 0.88 Feet								
	1/21/13	Free Product - 0.98 Feet								
15729 MW-2D	4/12/03	22.6	19.8	28.3	47.9	ND	9.90	NT	0.15	NT
	12/21/09	ND	0.470	1.90	2.41	0.660	1.07	ND	ND	8.20
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
15729 MW-3	4/2/03	ND	1.0	ND	ND	ND	ND	NT	ND	NT
	12/21/09	ND	ND	ND	ND	ND	0.610	ND	ND	3.20
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
15729 MW-4	7/13/01	2,860	1,330	581	1,490	198	146	NT	13.6	NT
	12/21/09	114	5.91	22.4	5.97	2.98	9.72	ND	0.1709	13.6
	11/22/10	169	3.5J	3.5J	<10.0	4.9J	6.7	5.5	0.13	<5.0
	7/13/11	688	184	129	283	26.1	52.6	18.2	4.8	NT
	1/21/13	1,050	610	218	521	52.1	77.3	25.0	9.7	NT
15729 MW-5	4/2/03	1,650	3,000	372	1,640	246	94.7	NT	22.0	NT
	12/21/09	2,610	5,820	735	3,370	64.6	156	ND	34.78	84.5
	11/22/10	63.9	154	22.1	107	<5.0	6.3	<5.0	0.91	<5.0
	1/21/13	209	815	135	530	2.3J	24.4	1.9J	1.3	NT
15729 MW-6	4/2/03	ND	2.0	ND	2.2	6.8	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	2.61	ND	ND	ND	33.3
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-7	4/12/03	ND	ND	ND	ND	15.3	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	3.10	ND	ND	ND	31.2
	11/19/10	<5.0	<5.0	<5.0	<10.0	3.1J	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-8	4/12/03	ND	ND	ND	ND	3.3	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	21.4
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-9	4/12/03	1.4	ND	ND	ND	181	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	6.86	ND	ND	ND	136
	11/19/10	<5.0	<5.0	<5.0	<10.0	6.5	<5.0	<5.0	<0.020	17.9
	7/11/11	<5.0	<5.0	<5.0	<10.0	1.9J	<5.0	<5.0	<0.020	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-10	4/12/03	2,000	34.4	169	25.0	38.6	22.6	NT	ND	NT
	12/22/09	1,250	20.3	44.8	15.0	58.1	12.0	ND	0.1719	43.6
	11/19/10	42.3	<5.0	3.8J	<10.0	38.3	<5.0	13.6	<0.020	<5.0
	7/11/11	777	5.0	14.7	8.3J	54.4	6.3	12.0	<0.020	NT
	1/11/13	208	<10.0	15.6	<20.0	38.1	<10.0	5.9J	<0.020	NT
15729 MW-11	4/12/03	1,100	4.2	11.2	3.2	ND	8.80	NT	0.23	NT
	12/21/09	181	32.3	20.2	6.90	1.28	8.65	ND	ND	34.1
	11/19/10	63.6	<5.0	1.1J	<10.0	2.3J	4.0J	<5.0	<0.020	<5.0
	7/11/11	72.9	20.6	8.9	18.7	<5.0	4.3J	2.7J	<0.020	NT
	1/14/13	1,470	23.9J	49.1J	<100	28.3J	36.5J	<50.0	0.082	NT
15729 MW-12	4/2/03	ND	1.3	ND	1.5	ND	ND	NT	ND	NT
	12/21/09	ND	0.530	ND	ND	ND	1.54	ND	ND	17.6
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-13	4/2/03	Free Product - 0.48 Feet								
	12/21/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-13R	11/19/10	Free Product - 1.23 Feet								
	7/11/11	Free Product - 0.11 Feet								
	1/15/13	Free Product - 0.30 Feet								

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TABLE 2
GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 2 OF 4

Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-14	4/12/03	1,190	501	390	344	2,110	41.3	NT	0.12	NT
	12/22/09	1,250	20.3	44.8	15.0	58.1	12.0	ND	0.1719	43.6
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	323	593	78.7	216	4.5J	4.9J	<5.0	<0.020	NT
	1/14/13	421	431	200	497	10.5J	33.3	<12.5	0.024	NT
15729 MW-15	4/12/03	7,160	15,300	1,850	8,350	ND	282	NT	152	NT
	12/21/09	6,690	18,000	3,700	13,700	5.66	844	ND	46.78	244
	11/19/10	Free Product - 0.21 Feet								
	7/11/11	Free Product - 0.30 Feet								
	1/14/13	Free Product - 3.27 Feet								
15729 MW-16D	4/2/03	4.4	16.9	5.2	19.6	ND	ND	NT	ND	NT
	12/21/09	0.870	1.37	2.00	4.48	ND	0.890	ND	ND	4.00
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	1.7J	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-17	4/2/03	200	700	ND	720	ND	ND	NT	0.04	NT
	12/21/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-17R	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-18	4/2/03	6.5	426	327	978	70.8	49.0	NT	ND	NT
	12/21/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-18R	11/22/10	<5.0	<5.0	<5.0	<10.0	4.1J	<5.0	<5.0	<0.019	<5.0
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-19	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	2.35	ND	ND	ND	210
	11/19/10	<5.0	<5.0	<5.0	<10.0	3.9J	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-20	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	NT	ND	214
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	7.5
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/11/13	NL	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-21	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	63.0
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.028	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.023	NT
15729 MW-22	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	49.1
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-23	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
	11/19/10	NL	NL	NL	NL	NL	NL	NL	NL	NL
	1/11/13	NL	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-24	11/22/10	6,830	17,300	2,320	10,400	<500	397J	<500	87.8	65.4
	7/11/11	4,940	10,200	1,080	6,800	<500	226J	<500	146	NT
	1/21/13	6,410	6,130	778	3,160	233J	254J	<500	58.4	NT
15729 MW-24 DUP	1/21/13	6,880	6,620	882	3,470	233J	269J	<500	63.2	NT
15729 MW-25	11/22/10	4,060	5,550	471J	1,720	266J	<500	<500	54.9	17.0
	7/11/11	4,440	7,500	890	2,740	103J	142J	<250	30.9	NT
	2/14/13	2,810	5,150	783	2,260	<100	131	<100	3.5	NT
15729 MW-26	11/19/10	211	10.7	15.2	17.7	11.8	4.4J	1.7J	<0.020	<5.0
	7/11/11	257	72.7	81.3	103	7.1J	11.3	<10.0	<0.020	NT
	1/14/13	1,080	324	235	505	23.7J	46.1J	<50.0	<0.021	NT
15729 MW-27	11/19/10	177	2.2J	8.4	<10.0	9.1	<5.0	4.3J	<0.020	<5.0
	7/11/11	461	3.8J	11.8	23.4	12.3	8.7	9.1	0.040	NT
	1/14/13	178	<5.0	9.8	4.5J	6.9	<5.0	<5.0	<0.021	NT

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TABLE 2
GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 3 OF 4

Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-28	11/22/10	3,410	5,070	698	3,250	164J	173J	<250	22.8	52.1
	1/21/13	Free Product - 1.33 Feet								
15729 MW-29	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	3.8J	<5.0	<5.0	<10.0	<5.0	3.3J	<5.0	<0.020	NT
15729 MW-30	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	298	1.6J	<5.0	5.2J	<5.0	43.9	3.1J	0.29	NT
15729 MW-31	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.18	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.080	NT
	1/14/13	135	<5.0	<5.0	<10.0	<5.0	3.1J	<5.0	0.058	NT
15729 MW-32	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-33	11/19/10	144	714	152	419	<50.0	<50.0	<50.0	0.20	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-34D	11/19/10	<5.0	<5.0	<5.0	<10.0	4.1J	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	2.0J	<5.0	<5.0	<0.020	NT
	1/14/13	<5.0	<5.0	<5.0	<10.0	1.9J	<5.0	<5.0	<0.021	NT
15729 MW-35i	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
15729 MW-36	7/11/11	2,130	2,790	527	2,180	95.1J	126	<100	14.1	NT
	1/15/13	Free Product - 0.04 Feet								
15729 MW-37	7/13/11	2,760	1,580	409	808	<125	86.4J	75.5J	14.5	NT
	1/21/13	2,810	220	244	224J	80.2J	134	81.6J	5.0	NT
15729 MW-37 DUP	1/21/13	2,980	238	257	229J	79.0J	139	84.0J	5.1	NT
15729 MW-38	7/11/11	2,790	16,700	2,590	12,300	<500	349J	<500	20.7	NT
	2/14/13	1,880	6,340	948	5,770	<250	274	<250	15.7	NT
15729 MW-38 DUP	2/14/13	2,250	6,180	1,220	6,020	<250	234J	<250	18.0	NT
15729 MW-39	7/11/11	Free Product - 1.95 Feet								
	1/15/13	Free Product - 0.05 Feet								
15729 MW-40	7/11/11	Free Product - 1.92 Feet								
	1/21/13	Free Product - 1.79 Feet								
15729 MW-41	7/11/11	7,090	9,700	1,680	3,970	<500	434J	<500	21.8	NT
	1/14/13	Free Product - 0.40 Feet								
15729 MW-42	7/11/11	337	613	462	865	<25.0	93.8	<25.0	1.1	NT
	1/14/13	1,250	2,210	523	792	<125	96.0J	<125	6.5	NT
15729 MW-43	7/11/11	Free Product - 1.66 Feet								
	1/14/13	Free Product - 2.43 Feet								
15729 MW-44	7/11/11	4,040	11,800	1,690	7,260	<500	245J	<500	107	NT
	2/14/13	996	3,960	598	3,510	<250	195J	<250	21.7	NT
15729 MW-44 DUP	2/14/13	1,060	4,170	661	3,770	<250	221J	<250	23.3	NT
15729 MW-45	7/11/11	2,000	11,000	1,960	7,570	<500	<500	<500	13.6	NT
	1/15/13	Free Product - 0.02 Feet								
15729 MW-46	1/21/13	Free Product - 1.99 Feet								
15729 MW-47	2/14/13	5,710	1,180	622	574	198J	108J	120J	4.1	NT
15729 MW-48	1/21/13	1,080	14.9	28.0	10.7	37.4	88.3	85.0	0.17	NT
15729 MW-49	1/21/13	Free Product - 2.10 Feet								
15729 MW-50	1/21/13	960	1,300	183	799	1.8J	86.3	30.3	10.9	NT

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H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 4 OF 4

Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-51	1/14/13	Free Product - 2.35 Feet								
15729 MW-52	1/14/13	1,070	162	832	644	1.9J	142	<5.0	0.092	NT
15729 MW-53	1/14/13	9,410	5,350	1,290	1,610	196	182	<5.0	4.3	NT
15729 MW-54	1/14/13	<5.0	3.8J	236	343	<5.0	88.4	<5.0	<0.021	NT
15729 MW-55	1/11/13	524	74.6	24.0	39.0	89.4	38.0	94.2	0.052	NT
15729 MW-56	1/11/13	2,100	299	198	273	38.3	42.9	10.3	<0.020	NT
15729 MW-57	1/11/13	944	93.8	327	317	37.2	54.3	9.5	<0.020	NT
15729 MW-58	2/14/13	282	5.7J	30.4	11.9J	10.7	8.1J	<10.0	<0.019	NT
15729 MW-59	1/21/13	15.1	489	190	553	<5.0	69.3	<5.0	<0.020	NT
15729 MW-60	2/14/13	1,760	2,730	1,220	1,640	<100	205	<100	14.4	NT
15729 MW-61	2/14/13	4,490	10,900	1,370	6,090	<500	205J	<500	34.0	NT
15729 MW-62	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-63	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-64	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-66	2/14/13	2,430	5,580	739	2,450	<250	<250	<250	21.7	NT
15729 WSW-1	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	NT
	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	7/29/11	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	1/21/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 WSW-2	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	NT
	7/13/11	<1.0	<1.0	<1.0	<2.0	0.29J	<1.0	<1.0	<0.020	NT
	1/21/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 WSW-3	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.019	NT
	7/11/11	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	1/11/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 WSW-4	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	7/11/11	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	1/11/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 PS-1	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
15729 SW-1	11/19/10	<1.0	4.4	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
15729 CS-1	12/22/09	ND	ND	ND	ND	ND	ND	ND	NT	NT
	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	7/11/11	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	1/11/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 CS-2	12/22/09	ND	ND	ND	ND	ND	ND	ND	NT	NT
	7/11/11	<1.0	0.48J	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	1/11/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 Field Blank #1	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 Field Blank #2	1/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
15729 Field Blank #4	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 Trip Blank #1	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	NT	NT
15729 Trip Blank #2	1/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 Trip Blank #4	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT

Notes:

1. ug/l = micrograms per liter
2. mg/l = milligrams per liter
3. ND = Not Detected
4. NT = Not Tested
5. NL = Not Located
6. PROD= Free Phase Product detected
7. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

TABLE 3
GROUNDWATER ANALYTICAL DATA (OXYGENATES)
H.W. DETWILER CO.
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 1 OF 3

Well Number	Sample Date	t-Amyl Alcohol (ug/l)	Tert-Amyl Methyl Ether (ug/l)	3,3-Dimethyl-1-Butanol (ug/l)	Tertiary Butyl Alcohol (ug/l)	tert-Butyl Formate (ug/l)	Diisopropyl Ether (ug/l)	Ethanol (ug/l)	Ethyl-tert-butyl Ether (ug/l)
15729 MW-1	7/13/11	Free Product - 0.88 Feet							
	1/21/13	Free Product - 0.98 Feet							
15729 MW-2D	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-3	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-4	7/13/11	**1,460**	<10.0	<100	<100	<50.0	**26.7**	<200	<10.0
	1/21/13	**3,890**	<50.0	<500	<500	<250	**63.4**	<1,000	<50.0
15729 MW-5	1/21/13	**167**	<10.0	<100	<100	<50.0	**2.1J**	<200	<10.0
15729 MW-6	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-7	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-8	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-9	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-10	7/11/11	**1,960**	<10.0	<100	<100	<50.0	**15.3**	<200	<10.0
	1/11/13	**2,170**	<20.0	<200	<200	<100	**7.1J**	<400	<20.0
15729 MW-11	7/11/11	**128**	<10.0	<100	<100	<50.0	**2.6J**	**281**	<10.0
	1/14/13	**4,390**	<100	<1,000	<1,000	<500	**73.3**	<2,000	<100
15729 MW-12	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-13R	7/11/11	Free Product - 0.11 Feet							
	1/21/13	Free Product - 0.30 Feet							
15729 MW-14	7/11/11	**333**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	**1,270**	<25.0	<250	<250	<125	<12.5	<500	<25.0
15729 MW-15	7/11/11	Free Product - 0.30 Feet							
	1/21/13	Free Product - 3.27 Feet							
15729 MW-16D	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-17R	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-18R	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-19	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-20	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-21	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-22	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-23	1/11/13	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-24	7/11/11	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	1/21/13	**17,400**	<1,000	<10,000	<10,000	<5,000	**316J**	<20,000	<1,000
15729 MW-24 DUP	1/21/13	**16,700**	<1,000	<10,000	<10,000	<5,000	**318J**	<20,000	<1,000
15729 MW-25	7/11/11	**5,710**	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
	2/14/13	**3,420**	<200	<2,000	<2,000	<1,000	<100	<4,000	<200

Notes:

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5. PROD= Free Phase Product detected
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TABLE 3
GROUNDWATER ANALYTICAL DATA (OXYGENATES)
H.W. DETWILER CO.
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 2 OF 3

Well Number	Sample Date	t-Amyl Alcohol (ug/l)	Tert-Amyl Methyl Ether (ug/l)	3,3-Dimethyl-1-Butanol (ug/l)	Tertiary Butyl Alcohol (ug/l)	tert-Butyl Formate (ug/l)	Diisopropyl Ether (ug/l)	Ethanol (ug/l)	Ethyl-tert-butyl Ether (ug/l)
15729 MW-26	7/11/11	**417**	<20.0	<200	<200	<100	<10.0	<400	<20.0
	1/14/13	**3,390**	<100	<1,000	<1,000	<500	<50.0	<2,000	<100
15729 MW-27	7/11/11	**791**	<10.0	<100	<100	<50.0	**11.9**	<200	<10.0
	1/14/13	**487**	<10.0	<100	<100	<50.0	**3.4J**	**453**	<10.0
15729 MW-28	1/21/13	Free Product - 1.33 Feet							
15729 MW-29	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-30	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	**1,350**	<10.0	<100	<100	<50.0	**1.8J**	<200	<10.0
15729 MW-31	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	**242**	<10.0	<100	<100	<50.0	**4.8J**	<200	<10.0
15729 MW-32	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-33	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-34D	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-35i	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-36	7/11/11	**2,600**	<200	<2,000	<2,000	<1,000	**45.2J**	<4,000	<200
	1/15/13	Free Product - 0.04 Feet							
15729 MW-37	7/13/11	**7,390**	<250	<2,500	<2,500	<1,250	**87.9J**	<5,000	<250
	1/21/13	**12,000**	<250	<2,500	<2,500	<1,250	**125**	<5,000	<250
15729 MW-37 DUP	1/21/13	**11,000**	<250	<2,500	<2,500	<1,250	**129**	<5,000	<250
15729 MW-38	7/11/11	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	2/14/13	**6,740**	<500	1,880	<5,000	<5,000	<2,500	<10,000	<500
15729 MW-38 DUP	2/14/13	**5,360**	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
15729 MW-39	7/11/11	Free Product - 1.95 Feet							
	1/15/13	Free Product - 0.05 Feet							
15729 MW-40	7/11/11	Free Product - 1.92 Feet							
	1/21/13	Free Product - 1.79 Feet							
15729 MW-41	7/11/11	**13,400**	<1,000	<10,000	<10,000	<5,000	**179J**	<20,000	<1,000
	1/14/13	Free Product - 0.40 Feet							
15729 MW-42	7/11/11	**849**	<50.0	<500	<500	<250	<25.0	<1,000	<50.0
	1/14/13	**2,330J**	<250	<2,500	<2,500	<1,250	<125	<5,000	<250
15729 MW-43	7/11/11	Free Product - 1.66 Feet							
	1/14/13	Free Product - 2.43 Feet							
15729 MW-44	7/11/11	**8,400J**	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	2/14/13	<5,000	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
15729 MW-44 DUP	2/14/13	<5,000	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
15729 MW-45	7/11/11	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	1/15/13	Free Product - 0.02 Feet							
15729 MW-46	1/21/13	Free Product - 1.99 Feet							
15729 MW-47	2/14/13	**10,100**	<500	<5,000	<5,000	<2,500	**204J**	<10,000	<500
15729 MW-48	1/21/13	**6,750**	**6.5J**	<100	**131**	<50.0	**102**	<200	<10.0

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TABLE 3
GROUNDWATER ANALYTICAL DATA (OXYGENATES)
H.W. DETWILER CO.
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 3 OF 3

Well Number	Sample Date	t-Amyl Alcohol (ug/l)	Tert-Amyl Methyl Ether (ug/l)	3,3-Dimethyl-1-Butanol (ug/l)	Tertiary Butyl Alcohol (ug/l)	tert-Butyl Formate (ug/l)	Diisopropyl Ether (ug/l)	Ethanol (ug/l)	Ethyl-tert-butyl Ether (ug/l)
15729 MW-49	1/21/13	Free Product - 2.10 Feet							
15729 MW-50	1/21/13	**2,680**	<10.0	<100	<100	<50.0	**23.4**	<200	<10.0
15729 MW-51	1/14/13	Free Product - 2.35 Feet							
15729 MW-52	1/14/13	**2,820**	<10.0	<100	<100	<50.0	**18.5**	<200	<10.0
15729 MW-53	1/14/13	**24,400**	**31.4**	<100	**422**	<50.0	**318**	<200	<10.0
15729 MW-54	1/14/13	**78.9J**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-55	1/11/13	**10,400**	**9.1J**	<100	**192**	<50.0	**142**	<200	<10.0
15729 MW-56	1/11/13	**4,620**	<10.0	<100	**82.1J**	<50.0	**15.0**	<200	<10.0
15729 MW-57	1/11/13	**3,970**	<10.0	<100	**151**	<50.0	**11.1**	<200	<10.0
15729 MW-58	2/14/13	**592**	<20.0	<200	<200	<100	**4.6J**	<400	<20.0
15729 MW-59	1/21/13	**294**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-60	2/14/13	**4,080**	<200	<2,000	<2,000	<1,000	<100	<4,000	<200
15729 MW-61	2/14/13	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
15729 MW-62	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-63	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-64	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-66	2/14/13	<5,000	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
15729 WSW-1	7/29/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 WSW-2	7/13/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 WSW-3	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 WSW-4	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<10.0	<50.0	<1.0	<200	<10.0
15729 CS-1	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 CS-2	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 Field Blank #1	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Field Blank #2	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Field Blank #4	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #1	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #2	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #4	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0

Notes:
1. ug/l = micrograms per liter
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FIGURES

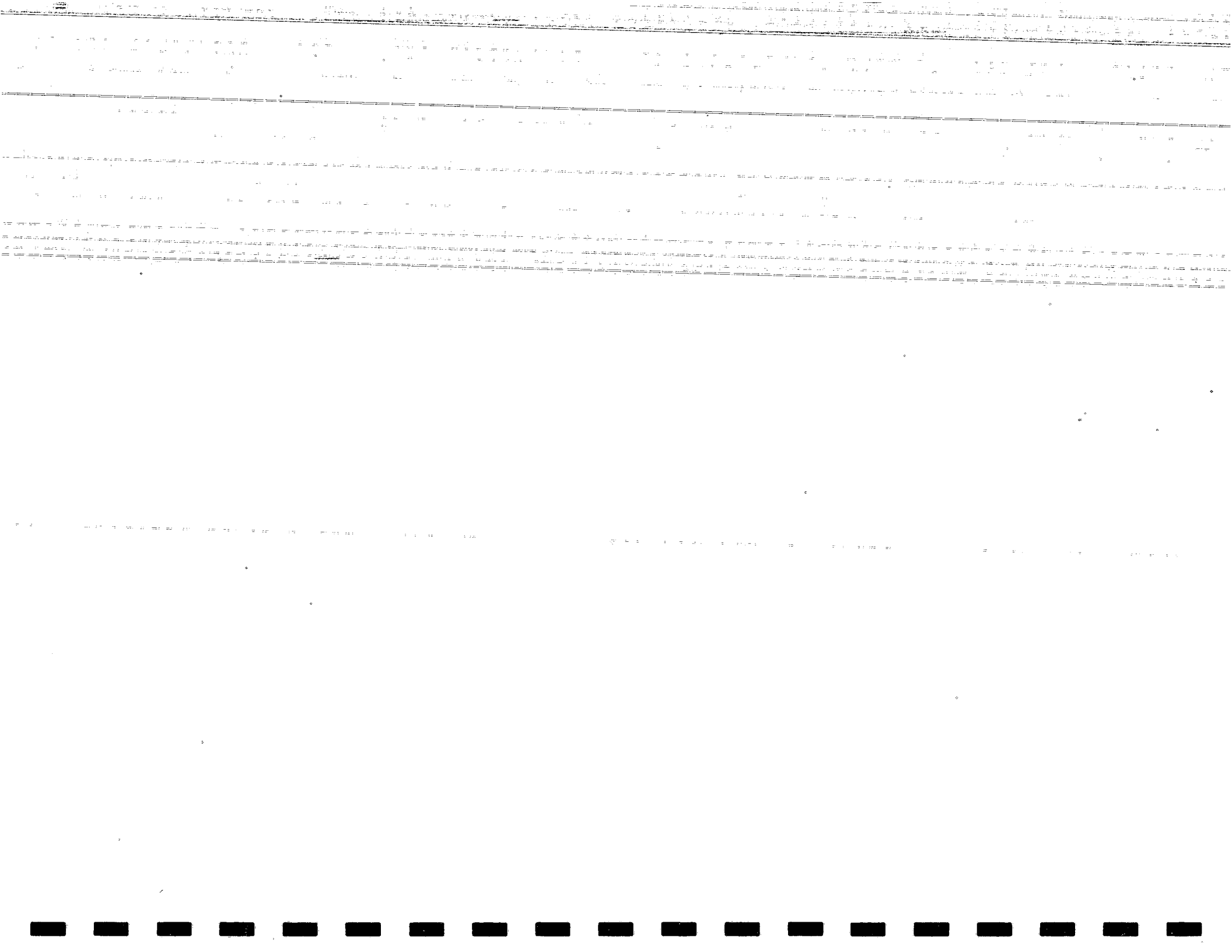
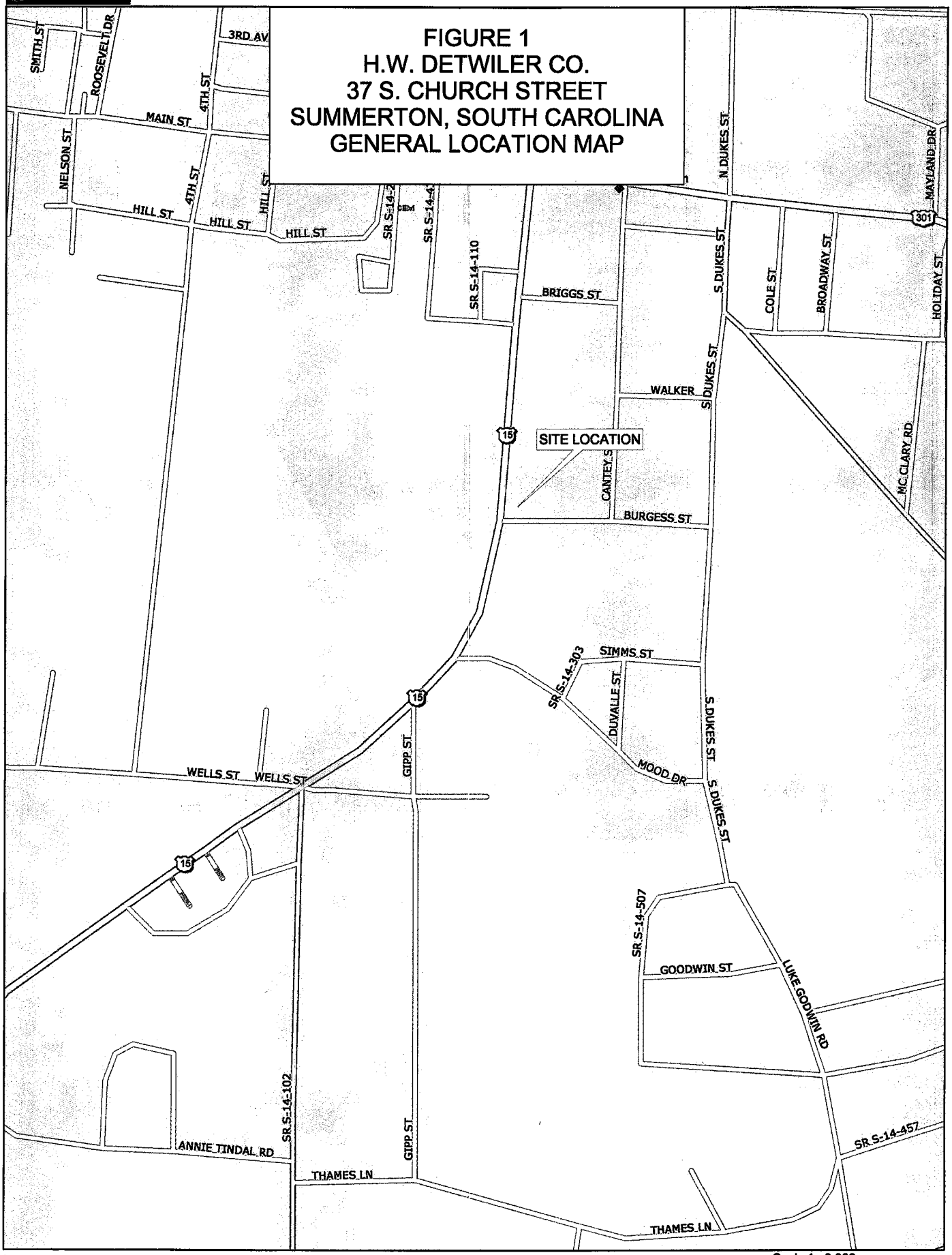


FIGURE 1
H.W. DETWILER CO.
37 S. CHURCH STREET
SUMMERTON, SOUTH CAROLINA
GENERAL LOCATION MAP



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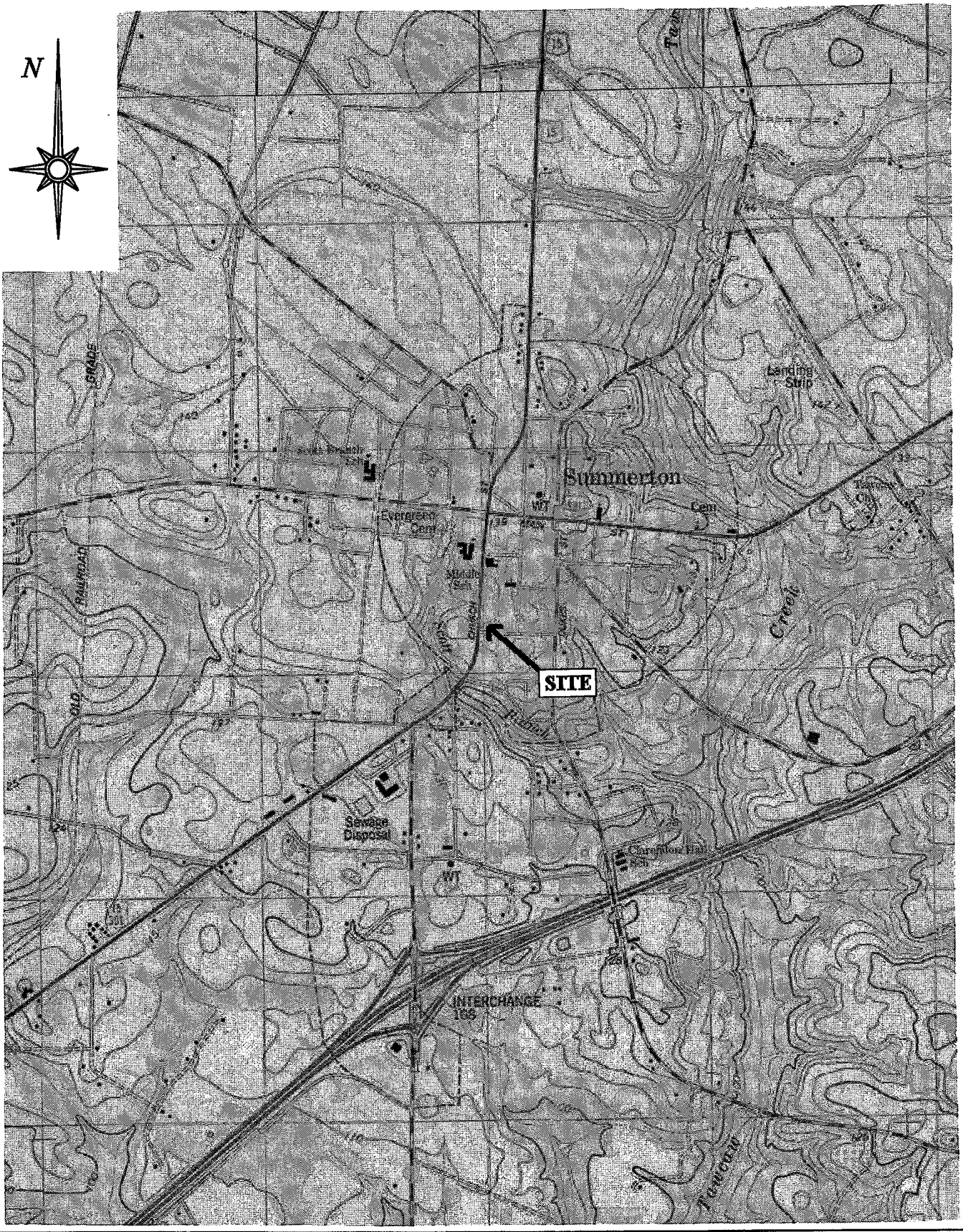
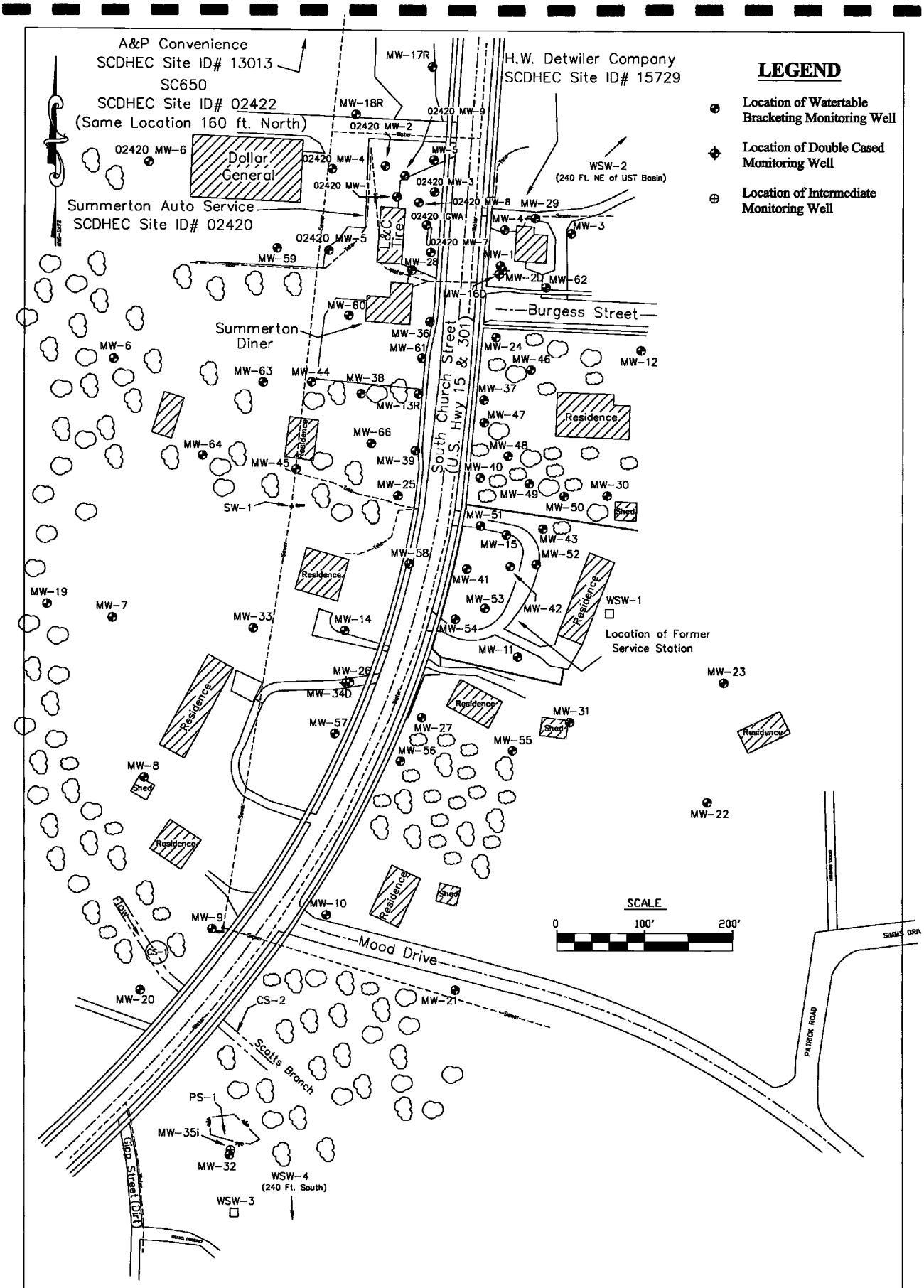
www.delorme.com

TN
MN (7.4°W)

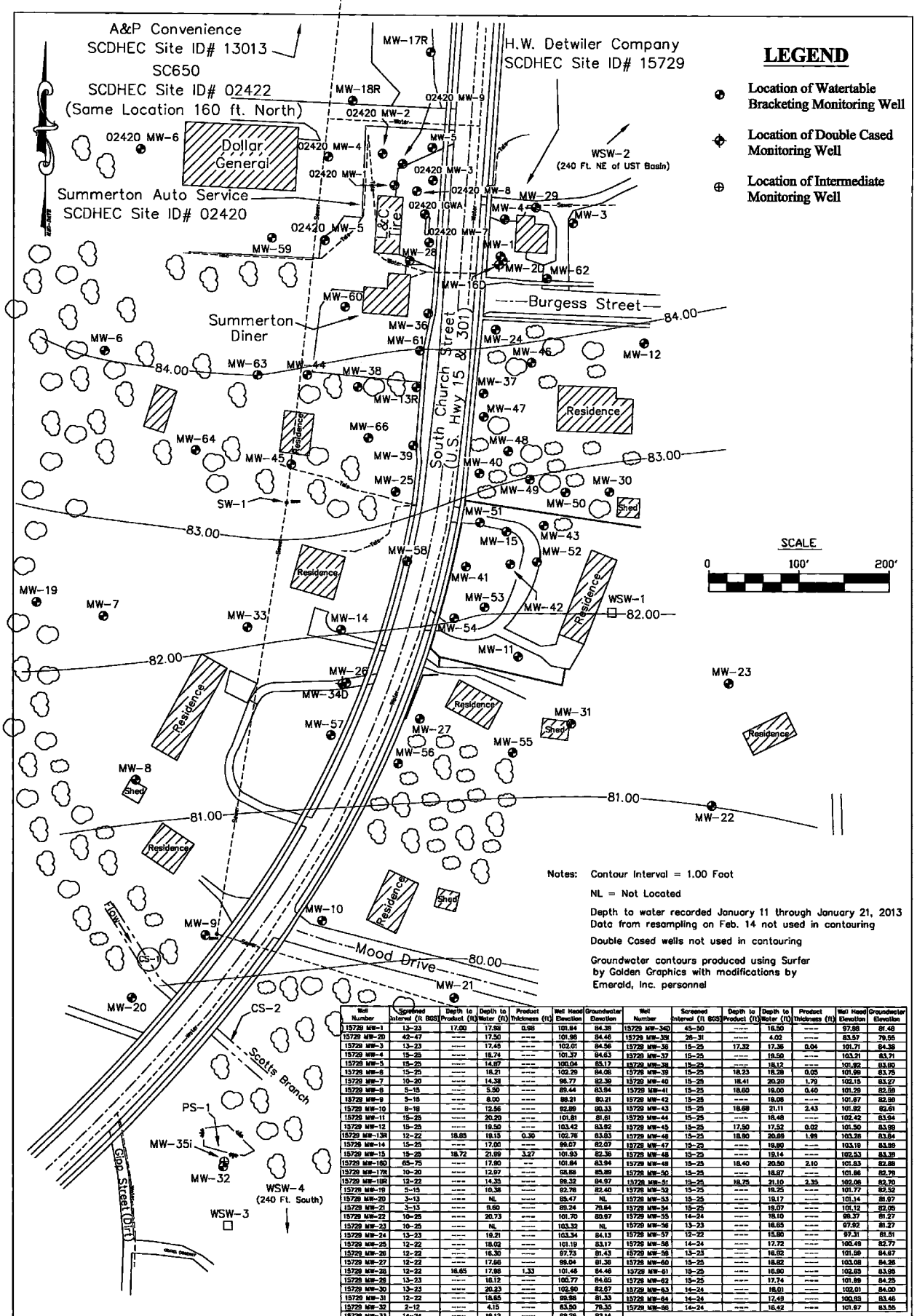
Scale 1 : 8,000
1" = 666.7 ft
Data Zoom 14-6



H.W. Detwiler Company 37 South Church Street Summerton, SC SCDHEC Site ID# 15729	Figure 2 USGS Topographic Map 7.5 Minute Map "Summerton, SC" Quadrangle Scale 1 to 2,000	EMERALD, INC. Sumter, SC



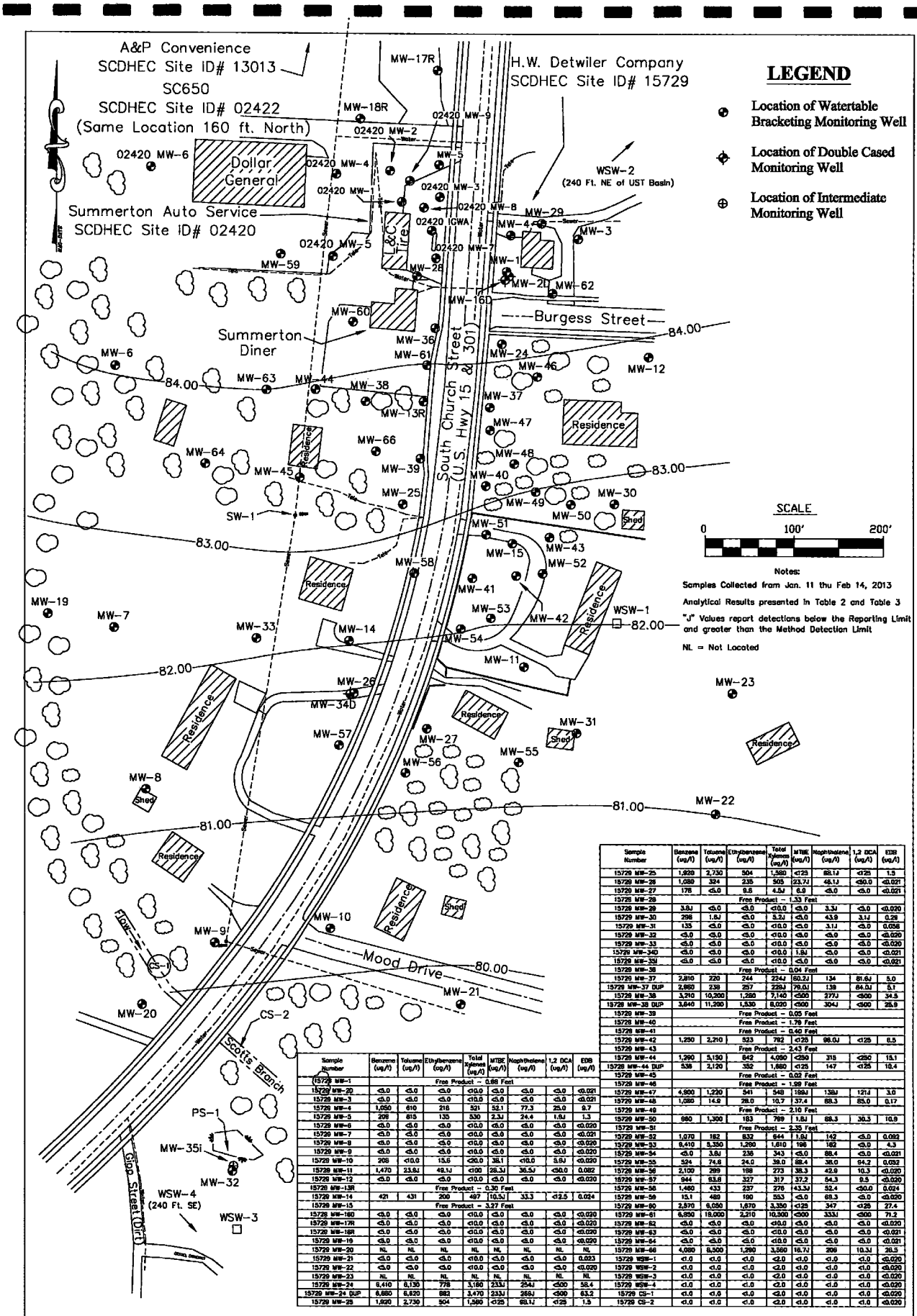
PROJECT:	SHEET TITLE:	DATE:	
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 SITE MAP	2/21/13	EMERALD, INC. SUMTER, SOUTH CAROLINA



Notes:
Contour Interval = 1.00 Foot
NL = Not Located
Depth to water recorded January 11 through January 21, 2013
Data from resampling on Feb. 14 not used in contouring
Double Cased wells not used in contouring
Groundwater contours produced using Surfer by Golden Graphics with modifications by Emerald, Inc. personnel

Well Number	Screened Interval (ft BGS)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Well Head Elevation	Groundwater Elevation
15729 MW-1	13-23	17.00	17.98	0.98	101.84	84.38
15729 MW-20	42-47	----	17.50	----	101.96	84.46
15729 MW-3	13-23	----	17.46	----	102.01	84.56
15729 MW-4	15-25	----	18.74	----	101.37	84.63
15729 MW-5	15-25	----	14.87	----	100.04	85.17
15729 MW-6	15-25	----	18.21	----	102.29	84.08
15729 MW-7	10-20	----	14.38	----	98.77	82.39
15729 MW-8	5-15	----	5.50	----	89.44	83.94
15729 MW-9	5-15	----	8.00	----	88.21	80.21
15729 MW-10	8-18	----	12.56	----	92.89	80.33
15729 MW-11	15-25	----	20.20	----	101.81	81.61
15729 MW-12	15-25	----	19.50	----	103.42	83.92
15729 MW-13R	12-22	18.85	19.15	0.30	102.76	83.83
15729 MW-14	15-25	----	17.00	----	99.07	82.07
15729 MW-15	15-25	18.72	21.99	3.27	101.93	82.36
15729 MW-16D	65-75	----	17.90	--	101.84	83.94
15729 MW-17R	10-20	----	12.97	----	98.88	85.89
15729 MW-18R	12-22	----	14.35	----	98.32	84.97
15729 MW-19	5-15	----	10.38	----	92.78	82.40
15729 MW-20	3-13	----	NL	----	88.47	NL
15729 MW-21	3-13	----	5.60	----	80.34	75.94
15729 MW-22	10-25	----	20.73	----	101.70	80.97
15729 MW-23	10-25	----	NL	----	103.32	NL
15729 MW-24	13-23	----	19.21	----	103.34	84.13
15729 MW-25	12-22	----	18.02	----	101.19	83.17
15729 MW-26	12-22	----	16.30	----	97.73	81.43
15729 MW-27	12-22	----	17.66	----	99.04	81.38
15729 MW-28	12-22	16.65	17.98	1.33	101.48	84.46
15729 MW-29	13-23	----	16.12	----	100.77	84.65
15729 MW-30	13-23	----	20.23	----	102.90	82.67
15729 MW-31	12-22	----	16.65	----	99.96	81.33
15729 MW-32	2-12	----	4.15	----	83.90	79.35
15729 MW-33	14-24	----	16.12	----	98.26	82.14
15729 MW-34D	45-50	----	16.50	----	97.88	81.48
15729 MW-35I	26-31	----	4.02	----	83.57	79.55
15729 MW-36	15-25	17.32	17.36	0.04	101.71	84.38
15729 MW-37	15-25	----	19.50	----	103.21	83.71
15729 MW-38	15-25	----	18.12	----	101.92	83.80
15729 MW-39	15-25	18.23	18.28	0.05	101.99	83.75
15729 MW-40	15-25	18.41	20.20	1.79	102.15	83.27
15729 MW-41	15-25	18.60	19.00	0.40	101.29	82.59
15729 MW-42	15-25	----	18.08	----	101.97	82.39
15729 MW-43	15-25	18.68	21.11	2.43	101.92	82.61
15729 MW-44	15-25	----	18.48	----	102.42	83.94
15729 MW-45	15-25	17.50	17.52	0.02	101.50	83.89
15729 MW-46	15-25	18.90	20.89	1.99	103.26	83.84
15729 MW-47	15-25	----	19.80	----	103.19	83.39
15729 MW-48	15-25	----	19.14	----	102.53	83.39
15729 MW-49	15-25	18.40	20.50	2.10	101.83	82.88
15729 MW-50	15-25	----	18.87	----	101.86	82.79
15729 MW-51	15-25	18.75	21.10	2.35	102.06	82.70
15729 MW-52	15-25	----	19.25	----	101.77	82.52
15729 MW-53	15-25	----	19.17	----	101.14	81.97
15729 MW-54	15-25	----	19.07	----	101.12	82.05
15729 MW-55	14-24	----	18.10	----	99.37	81.27
15729 MW-56	13-23	----	16.65	----	97.92	81.27
15729 MW-57	12-22	----	15.80	----	97.31	81.51
15729 MW-58	14-24	----	17.72	----	100.49	82.77
15729 MW-59	13-23	----	16.92	----	101.59	84.67
15729 MW-60	15-25	----	18.82	----	103.08	84.26
15729 MW-61	15-25	----	16.90	----	102.65	83.95
15729 MW-62	15-25	----	17.74	----	101.89	84.25
15729 MW-63	14-24	----	16.01	----	102.01	84.00
15729 MW-64	14-24	----	17.49	----	100.93	83.46
15729 MW-66	14-24	----	16.42	----	101.97	83.55

PROJECT:	SHEET TITLE:	DATE:	
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 4 GROUNDWATER CONTOUR MAP	2/21/13	EMERALD, INC. SUMTER, SOUTH CAROLINA



Sample Number	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)
15729 MW-1	Free Product – 0.88 Feet							
15729 MW-20	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021
15729 MW-3	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021
15729 MW-4	1,050	610	216	521	32.1	77.3	25.0	9.7
15729 MW-5	209	815	135	530	2.3J	24.4	1.9J	1.3
15729 MW-6	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-7	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021
15729 MW-8	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-9	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-10	208	<10.0	15.6	<20.0	38.1	<10.0	3.6J	<0.020
15729 MW-11	1,470	23.6J	48.1J	<100	28.3J	36.5J	<50.0	0.082
15729 MW-12	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-13R	Free Product – 0.30 Feet							
15729 MW-14	421	431	200	497	10.5J	33.3	<12.5	0.024
15729 MW-15	Free Product – 3.27 Feet							
15729 MW-16D	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-17R	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-18R	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-19	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021
15729 MW-20	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-21	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.023
15729 MW-22	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-23	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-24	8,410	8,130	778	3,160	233J	254J	<500	58.4
15729 MW-24 DUP	6,880	6,820	682	3,470	233J	268J	<500	63.2
15729 MW-25	1,920	2,730	504	1,580	<125	69.1J	<125	1.5

Sample Number	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)
15729 MW-25	1,920	2,730	504	1,580	<125	69.1J	<125	1.5
15729 MW-28	1,080	324	235	505	23.7J	46.1J	<50.0	<0.021
15729 MW-27	176	<5.0	9.6	4.5J	6.9	<5.0	<5.0	<0.021
15729 MW-28	Free Product – 1.33 Feet							
15729 MW-29	3.8J	<5.0	<5.0	<10.0	<5.0	3.3J	<5.0	<0.020
15729 MW-30	298	1.8J	<5.0	5.2J	<5.0	43.9	3.1J	0.29
15729 MW-31	135	<5.0	<5.0	<10.0	<5.0	3.1J	<5.0	0.058
15729 MW-32	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-33	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-34D	<5.0	<5.0	<5.0	<10.0	1.8J	<5.0	<5.0	<0.021
15729 MW-35I	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021
15729 MW-36	Free Product – 0.04 Feet							
15729 MW-37	2,810	220	244	224J	60.2J	134	81.6J	5.0
15729 MW-37 DUP	2,660	238	257	229J	76.0J	138	84.0J	5.1
15729 MW-38	3,210	10,200	1,260	7,140	<500	377J	<500	34.5
15729 MW-38 DUP	3,640	11,200	1,330	8,020	<500	304J	<500	25.9
15729 MW-39	Free Product – 0.05 Feet							
15729 MW-40	Free Product – 1.76 Feet							
15729 MW-41	Free Product – 0.40 Feet							
15729 MW-42	1,250	2,210	523	782	<125	98.0J	<125	8.5
15729 MW-43	Free Product – 2.43 Feet							
15729 MW-44	1,290	5,150	842	4,050	<250	315	<250	15.1
15729 MW-44 DUP	538	2,120	352	1,660	<125	147	<125	10.4
15729 MW-45	Free Product – 0.02 Feet							
15729 MW-46	Free Product – 1.39 Feet							
15729 MW-47	4,900	1,220	541	548	189J	138J	121J	3.0
15729 MW-48	1,080	14.9	28.0	10.7	37.4	68.3	85.0	0.17
15729 MW-49	Free Product – 2.10 Feet							
15729 MW-50	980	1,300	183	789	1.8J	68.3	30.3	10.9
15729 MW-51	Free Product – 2.35 Feet							
15729 MW-52	1,070	182	632	644	1.8J	142	<5.0	0.052
15729 MW-53	9,410	5,350	1,290	1,810	198	182	<5.0	4.3
15729 MW-54	<5.0	3.8J	236	343	<5.0	88.4	<5.0	<0.021
15729 MW-55	524	74.6	24.0	38.0	88.4	38.0	84.2	0.052
15729 MW-56	2,100	299	198	273	38.3	42.9	10.3	<0.020
15729 MW-57	944	93.6	327	317	37.2	54.3	9.5	<0.020
15729 MW-58	1,460	433	237	276	43.3J	52.4	<50.0	0.024
15729 MW-59	15.1	489	190	553	<5.0	68.3	<5.0	<0.020
15729 MW-60	2,870	6,050	1,070	3,350	<125	347	<125	27.4
15729 MW-61	5,950	19,000	2,210	10,300	<500	333J	<500	71.2
15729 MW-62	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-63	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021
15729 MW-64	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021
15729 MW-66	4,080	8,500	1,290	3,560	16.7J	209	10.3J	26.5
15729 WSW-1	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 WSW-2	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 WSW-3	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 WSW-4	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 CS-1	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 CS-2	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020

PROJECT:	SHEET TITLE:	DATE:	
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 5 GROUNDWATER COC MAP	2/21/13	EMERALD, INC. SUMTER, SOUTH CAROLINA

APPENDIX A

PURGE LOGS

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-2D

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 42-47 Ft.

STATIC WATER LEVEL: 17.50 Ft.

WATER HEIGHT (Hw): 29.50 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 4.809 x 3 = 14.43 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 14.75 Gallons

DATE: 1/21/13

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	165855	DO Meter	11K00954		

Conditions: Cloudy, 65°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	18.4	6.48	115.5	59	Slightly Cloudy, No Petroleum Odor
	1st	18.5	6.56	106.7	41	Slightly Cloudy, No Petroleum Odor
	2nd	17.7	6.54	114.8	203	Slightly Cloudy, No Petroleum Odor
	3rd	17.3	6.82	113.2	>1,000	Slightly Cloudy, No Petroleum Odor
945	Sampled					
						DO= 2.32 mg/l @18.4 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-3

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/21/13

SCREENED INTERVAL 13-23 Ft.

STATIC WATER LEVEL: 17.45 Ft.

WATER HEIGHT (Hw): 5.55 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.905 x 3 = 2.71 Gallons
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 2 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	165855	DO Meter	11K00954		

Conditions: Cloudy, 65°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	16.9	4.29	107.3	148	Clear, No Petroleum Odor
	1st	18.4	4.25	103.9	>1,000	Clear, No Petroleum Odor
	2nd	19.7	4.19	103.7	>1,000	Within 10%
1030	Sampled					
						DO= 2.44 mg/l @ 16.9 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-4

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/21/13

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 16.74 Ft.

WATER HEIGHT (Hw): 8.26 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.346 x 3 = 4.04 Gallons
$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$

PURGE VOLUME: 4.25 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	165855	DO Meter	11K00954		

Conditions: Cloudy, 65°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	18.8	5.20	69.2	50	Clear, Petroleum Odor
	1st	20.3	5.27	70.2	418	Slightly Cloudy, Petroleum Odor
	2nd	20.8	5.15	64.5	213	Slightly Cloudy, Petroleum Odor
	3rd	21.2	5.17	66.1	270	Slightly Cloudy, Petroleum Odor
1050	Sampled					
						DO= 1.15 mg/l @18.8 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-5

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 14.87 Ft.

WATER HEIGHT (Hw): 10.13 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.651 x 3 = 4.95 Gallons
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 4.75 Gallons

DATE: 1/21/13

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	165855	DO Meter	11K00954		

Conditions: Cloudy, 65°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	21.5	4.87	57.8	27	Clear, No Petroleum Odor
	1st	22.0	5.83	124.1	>1,000	Cloudy, No Petroleum Odor
	2nd	22.1	5.86	130.0	>1,000	Cloudy, No Petroleum Odor
	3rd	22.3	5.92	131.1	>1,000	Cloudy, No Petroleum Odor
1515	Sampled					
						DO= 1.45 mg/l @21.5 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-6

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/15/13

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 18.21 Ft.

WATER HEIGHT (Hw): 6.79 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.107 x 3 = 3.32 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 2.25 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	21.3	5.50	36.7	320	Slightly Cloudy, No Petroleum Odor
	1st	19.7	5.12	36.5	>1,000	Cloudy, No Petroleum Odor
	2nd	19.8	5.10	36.4	>1,000	Cloudy, No Petroleum Odor
						Within 10%
1250	Sampled					
						DO= 1.55 mg/l @21.3 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-7

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/15/13

SCREENED INTERVAL 10-20 Ft.

STATIC WATER LEVEL: 14.38 Ft.

WATER HEIGHT (Hw): 5.62 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.916 x 3 = 2.75 Gallons
$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$

PURGE VOLUME: 2 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	18.8	5.02	33.8	7	Clear, No Petroleum Odor
	1st	18.9	4.48	32.0	>1,000	Slightly Cloudy, No Petroleum Odor
	2nd	18.9	4.51	31.5	>1,000	Slightly Cloudy, No Petroleum Odor
						Within 10%
915	Sampled					
						DO= 3.98 mg/l @18.8 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-8

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/11/13

SCREENED INTERVAL 5-15 Ft.

STATIC WATER LEVEL: 5.50 Ft.

WATER HEIGHT (Hw): 9.50 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.549 x 3 = 4.65 Gallons
$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$

PURGE VOLUME: 3 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 74°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	18.0	5.66	28.9	348	Clear, No Petroleum Odor
	1st	17.6	5.69	28.8	>1,000	Slightly Cloudy, No Petroleum Odor
	2nd	17.5	5.64	28.6	>1,000	Slightly Cloudy, No Petroleum Odor
						Within 10%
1425	Sampled					
						DO= 6.21 mg/l @18.0 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-9

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/11/13

SCREENED INTERVAL 5-15 Ft.

STATIC WATER LEVEL: 8.00 Ft.

WATER HEIGHT (Hw): 7.00 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.141 x 3 = 3.42 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 1.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 74°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	19.0	4.92	44.8	>1,000	Slightly Cloudy, No Petroleum Odor
	1st	19.1	4.89	41.2	>1,000	Slightly Cloudy, No Petroleum Odor
						Within 10%
1325	Sampled					
						DO= 3.82 mg/l @19.0 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-10

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/11/13

SCREENED INTERVAL 8-18 Ft.

STATIC WATER LEVEL: 12.56 Ft.

WATER HEIGHT (Hw): 5.44 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.887 x 3 = 2.66 Gallons

$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: 2.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 74°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	21.9	4.61	37.7	284	Clear, No Petroleum Odor
	1st	21.2	4.76	37.9	>1,000	Slightly Cloudy, No Petroleum Odor
	2nd	21.3	4.72	47.3	>1,000	Slightly Cloudy, No Petroleum Odor
	3rd	20.9	4.73	45.2	>1,000	Slightly Cloudy, No Petroleum Odor
1450	Sampled					
						DO= 2.79 mg/l @21.9 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-11

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/14/13

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 20.20 Ft.

WATER HEIGHT (Hw): 4.80 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.782 x 3 = 2.35 Gallons
$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: 1.75 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	22.4	5.09	48.5	7	Clear, No Petroleum Odor
	1st	21.7	5.32	61.8	>1,000	Slightly Cloudy, No Petroleum Odor
	2nd	21.6	5.36	62.4	>1,000	Slightly Cloudy, No Petroleum Odor
						Within 10%
1220	Sampled					
						DO= 2.01 mg/l @22.4 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-12

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/21/13

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 19.50 Ft.

WATER HEIGHT (Hw): 5.50 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.897 x 3 = 2.69 Gallons
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 2.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	165855	DO Meter	11K00954		

Conditions: Cloudy, 65°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	19.8	5.02	56.3	221	Slightly Cloudy, No Petroleum Odor
	1st	20.5	4.89	55.9	>1,000	Slightly Cloudy, No Petroleum Odor
	2nd	20.7	4.79	57.2	>1,000	Slightly Cloudy, No Petroleum Odor
						Within 10%
1400	Sampled					
						DO= 3.71 mg/l @19.8 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-14

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/14/13

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 17.00 Ft.

WATER HEIGHT (Hw): 8.00 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.304 x 3 = 3.91 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 4 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	20.4	6.06	43.9	5	Clear, No Petroleum Odor
	1st	20.1	5.80	31.5	864	Slightly Cloudy, No Petroleum Odor
	2nd	20.0	5.62	25.8	>1,000	Slightly Cloudy, No Petroleum Odor
	3rd	19.9	5.76	33.8	>1,000	Slightly Cloudy, No Petroleum Odor
1700	Sampled					
						DO= 1.50 mg/l @20.4 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-16D

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/21/13

SCREENED INTERVAL 65-75 Ft.

STATIC WATER LEVEL: 17.90 Ft.

WATER HEIGHT (Hw): 57.10 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 9.307 x 3 = 27.92 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 28.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	165855	DO Meter	11K00954		

Conditions: Cloudy, 65°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	16.3	7.03	133.2	21	Clear, No Petroleum Odor
	1st	16.5	7.41	145.1	37	Clear, No Petroleum Odor
	2nd	16.3	7.27	174.1	22	Clear, No Petroleum Odor
	3rd	15.9	7.39	174.0	28	Clear, No Petroleum Odor
915	Sampled					
						DO= 1.18 mg/l @16.3 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-17R

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/21/13

SCREENED INTERVAL 10-20 Ft.

STATIC WATER LEVEL: 12.97 Ft.

WATER HEIGHT (Hw): 7.03 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.146 x 3 = 3.44 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 2.25 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	165855	DO Meter	11K00954		

Conditions: Cloudy, 65°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	21.8	5.22	80.4	12	Clear, No Petroleum Odor
	1st	21.7	5.10	81.6	>1,000	Cloudy, No Petroleum Odor
	2nd	22.1	5.10	78.4	>1,000	Cloudy, No Petroleum Odor
						Within 10%
1420	Sampled					
						DO= 1.21 mg/l @21.8 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-18R

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/21/13

SCREENED INTERVAL 12-22 Ft.

STATIC WATER LEVEL: 14.35 Ft.

WATER HEIGHT (Hw): 7.65 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.247 x 3 = 3.74 Gallons

$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$

PURGE VOLUME: 3 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	165855	DO Meter	11K00954		

Conditions: Cloudy, 65°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	20.6	6.14	107.5	72	Clear, No Petroleum Odor
	1st	21.1	5.96	86.6	>1,000	Cloudy, No Petroleum Odor
	2nd	20.7	5.81	85.1	>1,000	Cloudy, No Petroleum Odor
						Within 10%
1435	Sampled					
						DO= 0.85 mg/l @20.6 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-19

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/15/13

SCREENED INTERVAL 5-15 Ft.

STATIC WATER LEVEL: 10.38 Ft.

WATER HEIGHT (Hw): 4.62 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.753 x 3 = 2.26 Gallons
$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: 2 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	17.9	5.80	40.1	121	Clear, No Petroleum Odor
	1st	17.8	5.04	38.2	>1,000	Slightly Cloudy, No Petroleum Odor
	2nd	17.8	4.97	38.8	>1,000	Slightly Cloudy, No Petroleum Odor
						Within 10%
950	Sampled					
						DO= 1.30 mg/l @17.9 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-21

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/11/13

SCREENED INTERVAL 3-13 Ft.

STATIC WATER LEVEL: 9.60 Ft.

WATER HEIGHT (Hw): 3.40 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.554 x 3 = 1.66 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 1.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 74°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	21.7	4.59	47.4	533	Clear, No Petroleum Odor
	1st	20.8	4.47	42.2	>1,000	Slightly Cloudy, No Petroleum Odor
	2nd	20.3	4.43	40.6	>1,000	Slightly Cloudy, No Petroleum Odor
						Within 10%
1430	Sampled					
						DO= 1.33 mg/l @21.7 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-22

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/14/13

SCREENED INTERVAL 10-25 Ft.

STATIC WATER LEVEL: 20.73 Ft.

WATER HEIGHT (Hw): 4.27 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.696 x 3 = 2.09 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 2 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	20.2	4.97	58.6	63	Clear, No Petroleum Odor
	1st	19.6	4.99	70.5	>1,000	Cloudy, No Petroleum Odor
	2nd	19.6	5.04	68.3	>1,000	Cloudy, No Petroleum Odor
1515	Sampled					
						DO= 2.28 mg/l @20.2 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-24

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/21/13

SCREENED INTERVAL 13-23 Ft.

STATIC WATER LEVEL: 19.21 Ft.

WATER HEIGHT (Hw): 3.79 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.618 x 3 = 1.85 Gallons
$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$

PURGE VOLUME: Dry at 0.75 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	165855	DO Meter	11K00954		

Conditions: Cloudy, 65°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	20.6	6.19	216	29	Clear, Petroleum Odor
	1st	21.3	6.22	262	>1,000	Slightly Cloudy, Petroleum Odor
						Dry at 1 well volume
1325	Sampled					
						DO= 1.06 mg/l @20.6 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-25

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/15/13

SCREENED INTERVAL 12-22 Ft.

STATIC WATER LEVEL: 18.02 Ft.

WATER HEIGHT (Hw): 3.98 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.649 x 3 = 1.95 Gallons

$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: 2 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	20.5	6.51	193.5	19	Clear, No Petroleum Odor
	1st	20.5	6.55	190.6	963	Slightly Cloudy, No Petroleum Odor
	2nd	20.5	6.60	197.5	>1,000	Slightly Cloudy, No Petroleum Odor
	3rd	20.6	6.59	200	>1,000	Slightly Cloudy, No Petroleum Odor
1045	Sampled					
						DO= 0.74 mg/l @20.5 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-26

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/14/13

SCREENED INTERVAL 12-22 Ft.

STATIC WATER LEVEL: 16.30 Ft.

WATER HEIGHT (Hw): 5.70 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.929 x 3 = 2.79 Gallons

$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: 2 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	20.6	4.99	16.2	9	Clear, No Petroleum Odor
	1st	20.6	5.48	42.6	>1,000	Slightly Cloudy, No Petroleum Odor
	2nd	20.5	5.52	43.1	>1,000	Slightly Cloudy, No Petroleum Odor
						Within 10%
1615	Sampled					
						DO= 3.82 mg/l @20.6 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-27

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/14/13

SCREENED INTERVAL 12-22 Ft.

STATIC WATER LEVEL: 17.68 Ft.

WATER HEIGHT (Hw): 4.32 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.704 x 3 = 2.11 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 2.25 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	21.6	4.86	36.0	97	Clear, No Petroleum Odor
	1st	21.4	5.29	33.8	533	Clear, No Petroleum Odor
	2nd	21.4	5.34	31.6	804	Slightly Cloudy, No Petroleum Odor
	3rd	21.3	5.18	33.2	>1,000	Slightly Cloudy, No Petroleum Odor
1400	Sampled					
						DO= 1.02 mg/l @21.6 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-29

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/21/13

SCREENED INTERVAL 13-23 Ft.

STATIC WATER LEVEL: 16.12 Ft.

WATER HEIGHT (Hw): 6.88 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.121 x 3 = 3.36 Gallons

$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: 2.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	165855	DO Meter	11K00954		

Conditions: Cloudy, 65°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	20.7	4.78	57	30	Clear, No Petroleum Odor
	1st	19.6	4.73	50.6	>1,000	Cloudy, No Petroleum Odor
	2nd	19.9	4.76	52.1	>1,000	Cloudy, No Petroleum Odor
						Within 10%
1115	Sampled					
						DO= 1.55 mg/l @20.7 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-30

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/21/13

SCREENED INTERVAL 13-23 Ft.

STATIC WATER LEVEL: 20.23 Ft.

WATER HEIGHT (Hw): 2.77 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.452 x 3 = 1.35 Gallons

$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$

PURGE VOLUME: 1.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	165855	DO Meter	11K00954		

Conditions: Cloudy, 65°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	17.9	4.35	100.9	57	Clear, No Petroleum Odor
	1st	18.1	4.32	94.1	312	Slightly Cloudy, No Petroleum Odor
	2nd	18.1	4.49	93.7	511	Slightly Cloudy, No Petroleum Odor
	3rd	18.4	4.44	94.7	716	Slightly Cloudy, No Petroleum Odor
1130	Sampled					
						DO= 1.45 mg/l @17.9 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-31

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/14/13

SCREENED INTERVAL 12-22 Ft.

STATIC WATER LEVEL: 18.65 Ft.

WATER HEIGHT (Hw): 3.35 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.546 x 3 = 1.64 Gallons
$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$

PURGE VOLUME: 1.25 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	21.3	4.99	29.8	5	Clear, No Petroleum Odor
	1st	20.9	5.05	26.1	694	Clear, No Petroleum Odor
	2nd	20.5	4.92	26.7	665	Slightly Cloudy, No Petroleum Odor
						Within 10%
1340	Sampled					
						DO= 2.31 mg/l @21.3 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-32

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/11/13

SCREENED INTERVAL 2-12 Ft.

STATIC WATER LEVEL: 4.15 Ft.

WATER HEIGHT (Hw): 7.85 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.28 x 3 = 3.84 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3.25 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 74°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	16.7	4.99	47.3	185	Clear, No Petroleum Odor
	1st	16.6	5.04	45.2	>1,000	Slightly Cloudy, No Petroleum Odor
	2nd	16.4	5.09	45.3	>1,000	Slightly Cloudy, No Petroleum Odor
						Within 10%
1140	Sampled					
						DO= 1.97 mg/l @16.7 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-33

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/14/13

SCREENED INTERVAL 14-24 Ft.

STATIC WATER LEVEL: 16.12 Ft.

WATER HEIGHT (Hw): 7.88 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.284 x 3 = 3.85 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	19.5	5.07	24.5	58	Clear, No Petroleum Odor
	1st	19.8	5.82	109.6	>1,000	Slightly Cloudy, No Petroleum Odor
	2nd	19.6	5.86	112.4	>1,000	Slightly Cloudy, No Petroleum Odor
						Within 10%
1715	Sampled					
						DO= 1.41 mg/l @19.5 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-34D

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/14/13

SCREENED INTERVAL 45-50 Ft.

STATIC WATER LEVEL: 16.50 Ft.

WATER HEIGHT (Hw): 33.50 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 5.461 x 3 = 16.38 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 11.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	20.7	5.79	53.7	34	Clear, No Petroleum Odor
	1st	20.5	5.87	53	21	Clear, No Petroleum Odor
	2nd	20.6	5.90	52.5	22	Clear, No Petroleum Odor
						Within 10%
1555	Sampled					
						DO= 1.71 mg/l @20.7 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-35i

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/11/13

SCREENED INTERVAL 26-31 Ft.

STATIC WATER LEVEL: 4.02 Ft.

WATER HEIGHT (Hw): 26.98 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 4.398 x 3 = 13.19 Gallons

$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: 9 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 74°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	18.0	5.91	76.3	22	Clear, No Petroleum Odor
	1st	18.4	5.87	39.3	26	Clear, No Petroleum Odor
	2nd	18.4	5.90	37.4	28	Clear, No Petroleum Odor
						Within 10%
1110	Sampled					
						DO= 6.37 mg/l @18.0 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-37

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 19.50 Ft.

WATER HEIGHT (Hw): 5.50 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.897 x 3 = 2.69 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 2.75 Gallons

DATE: 1/21/13

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	165855	DO Meter	11K00954		

Conditions: Cloudy, 65°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	18.9	6.01	179.5	103	Clear, Petroleum Odor
	1st	19.8	6.03	132.2	>1,000	Cloudy, Petroleum Odor
	2nd	19.1	6.11	165.9	>1,000	Cloudy, Petroleum Odor
	3rd	20.2	6.08	151.1	>1,000	Cloudy, Petroleum Odor
1255	Sampled					
						DO= 1.47 mg/l @18.9 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-38

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/15/13

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 18.12 Ft.

WATER HEIGHT (Hw): 6.88 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.121 x 3 = 3.36 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: Dry at 2 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	23.8	6.38	206	42	Clear, Petroleum Odor
	1st	22.1	6.44	205	>1,000	Cloudy, Petroleum Odor
	2nd	21.5	6.46	191.8	>1,000	Cloudy, Petroleum Odor
						Dry at 2 well volumes
1405	Sampled					
						DO= 0.85 mg/l @23.8 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-42

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/14/13

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 19.08 Ft.

WATER HEIGHT (Hw): 5.92 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.965 x 3 = 2.89 Gallons

$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: 3 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	22.1	5.58	121.1	4	Clear, No Petroleum Odor
	1st	21.8	5.71	154.1	284	Clear, No Petroleum Odor
	2nd	21.6	5.86	159.8	178	Slightly Cloudy, No Petroleum Odor
	3rd	21.6	5.80	158	604	Slightly Cloudy, No Petroleum Odor
1150	Sampled					
						DO= 0.63 mg/l @22.1 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-44

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/15/13

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 18.48 Ft.

WATER HEIGHT (Hw): 6.52 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.063 x 3 = 3.19 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	22.6	6.31	201	38	Clear, Petroleum Odor
	1st	21.8	6.41	192.8	280	Clear, Petroleum Odor
	2nd	22.0	6.44	169	184	Clear, Petroleum Odor
	3rd	21.9	6.47	171.1	121	Clear, Petroleum Odor
1340	Sampled					
						DO= 1.11 mg/l @22.6 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-47

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/15/13

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 19.60 Ft.

WATER HEIGHT (Hw): 5.40 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.88 x 3 = 2.64 Gallons

$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: 2.75 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	23.4	5.27	66.9	371	Clear, Petroleum Odor
	1st	21.6	5.32	83.9	>1,000	Cloudy, Petroleum Odor
	2nd	20.9	5.55	103.7	>1,000	Cloudy, Petroleum Odor
	3rd	20.9	5.71	113.1	>1,000	Cloudy, Petroleum Odor
1620	Sampled					
						DO= 1.19 mg/l @23.4 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-48

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/21/13

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 19.14 Ft.

WATER HEIGHT (Hw): 5.86 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.955 x 3 = 2.87 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 2 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	165855	DO Meter	11K00954		

Conditions: Cloudy, 65°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	18.5	4.89	62.8	41	Clear, Petroleum Odor
	1st	19.5	4.71	63.3	>1,000	Cloudy, Petroleum Odor
	2nd	19.6	4.79	64.9	>1,000	Cloudy, Petroleum Odor
						Within 10%
1225	Sampled					
						DO= 1.87 mg/l @18.5 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-50

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 18.87 Ft.

WATER HEIGHT (Hw): 6.13 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.999 x 3 = 3.00 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3.25 Gallons

DATE: 1/21/13

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	165855	DO Meter	11K00954		

Conditions: Cloudy, 65°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	17.5	5.51	95.6	133	Clear, No Petroleum Odor
	1st	18.5	5.29	77.6	>1,000	Cloudy, No Petroleum Odor
	2nd	18.7	5.19	74.5	>1,000	Cloudy, No Petroleum Odor
	3rd	18.5	5.21	69.9	>1,000	Cloudy, No Petroleum Odor
1200	Sampled					
						DO= 1.31 mg/l @17.5 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-52

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/14/13

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 19.25 Ft.

WATER HEIGHT (Hw): 5.75 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.937 x 3 = 2.81 Gallons

$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: 3 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	22.7	5.95	174.6	3	Clear, No Petroleum Odor
	1st	22.1	5.70	114.5	394	Slightly Cloudy, No Petroleum Odor
	2nd	21.7	5.89	143.6	>1,000	Slightly Cloudy, No Petroleum Odor
	3rd	21.5	5.92	155.1	>1,000	Slightly Cloudy, No Petroleum Odor
1120	Sampled					
						DO= 0.58 mg/l @22.7 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-53

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/14/13

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 19.17 Ft.

WATER HEIGHT (Hw): 5.83 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.95 x 3 = 2.85 Gallons

$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$

PURGE VOLUME: 3 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	22.2	5.77	115.7	47	Clear, No Petroleum Odor
	1st	21.6	6.01	143.2	>1,000	Slightly Cloudy, No Petroleum Odor
	2nd	21.6	6.06	161.7	>1,000	Cloudy, No Petroleum Odor
	3rd	21.7	6.13	164.4	>1,000	Cloudy, No Petroleum Odor
1240	Sampled					
						DO= 0.71 mg/l @22.2 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-54

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/14/13

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 19.07 Ft.

WATER HEIGHT (Hw): 5.93 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.967 x 3 = 2.90 Gallons

$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: 3 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	23.4	6.16	146.7	4	Clear, No Petroleum Odor
	1st	22.4	6.25	161.2	274	Clear, No Petroleum Odor
	2nd	22.2	6.24	160.5	433	Clear, No Petroleum Odor
	3rd	22.1	6.27	166.4	488	Slightly Cloudy, No Petroleum Odor
1310	Sampled					
						DO= 0.72 mg/l @23.4 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-55

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/11/13

SCREENED INTERVAL 14-24 Ft.

STATIC WATER LEVEL: 18.10 Ft.

WATER HEIGHT (Hw): 5.90 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.962 x 3 = 2.89 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 2 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 74°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	20.2	4.62	46.4	500	Clear, Petroleum Odor
	1st	20.3	4.77	49.8	>1,000	Slightly Cloudy, Petroleum Odor
	2nd	20.1	4.74	50.2	>1,000	Slightly Cloudy, Petroleum Odor
						Within 10%
1615	Sampled					
						DO= 0.87 mg/l @20.2 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-56

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/11/13

SCREENED INTERVAL 13-23 Ft.

STATIC WATER LEVEL: 16.65 Ft.

WATER HEIGHT (Hw): 6.35 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.035 x 3 = 3.11 Gallons
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 1.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 74°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	21.5	5.65	73.7	>1,000	Cloudy, No Petroleum Odor
	1st	21.4	5.84	80.8	>1,000	Cloudy, No Petroleum Odor
						Within 10%
1555	Sampled					
						DO= 0.60 mg/l @21.5 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-57

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/11/13

SCREENED INTERVAL 12-22 Ft.

STATIC WATER LEVEL: 15.80 Ft.

WATER HEIGHT (Hw): 6.20 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.011 x 3 = 3.03 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 74°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	21.4	6.47	210	>1,000	Cloudy, No Petroleum Odor
	1st	22.6	6.32	166	>1,000	Cloudy, No Petroleum Odor
	2nd	21.6	6.29	156	>1,000	Cloudy, No Petroleum Odor
	3rd	22.2	6.30	156	>1,000	Cloudy, No Petroleum Odor
1345	Sampled					
						DO= 0.11 mg/l @21.4 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-58

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/15/13

SCREENED INTERVAL 14-24 Ft.

STATIC WATER LEVEL: 17.72 Ft.

WATER HEIGHT (Hw): 6.28 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.024 x 3 = 3.07 Gallons

$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: 3.25 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	21.4	5.60	28.1	15	Clear, No Petroleum Odor
	1st	21.5	5.90	55.3	212	Slightly Cloudy, No Petroleum Odor
	2nd	21.6	5.91	54.4	>1,000	Slightly Cloudy, No Petroleum Odor
	3rd	21.2	5.64	34.7	>1,000	Slightly Cloudy, No Petroleum Odor
1020	Sampled					
						DO= 1.83 mg/l @21.4 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-59

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 13-23 Ft.

STATIC WATER LEVEL: 16.92 Ft.

WATER HEIGHT (Hw): 6.08 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.991 x 3 = 2.97 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3 Gallons

DATE: 1/21/13

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	165855	DO Meter	11K00954		

Conditions: Cloudy, 65°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	20.4	6.40	311	16	Clear, Petroleum Odor
	1st	22.1	6.41	277	>1,000	Cloudy, Petroleum Odor
	2nd	21.3	6.45	292	>1,000	Cloudy, Petroleum Odor
	3rd	21.8	6.43	271	>1,000	Cloudy, Petroleum Odor
1455	Sampled					
						DO= 1.14 mg/l @20.4 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-60

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/15/13

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 18.82 Ft.

WATER HEIGHT (Hw): 6.18 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.007 x 3 = 3.02 Gallons

$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: 3.25 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	22.6	6.09	137.9	21	Clear, No Petroleum Odor
	1st	22.3	6.11	139	>1,000	Cloudy, No Petroleum Odor
	2nd	22.2	6.10	144.6	>1,000	Cloudy, No Petroleum Odor
	3rd	22.7	6.20	151.7	>1,000	Cloudy, No Petroleum Odor
1510	Sampled					
						DO= 0.77 mg/l @22.6 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-61

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/15/13

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 18.90 Ft.

WATER HEIGHT (Hw): 6.10 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.994 x 3 = 2.98 Gallons
$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: 2.25 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	23.4	6.36	165.5	41	Clear, Petroleum Odor
	1st	22.6	6.30	126	>1,000	Slightly Cloudy, Petroleum Odor
	2nd	22.3	6.16	122	>1,000	Slightly Cloudy, Petroleum Odor
						Within 10%
1450	Sampled					
						DO= 0.67 mg/l @23.4 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-62

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 17.74 Ft.

WATER HEIGHT (Hw): 7.26 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.183 x 3 = 3.55 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3.75 Gallons

DATE: 1/21/13

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	165855	DO Meter	11K00954		

Conditions: Cloudy, 65°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	16.8	5.41	84.8	55	Clear, No Petroleum Odor
	1st	19.1	4.87	79.9	>1,000	Cloudy, No Petroleum Odor
	2nd	19.8	4.72	81.5	>1,000	Cloudy, No Petroleum Odor
	3rd	20.1	4.65	80.4	>1,000	Cloudy, No Petroleum Odor
1020	Sampled					
						DO= 3.03 mg/l @16.8 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-63

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/15/13

SCREENED INTERVAL 14-24 Ft.

STATIC WATER LEVEL: 18.01 Ft.

WATER HEIGHT (Hw): 5.99 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.976 x 3 = 2.93 Gallons

$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: 2 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	22.5	4.90	79.9	27	Clear, No Petroleum Odor
	1st	21.3	4.72	73.6	>1,000	Cloudy, No Petroleum Odor
	2nd	21.4	4.67	73.2	>1,000	Cloudy, No Petroleum Odor
						Within 10%
1315	Sampled					
						DO= 0.91 mg/l @22.5 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-64

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/15/13

SCREENED INTERVAL 14-24 Ft.

STATIC WATER LEVEL: 17.49 Ft.

WATER HEIGHT (Hw): 6.51 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.061 x 3 = 3.18 Gallons

$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: 2 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	22.4	5.00	36.9	86	Clear, No Petroleum Odor
	1st	20.5	4.54	35.6	>1,000	Clear, No Petroleum Odor
	2nd	19.9	4.51	34.3	>1,000	Clear, No Petroleum Odor
						Within 10%
1145	Sampled					
						DO= 4.12 mg/l @22.4 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-66

PROJECT: H.W. Detwiler

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 1/15/13

SCREENED INTERVAL 14-24 Ft.

STATIC WATER LEVEL: 18.42 Ft.

WATER HEIGHT (Hw): 5.58 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.91 x 3 = 2.73 Gallons
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 2.75 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0586(SM.01L)	Water Level Indicator		Turbidity	40500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 78°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	23.3	6.01	74.7	113	Clear, No Petroleum Odor
	1st	21.4	6.12	102.3	>1,000	Slightly Cloudy, No Petroleum Odor
	2nd	20.5	6.35	149.7	>1,000	Slightly Cloudy, No Petroleum Odor
	3rd	20.9	6.25	152.4	>1,000	Slightly Cloudy, No Petroleum Odor
1110	Sampled					
						DO= 2.48 mg/l @23.3 °C

APPENDIX B

ANALYTICAL DATA SHEETS

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
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(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

January 25, 2013

Mr. Ronny Lowder
Emerald, Inc.
2520 Tahoe Drive
Sumter, SC 29150

RE: Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

Dear Mr. Lowder:
Enclosed are the analytical results for sample(s) received by the laboratory on January 15, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angela M. Baioni

Angela Baioni

angela.baioni@pacelabs.com
Project Manager

Enclosures

cc: Ms. Robbin Brown, Emerald, Inc.

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(704)875-9092

CERTIFICATIONS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

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SAMPLE SUMMARY

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92144989001	15729 MW-8	Water	01/11/13 14:25	01/15/13 17:50
92144989002	15729 MW-9	Water	01/11/13 13:25	01/15/13 17:50
92144989003	15729 MW-10	Water	01/11/13 14:50	01/15/13 17:50
92144989004	15729 MW-21	Water	01/11/13 14:30	01/15/13 17:50
92144989005	15729 MW-32	Water	01/11/13 11:40	01/15/13 17:50
92144989006	15729 MW-35I	Water	01/11/13 11:10	01/15/13 17:50
92144989007	15729 MW-55	Water	01/11/13 16:15	01/15/13 17:50
92144989008	15729 MW-56	Water	01/11/13 15:55	01/15/13 17:50
92144989009	15729 MW-57	Water	01/11/13 13:45	01/15/13 17:50
92144989010	15729 WSW-3	Water	01/11/13 11:50	01/15/13 17:50
92144989011	15729 WSW-4	Water	01/11/13 12:10	01/15/13 17:50
92144989012	15729 CS-1	Water	01/11/13 12:20	01/15/13 17:50
92144989013	15729 CS-2	Water	01/11/13 12:30	01/15/13 17:50
92144989014	15729 FIELD BLANK #1	Water	01/11/13 16:30	01/15/13 17:50
92144989015	15729 TRIP BLANK #1	Water	01/11/13 16:35	01/15/13 17:50

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SAMPLE ANALYTE COUNT

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92144989001	15729 MW-8	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C
92144989002	15729 MW-9	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C
92144989003	15729 MW-10	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C
92144989004	15729 MW-21	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C
92144989005	15729 MW-32	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C
92144989006	15729 MW-35I	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	22	PASI-C
92144989007	15729 MW-55	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C
92144989008	15729 MW-56	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C
92144989009	15729 MW-57	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C
92144989010	15729 WSW-3	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	22	PASI-C
92144989011	15729 WSW-4	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	22	PASI-C
92144989012	15729 CS-1	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	22	PASI-C
92144989013	15729 CS-2	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	22	PASI-C
92144989014	15729 FIELD BLANK #1	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C
92144989015	15729 TRIP BLANK #1	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

Sample: 15729 MW-8 **Lab ID: 92144989001** Collected: 01/11/13 14:25 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/18/13 14:34	01/19/13 00:05	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	100	%	60-140		1	01/18/13 14:34	01/19/13 00:05	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/16/13 16:07	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/16/13 16:07	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/16/13 16:07	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/16/13 16:07	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/16/13 16:07	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/16/13 16:07	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/16/13 16:07	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/16/13 16:07	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/16/13 16:07	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/16/13 16:07	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/16/13 16:07	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/16/13 16:07	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/16/13 16:07	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/16/13 16:07	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/16/13 16:07	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/16/13 16:07	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/16/13 16:07	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	84	%	70-130		1		01/16/13 16:07	460-00-4	
Dibromofluoromethane (S)	111	%	70-130		1		01/16/13 16:07	1868-53-7	
1,2-Dichloroethane-d4 (S)	116	%	70-130		1		01/16/13 16:07	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		01/16/13 16:07	2037-26-5	

Sample: 15729 MW-9 **Lab ID: 92144989002** Collected: 01/11/13 13:25 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/18/13 14:35	01/19/13 01:05	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	99	%	60-140		1	01/18/13 14:35	01/19/13 01:05	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/16/13 16:25	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/16/13 16:25	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/16/13 16:25	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/16/13 16:25	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/16/13 16:25	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/16/13 16:25	762-75-4	

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

Sample: 15729 MW-9 **Lab ID: 92144989002** Collected: 01/11/13 13:25 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/16/13 16:25	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/16/13 16:25	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/16/13 16:25	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/16/13 16:25	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/16/13 16:25	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/16/13 16:25	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/16/13 16:25	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/16/13 16:25	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/16/13 16:25	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/16/13 16:25	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/16/13 16:25	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	85	%	70-130		1		01/16/13 16:25	460-00-4	
Dibromofluoromethane (S)	112	%	70-130		1		01/16/13 16:25	1868-53-7	
1,2-Dichloroethane-d4 (S)	115	%	70-130		1		01/16/13 16:25	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		01/16/13 16:25	2037-26-5	

Sample: 15729 MW-10 **Lab ID: 92144989003** Collected: 01/11/13 14:50 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/18/13 14:35	01/19/13 01:45	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	109	%	60-140		1	01/18/13 14:35	01/19/13 01:45	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**2170**	ug/L	200	154	2		01/24/13 18:16	75-85-4	
tert-Amylmethyl ether	ND	ug/L	20.0	6.8	2		01/24/13 18:16	994-05-8	
Benzene	**208**	ug/L	10.0	3.4	2		01/24/13 18:16	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	200	64.2	2		01/24/13 18:16	624-95-3	
tert-Butyl Alcohol	ND	ug/L	200	115	2		01/24/13 18:16	75-65-0	
tert-Butyl Formate	ND	ug/L	100	14.6	2		01/24/13 18:16	762-75-4	
1,2-Dichloroethane	**5.9J**	ug/L	10.0	3.6	2		01/24/13 18:16	107-06-2	
Diisopropyl ether	**7.1J**	ug/L	10.0	3.4	2		01/24/13 18:16	108-20-3	
Ethanol	ND	ug/L	400	276	2		01/24/13 18:16	64-17-5	
Ethylbenzene	**15.6**	ug/L	10.0	3.2	2		01/24/13 18:16	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	20.0	7.2	2		01/24/13 18:16	637-92-3	
Methyl-tert-butyl ether	**38.1**	ug/L	10.0	3.4	2		01/24/13 18:16	1634-04-4	
Naphthalene	ND	ug/L	10.0	4.0	2		01/24/13 18:16	91-20-3	
Toluene	ND	ug/L	10.0	3.2	2		01/24/13 18:16	108-88-3	
Xylene (Total)	ND	ug/L	20.0	5.4	2		01/24/13 18:16	1330-20-7	
m&p-Xylene	ND	ug/L	20.0	6.2	2		01/24/13 18:16	179601-23-1	
o-Xylene	ND	ug/L	10.0	3.2	2		01/24/13 18:16	95-47-6	

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

Sample: 15729 MW-10 **Lab ID: 92144989003** Collected: 01/11/13 14:50 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
4-Bromofluorobenzene (S)	89	%	70-130		2		01/24/13 18:16	460-00-4	
Dibromofluoromethane (S)	106	%	70-130		2		01/24/13 18:16	1868-53-7	
1,2-Dichloroethane-d4 (S)	111	%	70-130		2		01/24/13 18:16	17060-07-0	
Toluene-d8 (S)	101	%	70-130		2		01/24/13 18:16	2037-26-5	

Sample: 15729 MW-21 **Lab ID: 92144989004** Collected: 01/11/13 14:30 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.023**	ug/L	0.020	0.020	1	01/18/13 14:36	01/19/13 03:26	106-93-4	C2
Surrogates									
1-Chloro-2-bromopropane (S)	104	%	60-140		1	01/18/13 14:36	01/19/13 03:26	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/16/13 15:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/16/13 15:48	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/16/13 15:48	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/16/13 15:48	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/16/13 15:48	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/16/13 15:48	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/16/13 15:48	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/16/13 15:48	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/16/13 15:48	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/16/13 15:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/16/13 15:48	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/16/13 15:48	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/16/13 15:48	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/16/13 15:48	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/16/13 15:48	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/16/13 15:48	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/16/13 15:48	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	85	%	70-130		1		01/16/13 15:48	460-00-4	
Dibromofluoromethane (S)	108	%	70-130		1		01/16/13 15:48	1868-53-7	
1,2-Dichloroethane-d4 (S)	114	%	70-130		1		01/16/13 15:48	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		01/16/13 15:48	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

Sample: 15729 MW-32 **Lab ID: 92144989005** Collected: 01/11/13 11:40 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/18/13 14:36	01/19/13 03:46	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	01/18/13 14:36	01/19/13 03:46	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/16/13 16:44	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/16/13 16:44	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/16/13 16:44	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/16/13 16:44	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/16/13 16:44	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/16/13 16:44	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/16/13 16:44	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/16/13 16:44	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/16/13 16:44	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/16/13 16:44	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/16/13 16:44	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/16/13 16:44	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/16/13 16:44	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/16/13 16:44	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/16/13 16:44	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/16/13 16:44	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/16/13 16:44	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	84	%	70-130		1		01/16/13 16:44	460-00-4	
Dibromofluoromethane (S)	111	%	70-130		1		01/16/13 16:44	1868-53-7	
1,2-Dichloroethane-d4 (S)	119	%	70-130		1		01/16/13 16:44	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		01/16/13 16:44	2037-26-5	

Sample: 15729 MW-35I **Lab ID: 92144989006** Collected: 01/11/13 11:10 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.021	0.021	1	01/18/13 14:36	01/19/13 04:06	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	106	%	60-140		1	01/18/13 14:36	01/19/13 04:06	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/17/13 21:20	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/17/13 21:20	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/17/13 21:20	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/17/13 21:20	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/17/13 21:20	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/17/13 21:20	762-75-4	

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

Sample: 15729 MW-35I **Lab ID: 92144989006** Collected: 01/11/13 11:10 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/17/13 21:20	107-06-2	
Diethyl ether (Ethyl ether)	ND	ug/L	5.0	1.9	1		01/17/13 21:20	60-29-7	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/17/13 21:20	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/17/13 21:20	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/17/13 21:20	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/17/13 21:20	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/17/13 21:20	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/17/13 21:20	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/17/13 21:20	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/17/13 21:20	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/17/13 21:20	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/17/13 21:20	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	88	%	70-130		1		01/17/13 21:20	460-00-4	
Dibromofluoromethane (S)	109	%	70-130		1		01/17/13 21:20	1868-53-7	
1,2-Dichloroethane-d4 (S)	117	%	70-130		1		01/17/13 21:20	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		01/17/13 21:20	2037-26-5	

Sample: 15729 MW-55 **Lab ID: 92144989007** Collected: 01/11/13 16:15 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.052**	ug/L	0.020	0.020	1	01/18/13 14:36	01/19/13 04:26	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	115	%	60-140		1	01/18/13 14:36	01/19/13 04:26	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**10400**	ug/L	500	384	5		01/18/13 13:30	75-85-4	
tert-Amylmethyl ether	**9.1J**	ug/L	10.0	3.4	1		01/17/13 22:52	994-05-8	
Benzene	**524**	ug/L	25.0	8.5	5		01/18/13 13:30	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/17/13 22:52	624-95-3	
tert-Butyl Alcohol	**192**	ug/L	100	57.7	1		01/17/13 22:52	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/17/13 22:52	762-75-4	
1,2-Dichloroethane	**94.2**	ug/L	5.0	1.8	1		01/17/13 22:52	107-06-2	
Diisopropyl ether	**142**	ug/L	5.0	1.7	1		01/17/13 22:52	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/17/13 22:52	64-17-5	
Ethylbenzene	**24.0**	ug/L	5.0	1.6	1		01/17/13 22:52	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/17/13 22:52	637-92-3	
Methyl-tert-butyl ether	**89.4**	ug/L	5.0	1.7	1		01/17/13 22:52	1634-04-4	
Naphthalene	**38.0**	ug/L	5.0	2.0	1		01/17/13 22:52	91-20-3	
Toluene	**74.6**	ug/L	5.0	1.6	1		01/17/13 22:52	108-88-3	
Xylene (Total)	**39.0**	ug/L	10.0	2.7	1		01/17/13 22:52	1330-20-7	
m&p-Xylene	**23.5**	ug/L	10.0	3.1	1		01/17/13 22:52	179601-23-1	

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

Sample: 15729 MW-55 **Lab ID: 92144989007** Collected: 01/11/13 16:15 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
o-Xylene	**15.5**	ug/L	5.0	1.6	1		01/17/13 22:52	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		01/17/13 22:52	460-00-4	
Dibromofluoromethane (S)	101	%	70-130		1		01/17/13 22:52	1868-53-7	
1,2-Dichloroethane-d4 (S)	109	%	70-130		1		01/17/13 22:52	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		01/17/13 22:52	2037-26-5	

Sample: 15729 MW-56 **Lab ID: 92144989008** Collected: 01/11/13 15:55 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/18/13 14:37	01/19/13 05:26	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	115	%	60-140		1	01/18/13 14:37	01/19/13 05:26	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**4620**	ug/L	2500	1920	25		01/18/13 13:49	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/18/13 00:43	994-05-8	
Benzene	**2100**	ug/L	125	42.5	25		01/18/13 13:49	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/18/13 00:43	624-95-3	
tert-Butyl Alcohol	**82.1J**	ug/L	100	57.7	1		01/18/13 00:43	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/18/13 00:43	762-75-4	
1,2-Dichloroethane	**10.3**	ug/L	5.0	1.8	1		01/18/13 00:43	107-06-2	
Diisopropyl ether	**15.0**	ug/L	5.0	1.7	1		01/18/13 00:43	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/18/13 00:43	64-17-5	
Ethylbenzene	**198**	ug/L	5.0	1.6	1		01/18/13 00:43	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/18/13 00:43	637-92-3	
Methyl-tert-butyl ether	**38.3**	ug/L	5.0	1.7	1		01/18/13 00:43	1634-04-4	
Naphthalene	**42.9**	ug/L	5.0	2.0	1		01/18/13 00:43	91-20-3	
Toluene	**299**	ug/L	125	40.0	25		01/18/13 13:49	108-88-3	
Xylene (Total)	**273**	ug/L	10.0	2.7	1		01/18/13 00:43	1330-20-7	
m&p-Xylene	**180**	ug/L	10.0	3.1	1		01/18/13 00:43	179601-23-1	
o-Xylene	**93.5**	ug/L	5.0	1.6	1		01/18/13 00:43	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		01/18/13 00:43	460-00-4	
Dibromofluoromethane (S)	94	%	70-130		1		01/18/13 00:43	1868-53-7	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		01/18/13 00:43	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		01/18/13 00:43	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

Sample: 15729 MW-57 **Lab ID: 92144989009** Collected: 01/11/13 13:45 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/18/13 14:37	01/19/13 06:05	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	116	%	60-140		1	01/18/13 14:37	01/19/13 06:05	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**3970**	ug/L	100	76.8	1		01/18/13 00:24	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/18/13 00:24	994-05-8	
Benzene	**944**	ug/L	50.0	17.0	10		01/18/13 14:07	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/18/13 00:24	624-95-3	
tert-Butyl Alcohol	**151**	ug/L	100	57.7	1		01/18/13 00:24	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/18/13 00:24	762-75-4	
1,2-Dichloroethane	**9.5**	ug/L	5.0	1.8	1		01/18/13 00:24	107-06-2	
Diisopropyl ether	**11.1**	ug/L	5.0	1.7	1		01/18/13 00:24	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/18/13 00:24	64-17-5	
Ethylbenzene	**327**	ug/L	50.0	16.0	10		01/18/13 14:07	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/18/13 00:24	637-92-3	
Methyl-tert-butyl ether	**37.2**	ug/L	5.0	1.7	1		01/18/13 00:24	1634-04-4	
Naphthalene	**54.3**	ug/L	5.0	2.0	1		01/18/13 00:24	91-20-3	
Toluene	**93.8**	ug/L	5.0	1.6	1		01/18/13 00:24	108-88-3	
Xylene (Total)	**317**	ug/L	10.0	2.7	1		01/18/13 00:24	1330-20-7	
m&p-Xylene	**236**	ug/L	10.0	3.1	1		01/18/13 00:24	179601-23-1	
o-Xylene	**81.0**	ug/L	5.0	1.6	1		01/18/13 00:24	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		01/18/13 00:24	460-00-4	
Dibromofluoromethane (S)	96	%	70-130		1		01/18/13 00:24	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		01/18/13 00:24	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		01/18/13 00:24	2037-26-5	

Sample: 15729 WSW-3 **Lab ID: 92144989010** Collected: 01/11/13 11:50 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/18/13 14:37	01/19/13 06:25	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	106	%	60-140		1	01/18/13 14:37	01/19/13 06:25	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		01/16/13 11:41	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		01/16/13 11:41	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		01/16/13 11:41	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		01/16/13 11:41	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		01/16/13 11:41	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		01/16/13 11:41	762-75-4	

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

Sample: 15729 WSW-3 **Lab ID: 92144989010** Collected: 01/11/13 11:50 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260								
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		01/16/13 11:41	107-06-2	
Diethyl ether (Ethyl ether)	ND	ug/L	1.0	0.18	1		01/16/13 11:41	60-29-7	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		01/16/13 11:41	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		01/16/13 11:41	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/16/13 11:41	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		01/16/13 11:41	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		01/16/13 11:41	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		01/16/13 11:41	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		01/16/13 11:41	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		01/16/13 11:41	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		01/16/13 11:41	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		01/16/13 11:41	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		01/16/13 11:41	460-00-4	
Dibromofluoromethane (S)	105	%	70-130		1		01/16/13 11:41	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		01/16/13 11:41	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		01/16/13 11:41	2037-26-5	

Sample: 15729 WSW-4 **Lab ID: 92144989011** Collected: 01/11/13 12:10 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/18/13 14:37	01/19/13 06:45	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	105	%	60-140		1	01/18/13 14:37	01/19/13 06:45	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		01/16/13 11:57	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		01/16/13 11:57	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		01/16/13 11:57	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		01/16/13 11:57	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		01/16/13 11:57	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		01/16/13 11:57	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		01/16/13 11:57	107-06-2	
Diethyl ether (Ethyl ether)	ND	ug/L	1.0	0.18	1		01/16/13 11:57	60-29-7	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		01/16/13 11:57	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		01/16/13 11:57	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/16/13 11:57	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		01/16/13 11:57	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		01/16/13 11:57	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		01/16/13 11:57	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		01/16/13 11:57	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		01/16/13 11:57	1330-20-7	

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

Sample: 15729 WSW-4 **Lab ID: 92144989011** Collected: 01/11/13 12:10 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260								
m&p-Xylene	ND	ug/L	2.0	0.66	1		01/16/13 11:57	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		01/16/13 11:57	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		01/16/13 11:57	460-00-4	
Dibromofluoromethane (S)	108	%	70-130		1		01/16/13 11:57	1868-53-7	
1,2-Dichloroethane-d4 (S)	112	%	70-130		1		01/16/13 11:57	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		01/16/13 11:57	2037-26-5	

Sample: 15729 CS-1 **Lab ID: 92144989012** Collected: 01/11/13 12:20 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/18/13 14:37	01/19/13 07:05	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	104	%	60-140		1	01/18/13 14:37	01/19/13 07:05	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		01/16/13 12:13	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		01/16/13 12:13	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		01/16/13 12:13	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		01/16/13 12:13	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		01/16/13 12:13	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		01/16/13 12:13	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		01/16/13 12:13	107-06-2	
Diethyl ether (Ethyl ether)	ND	ug/L	1.0	0.18	1		01/16/13 12:13	60-29-7	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		01/16/13 12:13	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		01/16/13 12:13	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/16/13 12:13	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		01/16/13 12:13	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		01/16/13 12:13	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		01/16/13 12:13	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		01/16/13 12:13	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		01/16/13 12:13	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		01/16/13 12:13	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		01/16/13 12:13	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		01/16/13 12:13	460-00-4	
Dibromofluoromethane (S)	109	%	70-130		1		01/16/13 12:13	1868-53-7	
1,2-Dichloroethane-d4 (S)	110	%	70-130		1		01/16/13 12:13	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		01/16/13 12:13	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

Sample: 15729 CS-2 **Lab ID: 92144989013** Collected: 01/11/13 12:30 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/18/13 14:37	01/19/13 07:25	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	106	%	60-140		1	01/18/13 14:37	01/19/13 07:25	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		01/16/13 12:29	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		01/16/13 12:29	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		01/16/13 12:29	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		01/16/13 12:29	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		01/16/13 12:29	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		01/16/13 12:29	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		01/16/13 12:29	107-06-2	
Diethyl ether (Ethyl ether)	ND	ug/L	1.0	0.18	1		01/16/13 12:29	60-29-7	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		01/16/13 12:29	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		01/16/13 12:29	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/16/13 12:29	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		01/16/13 12:29	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		01/16/13 12:29	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		01/16/13 12:29	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		01/16/13 12:29	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		01/16/13 12:29	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		01/16/13 12:29	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		01/16/13 12:29	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		01/16/13 12:29	460-00-4	
Dibromofluoromethane (S)	107	%	70-130		1		01/16/13 12:29	1868-53-7	
1,2-Dichloroethane-d4 (S)	109	%	70-130		1		01/16/13 12:29	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		01/16/13 12:29	2037-26-5	

Sample: 15729 FIELD BLANK #1 **Lab ID: 92144989014** Collected: 01/11/13 16:30 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.021	0.021	1	01/18/13 14:37	01/19/13 07:45	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	107	%	60-140		1	01/18/13 14:37	01/19/13 07:45	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/16/13 15:30	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/16/13 15:30	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/16/13 15:30	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/16/13 15:30	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/16/13 15:30	75-65-0	

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

Sample: 15729 FIELD BLANK #1 **Lab ID: 92144989014** Collected: 01/11/13 16:30 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/16/13 15:30	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/16/13 15:30	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/16/13 15:30	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/16/13 15:30	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/16/13 15:30	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/16/13 15:30	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/16/13 15:30	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/16/13 15:30	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/16/13 15:30	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/16/13 15:30	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/16/13 15:30	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/16/13 15:30	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	86	%	70-130		1		01/16/13 15:30	460-00-4	
Dibromofluoromethane (S)	108	%	70-130		1		01/16/13 15:30	1868-53-7	
1,2-Dichloroethane-d4 (S)	112	%	70-130		1		01/16/13 15:30	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		01/16/13 15:30	2037-26-5	

Sample: 15729 TRIP BLANK #1 **Lab ID: 92144989015** Collected: 01/11/13 16:35 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.021	0.021	1	01/18/13 14:38	01/19/13 08:05	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	108	%	60-140		1	01/18/13 14:38	01/19/13 08:05	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/16/13 15:12	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/16/13 15:12	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/16/13 15:12	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/16/13 15:12	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/16/13 15:12	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/16/13 15:12	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/16/13 15:12	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/16/13 15:12	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/16/13 15:12	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/16/13 15:12	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/16/13 15:12	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/16/13 15:12	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/16/13 15:12	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/16/13 15:12	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/16/13 15:12	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/16/13 15:12	179601-23-1	

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

Sample: 15729 TRIP BLANK #1 **Lab ID: 92144989015** Collected: 01/11/13 16:35 Received: 01/15/13 17:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
o-Xylene	ND	ug/L	5.0	1.6	1		01/16/13 15:12	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	85	%	70-130		1		01/16/13 15:12	460-00-4	
Dibromofluoromethane (S)	108	%	70-130		1		01/16/13 15:12	1868-53-7	
1,2-Dichloroethane-d4 (S)	112	%	70-130		1		01/16/13 15:12	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		01/16/13 15:12	2037-26-5	

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QUALITY CONTROL DATA

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

QC Batch: MSV/21717 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 92144989010, 92144989011, 92144989012, 92144989013

METHOD BLANK: 905605 Matrix: Water
Associated Lab Samples: 92144989010, 92144989011, 92144989012, 92144989013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	01/16/13 03:58	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	01/16/13 03:58	
Benzene	ug/L	ND	1.0	01/16/13 03:58	
Diethyl ether (Ethyl ether)	ug/L	ND	1.0	01/16/13 03:58	
Diisopropyl ether	ug/L	ND	1.0	01/16/13 03:58	
Ethanol	ug/L	ND	200	01/16/13 03:58	
Ethyl-tert-butyl ether	ug/L	ND	10.0	01/16/13 03:58	
Ethylbenzene	ug/L	ND	1.0	01/16/13 03:58	
m&p-Xylene	ug/L	ND	2.0	01/16/13 03:58	
Methyl-tert-butyl ether	ug/L	ND	1.0	01/16/13 03:58	
Naphthalene	ug/L	ND	1.0	01/16/13 03:58	
o-Xylene	ug/L	ND	1.0	01/16/13 03:58	
tert-Amyl Alcohol	ug/L	ND	100	01/16/13 03:58	
tert-Amylmethyl ether	ug/L	ND	10.0	01/16/13 03:58	
tert-Butyl Alcohol	ug/L	ND	100	01/16/13 03:58	
tert-Butyl Formate	ug/L	ND	50.0	01/16/13 03:58	
Toluene	ug/L	ND	1.0	01/16/13 03:58	
Xylene (Total)	ug/L	ND	2.0	01/16/13 03:58	
1,2-Dichloroethane-d4 (S)	%	106	70-130	01/16/13 03:58	
4-Bromofluorobenzene (S)	%	95	70-130	01/16/13 03:58	
Dibromofluoromethane (S)	%	107	70-130	01/16/13 03:58	
Toluene-d8 (S)	%	101	70-130	01/16/13 03:58	

LABORATORY CONTROL SAMPLE: 905606

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	47.0	94	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	936	94	70-130	
Benzene	ug/L	50	48.9	98	70-130	
Diethyl ether (Ethyl ether)	ug/L	50	50.2	100	70-130	
Diisopropyl ether	ug/L	50	51.9	104	70-130	
Ethanol	ug/L	2000	2140	107	70-130	
Ethyl-tert-butyl ether	ug/L	100	97.0	97	70-130	
Ethylbenzene	ug/L	50	46.8	94	70-130	
m&p-Xylene	ug/L	100	93.7	94	70-130	
Methyl-tert-butyl ether	ug/L	50	48.1	96	70-130	
Naphthalene	ug/L	50	53.1	106	70-130	
o-Xylene	ug/L	50	44.9	90	70-130	
tert-Amyl Alcohol	ug/L	1000	921	92	70-130	
tert-Amylmethyl ether	ug/L	100	113	113	70-130	
tert-Butyl Alcohol	ug/L	500	447	89	70-130	

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QUALITY CONTROL DATA

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

LABORATORY CONTROL SAMPLE: 905606

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Formate	ug/L	400	381	95	70-130	
Toluene	ug/L	50	47.9	96	70-130	
Xylene (Total)	ug/L	150	139	92	70-130	
1,2-Dichloroethane-d4 (S)	%			106	70-130	
4-Bromofluorobenzene (S)	%			97	70-130	
Dibromofluoromethane (S)	%			98	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 906200 906201

Parameter	Units	92144989011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	55.1	54.6	110	109	70-130	1	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	1030	1090	103	109	70-130	5	30	
Benzene	ug/L	ND	50	50	57.6	57.2	115	114	70-130	1	30	
Diethyl ether (Ethyl ether)	ug/L	ND	50	50	58.0	61.2	116	122	70-130	5	30	
Diisopropyl ether	ug/L	ND	50	50	59.8	60.1	120	120	70-130	0	30	
Ethanol	ug/L	ND	2000	2000	1990	2580	100	129	70-130	26	30	
Ethyl-tert-butyl ether	ug/L	ND	100	100	112	111	112	111	70-130	1	30	
Ethylbenzene	ug/L	ND	50	50	55.3	56.0	111	112	70-130	1	30	
m&p-Xylene	ug/L	ND	100	100	110	112	110	112	70-130	1	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	52.9	56.4	106	113	70-130	6	30	
Naphthalene	ug/L	ND	50	50	52.0	57.2	104	114	70-130	10	30	
o-Xylene	ug/L	ND	50	50	51.6	52.5	103	105	70-130	2	30	
tert-Amyl Alcohol	ug/L	ND	1000	1000	985	1040	98	104	70-130	6	30	
tert-Amylmethyl ether	ug/L	ND	100	100	125	126	125	126	70-130	2	30	
tert-Butyl Alcohol	ug/L	ND	500	500	645	714	129	143	70-130	10	30	M1
tert-Butyl Formate	ug/L	ND	400	400	120	95.6	30	24	70-130	22	30	M1
Toluene	ug/L	ND	50	50	56.5	56.8	113	114	70-130	0	30	
1,2-Dichloroethane-d4 (S)	%						107	107	70-130			
4-Bromofluorobenzene (S)	%						101	97	70-130			
Dibromofluoromethane (S)	%						100	100	70-130			
Toluene-d8 (S)	%						99	99	70-130			

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QUALITY CONTROL DATA

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

QC Batch: MSV/21727 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92144989001, 92144989002, 92144989004, 92144989005, 92144989014, 92144989015

METHOD BLANK: 906222 Matrix: Water
Associated Lab Samples: 92144989001, 92144989002, 92144989004, 92144989005, 92144989014, 92144989015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	01/16/13 14:03	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	01/16/13 14:03	
Benzene	ug/L	ND	5.0	01/16/13 14:03	
Diisopropyl ether	ug/L	ND	5.0	01/16/13 14:03	
Ethanol	ug/L	ND	200	01/16/13 14:03	
Ethyl-tert-butyl ether	ug/L	ND	10.0	01/16/13 14:03	
Ethylbenzene	ug/L	ND	5.0	01/16/13 14:03	
m&p-Xylene	ug/L	ND	10.0	01/16/13 14:03	
Methyl-tert-butyl ether	ug/L	ND	5.0	01/16/13 14:03	
Naphthalene	ug/L	ND	5.0	01/16/13 14:03	
o-Xylene	ug/L	ND	5.0	01/16/13 14:03	
tert-Amyl Alcohol	ug/L	ND	100	01/16/13 14:03	
tert-Amylmethyl ether	ug/L	ND	10.0	01/16/13 14:03	
tert-Butyl Alcohol	ug/L	ND	100	01/16/13 14:03	
tert-Butyl Formate	ug/L	ND	50.0	01/16/13 14:03	
Toluene	ug/L	ND	5.0	01/16/13 14:03	
Xylene (Total)	ug/L	ND	10.0	01/16/13 14:03	
1,2-Dichloroethane-d4 (S)	%	110	70-130	01/16/13 14:03	
4-Bromofluorobenzene (S)	%	84	70-130	01/16/13 14:03	
Dibromofluoromethane (S)	%	106	70-130	01/16/13 14:03	
Toluene-d8 (S)	%	100	70-130	01/16/13 14:03	

LABORATORY CONTROL SAMPLE: 906223

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	52.7	105	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	543	54	70-130	L0
Benzene	ug/L	50	51.4	103	70-130	
Diisopropyl ether	ug/L	50	57.8	116	70-130	
Ethanol	ug/L	2000	2700	135	70-130	L3
Ethyl-tert-butyl ether	ug/L	100	108	108	70-130	
Ethylbenzene	ug/L	50	52.5	105	70-130	
m&p-Xylene	ug/L	100	107	107	70-130	
Methyl-tert-butyl ether	ug/L	50	56.4	113	70-130	
Naphthalene	ug/L	50	55.0	110	70-130	
o-Xylene	ug/L	50	52.9	106	70-130	
tert-Amyl Alcohol	ug/L	1000	1090	109	70-130	
tert-Amylmethyl ether	ug/L	100	119	119	70-130	
tert-Butyl Alcohol	ug/L	500	595	119	70-130	
tert-Butyl Formate	ug/L	400	456	114	70-130	
Toluene	ug/L	50	51.1	102	70-130	

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QUALITY CONTROL DATA

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

LABORATORY CONTROL SAMPLE: 906223

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	160	106	70-130	
1,2-Dichloroethane-d4 (S)	%			104	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Dibromofluoromethane (S)	%			102	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 906224 906225

Parameter	Units	92144989005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	51.6	55.1	103	110	70-130	7	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	465	525	46	53	70-130	12	30	M0
Benzene	ug/L	ND	50	50	51.0	52.9	102	106	70-130	4	30	
Diisopropyl ether	ug/L	ND	50	50	57.0	60.2	114	120	70-130	5	30	
Ethanol	ug/L	ND	2000	2000	1350	2810	67	140	70-130	70	30	M0,R1
Ethyl-tert-butyl ether	ug/L	ND	100	100	105	112	105	112	70-130	7	30	
Ethylbenzene	ug/L	ND	50	50	52.2	53.7	104	107	70-130	3	30	
m&p-Xylene	ug/L	ND	100	100	106	109	106	109	70-130	3	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	53.9	57.7	108	115	70-130	7	30	
Naphthalene	ug/L	ND	50	50	52.2	55.0	104	110	70-130	5	30	
o-Xylene	ug/L	ND	50	50	51.0	52.5	102	105	70-130	3	30	
tert-Amyl Alcohol	ug/L	ND	1000	1000	969	1100	97	110	70-130	13	30	
tert-Amylmethyl ether	ug/L	ND	100	100	111	119	111	119	70-130	7	30	
tert-Butyl Alcohol	ug/L	ND	500	500	718	845	143	169	70-130	16	30	M0
tert-Butyl Formate	ug/L	ND	400	400	41.2J	33.1J	10	8	70-130		30	P5
Toluene	ug/L	ND	50	50	50.0	52.7	100	105	70-130	5	30	
1,2-Dichloroethane-d4 (S)	%						104	105	70-130			
4-Bromofluorobenzene (S)	%						96	95	70-130			
Dibromofluoromethane (S)	%						103	104	70-130			
Toluene-d8 (S)	%						98	98	70-130			

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QUALITY CONTROL DATA

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

QC Batch: MSV/21747 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92144989006, 92144989007, 92144989008, 92144989009

METHOD BLANK: 907514 Matrix: Water
Associated Lab Samples: 92144989006, 92144989007, 92144989008, 92144989009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	01/17/13 20:25	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	01/17/13 20:25	
Benzene	ug/L	ND	5.0	01/17/13 20:25	
Diethyl ether (Ethyl ether)	ug/L	ND	5.0	01/17/13 20:25	
Diisopropyl ether	ug/L	ND	5.0	01/17/13 20:25	
Ethanol	ug/L	ND	200	01/17/13 20:25	
Ethyl-tert-butyl ether	ug/L	ND	10.0	01/17/13 20:25	
Ethylbenzene	ug/L	ND	5.0	01/17/13 20:25	
m&p-Xylene	ug/L	ND	10.0	01/17/13 20:25	
Methyl-tert-butyl ether	ug/L	ND	5.0	01/17/13 20:25	
Naphthalene	ug/L	ND	5.0	01/17/13 20:25	
o-Xylene	ug/L	ND	5.0	01/17/13 20:25	
tert-Amyl Alcohol	ug/L	ND	100	01/17/13 20:25	
tert-Amylmethyl ether	ug/L	ND	10.0	01/17/13 20:25	
tert-Butyl Alcohol	ug/L	ND	100	01/17/13 20:25	
tert-Butyl Formate	ug/L	ND	50.0	01/17/13 20:25	
Toluene	ug/L	ND	5.0	01/17/13 20:25	
Xylene (Total)	ug/L	ND	10.0	01/17/13 20:25	
1,2-Dichloroethane-d4 (S)	%	111	70-130	01/17/13 20:25	
4-Bromofluorobenzene (S)	%	85	70-130	01/17/13 20:25	
Dibromofluoromethane (S)	%	106	70-130	01/17/13 20:25	
Toluene-d8 (S)	%	99	70-130	01/17/13 20:25	

LABORATORY CONTROL SAMPLE: 907515

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	54.4	109	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	561	56	70-130	L0
Benzene	ug/L	50	51.7	103	70-130	
Diethyl ether (Ethyl ether)	ug/L	50	57.3	115	70-130	
Diisopropyl ether	ug/L	50	58.3	117	70-130	
Ethanol	ug/L	2000	3180	159	70-130	L3
Ethyl-tert-butyl ether	ug/L	100	109	109	70-130	
Ethylbenzene	ug/L	50	52.4	105	70-130	
m&p-Xylene	ug/L	100	107	107	70-130	
Methyl-tert-butyl ether	ug/L	50	56.0	112	70-130	
Naphthalene	ug/L	50	55.0	110	70-130	
o-Xylene	ug/L	50	52.5	105	70-130	
tert-Amyl Alcohol	ug/L	1000	1150	115	70-130	
tert-Amylmethyl ether	ug/L	100	118	118	70-130	
tert-Butyl Alcohol	ug/L	500	642	128	70-130	

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QUALITY CONTROL DATA

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

LABORATORY CONTROL SAMPLE: 907515

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Formate	ug/L	400	442	110	70-130	
Toluene	ug/L	50	51.1	102	70-130	
Xylene (Total)	ug/L	150	160	107	70-130	
1,2-Dichloroethane-d4 (S)	%			104	70-130	
4-Bromofluorobenzene (S)	%			95	70-130	
Dibromofluoromethane (S)	%			103	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 907516 907517

Parameter	Units	92144989006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	41.3	48.7	83	97	70-130	16	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	341	475	34	48	70-130	33	30	M0,R1
Benzene	ug/L	ND	50	50	40.4	47.1	81	94	70-130	15	30	
Diethyl ether (Ethyl ether)	ug/L	ND	50	50	43.9	51.8	88	104	70-130	17	30	
Diisopropyl ether	ug/L	ND	50	50	44.8	53.3	90	107	70-130	17	30	
Ethanol	ug/L	ND	2000	2000	2680	3150	134	157	70-130	16	30	M0
Ethyl-tert-butyl ether	ug/L	ND	100	100	84.3	99.7	84	100	70-130	17	30	
Ethylbenzene	ug/L	ND	50	50	40.7	47.8	81	96	70-130	16	30	
m&p-Xylene	ug/L	ND	100	100	81.9	97.0	82	97	70-130	17	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	42.8	51.1	86	102	70-130	18	30	
Naphthalene	ug/L	ND	50	50	42.7	47.7	85	95	70-130	11	30	
o-Xylene	ug/L	ND	50	50	39.6	46.7	79	93	70-130	17	30	
tert-Amyl Alcohol	ug/L	ND	1000	1000	703	992	70	99	70-130	34	30	R1
tert-Amylmethyl ether	ug/L	ND	100	100	88.6	105	89	105	70-130	17	30	
tert-Butyl Alcohol	ug/L	ND	500	500	470	725	94	145	70-130	43	30	M0,R1
tert-Butyl Formate	ug/L	ND	400	400	115	110	29	27	70-130	5	30	P5
Toluene	ug/L	ND	50	50	39.8	46.7	80	93	70-130	16	30	
1,2-Dichloroethane-d4 (S)	%						105	105	70-130			
4-Bromofluorobenzene (S)	%						94	96	70-130			
Dibromofluoromethane (S)	%						104	103	70-130			
Toluene-d8 (S)	%						97	99	70-130			

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QUALITY CONTROL DATA

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

QC Batch: MSV/21762
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV SC
Associated Lab Samples: 92144989003

METHOD BLANK: 908175
Matrix: Water
Associated Lab Samples: 92144989003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	01/24/13 12:26	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	01/24/13 12:26	
Benzene	ug/L	ND	5.0	01/24/13 12:26	
Diisopropyl ether	ug/L	ND	5.0	01/24/13 12:26	
Ethanol	ug/L	ND	200	01/24/13 12:26	
Ethyl-tert-butyl ether	ug/L	ND	10.0	01/24/13 12:26	
Ethylbenzene	ug/L	ND	5.0	01/24/13 12:26	
m&p-Xylene	ug/L	ND	10.0	01/24/13 12:26	
Methyl-tert-butyl ether	ug/L	ND	5.0	01/24/13 12:26	
Naphthalene	ug/L	ND	5.0	01/24/13 12:26	
o-Xylene	ug/L	ND	5.0	01/24/13 12:26	
tert-Amyl Alcohol	ug/L	ND	100	01/24/13 12:26	
tert-Amylmethyl ether	ug/L	ND	10.0	01/24/13 12:26	
tert-Butyl Alcohol	ug/L	ND	100	01/24/13 12:26	
tert-Butyl Formate	ug/L	ND	50.0	01/24/13 12:26	
Toluene	ug/L	ND	5.0	01/24/13 12:26	
Xylene (Total)	ug/L	ND	10.0	01/24/13 12:26	
1,2-Dichloroethane-d4 (S)	%	112	70-130	01/24/13 12:26	
4-Bromofluorobenzene (S)	%	88	70-130	01/24/13 12:26	
Dibromofluoromethane (S)	%	109	70-130	01/24/13 12:26	
Toluene-d8 (S)	%	100	70-130	01/24/13 12:26	

LABORATORY CONTROL SAMPLE: 908176

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	45.7	91	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1060	106	70-130	
Benzene	ug/L	50	42.3	85	70-130	
Diisopropyl ether	ug/L	50	49.2	98	70-130	
Ethanol	ug/L	2000	5950	298	70-130	L0
Ethyl-tert-butyl ether	ug/L	100	92.3	92	70-130	
Ethylbenzene	ug/L	50	43.2	86	70-130	
m&p-Xylene	ug/L	100	88.1	88	70-130	
Methyl-tert-butyl ether	ug/L	50	47.3	95	70-130	
Naphthalene	ug/L	50	49.0	98	70-130	
o-Xylene	ug/L	50	43.0	86	70-130	
tert-Amyl Alcohol	ug/L	1000	1220	122	70-130	
tert-Amylmethyl ether	ug/L	100	100	100	70-130	
tert-Butyl Alcohol	ug/L	500	571	114	70-130	
tert-Butyl Formate	ug/L	400	386	97	70-130	
Toluene	ug/L	50	42.6	85	70-130	

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QUALITY CONTROL DATA

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

LABORATORY CONTROL SAMPLE: 908176

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	131	87	70-130	
1,2-Dichloroethane-d4 (S)	%			105	70-130	
4-Bromofluorobenzene (S)	%			95	70-130	
Dibromofluoromethane (S)	%			103	70-130	
Toluene-d8 (S)	%			99	70-130	

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QUALITY CONTROL DATA

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

QC Batch: OEXT/20432 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92144989001, 92144989002, 92144989003

METHOD BLANK: 907839 Matrix: Water
Associated Lab Samples: 92144989001, 92144989002, 92144989003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.021	01/18/13 17:22	
1-Chloro-2-bromopropane (S)	%	102	60-140	01/18/13 17:22	

LABORATORY CONTROL SAMPLE & LCSD: 907840 907841

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.27	0.26	92	90	60-140	2	20	
1-Chloro-2-bromopropane (S)	%				103	99	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 907842 907843

Parameter	Units	92144989001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.29	.29	0.26	0.27	92	94	60-140	2	20	
1-Chloro-2-bromopropane (S)	%						96	99	60-140			

SAMPLE DUPLICATE: 907844

Parameter	Units	92144989002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	99	101	4		

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QUALITY CONTROL DATA

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

QC Batch: OEXT/20433 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92144989004, 92144989005, 92144989006, 92144989007, 92144989008, 92144989009, 92144989010, 92144989011, 92144989012, 92144989013, 92144989014, 92144989015

METHOD BLANK: 907850 Matrix: Water
Associated Lab Samples: 92144989004, 92144989005, 92144989006, 92144989007, 92144989008, 92144989009, 92144989010, 92144989011, 92144989012, 92144989013, 92144989014, 92144989015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	01/19/13 02:25	
1-Chloro-2-bromopropane (S)	%	104	60-140	01/19/13 02:25	

LABORATORY CONTROL SAMPLE & LCSD: 907851 907852

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.27	0.27	94	96	60-140	0	20	
1-Chloro-2-bromopropane (S)	%				103	103	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 907853 907854

Parameter	Units	92144989007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	0.052	.3	.3	0.33	0.33	92	92	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						116	117	60-140			

SAMPLE DUPLICATE: 907855

Parameter	Units	92144989008 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	115	115	4		

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QUALIFIERS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine(8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

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TNI - The NELAC Institute.

LABORATORIES

PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

C2	Relative percent difference between results from each column was greater than 40%. The lower of the two results was reported.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92144989

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92144989001	15729 MW-8	EPA 8011	OEXT/20432	EPA 8011	GCSV/13754
92144989002	15729 MW-9	EPA 8011	OEXT/20432	EPA 8011	GCSV/13754
92144989003	15729 MW-10	EPA 8011	OEXT/20432	EPA 8011	GCSV/13754
92144989004	15729 MW-21	EPA 8011	OEXT/20433	EPA 8011	GCSV/13755
92144989005	15729 MW-32	EPA 8011	OEXT/20433	EPA 8011	GCSV/13755
92144989006	15729 MW-35I	EPA 8011	OEXT/20433	EPA 8011	GCSV/13755
92144989007	15729 MW-55	EPA 8011	OEXT/20433	EPA 8011	GCSV/13755
92144989008	15729 MW-56	EPA 8011	OEXT/20433	EPA 8011	GCSV/13755
92144989009	15729 MW-57	EPA 8011	OEXT/20433	EPA 8011	GCSV/13755
92144989010	15729 WSW-3	EPA 8011	OEXT/20433	EPA 8011	GCSV/13755
92144989011	15729 WSW-4	EPA 8011	OEXT/20433	EPA 8011	GCSV/13755
92144989012	15729 CS-1	EPA 8011	OEXT/20433	EPA 8011	GCSV/13755
92144989013	15729 CS-2	EPA 8011	OEXT/20433	EPA 8011	GCSV/13755
92144989014	15729 FIELD BLANK #1	EPA 8011	OEXT/20433	EPA 8011	GCSV/13755
92144989015	15729 TRIP BLANK #1	EPA 8011	OEXT/20433	EPA 8011	GCSV/13755
92144989010	15729 WSW-3	EPA 8260	MSV/21717		
92144989011	15729 WSW-4	EPA 8260	MSV/21717		
92144989012	15729 CS-1	EPA 8260	MSV/21717		
92144989013	15729 CS-2	EPA 8260	MSV/21717		
92144989001	15729 MW-8	EPA 8260	MSV/21727		
92144989002	15729 MW-9	EPA 8260	MSV/21727		
92144989003	15729 MW-10	EPA 8260	MSV/21762		
92144989004	15729 MW-21	EPA 8260	MSV/21727		
92144989005	15729 MW-32	EPA 8260	MSV/21727		
92144989006	15729 MW-35I	EPA 8260	MSV/21747		
92144989007	15729 MW-55	EPA 8260	MSV/21747		
92144989008	15729 MW-56	EPA 8260	MSV/21747		
92144989009	15729 MW-57	EPA 8260	MSV/21747		
92144989014	15729 FIELD BLANK #1	EPA 8260	MSV/21727		
92144989015	15729 TRIP BLANK #1	EPA 8260	MSV/21727		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

1-COOLER

Page: 1 of 2

1508010

Section A Required Client Information:

Company:	Emerald Inc.
Address:	2520 Tahoe Dr. Sumter, SC 29150
Email To:	
Phone:	(803) 469-5454
Fax:	
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Ronny Lowder
Copy To:	
Purchase Order No.:	
Project Name:	H.W. Detwiler Co.
Project Number:	15729

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	A. Baioni
Pace Profile #:	3876-15

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTEX, N,M (8260 B)	1,2 DCA (8260 B)	Oxygenates (8260 B)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92144989
1	15729 MW-8	WT	G			1/11/13	1425		6				6						X	X	X	X		001
2	" " MW-9					"	1325																	002
3	" " MW-10					"	1450																	003
4	" " MW-21					"	1430																	004
5	" " MW-32					"	1140																	005
6	" " MW-351					"	1110																	006
7	" " MW-55					"	1615																	007
8	" " MW-56					"	1555																	008
9	" " MW-57					"	1345																	009
10	" " WSW-3					"	1150																*	Use low detection limits 010
11	" " WSW-4					"	1210																*	" " " 011
12	" " CS-1					"	1220		6				6						X	X	X	X	*	" " " 012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Robbie Robertson	1/14/13	0800	[signature]	1/14/13	800	
	[signature]	1/14/13	1700	[signature]	1-14-13	1700	
	Beaver			G Moody-Pace	1-15-13	16:55	
	George Moody	1-15-13	17:50	[signature] Pace	1-15-13	1750	2.6 Y N Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robbie Robertson

SIGNATURE of SAMPLER: Robbie Robertson

DATE Signed (MM/DD/YY): 1/14/13

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of 2

1508011

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Emerald Inc.	Report To: Ronny Lowder	Attention:
Address: 2520 Tahoe Dr. Sumter, SC 29150	Copy To:	Company Name:
Email To:	Purchase Order No.:	Address:
Phone: (803) 469-5454 Fax:	Project Name: H.W. Detwiler Co.	Pace Quote Reference:
Requested Due Date/TAT: Standard	Project Number: 15729	Pace Project Manager: A. Baioni
		Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

ITEM #	Section D Required Client Information: SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test ↓: Btex, M/N	1,2 DCA (8260B)	Oxygenates (8011)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	15729 CS-2	WT	G			1/11/13	1230		6				6						X	X	X	X	#	92144989 Use low detection limits 002
2	" " Field Blank #1	↓	↓			"	1630		6				6											004
3	" " Trip Blank #1					"	1635		2				2											005
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Robbie Robertson	1/14/13	0800		1/14/13	800				
		1/14/13	1700	R Steele	1-14-13	17:00				
	Beaver			B Moody-Pace	1-15-13	16:55				
	Bruce Moody	1-15-13	17:50	Moody Pace	1-15-13	1750	2.6	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robbie Robertson

SIGNATURE of SAMPLER: Robbie Robertson DATE Signed (MM/DD/YY): 1/14/13

Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: October 31, 2012 Page 1 of 2
	Document Number: F-CHR-CS-03-rev.08	Issuing Authority: Pace Huntersville Quality Office

Client Name: Emerald Project # 92144989

Where Received: ☐ Huntersville ☐ Asheville ☐ Eden ☐ Raleigh

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no **Seals Intact:** ☐ yes ☐ no

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1101 (T1102) **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

Temp Correction Factor T1101: No Correction T1102: No Correction

Corrected Cooler Temp.: 2.0 C **Biological Tissue is Frozen:** Yes No N/A

Date and Initials of person examining contents: 11/15

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:_____		
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	Initial when completed
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☑Yes ☐No ☐N/A	16.
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	
Pace Trip Blank Lot # (If purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted:_____ Date/Time:_____

Comments/ Resolution:_____

SCURF Review: AMB **Date:** 11/15/13 **SRF Review:** AMB **Date:** 11/16/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

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Huntersville, NC 28078
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January 28, 2013

Mr. Ronny Lowder
Emerald, Inc.
2520 Tahoe Drive
Sumter, SC 29150

RE: Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

Dear Mr. Lowder:
Enclosed are the analytical results for sample(s) received by the laboratory on January 16, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angela M. Baioni

Angela Baioni

angela.baioni@pacelabs.com
Project Manager

Enclosures

cc: Ms. Robbin Brown, Emerald, Inc.

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CERTIFICATIONS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

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SAMPLE SUMMARY

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92145186001	15729 MW-11	Water	01/14/13 12:20	01/16/13 16:40
92145186002	15729 MW-14	Water	01/14/13 17:00	01/16/13 16:40
92145186003	15729 MW-22	Water	01/14/13 15:15	01/16/13 16:40
92145186004	15729 MW-26	Water	01/14/13 16:15	01/16/13 16:40
92145186005	15729 MW-27	Water	01/14/13 14:00	01/16/13 16:40
92145186006	15729 MW-31	Water	01/14/13 13:40	01/16/13 16:40
92145186007	15729 MW-33	Water	01/14/13 17:15	01/16/13 16:40
92145186008	15729 MW-34D	Water	01/14/13 15:55	01/16/13 16:40
92145186009	15729 MW-42	Water	01/14/13 11:50	01/16/13 16:40
92145186010	15729 MW-52	Water	01/14/13 11:20	01/16/13 16:40
92145186011	15729 MW-53	Water	01/14/13 12:40	01/16/13 16:40
92145186012	15729 MW-54	Water	01/14/13 13:10	01/16/13 16:40
92145186013	15729 Field Blank #2	Water	01/14/13 16:30	01/16/13 16:40
92145186014	15729 Trip Blank #2	Water	01/14/13 16:35	01/16/13 16:40

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SAMPLE ANALYTE COUNT

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92145186001	**15729 MW-11**	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	22	PASI-C
92145186002	**15729 MW-14**	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	22	PASI-C
92145186003	**15729 MW-22**	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	22	PASI-C
92145186004	**15729 MW-26**	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	22	PASI-C
92145186005	**15729 MW-27**	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	22	PASI-C
92145186006	**15729 MW-31**	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	22	PASI-C
92145186007	**15729 MW-33**	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	22	PASI-C
92145186008	**15729 MW-34D**	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	22	PASI-C
92145186009	**15729 MW-42**	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	22	PASI-C
92145186010	**15729 MW-52**	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	22	PASI-C
92145186011	**15729 MW-53**	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	22	PASI-C
92145186012	**15729 MW-54**	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	22	PASI-C
92145186013	**15729 Field Blank #2**	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	22	PASI-C
92145186014	**15729 Trip Blank #2**	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	22	PASI-C

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

Sample: 15729 MW-11 **Lab ID: 92145186001** Collected: 01/14/13 12:20 Received: 01/16/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.082**	ug/L	0.020	0.020	1	01/18/13 14:38	01/19/13 08:25	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	117	%	60-140		1	01/18/13 14:38	01/19/13 08:25	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**4390**	ug/L	1000	768	10		01/25/13 11:35	75-85-4	
tert-Amylmethyl ether	ND	ug/L	100	34.0	10		01/25/13 11:35	994-05-8	
Benzene	**1470**	ug/L	50.0	17.0	10		01/25/13 11:35	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	321	10		01/25/13 11:35	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1000	577	10		01/25/13 11:35	75-65-0	
tert-Butyl Formate	ND	ug/L	500	73.0	10		01/25/13 11:35	762-75-4	
1,2-Dichlorobenzene	ND	ug/L	50.0	15.0	10		01/25/13 11:35	95-50-1	
Diethyl ether (Ethyl ether)	ND	ug/L	50.0	19.0	10		01/25/13 11:35	60-29-7	
Diisopropyl ether	**73.3**	ug/L	50.0	17.0	10		01/25/13 11:35	108-20-3	
Ethanol	ND	ug/L	2000	1380	10		01/25/13 11:35	64-17-5	
Ethylbenzene	**49.1J**	ug/L	50.0	16.0	10		01/25/13 11:35	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	36.0	10		01/25/13 11:35	637-92-3	
Methyl-tert-butyl ether	**28.3J**	ug/L	50.0	17.0	10		01/25/13 11:35	1634-04-4	
Naphthalene	**36.5J**	ug/L	50.0	20.0	10		01/25/13 11:35	91-20-3	
Toluene	**23.9J**	ug/L	50.0	16.0	10		01/25/13 11:35	108-88-3	
Xylene (Total)	ND	ug/L	100	27.0	10		01/25/13 11:35	1330-20-7	
m&p-Xylene	ND	ug/L	100	31.0	10		01/25/13 11:35	179601-23-1	
o-Xylene	ND	ug/L	50.0	16.0	10		01/25/13 11:35	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	91	%	70-130		10		01/25/13 11:35	460-00-4	
Dibromofluoromethane (S)	104	%	70-130		10		01/25/13 11:35	1868-53-7	
1,2-Dichloroethane-d4 (S)	108	%	70-130		10		01/25/13 11:35	17060-07-0	
Toluene-d8 (S)	100	%	70-130		10		01/25/13 11:35	2037-26-5	

Sample: 15729 MW-14 **Lab ID: 92145186002** Collected: 01/14/13 17:00 Received: 01/16/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.024**	ug/L	0.021	0.021	1	01/18/13 14:38	01/19/13 08:45	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	106	%	60-140		1	01/18/13 14:38	01/19/13 08:45	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**1270**	ug/L	250	192	2.5		01/25/13 11:53	75-85-4	
tert-Amylmethyl ether	ND	ug/L	25.0	8.5	2.5		01/25/13 11:53	994-05-8	
Benzene	**421**	ug/L	12.5	4.2	2.5		01/25/13 11:53	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	250	80.2	2.5		01/25/13 11:53	624-95-3	
tert-Butyl Alcohol	ND	ug/L	250	144	2.5		01/25/13 11:53	75-65-0	

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(704)875-9092

ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

Sample: 15729 MW-14 **Lab ID: 92145186002** Collected: 01/14/13 17:00 Received: 01/16/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Butyl Formate	ND	ug/L	125	18.2	2.5		01/25/13 11:53	762-75-4	
1,2-Dichlorobenzene	ND	ug/L	12.5	3.8	2.5		01/25/13 11:53	95-50-1	
Diethyl ether (Ethyl ether)	ND	ug/L	12.5	4.8	2.5		01/25/13 11:53	60-29-7	
Diisopropyl ether	ND	ug/L	12.5	4.2	2.5		01/25/13 11:53	108-20-3	
Ethanol	ND	ug/L	500	344	2.5		01/25/13 11:53	64-17-5	
Ethylbenzene	**200**	ug/L	12.5	4.0	2.5		01/25/13 11:53	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	25.0	9.0	2.5		01/25/13 11:53	637-92-3	
Methyl-tert-butyl ether	**10.5J**	ug/L	12.5	4.2	2.5		01/25/13 11:53	1634-04-4	
Naphthalene	**33.3**	ug/L	12.5	5.0	2.5		01/25/13 11:53	91-20-3	
Toluene	**431**	ug/L	12.5	4.0	2.5		01/25/13 11:53	108-88-3	
Xylene (Total)	**497**	ug/L	25.0	6.8	2.5		01/25/13 11:53	1330-20-7	
m&p-Xylene	**332**	ug/L	25.0	7.8	2.5		01/25/13 11:53	179601-23-1	
o-Xylene	**165**	ug/L	12.5	4.0	2.5		01/25/13 11:53	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	92	%	70-130		2.5		01/25/13 11:53	460-00-4	
Dibromofluoromethane (S)	103	%	70-130		2.5		01/25/13 11:53	1868-53-7	
1,2-Dichloroethane-d4 (S)	106	%	70-130		2.5		01/25/13 11:53	17060-07-0	
Toluene-d8 (S)	100	%	70-130		2.5		01/25/13 11:53	2037-26-5	

Sample: 15729 MW-22 **Lab ID: 92145186003** Collected: 01/14/13 15:15 Received: 01/16/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/18/13 14:38	01/19/13 09:05	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	107	%	60-140		1	01/18/13 14:38	01/19/13 09:05	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/17/13 21:39	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/17/13 21:39	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/17/13 21:39	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/17/13 21:39	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/17/13 21:39	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/17/13 21:39	762-75-4	
1,2-Dichlorobenzene	ND	ug/L	5.0	1.5	1		01/17/13 21:39	95-50-1	
Diethyl ether (Ethyl ether)	ND	ug/L	5.0	1.9	1		01/17/13 21:39	60-29-7	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/17/13 21:39	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/17/13 21:39	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/17/13 21:39	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/17/13 21:39	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/17/13 21:39	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/17/13 21:39	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/17/13 21:39	108-88-3	

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

Sample: 15729 MW-22 **Lab ID: 92145186003** Collected: 01/14/13 15:15 Received: 01/16/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/17/13 21:39	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/17/13 21:39	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/17/13 21:39	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	86	%	70-130		1		01/17/13 21:39	460-00-4	
Dibromofluoromethane (S)	112	%	70-130		1		01/17/13 21:39	1868-53-7	
1,2-Dichloroethane-d4 (S)	119	%	70-130		1		01/17/13 21:39	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		01/17/13 21:39	2037-26-5	

Sample: 15729 MW-26 **Lab ID: 92145186004** Collected: 01/14/13 16:15 Received: 01/16/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.021	0.021	1	01/18/13 14:38	01/19/13 09:25	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	115	%	60-140		1	01/18/13 14:38	01/19/13 09:25	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**3390**	ug/L	1000	768	10		01/25/13 12:12	75-85-4	
tert-Amylmethyl ether	ND	ug/L	100	34.0	10		01/25/13 12:12	994-05-8	
Benzene	**1080**	ug/L	50.0	17.0	10		01/25/13 12:12	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	321	10		01/25/13 12:12	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1000	577	10		01/25/13 12:12	75-65-0	
tert-Butyl Formate	ND	ug/L	500	73.0	10		01/25/13 12:12	762-75-4	
1,2-Dichlorobenzene	ND	ug/L	50.0	15.0	10		01/25/13 12:12	95-50-1	
Diethyl ether (Ethyl ether)	ND	ug/L	50.0	19.0	10		01/25/13 12:12	60-29-7	
Diisopropyl ether	ND	ug/L	50.0	17.0	10		01/25/13 12:12	108-20-3	
Ethanol	ND	ug/L	2000	1380	10		01/25/13 12:12	64-17-5	
Ethylbenzene	**235**	ug/L	50.0	16.0	10		01/25/13 12:12	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	36.0	10		01/25/13 12:12	637-92-3	
Methyl-tert-butyl ether	**23.7J**	ug/L	50.0	17.0	10		01/25/13 12:12	1634-04-4	
Naphthalene	**46.1J**	ug/L	50.0	20.0	10		01/25/13 12:12	91-20-3	
Toluene	**324**	ug/L	50.0	16.0	10		01/25/13 12:12	108-88-3	
Xylene (Total)	**505**	ug/L	100	27.0	10		01/25/13 12:12	1330-20-7	
m&p-Xylene	**348**	ug/L	100	31.0	10		01/25/13 12:12	179601-23-1	
o-Xylene	**157**	ug/L	50.0	16.0	10		01/25/13 12:12	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	92	%	70-130		10		01/25/13 12:12	460-00-4	
Dibromofluoromethane (S)	103	%	70-130		10		01/25/13 12:12	1868-53-7	
1,2-Dichloroethane-d4 (S)	107	%	70-130		10		01/25/13 12:12	17060-07-0	
Toluene-d8 (S)	101	%	70-130		10		01/25/13 12:12	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

Sample: 15729 MW-27 **Lab ID: 92145186005** Collected: 01/14/13 14:00 Received: 01/16/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.021	0.021	1	01/18/13 14:38	01/19/13 09:45	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	106	%	60-140		1	01/18/13 14:38	01/19/13 09:45	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**487**	ug/L	100	76.8	1		01/24/13 15:29	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/24/13 15:29	994-05-8	
Benzene	**178**	ug/L	10.0	3.4	2		01/25/13 12:30	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/24/13 15:29	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/24/13 15:29	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/24/13 15:29	762-75-4	
1,2-Dichlorobenzene	ND	ug/L	5.0	1.5	1		01/24/13 15:29	95-50-1	
Diethyl ether (Ethyl ether)	ND	ug/L	5.0	1.9	1		01/24/13 15:29	60-29-7	
Diisopropyl ether	**3.4J**	ug/L	5.0	1.7	1		01/24/13 15:29	108-20-3	
Ethanol	**453**	ug/L	200	138	1		01/24/13 15:29	64-17-5	
Ethylbenzene	**9.8**	ug/L	5.0	1.6	1		01/24/13 15:29	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/24/13 15:29	637-92-3	
Methyl-tert-butyl ether	**6.9**	ug/L	5.0	1.7	1		01/24/13 15:29	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/24/13 15:29	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/24/13 15:29	108-88-3	
Xylene (Total)	**4.5J**	ug/L	10.0	2.7	1		01/24/13 15:29	1330-20-7	
m&p-Xylene	**3.2J**	ug/L	10.0	3.1	1		01/24/13 15:29	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/24/13 15:29	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	90	%	70-130		1		01/24/13 15:29	460-00-4	
Dibromofluoromethane (S)	103	%	70-130		1		01/24/13 15:29	1868-53-7	
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		01/24/13 15:29	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		01/24/13 15:29	2037-26-5	

Sample: 15729 MW-31 **Lab ID: 92145186006** Collected: 01/14/13 13:40 Received: 01/16/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.058**	ug/L	0.020	0.020	1	01/18/13 14:38	01/19/13 10:05	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	113	%	60-140		1	01/18/13 14:38	01/19/13 10:05	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**242**	ug/L	100	76.8	1		01/17/13 21:57	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/17/13 21:57	994-05-8	
Benzene	**135**	ug/L	5.0	1.7	1		01/17/13 21:57	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/17/13 21:57	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/17/13 21:57	75-65-0	

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

Sample: 15729 MW-31 **Lab ID: 92145186006** Collected: 01/14/13 13:40 Received: 01/16/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/17/13 21:57	762-75-4	
1,2-Dichlorobenzene	ND	ug/L	5.0	1.5	1		01/17/13 21:57	95-50-1	
Diethyl ether (Ethyl ether)	ND	ug/L	5.0	1.9	1		01/17/13 21:57	60-29-7	
Diisopropyl ether	**4.8J**	ug/L	5.0	1.7	1		01/17/13 21:57	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/17/13 21:57	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/17/13 21:57	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/17/13 21:57	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/17/13 21:57	1634-04-4	
Naphthalene	**3.1J**	ug/L	5.0	2.0	1		01/17/13 21:57	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/17/13 21:57	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/17/13 21:57	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/17/13 21:57	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/17/13 21:57	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	90	%	70-130		1		01/17/13 21:57	460-00-4	
Dibromofluoromethane (S)	103	%	70-130		1		01/17/13 21:57	1868-53-7	
1,2-Dichloroethane-d4 (S)	109	%	70-130		1		01/17/13 21:57	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		01/17/13 21:57	2037-26-5	

Sample: 15729 MW-33 **Lab ID: 92145186007** Collected: 01/14/13 17:15 Received: 01/16/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/18/13 14:38	01/19/13 10:25	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	102	%	60-140		1	01/18/13 14:38	01/19/13 10:25	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/17/13 22:15	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/17/13 22:15	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/17/13 22:15	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/17/13 22:15	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/17/13 22:15	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/17/13 22:15	762-75-4	
1,2-Dichlorobenzene	ND	ug/L	5.0	1.5	1		01/17/13 22:15	95-50-1	
Diethyl ether (Ethyl ether)	ND	ug/L	5.0	1.9	1		01/17/13 22:15	60-29-7	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/17/13 22:15	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/17/13 22:15	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/17/13 22:15	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/17/13 22:15	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/17/13 22:15	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/17/13 22:15	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/17/13 22:15	108-88-3	

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

Sample: 15729 MW-33 **Lab ID: 92145186007** Collected: 01/14/13 17:15 Received: 01/16/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/17/13 22:15	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/17/13 22:15	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/17/13 22:15	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	87	%	70-130		1		01/17/13 22:15	460-00-4	
Dibromofluoromethane (S)	113	%	70-130		1		01/17/13 22:15	1868-53-7	
1,2-Dichloroethane-d4 (S)	118	%	70-130		1		01/17/13 22:15	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		01/17/13 22:15	2037-26-5	

Sample: 15729 MW-34D **Lab ID: 92145186008** Collected: 01/14/13 15:55 Received: 01/16/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.021	0.021	1	01/18/13 14:38	01/19/13 10:46	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	104	%	60-140		1	01/18/13 14:38	01/19/13 10:46	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/17/13 22:34	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/17/13 22:34	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/17/13 22:34	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/17/13 22:34	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/17/13 22:34	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/17/13 22:34	762-75-4	
1,2-Dichlorobenzene	ND	ug/L	5.0	1.5	1		01/17/13 22:34	95-50-1	
Diethyl ether (Ethyl ether)	ND	ug/L	5.0	1.9	1		01/17/13 22:34	60-29-7	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/17/13 22:34	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/17/13 22:34	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/17/13 22:34	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/17/13 22:34	637-92-3	
Methyl-tert-butyl ether	**1.9J**	ug/L	5.0	1.7	1		01/17/13 22:34	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/17/13 22:34	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/17/13 22:34	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/17/13 22:34	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/17/13 22:34	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/17/13 22:34	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	86	%	70-130		1		01/17/13 22:34	460-00-4	
Dibromofluoromethane (S)	111	%	70-130		1		01/17/13 22:34	1868-53-7	
1,2-Dichloroethane-d4 (S)	117	%	70-130		1		01/17/13 22:34	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		01/17/13 22:34	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

Sample: 15729 MW-42 **Lab ID: 92145186009** Collected: 01/14/13 11:50 Received: 01/16/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**6.5**	ug/L	0.20	0.20	10	01/23/13 16:13	01/24/13 18:54	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		10	01/23/13 16:13	01/24/13 18:54	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**2330J**	ug/L	2500	1920	25		01/24/13 19:30	75-85-4	
tert-Amylmethyl ether	ND	ug/L	250	85.0	25		01/24/13 19:30	994-05-8	
Benzene	**1250**	ug/L	125	42.5	25		01/24/13 19:30	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2500	802	25		01/24/13 19:30	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2500	1440	25		01/24/13 19:30	75-65-0	
tert-Butyl Formate	ND	ug/L	1250	182	25		01/24/13 19:30	762-75-4	
1,2-Dichlorobenzene	ND	ug/L	125	37.5	25		01/24/13 19:30	95-50-1	
Diethyl ether (Ethyl ether)	ND	ug/L	125	47.5	25		01/24/13 19:30	60-29-7	
Diisopropyl ether	ND	ug/L	125	42.5	25		01/24/13 19:30	108-20-3	
Ethanol	ND	ug/L	5000	3440	25		01/24/13 19:30	64-17-5	
Ethylbenzene	**523**	ug/L	125	40.0	25		01/24/13 19:30	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	250	90.0	25		01/24/13 19:30	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	125	42.5	25		01/24/13 19:30	1634-04-4	
Naphthalene	**96.0J**	ug/L	125	50.0	25		01/24/13 19:30	91-20-3	
Toluene	**2210**	ug/L	125	40.0	25		01/24/13 19:30	108-88-3	
Xylene (Total)	**792**	ug/L	250	67.5	25		01/24/13 19:30	1330-20-7	
m&p-Xylene	**541**	ug/L	250	77.5	25		01/24/13 19:30	179601-23-1	
o-Xylene	**251**	ug/L	125	40.0	25		01/24/13 19:30	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		25		01/24/13 19:30	460-00-4	
Dibromofluoromethane (S)	107	%	70-130		25		01/24/13 19:30	1868-53-7	
1,2-Dichloroethane-d4 (S)	113	%	70-130		25		01/24/13 19:30	17060-07-0	
Toluene-d8 (S)	100	%	70-130		25		01/24/13 19:30	2037-26-5	

Sample: 15729 MW-52 **Lab ID: 92145186010** Collected: 01/14/13 11:20 Received: 01/16/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.092**	ug/L	0.020	0.020	1	01/23/13 16:13	01/24/13 00:17	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	118	%|	60-140		1	01/23/13 16:13	01/24/13 00:17	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**2820**	ug/L	100	76.8	1		01/17/13 23:11	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/17/13 23:11	994-05-8	
Benzene	**1070**	ug/L	100	34.0	20		01/18/13 15:08	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/17/13 23:11	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/17/13 23:11	75-65-0	

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

Sample: 15729 MW-52 **Lab ID: 92145186010** Collected: 01/14/13 11:20 Received: 01/16/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/17/13 23:11	762-75-4	
1,2-Dichlorobenzene	ND	ug/L	5.0	1.5	1		01/17/13 23:11	95-50-1	
Diethyl ether (Ethyl ether)	ND	ug/L	5.0	1.9	1		01/17/13 23:11	60-29-7	
Diisopropyl ether	**18.5**	ug/L	5.0	1.7	1		01/17/13 23:11	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/17/13 23:11	64-17-5	
Ethylbenzene	**832**	ug/L	100	32.0	20		01/18/13 15:08	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/17/13 23:11	637-92-3	
Methyl-tert-butyl ether	**1.9J**	ug/L	5.0	1.7	1		01/17/13 23:11	1634-04-4	
Naphthalene	**142**	ug/L	5.0	2.0	1		01/17/13 23:11	91-20-3	
Toluene	**162**	ug/L	5.0	1.6	1		01/17/13 23:11	108-88-3	
Xylene (Total)	**644**	ug/L	200	54.0	20		01/18/13 15:08	1330-20-7	
m&p-Xylene	**462**	ug/L	200	62.0	20		01/18/13 15:08	179601-23-1	
o-Xylene	**181**	ug/L	5.0	1.6	1		01/17/13 23:11	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	110	%	70-130		1		01/17/13 23:11	460-00-4	
Dibromofluoromethane (S)	100	%	70-130		1		01/17/13 23:11	1868-53-7	
1,2-Dichloroethane-d4 (S)	114	%	70-130		1		01/17/13 23:11	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		01/17/13 23:11	2037-26-5	

Sample: 15729 MW-53 **Lab ID: 92145186011** Collected: 01/14/13 12:40 Received: 01/16/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**4.3**	ug/L	0.20	0.20	10	01/23/13 16:13	01/24/13 19:15	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		10	01/23/13 16:13	01/24/13 19:15	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**24400**	ug/L	5000	3840	50		01/18/13 15:26	75-85-4	
tert-Amylmethyl ether	**31.4**	ug/L	10.0	3.4	1		01/18/13 00:06	994-05-8	
Benzene	**9410**	ug/L	250	85.0	50		01/18/13 15:26	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/18/13 00:06	624-95-3	
tert-Butyl Alcohol	**422**	ug/L	100	57.7	1		01/18/13 00:06	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/18/13 00:06	762-75-4	
1,2-Dichlorobenzene	ND	ug/L	5.0	1.5	1		01/18/13 00:06	95-50-1	
Diethyl ether (Ethyl ether)	ND	ug/L	5.0	1.9	1		01/18/13 00:06	60-29-7	
Diisopropyl ether	**318**	ug/L	250	85.0	50		01/18/13 15:26	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/18/13 00:06	64-17-5	
Ethylbenzene	**1290**	ug/L	250	80.0	50		01/18/13 15:26	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/18/13 00:06	637-92-3	
Methyl-tert-butyl ether	**196**	ug/L	5.0	1.7	1		01/18/13 00:06	1634-04-4	
Naphthalene	**182**	ug/L	5.0	2.0	1		01/18/13 00:06	91-20-3	
Toluene	**5350**	ug/L	250	80.0	50		01/18/13 15:26	108-88-3	

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

Sample: 15729 MW-53 **Lab ID: 92145186011** Collected: 01/14/13 12:40 Received: 01/16/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Xylene (Total)	**1610**	ug/L	500	135	50		01/18/13 15:26	1330-20-7	
m&p-Xylene	**1200**	ug/L	500	155	50		01/18/13 15:26	179601-23-1	
o-Xylene	**410**	ug/L	250	80.0	50		01/18/13 15:26	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		01/18/13 00:06	460-00-4	
Dibromofluoromethane (S)	89	%	70-130		1		01/18/13 00:06	1868-53-7	
1,2-Dichloroethane-d4 (S)	109	%	70-130		1		01/18/13 00:06	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		01/18/13 00:06	2037-26-5	

Sample: 15729 MW-54 **Lab ID: 92145186012** Collected: 01/14/13 13:10 Received: 01/16/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.021	0.021	1	01/23/13 16:13	01/24/13 00:58	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	110	%	60-140		1	01/23/13 16:13	01/24/13 00:58	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**78.9J**	ug/L	100	76.8	1		01/17/13 23:29	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/17/13 23:29	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/17/13 23:29	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/17/13 23:29	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/17/13 23:29	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/17/13 23:29	762-75-4	
1,2-Dichlorobenzene	ND	ug/L	5.0	1.5	1		01/17/13 23:29	95-50-1	
Diethyl ether (Ethyl ether)	ND	ug/L	5.0	1.9	1		01/17/13 23:29	60-29-7	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/17/13 23:29	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/17/13 23:29	64-17-5	
Ethylbenzene	**236**	ug/L	10.0	3.2	2		01/18/13 15:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/17/13 23:29	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/17/13 23:29	1634-04-4	
Naphthalene	**88.4**	ug/L	5.0	2.0	1		01/17/13 23:29	91-20-3	
Toluene	**3.8J**	ug/L	5.0	1.6	1		01/17/13 23:29	108-88-3	
Xylene (Total)	**343**	ug/L	10.0	2.7	1		01/17/13 23:29	1330-20-7	
m&p-Xylene	**268**	ug/L	10.0	3.1	1		01/17/13 23:29	179601-23-1	
o-Xylene	**74.8**	ug/L	5.0	1.6	1		01/17/13 23:29	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		01/17/13 23:29	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		1		01/17/13 23:29	1868-53-7	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		01/17/13 23:29	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		01/17/13 23:29	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

Sample: 15729 Field Blank #2 **Lab ID: 92145186013** Collected: 01/14/13 16:30 Received: 01/16/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.021	0.021	1	01/23/13 16:13	01/24/13 01:18	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	104	%	60-140		1	01/23/13 16:13	01/24/13 01:18	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/17/13 21:02	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/17/13 21:02	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/17/13 21:02	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/17/13 21:02	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/17/13 21:02	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/17/13 21:02	762-75-4	
1,2-Dichlorobenzene	ND	ug/L	5.0	1.5	1		01/17/13 21:02	95-50-1	
Diethyl ether (Ethyl ether)	ND	ug/L	5.0	1.9	1		01/17/13 21:02	60-29-7	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/17/13 21:02	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/17/13 21:02	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/17/13 21:02	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/17/13 21:02	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/17/13 21:02	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/17/13 21:02	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/17/13 21:02	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/17/13 21:02	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/17/13 21:02	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/17/13 21:02	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	86	%	70-130		1		01/17/13 21:02	460-00-4	
Dibromofluoromethane (S)	108	%	70-130		1		01/17/13 21:02	1868-53-7	
1,2-Dichloroethane-d4 (S)	113	%	70-130		1		01/17/13 21:02	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		01/17/13 21:02	2037-26-5	

Sample: 15729 Trip Blank #2 **Lab ID: 92145186014** Collected: 01/14/13 16:35 Received: 01/16/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/23/13 16:13	01/24/13 01:39	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	105	%	60-140		1	01/23/13 16:13	01/24/13 01:39	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/17/13 20:43	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/17/13 20:43	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/17/13 20:43	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/17/13 20:43	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/17/13 20:43	75-65-0	

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ANALYTICAL RESULTS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

Sample: 15729 Trip Blank #2 **Lab ID: 92145186014** Collected: 01/14/13 16:35 Received: 01/16/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/17/13 20:43	762-75-4	
1,2-Dichlorobenzene	ND	ug/L	5.0	1.5	1		01/17/13 20:43	95-50-1	
Diethyl ether (Ethyl ether)	ND	ug/L	5.0	1.9	1		01/17/13 20:43	60-29-7	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/17/13 20:43	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/17/13 20:43	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/17/13 20:43	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/17/13 20:43	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/17/13 20:43	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/17/13 20:43	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/17/13 20:43	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/17/13 20:43	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/17/13 20:43	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/17/13 20:43	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	87	%	70-130		1		01/17/13 20:43	460-00-4	
Dibromofluoromethane (S)	108	%	70-130		1		01/17/13 20:43	1868-53-7	
1,2-Dichloroethane-d4 (S)	115	%	70-130		1		01/17/13 20:43	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		01/17/13 20:43	2037-26-5	

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QUALITY CONTROL DATA

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

QC Batch: MSV/21747 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92145186003, 92145186006, 92145186007, 92145186008, 92145186010, 92145186011, 92145186012, 92145186013, 92145186014

METHOD BLANK: 907514 Matrix: Water
Associated Lab Samples: 92145186003, 92145186006, 92145186007, 92145186008, 92145186010, 92145186011, 92145186012, 92145186013, 92145186014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichlorobenzene	ug/L	ND	5.0	01/17/13 20:25	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	01/17/13 20:25	
Benzene	ug/L	ND	5.0	01/17/13 20:25	
Diethyl ether (Ethyl ether)	ug/L	ND	5.0	01/17/13 20:25	
Diisopropyl ether	ug/L	ND	5.0	01/17/13 20:25	
Ethanol	ug/L	ND	200	01/17/13 20:25	
Ethyl-tert-butyl ether	ug/L	ND	10.0	01/17/13 20:25	
Ethylbenzene	ug/L	ND	5.0	01/17/13 20:25	
m&p-Xylene	ug/L	ND	10.0	01/17/13 20:25	
Methyl-tert-butyl ether	ug/L	ND	5.0	01/17/13 20:25	
Naphthalene	ug/L	ND	5.0	01/17/13 20:25	
o-Xylene	ug/L	ND	5.0	01/17/13 20:25	
tert-Amyl Alcohol	ug/L	ND	100	01/17/13 20:25	
tert-Amylmethyl ether	ug/L	ND	10.0	01/17/13 20:25	
tert-Butyl Alcohol	ug/L	ND	100	01/17/13 20:25	
tert-Butyl Formate	ug/L	ND	50.0	01/17/13 20:25	
Toluene	ug/L	ND	5.0	01/17/13 20:25	
Xylene (Total)	ug/L	ND	10.0	01/17/13 20:25	
1,2-Dichloroethane-d4 (S)	%	111	70-130	01/17/13 20:25	
4-Bromofluorobenzene (S)	%	85	70-130	01/17/13 20:25	
Dibromofluoromethane (S)	%	106	70-130	01/17/13 20:25	
Toluene-d8 (S)	%	99	70-130	01/17/13 20:25	

LABORATORY CONTROL SAMPLE: 907515

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichlorobenzene	ug/L	50	50.8	102	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	561	56	70-130	L0
Benzene	ug/L	50	51.7	103	70-130	
Diethyl ether (Ethyl ether)	ug/L	50	57.3	115	70-130	
Diisopropyl ether	ug/L	50	58.3	117	70-130	
Ethanol	ug/L	2000	3180	159	70-130	L3
Ethyl-tert-butyl ether	ug/L	100	109	109	70-130	
Ethylbenzene	ug/L	50	52.4	105	70-130	
m&p-Xylene	ug/L	100	107	107	70-130	
Methyl-tert-butyl ether	ug/L	50	56.0	112	70-130	
Naphthalene	ug/L	50	55.0	110	70-130	
o-Xylene	ug/L	50	52.5	105	70-130	
tert-Amyl Alcohol	ug/L	1000	1150	115	70-130	
tert-Amylmethyl ether	ug/L	100	118	118	70-130	

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QUALITY CONTROL DATA

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

LABORATORY CONTROL SAMPLE: 907515

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Alcohol	ug/L	500	642	128	70-130	
tert-Butyl Formate	ug/L	400	442	110	70-130	
Toluene	ug/L	50	51.1	102	70-130	
Xylene (Total)	ug/L	150	160	107	70-130	
1,2-Dichloroethane-d4 (S)	%			104	70-130	
4-Bromofluorobenzene (S)	%			95	70-130	
Dibromofluoromethane (S)	%			103	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 907516 907517

Parameter	Units	92144989006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichlorobenzene	ug/L	ND	50	50	39.8	45.4	80	91	70-130	13	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	341	475	34	48	70-130	33	30	M0,R1
Benzene	ug/L	ND	50	50	40.4	47.1	81	94	70-130	15	30	
Diethyl ether (Ethyl ether)	ug/L	ND	50	50	43.9	51.8	88	104	70-130	17	30	
Diisopropyl ether	ug/L	ND	50	50	44.8	53.3	90	107	70-130	17	30	
Ethanol	ug/L	ND	2000	2000	2680	3150	134	157	70-130	16	30	M0
Ethyl-tert-butyl ether	ug/L	ND	100	100	84.3	99.7	84	100	70-130	17	30	
Ethylbenzene	ug/L	ND	50	50	40.7	47.8	81	96	70-130	16	30	
m&p-Xylene	ug/L	ND	100	100	81.9	97.0	82	97	70-130	17	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	42.8	51.1	86	102	70-130	18	30	
Naphthalene	ug/L	ND	50	50	42.7	47.7	85	95	70-130	11	30	
o-Xylene	ug/L	ND	50	50	39.6	46.7	79	93	70-130	17	30	
tert-Amyl Alcohol	ug/L	ND	1000	1000	703	992	70	99	70-130	34	30	R1
tert-Amylmethyl ether	ug/L	ND	100	100	88.6	105	89	105	70-130	17	30	
tert-Butyl Alcohol	ug/L	ND	500	500	470	725	94	145	70-130	43	30	M0,R1
tert-Butyl Formate	ug/L	ND	400	400	115	110	29	27	70-130	5	30	P5
Toluene	ug/L	ND	50	50	39.8	46.7	80	93	70-130	16	30	
1,2-Dichloroethane-d4 (S)	%						105	105	70-130			
4-Bromofluorobenzene (S)	%						94	96	70-130			
Dibromofluoromethane (S)	%						104	103	70-130			
Toluene-d8 (S)	%						97	99	70-130			

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QUALITY CONTROL DATA

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

QC Batch: MSV/21762
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV SC
Associated Lab Samples: 92145186005, 92145186009

METHOD BLANK: 908175
Matrix: Water
Associated Lab Samples: 92145186005, 92145186009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichlorobenzene	ug/L	ND	5.0	01/24/13 12:26	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	01/24/13 12:26	
Benzene	ug/L	ND	5.0	01/24/13 12:26	
Diethyl ether (Ethyl ether)	ug/L	ND	5.0	01/24/13 12:26	
Diisopropyl ether	ug/L	ND	5.0	01/24/13 12:26	
Ethanol	ug/L	ND	200	01/24/13 12:26	
Ethyl-tert-butyl ether	ug/L	ND	10.0	01/24/13 12:26	
Ethylbenzene	ug/L	ND	5.0	01/24/13 12:26	
m&p-Xylene	ug/L	ND	10.0	01/24/13 12:26	
Methyl-tert-butyl ether	ug/L	ND	5.0	01/24/13 12:26	
Naphthalene	ug/L	ND	5.0	01/24/13 12:26	
o-Xylene	ug/L	ND	5.0	01/24/13 12:26	
tert-Amyl Alcohol	ug/L	ND	100	01/24/13 12:26	
tert-Amylmethyl ether	ug/L	ND	10.0	01/24/13 12:26	
tert-Butyl Alcohol	ug/L	ND	100	01/24/13 12:26	
tert-Butyl Formate	ug/L	ND	50.0	01/24/13 12:26	
Toluene	ug/L	ND	5.0	01/24/13 12:26	
Xylene (Total)	ug/L	ND	10.0	01/24/13 12:26	
1,2-Dichloroethane-d4 (S)	%	112	70-130	01/24/13 12:26	
4-Bromofluorobenzene (S)	%	88	70-130	01/24/13 12:26	
Dibromofluoromethane (S)	%	109	70-130	01/24/13 12:26	
Toluene-d8 (S)	%	100	70-130	01/24/13 12:26	

LABORATORY CONTROL SAMPLE: 908176

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichlorobenzene	ug/L	50	45.2	90	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1060	106	70-130	
Benzene	ug/L	50	42.3	85	70-130	
Diethyl ether (Ethyl ether)	ug/L	50	46.8	94	70-130	
Diisopropyl ether	ug/L	50	49.2	98	70-130	
Ethanol	ug/L	2000	5950	298	70-130	L0
Ethyl-tert-butyl ether	ug/L	100	92.3	92	70-130	
Ethylbenzene	ug/L	50	43.2	86	70-130	
m&p-Xylene	ug/L	100	88.1	88	70-130	
Methyl-tert-butyl ether	ug/L	50	47.3	95	70-130	
Naphthalene	ug/L	50	49.0	98	70-130	
o-Xylene	ug/L	50	43.0	86	70-130	
tert-Amyl Alcohol	ug/L	1000	1220	122	70-130	
tert-Amylmethyl ether	ug/L	100	100	100	70-130	
tert-Butyl Alcohol	ug/L	500	571	114	70-130	

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QUALITY CONTROL DATA

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

LABORATORY CONTROL SAMPLE: 908176

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Formate	ug/L	400	386	97	70-130	
Toluene	ug/L	50	42.6	85	70-130	
Xylene (Total)	ug/L	150	131	87	70-130	
1,2-Dichloroethane-d4 (S)	%			105	70-130	
4-Bromofluorobenzene (S)	%			95	70-130	
Dibromofluoromethane (S)	%			103	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 908177 908178

Parameter	Units	92145347001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichlorobenzene	ug/L	ND	50	50	40.5	42.0	81	84	70-130	4	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	992	1080	99	108	70-130	9	30	
Benzene	ug/L	ND	50	50	39.9	41.5	80	83	70-130	4	30	
Diethyl ether (Ethyl ether)	ug/L	ND	50	50	42.5	43.8	85	88	70-130	3	30	
Diisopropyl ether	ug/L	ND	50	50	44.5	46.3	89	93	70-130	4	30	
Ethanol	ug/L	3240	2000	2000	3960	4480	36	62	70-130	12	30	M0
Ethyl-tert-butyl ether	ug/L	ND	100	100	83.9	86.7	84	87	70-130	3	30	
Ethylbenzene	ug/L	ND	50	50	40.4	42.2	81	84	70-130	4	30	
m&p-Xylene	ug/L	ND	100	100	82.1	86.0	82	86	70-130	5	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	43.8	45.2	86	88	70-130	3	30	
Naphthalene	ug/L	ND	50	50	42.6	44.6	85	89	70-130	5	30	
o-Xylene	ug/L	ND	50	50	39.6	40.9	79	82	70-130	3	30	
tert-Amyl Alcohol	ug/L	ND	1000	1000	1140	1260	114	126	70-130	10	30	
tert-Amylmethyl ether	ug/L	ND	100	100	88.2	93.7	88	94	70-130	6	30	
tert-Butyl Alcohol	ug/L	ND	500	500	584	689	117	138	70-130	16	30	M0
tert-Butyl Formate	ug/L	ND	400	400	283	246	71	62	70-130	14	30	P5
Toluene	ug/L	ND	50	50	39.5	40.8	79	81	70-130	3	30	
1,2-Dichloroethane-d4 (S)	%						105	110	70-130			
4-Bromofluorobenzene (S)	%						94	95	70-130			
Dibromofluoromethane (S)	%						103	103	70-130			
Toluene-d8 (S)	%						98	98	70-130			

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QUALITY CONTROL DATA

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

QC Batch: MSV/21809 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92145186001, 92145186002, 92145186004

METHOD BLANK: 911145 Matrix: Water
Associated Lab Samples: 92145186001, 92145186002, 92145186004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichlorobenzene	ug/L	ND	5.0	01/25/13 11:16	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	01/25/13 11:16	
Benzene	ug/L	ND	5.0	01/25/13 11:16	
Diethyl ether (Ethyl ether)	ug/L	ND	5.0	01/25/13 11:16	
Diisopropyl ether	ug/L	ND	5.0	01/25/13 11:16	
Ethanol	ug/L	345	200	01/25/13 11:16	
Ethyl-tert-butyl ether	ug/L	ND	10.0	01/25/13 11:16	
Ethylbenzene	ug/L	ND	5.0	01/25/13 11:16	
m&p-Xylene	ug/L	ND	10.0	01/25/13 11:16	
Methyl-tert-butyl ether	ug/L	ND	5.0	01/25/13 11:16	
Naphthalene	ug/L	ND	5.0	01/25/13 11:16	
o-Xylene	ug/L	ND	5.0	01/25/13 11:16	
tert-Amyl Alcohol	ug/L	ND	100	01/25/13 11:16	
tert-Amylmethyl ether	ug/L	ND	10.0	01/25/13 11:16	
tert-Butyl Alcohol	ug/L	ND	100	01/25/13 11:16	
tert-Butyl Formate	ug/L	ND	50.0	01/25/13 11:16	
Toluene	ug/L	ND	5.0	01/25/13 11:16	
Xylene (Total)	ug/L	ND	10.0	01/25/13 11:16	
1,2-Dichloroethane-d4 (S)	%	113	70-130	01/25/13 11:16	
4-Bromofluorobenzene (S)	%	87	70-130	01/25/13 11:16	
Dibromofluoromethane (S)	%	110	70-130	01/25/13 11:16	
Toluene-d8 (S)	%	99	70-130	01/25/13 11:16	

LABORATORY CONTROL SAMPLE: 911146

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichlorobenzene	ug/L	50	47.4	95	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	707	71	70-130	
Benzene	ug/L	50	49.2	98	70-130	
Diethyl ether (Ethyl ether)	ug/L	50	53.3	107	70-130	
Diisopropyl ether	ug/L	50	50.5	101	70-130	
Ethanol	ug/L	2000	1810	90	70-130	
Ethyl-tert-butyl ether	ug/L	100	96.4	96	70-130	
Ethylbenzene	ug/L	50	50.8	102	70-130	
m&p-Xylene	ug/L	100	103	103	70-130	
Methyl-tert-butyl ether	ug/L	50	47.2	94	70-130	
Naphthalene	ug/L	50	47.3	95	70-130	
o-Xylene	ug/L	50	51.0	102	70-130	
tert-Amyl Alcohol	ug/L	1000	729	73	70-130	
tert-Amylmethyl ether	ug/L	100	102	102	70-130	
tert-Butyl Alcohol	ug/L	500	348	70	70-130	

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QUALITY CONTROL DATA

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

LABORATORY CONTROL SAMPLE: 911146

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Formate	ug/L	400	414	103	70-130	
Toluene	ug/L	50	48.9	98	70-130	
Xylene (Total)	ug/L	150	154	102	70-130	
1,2-Dichloroethane-d4 (S)	%			101	70-130	
4-Bromofluorobenzene (S)	%			104	70-130	
Dibromofluoromethane (S)	%			103	70-130	
Toluene-d8 (S)	%			100	70-130	

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QUALITY CONTROL DATA

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

QC Batch: OEXT/20433 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92145186001, 92145186002, 92145186003, 92145186004, 92145186005, 92145186006, 92145186007, 92145186008

METHOD BLANK: 907850 Matrix: Water
Associated Lab Samples: 92145186001, 92145186002, 92145186003, 92145186004, 92145186005, 92145186006, 92145186007, 92145186008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	01/19/13 02:25	
1-Chloro-2-bromopropane (S)	%	104	60-140	01/19/13 02:25	

LABORATORY CONTROL SAMPLE & LCSD: 907851 907852

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.27	0.27	94	96	60-140	0	20	
1-Chloro-2-bromopropane (S)	%				103	103	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 907853 907854

Parameter	Units	92144989007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	0.052	.3	.3	0.33	0.33	92	92	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						116	117	60-140			

SAMPLE DUPLICATE: 907855

Parameter	Units	92144989008 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	115	115	4		

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QUALITY CONTROL DATA

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

QC Batch: OEXT/20476 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92145186009, 92145186010, 92145186011, 92145186012, 92145186013, 92145186014

METHOD BLANK: 909861 Matrix: Water
Associated Lab Samples: 92145186009, 92145186010, 92145186011, 92145186012, 92145186013, 92145186014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	01/23/13 22:55	
1-Chloro-2-bromopropane (S)	%	109	60-140	01/23/13 22:55	

LABORATORY CONTROL SAMPLE & LCSD: 909862 909863

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.3	0.29	0.31	98	102	60-140	4	20	
1-Chloro-2-bromopropane (S)	%				107	108	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 909864 909865

Parameter	Units	92145347004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	1.5	.29	.29	1.7	1.7	49	49	60-140	0	20	P6
1-Chloro-2-bromopropane (S)	%						122	124	60-140			

SAMPLE DUPLICATE: 909866

Parameter	Units	92145347005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	34.5	32.1	7	20	
1-Chloro-2-bromopropane (S)	%	0	0			S4

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Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine(8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
R1	RPD value was outside control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: H.W. Detwiler Co. 15729
Pace Project No.: 92145186

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92145186001	15729 MW-11	EPA 8011	OEXT/20433	EPA 8011	GCSV/13755
92145186002	15729 MW-14	EPA 8011	OEXT/20433	EPA 8011	GCSV/13755
92145186003	15729 MW-22	EPA 8011	OEXT/20433	EPA 8011	GCSV/13755
92145186004	15729 MW-26	EPA 8011	OEXT/20433	EPA 8011	GCSV/13755
92145186005	15729 MW-27	EPA 8011	OEXT/20433	EPA 8011	GCSV/13755
92145186006	15729 MW-31	EPA 8011	OEXT/20433	EPA 8011	GCSV/13755
92145186007	15729 MW-33	EPA 8011	OEXT/20433	EPA 8011	GCSV/13755
92145186008	15729 MW-34D	EPA 8011	OEXT/20433	EPA 8011	GCSV/13755
92145186009	15729 MW-42	EPA 8011	OEXT/20476	EPA 8011	GCSV/13779
92145186010	15729 MW-52	EPA 8011	OEXT/20476	EPA 8011	GCSV/13779
92145186011	15729 MW-53	EPA 8011	OEXT/20476	EPA 8011	GCSV/13779
92145186012	15729 MW-54	EPA 8011	OEXT/20476	EPA 8011	GCSV/13779
92145186013	15729 Field Blank #2	EPA 8011	OEXT/20476	EPA 8011	GCSV/13779
92145186014	15729 Trip Blank #2	EPA 8011	OEXT/20476	EPA 8011	GCSV/13779
92145186001	15729 MW-11	EPA 8260	MSV/21809		
92145186002	15729 MW-14	EPA 8260	MSV/21809		
92145186003	15729 MW-22	EPA 8260	MSV/21747		
92145186004	15729 MW-26	EPA 8260	MSV/21809		
92145186005	15729 MW-27	EPA 8260	MSV/21762		
92145186006	15729 MW-31	EPA 8260	MSV/21747		
92145186007	15729 MW-33	EPA 8260	MSV/21747		
92145186008	15729 MW-34D	EPA 8260	MSV/21747		
92145186009	15729 MW-42	EPA 8260	MSV/21762		
92145186010	15729 MW-52	EPA 8260	MSV/21747		
92145186011	15729 MW-53	EPA 8260	MSV/21747		
92145186012	15729 MW-54	EPA 8260	MSV/21747		
92145186013	15729 Field Blank #2	EPA 8260	MSV/21747		
92145186014	15729 Trip Blank #2	EPA 8260	MSV/21747		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 2

1603965

Section A Required Client Information:

Company:	Emerald Inc.
Address:	2520 Tahoe Dr. Sumter, SC 29150.
Email To:	
Phone:	(803) 469-5454
Fax:	
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Ronny Lowder
Copy To:	
Purchase Order No.:	
Project Name:	H.W. Detwiler Co.
Project Number:	15729

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	A. Baioni 9/11/10
Pace Profile #:	~~394~~ 3876-1

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTEX, N, M	1,2 DCA	Oxygenates	EDB	8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	15729 MW-11	WT	G			1/14/13	1220		6				6						X	X	X	X			001
2	" " MW-14					"	1700																		002
3	" " MW-22					"	1515																		003
4	" " MW-26					"	1615																		004
5	" " MW-27					"	1400																		005
6	" " MW-31					"	1340																		006
7	" " MW-33					"	1715																		007
8	" " MW-34D					"	1555																		008
9	" " MW-42					"	1150																		009
10	" " MW-52					"	1120																		010
11	" " MW-53					"	1240																		011
12	" " MW-54	WT	G			1/14/13	1310		6				6						X	X	X	X			012

92145186

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Robbie Robertson	1/15/13	0800	D Steele	1-15-13	17:00				
	Beaver			G Moody-Pace	1-16-13	14:20				
	George Moody	1-16-13	16:40	RP Pace	1-16-13	16:40	3.9	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robbie Robertson

SIGNATURE of SAMPLER: Robbie Robertson

DATE Signed (MM/DD/YY): 1/15/13

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of 2

1603966

Section A Required Client Information:

Company:	Emerald Inc.
Address:	2520 Tahoe Dr. Sumter, SC 29150
Email To:	
Phone: (803) 469-5454	Fax:
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Ronny Lowder
Copy To:	
Purchase Order No.:	
Project Name:	H.W. Detwiler Co.
Project Number:	15729

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	A. Baioni
Pace Profile #:	

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
UST RCRA OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes — MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test: BTEX, N, M (8260B)	1,2 DCA (8260B)	Oxygenates (8260B)	EDB	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	15729 Field Blank #2	WT	G			1/14/13	1630		6				6						X	X	X	X		013
2	" " Trip Blank #2	WT	G			1/14/13	1635		2				2						X	X	X	X		014
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

Requested Analysis Filtered (Y/N)

92145186

Pace Project No./ Lab I.D.

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Robbie Robertson	1/15/13	0800	RSteele	1-15-13	17:00				
	Beaver			B Moody - Pace	1-16-13	14:20				
	B Moody	1-16-13	16:40	RP (Pace	1-16-13	16:40	3-9	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robbie Robertson

SIGNATURE of SAMPLER: Robbie Robertson

DATE Signed (MM/DD/YY): 1/15/13

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: October 31, 2012 Page 1 of 2
	Document Number: F-CHR-CS-03-rev.08	Issuing Authority: Pace Huntersville Quality Office

Client Name: Emerald Inc Project # 92145186

Where Received: [@] Huntersville [ ] Asheville [ ] Eden [ ] Raleigh

Courier: [ ] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Commercial [@] Pace Other_____

Custody Seal on Cooler/Box Present: [ ] yes [@] no **Seals intact:** [ ] yes [ ] no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: [ ] Bubble Wrap [@] Bubble Bags [ ] None [ ] Other_____

Thermometer Used: IR Gun T1101 (T1102) **Type of Ice:** (Wet) Blue None [@] Samples on ice, cooling process has begun

Temp Correction Factor T1101: No Correction T1102: No Correction

Corrected Cooler Temp.: 3.9 C **Biological Tissue is Frozen:** Yes No (N/A)

Temp should be above freezing to 6°C

Date and initials of person examining contents: RP 1-16-13

		Comments:
Chain of Custody Present:	[@]Yes [ ]No [ ]N/A	1.
Chain of Custody Filled Out:	[@]Yes [ ]No [ ]N/A	2.
Chain of Custody Relinquished:	[@]Yes [ ]No [ ]N/A	3.
Sampler Name & Signature on COC:	[@]Yes [ ]No [ ]N/A	4.
Samples Arrived within Hold Time:	[@]Yes [ ]No [ ]N/A	5.
Short Hold Time Analysis (<72hr):	[ ]Yes [@]No [ ]N/A	6.
Rush Turn Around Time Requested:	[ ]Yes [@]No [ ]N/A	7.
Sufficient Volume:	[@]Yes [ ]No [ ]N/A	8.
Correct Containers Used:	[@]Yes [ ]No [ ]N/A	9.
-Pace Containers Used:	[@]Yes [ ]No [ ]N/A	
Containers Intact:	[@]Yes [ ]No [ ]N/A	10.
Filtered volume received for Dissolved tests	[ ]Yes [ ]No [@]N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix:_____	[ ]Yes [@]No [ ]N/A	12. No Trip Blank Time & Date COC Says 1-14-13 @ 16:35
All containers needing preservation have been checked.	[ ]Yes [ ]No [@]N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	[ ]Yes [ ]No [@]N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	[ ]Yes [ ]No	Initial when completed
Samples checked for dechlorination:	[ ]Yes [ ]No [@]N/A	14.
Headspace in VOA Vials (>6mm):	[ ]Yes [@]No [ ]N/A	15.
Trip Blank Present:	[@]Yes [ ]No [ ]N/A	16.
Trip Blank Custody Seals Present	[@]Yes [ ]No [ ]N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted:_____ Date/Time:_____

Comments/ Resolution:_____

SCURF Review: AMB **Date:** 1/16/13 **SRF Review:** AMB **Date:** 1/16/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

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January 31, 2013

Mr. Ronny Lowder
Emerald, Inc.
2520 Tahoe Drive
Sumter, SC 29150

RE: Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Dear Mr. Lowder:
Enclosed are the analytical results for sample(s) received by the laboratory on January 23, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angela M. Baioni

Angela Baioni

angela.baioni@pacelabs.com
Project Manager

Enclosures

cc: Ms. Robbin Brown, Emerald, Inc.

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CERTIFICATIONS

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

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(704)875-9092

SAMPLE SUMMARY

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92145825001	15729 MW-2D	Water	01/21/13 09:45	01/23/13 16:40
92145825002	15729 MW-3	Water	01/21/13 10:30	01/23/13 16:40
92145825003	15729 MW-4	Water	01/21/13 10:50	01/23/13 16:40
92145825004	15729 MW-5	Water	01/21/13 15:15	01/23/13 16:40
92145825005	15729 MW-12	Water	01/21/13 14:00	01/23/13 16:40
92145825006	15729 MW-16D	Water	01/21/13 09:15	01/23/13 16:40
92145825007	15729 MW-17R	Water	01/21/13 14:20	01/23/13 16:40
92145825008	15729 MW-18R	Water	01/21/13 14:35	01/23/13 16:40
92145825009	15729 MW-24	Water	01/21/13 13:25	01/23/13 16:40
92145825010	15729 MW-24 Dup	Water	01/21/13 13:30	01/23/13 16:40
92145825011	15729 MW-29	Water	01/21/13 11:15	01/23/13 16:40
92145825012	15729 MW-30	Water	01/21/13 11:30	01/23/13 16:40
92145825013	15729 MW-37	Water	01/21/13 12:55	01/23/13 16:40
92145825014	15729 MW-37 Dup	Water	01/21/13 13:00	01/23/13 16:40
92145825015	15729 MW-48	Water	01/21/13 12:25	01/23/13 16:40
92145825016	15729 MW-50	Water	01/21/13 12:00	01/23/13 16:40
92145825017	15729 MW-59	Water	01/21/13 14:55	01/23/13 16:40
92145825018	15729 MW-62	Water	01/21/13 10:20	01/23/13 16:40
92145825019	15729 WSW-1	Water	01/21/13 16:10	01/23/13 16:40
92145825020	15729 WSW-2	Water	01/21/13 15:45	01/23/13 16:40
92145825021	15729 Field Blank #4	Water	01/21/13 17:00	01/23/13 16:40
92145825022	15729 Trip Blank #4	Water	01/21/13 17:05	01/23/13 16:40

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SAMPLE ANALYTE COUNT

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92145825001	15729 MW-2D	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92145825002	15729 MW-3	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92145825003	15729 MW-4	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92145825004	15729 MW-5	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92145825005	15729 MW-12	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92145825006	15729 MW-16D	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92145825007	15729 MW-17R	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92145825008	15729 MW-18R	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92145825009	15729 MW-24	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C
92145825010	15729 MW-24 Dup	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C
92145825011	15729 MW-29	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C
92145825012	15729 MW-30	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C
92145825013	15729 MW-37	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C
92145825014	15729 MW-37 Dup	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C
92145825015	15729 MW-48	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C
92145825016	15729 MW-50	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C
92145825017	15729 MW-59	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C
92145825018	15729 MW-62	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C
92145825019	15729 WSW-1	EPA 8011	RES	2	PASI-C

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SAMPLE ANALYTE COUNT

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260	CAH	22	PASI-C
92145825020	15729 WSW-2	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	22	PASI-C
92145825021	15729 Field Blank #4	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C
92145825022	15729 Trip Blank #4	EPA 8011	RES	2	PASI-C
		EPA 8260	CAH	21	PASI-C

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Sample: 15729 MW-2D **Lab ID: 92145825001** Collected: 01/21/13 09:45 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.021	0.021	1	01/24/13 16:12	01/25/13 05:16	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	102	%	60-140		1	01/24/13 16:12	01/25/13 05:16	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/25/13 08:35	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/25/13 08:35	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/25/13 08:35	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/25/13 08:35	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/25/13 08:35	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/25/13 08:35	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/25/13 08:35	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/25/13 08:35	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/25/13 08:35	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/25/13 08:35	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/25/13 08:35	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/25/13 08:35	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/25/13 08:35	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/25/13 08:35	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/25/13 08:35	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/25/13 08:35	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/25/13 08:35	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		1		01/25/13 08:35	460-00-4	
Dibromofluoromethane (S)	103	%	70-130		1		01/25/13 08:35	1868-53-7	
1,2-Dichloroethane-d4 (S)	118	%	70-130		1		01/25/13 08:35	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		01/25/13 08:35	2037-26-5	

Sample: 15729 MW-3 **Lab ID: 92145825002** Collected: 01/21/13 10:30 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.021	0.021	1	01/24/13 16:12	01/25/13 05:36	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	01/24/13 16:12	01/25/13 05:36	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/25/13 08:51	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/25/13 08:51	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/25/13 08:51	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/25/13 08:51	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/25/13 08:51	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/25/13 08:51	762-75-4	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Sample: 15729 MW-3 **Lab ID: 92145825002** Collected: 01/21/13 10:30 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/25/13 08:51	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/25/13 08:51	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/25/13 08:51	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/25/13 08:51	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/25/13 08:51	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/25/13 08:51	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/25/13 08:51	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/25/13 08:51	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/25/13 08:51	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/25/13 08:51	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/25/13 08:51	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	92	%	70-130		1		01/25/13 08:51	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		1		01/25/13 08:51	1868-53-7	
1,2-Dichloroethane-d4 (S)	118	%	70-130		1		01/25/13 08:51	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		01/25/13 08:51	2037-26-5	

Sample: 15729 MW-4 **Lab ID: 92145825003** Collected: 01/21/13 10:50 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**9.7**	ug/L	0.42	0.42	20	01/24/13 16:12	01/25/13 10:48	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		20	01/24/13 16:12	01/25/13 10:48	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**3890**	ug/L	500	384	5		01/25/13 09:07	75-85-4	
tert-Amylmethyl ether	ND	ug/L	50.0	17.0	5		01/25/13 09:07	994-05-8	
Benzene	**1050**	ug/L	100	34.0	20		01/25/13 14:17	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	500	160	5		01/25/13 09:07	624-95-3	
tert-Butyl Alcohol	ND	ug/L	500	288	5		01/25/13 09:07	75-65-0	
tert-Butyl Formate	ND	ug/L	250	36.5	5		01/25/13 09:07	762-75-4	
1,2-Dichloroethane	**25.0**	ug/L	25.0	9.0	5		01/25/13 09:07	107-06-2	
Diisopropyl ether	**63.4**	ug/L	25.0	8.5	5		01/25/13 09:07	108-20-3	
Ethanol	ND	ug/L	1000	689	5		01/25/13 09:07	64-17-5	
Ethylbenzene	**218**	ug/L	25.0	8.0	5		01/25/13 09:07	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	50.0	18.0	5		01/25/13 09:07	637-92-3	
Methyl-tert-butyl ether	**52.1**	ug/L	25.0	8.5	5		01/25/13 09:07	1634-04-4	
Naphthalene	**77.3**	ug/L	25.0	10.0	5		01/25/13 09:07	91-20-3	
Toluene	**610**	ug/L	25.0	8.0	5		01/25/13 09:07	108-88-3	
Xylene (Total)	**521**	ug/L	50.0	13.5	5		01/25/13 09:07	1330-20-7	
m&p-Xylene	**373**	ug/L	50.0	15.5	5		01/25/13 09:07	179601-23-1	
o-Xylene	**148**	ug/L	25.0	8.0	5		01/25/13 09:07	95-47-6	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Sample: 15729 MW-4 **Lab ID: 92145825003** Collected: 01/21/13 10:50 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		5		01/25/13 09:07	460-00-4	
Dibromofluoromethane (S)	99	%	70-130		5		01/25/13 09:07	1868-53-7	
1,2-Dichloroethane-d4 (S)	112	%	70-130		5		01/25/13 09:07	17060-07-0	
Toluene-d8 (S)	100	%	70-130		5		01/25/13 09:07	2037-26-5	

Sample: 15729 MW-5 **Lab ID: 92145825004** Collected: 01/21/13 15:15 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**1.3**	ug/L	0.040	0.040	2	01/24/13 16:12	01/25/13 11:08	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	96	%	60-140		2	01/24/13 16:12	01/25/13 11:08	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**167**	ug/L	100	76.8	1		01/25/13 09:24	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/25/13 09:24	994-05-8	
Benzene	**209**	ug/L	100	34.0	20		01/25/13 14:33	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/25/13 09:24	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/25/13 09:24	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/25/13 09:24	762-75-4	
1,2-Dichloroethane	**1.9J**	ug/L	5.0	1.8	1		01/25/13 09:24	107-06-2	
Diisopropyl ether	**2.1J**	ug/L	5.0	1.7	1		01/25/13 09:24	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/25/13 09:24	64-17-5	
Ethylbenzene	**135**	ug/L	5.0	1.6	1		01/25/13 09:24	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/25/13 09:24	637-92-3	
Methyl-tert-butyl ether	**2.3J**	ug/L	5.0	1.7	1		01/25/13 09:24	1634-04-4	
Naphthalene	**24.4**	ug/L	5.0	2.0	1		01/25/13 09:24	91-20-3	
Toluene	**815**	ug/L	100	32.0	20		01/25/13 14:33	108-88-3	
Xylene (Total)	**530**	ug/L	200	54.0	20		01/25/13 14:33	1330-20-7	
m&p-Xylene	**331**	ug/L	200	62.0	20		01/25/13 14:33	179601-23-1	
o-Xylene	**199**	ug/L	5.0	1.6	1		01/25/13 09:24	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	92	%	70-130		1		01/25/13 09:24	460-00-4	
Dibromofluoromethane (S)	99	%	70-130		1		01/25/13 09:24	1868-53-7	
1,2-Dichloroethane-d4 (S)	112	%	70-130		1		01/25/13 09:24	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		01/25/13 09:24	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Sample: 15729 MW-12 **Lab ID: 92145825005** Collected: 01/21/13 14:00 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/24/13 16:12	01/25/13 06:35	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	104	%	60-140		1	01/24/13 16:12	01/25/13 06:35	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/25/13 09:40	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/25/13 09:40	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/25/13 09:40	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/25/13 09:40	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/25/13 09:40	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/25/13 09:40	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/25/13 09:40	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/25/13 09:40	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/25/13 09:40	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/25/13 09:40	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/25/13 09:40	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/25/13 09:40	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/25/13 09:40	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/25/13 09:40	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/25/13 09:40	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/25/13 09:40	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/25/13 09:40	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		1		01/25/13 09:40	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		1		01/25/13 09:40	1868-53-7	
1,2-Dichloroethane-d4 (S)	116	%	70-130		1		01/25/13 09:40	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		01/25/13 09:40	2037-26-5	

Sample: 15729 MW-16D **Lab ID: 92145825006** Collected: 01/21/13 09:15 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/24/13 16:12	01/25/13 06:55	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	101	%	60-140		1	01/24/13 16:12	01/25/13 06:55	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/25/13 09:56	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/25/13 09:56	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/25/13 09:56	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/25/13 09:56	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/25/13 09:56	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/25/13 09:56	762-75-4	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Sample: 15729 MW-16D **Lab ID: 92145825006** Collected: 01/21/13 09:15 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/25/13 09:56	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/25/13 09:56	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/25/13 09:56	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/25/13 09:56	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/25/13 09:56	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/25/13 09:56	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/25/13 09:56	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/25/13 09:56	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/25/13 09:56	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/25/13 09:56	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/25/13 09:56	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		1		01/25/13 09:56	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		1		01/25/13 09:56	1868-53-7	
1,2-Dichloroethane-d4 (S)	118	%	70-130		1		01/25/13 09:56	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		01/25/13 09:56	2037-26-5	

Sample: 15729 MW-17R **Lab ID: 92145825007** Collected: 01/21/13 14:20 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/24/13 16:13	01/25/13 07:15	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	01/24/13 16:13	01/25/13 07:15	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/25/13 10:12	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/25/13 10:12	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/25/13 10:12	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/25/13 10:12	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/25/13 10:12	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/25/13 10:12	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/25/13 10:12	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/25/13 10:12	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/25/13 10:12	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/25/13 10:12	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/25/13 10:12	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/25/13 10:12	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/25/13 10:12	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/25/13 10:12	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/25/13 10:12	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/25/13 10:12	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/25/13 10:12	95-47-6	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Sample: 15729 MW-17R **Lab ID: 92145825007** Collected: 01/21/13 14:20 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
4-Bromofluorobenzene (S)	92	%	70-130		1		01/25/13 10:12	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		1		01/25/13 10:12	1868-53-7	
1,2-Dichloroethane-d4 (S)	116	%	70-130		1		01/25/13 10:12	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		01/25/13 10:12	2037-26-5	

Sample: 15729 MW-18R **Lab ID: 92145825008** Collected: 01/21/13 14:35 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/24/13 16:13	01/25/13 07:35	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	01/24/13 16:13	01/25/13 07:35	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/25/13 10:29	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/25/13 10:29	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/25/13 10:29	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/25/13 10:29	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/25/13 10:29	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/25/13 10:29	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/25/13 10:29	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/25/13 10:29	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/25/13 10:29	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/25/13 10:29	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/25/13 10:29	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/25/13 10:29	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/25/13 10:29	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/25/13 10:29	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/25/13 10:29	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/25/13 10:29	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/25/13 10:29	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	92	%	70-130		1		01/25/13 10:29	460-00-4	
Dibromofluoromethane (S)	101	%	70-130		1		01/25/13 10:29	1868-53-7	
1,2-Dichloroethane-d4 (S)	119	%	70-130		1		01/25/13 10:29	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		01/25/13 10:29	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Sample: 15729 MW-24 **Lab ID: 92145825009** Collected: 01/21/13 13:25 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**58.4**	ug/L	2.1	2.1	100	01/24/13 16:13	01/25/13 11:28	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		100	01/24/13 16:13	01/25/13 11:28	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**17400**	ug/L	10000	7680	100		01/29/13 12:58	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1000	340	100		01/29/13 12:58	994-05-8	
Benzene	**6410**	ug/L	500	170	100		01/29/13 12:58	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	3210	100		01/29/13 12:58	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	5770	100		01/29/13 12:58	75-65-0	
tert-Butyl Formate	ND	ug/L	5000	730	100		01/29/13 12:58	762-75-4	
1,2-Dichloroethane	ND	ug/L	500	180	100		01/29/13 12:58	107-06-2	
Diisopropyl ether	**316J**	ug/L	500	170	100		01/29/13 12:58	108-20-3	
Ethanol	ND	ug/L	20000	13800	100		01/29/13 12:58	64-17-5	
Ethylbenzene	**778**	ug/L	500	160	100		01/29/13 12:58	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	360	100		01/29/13 12:58	637-92-3	
Methyl-tert-butyl ether	**233J**	ug/L	500	170	100		01/29/13 12:58	1634-04-4	
Naphthalene	**254J**	ug/L	500	200	100		01/29/13 12:58	91-20-3	
Toluene	**6130**	ug/L	500	160	100		01/29/13 12:58	108-88-3	
Xylene (Total)	**3160**	ug/L	1000	270	100		01/29/13 12:58	1330-20-7	
m&p-Xylene	**2160**	ug/L	1000	310	100		01/29/13 12:58	179601-23-1	
o-Xylene	**1010**	ug/L	500	160	100		01/29/13 12:58	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		100		01/29/13 12:58	460-00-4	
Dibromofluoromethane (S)	98	%	70-130		100		01/29/13 12:58	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	70-130		100		01/29/13 12:58	17060-07-0	
Toluene-d8 (S)	101	%	70-130		100		01/29/13 12:58	2037-26-5	

Sample: 15729 MW-24 Dup **Lab ID: 92145825010** Collected: 01/21/13 13:30 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**63.2**	ug/L	2.1	2.1	100	01/24/13 16:13	01/25/13 11:48	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		100	01/24/13 16:13	01/25/13 11:48	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**16700**	ug/L	10000	7680	100		01/29/13 13:17	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1000	340	100		01/29/13 13:17	994-05-8	
Benzene	**6880**	ug/L	500	170	100		01/29/13 13:17	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	3210	100		01/29/13 13:17	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	5770	100		01/29/13 13:17	75-65-0	
tert-Butyl Formate	ND	ug/L	5000	730	100		01/29/13 13:17	762-75-4	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Sample: 15729 MW-24 Dup **Lab ID: 92145825010** Collected: 01/21/13 13:30 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane	ND	ug/L	500	180	100		01/29/13 13:17	107-06-2	
Diisopropyl ether	**318J**	ug/L	500	170	100		01/29/13 13:17	108-20-3	
Ethanol	ND	ug/L	20000	13800	100		01/29/13 13:17	64-17-5	
Ethylbenzene	**882**	ug/L	500	160	100		01/29/13 13:17	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	360	100		01/29/13 13:17	637-92-3	
Methyl-tert-butyl ether	**233J**	ug/L	500	170	100		01/29/13 13:17	1634-04-4	
Naphthalene	**269J**	ug/L	500	200	100		01/29/13 13:17	91-20-3	
Toluene	**6620**	ug/L	500	160	100		01/29/13 13:17	108-88-3	
Xylene (Total)	**3470**	ug/L	1000	270	100		01/29/13 13:17	1330-20-7	
m&p-Xylene	**2380**	ug/L	1000	310	100		01/29/13 13:17	179601-23-1	
o-Xylene	**1100**	ug/L	500	160	100		01/29/13 13:17	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		100		01/29/13 13:17	460-00-4	
Dibromofluoromethane (S)	97	%	70-130		100		01/29/13 13:17	1868-53-7	
1,2-Dichloroethane-d4 (S)	102	%	70-130		100		01/29/13 13:17	17060-07-0	
Toluene-d8 (S)	100	%	70-130		100		01/29/13 13:17	2037-26-5	

Sample: 15729 MW-29 **Lab ID: 92145825011** Collected: 01/21/13 11:15 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/28/13 16:07	01/28/13 18:51	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	105	%	60-140		1	01/28/13 16:07	01/28/13 18:51	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/29/13 08:24	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/29/13 08:24	994-05-8	
Benzene	**3.8J**	ug/L	5.0	1.7	1		01/29/13 08:24	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/29/13 08:24	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/29/13 08:24	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/29/13 08:24	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/29/13 08:24	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/29/13 08:24	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/29/13 08:24	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/29/13 08:24	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/29/13 08:24	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/29/13 08:24	1634-04-4	
Naphthalene	**3.3J**	ug/L	5.0	2.0	1		01/29/13 08:24	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/29/13 08:24	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/29/13 08:24	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/29/13 08:24	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/29/13 08:24	95-47-6	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Sample: 15729 MW-29 **Lab ID: 92145825011** Collected: 01/21/13 11:15 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130		1		01/29/13 08:24	460-00-4	
Dibromofluoromethane (S)	105	%	70-130		1		01/29/13 08:24	1868-53-7	
1,2-Dichloroethane-d4 (S)	117	%	70-130		1		01/29/13 08:24	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		01/29/13 08:24	2037-26-5	

Sample: 15729 MW-30 **Lab ID: 92145825012** Collected: 01/21/13 11:30 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.29**	ug/L	0.020	0.020	1	01/28/13 16:08	01/28/13 19:12	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	107	%	60-140		1	01/28/13 16:08	01/28/13 19:12	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**1350**	ug/L	100	76.8	1		01/29/13 08:42	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/29/13 08:42	994-05-8	
Benzene	**298**	ug/L	12.5	4.2	2.5		01/29/13 21:32	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/29/13 08:42	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/29/13 08:42	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/29/13 08:42	762-75-4	
1,2-Dichloroethane	**3.1J**	ug/L	5.0	1.8	1		01/29/13 08:42	107-06-2	
Diisopropyl ether	**1.8J**	ug/L	5.0	1.7	1		01/29/13 08:42	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/29/13 08:42	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/29/13 08:42	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/29/13 08:42	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/29/13 08:42	1634-04-4	
Naphthalene	**43.9**	ug/L	5.0	2.0	1		01/29/13 08:42	91-20-3	
Toluene	**1.6J**	ug/L	5.0	1.6	1		01/29/13 08:42	108-88-3	
Xylene (Total)	**5.2J**	ug/L	10.0	2.7	1		01/29/13 08:42	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/29/13 08:42	179601-23-1	
o-Xylene	**4.4J**	ug/L	5.0	1.6	1		01/29/13 08:42	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		01/29/13 08:42	460-00-4	
Dibromofluoromethane (S)	99	%	70-130		1		01/29/13 08:42	1868-53-7	
1,2-Dichloroethane-d4 (S)	109	%	70-130		1		01/29/13 08:42	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		01/29/13 08:42	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Sample: 15729 MW-37 **Lab ID: 92145825013** Collected: 01/21/13 12:55 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**5.0**	ug/L	0.21	0.21	10	01/28/13 16:08	01/29/13 13:09	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		10	01/28/13 16:08	01/29/13 13:09	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**12000**	ug/L	2500	1920	25		01/29/13 12:21	75-85-4	
tert-Amylmethyl ether	ND	ug/L	250	85.0	25		01/29/13 12:21	994-05-8	
Benzene	**2810**	ug/L	125	42.5	25		01/29/13 12:21	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2500	802	25		01/29/13 12:21	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2500	1440	25		01/29/13 12:21	75-65-0	
tert-Butyl Formate	ND	ug/L	1250	182	25		01/29/13 12:21	762-75-4	
1,2-Dichloroethane	**81.6J**	ug/L	125	45.0	25		01/29/13 12:21	107-06-2	
Diisopropyl ether	**125**	ug/L	125	42.5	25		01/29/13 12:21	108-20-3	
Ethanol	ND	ug/L	5000	3440	25		01/29/13 12:21	64-17-5	
Ethylbenzene	**244**	ug/L	125	40.0	25		01/29/13 12:21	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	250	90.0	25		01/29/13 12:21	637-92-3	
Methyl-tert-butyl ether	**80.2J**	ug/L	125	42.5	25		01/29/13 12:21	1634-04-4	
Naphthalene	**134**	ug/L	125	50.0	25		01/29/13 12:21	91-20-3	
Toluene	**220**	ug/L	125	40.0	25		01/29/13 12:21	108-88-3	
Xylene (Total)	**224J**	ug/L	250	67.5	25		01/29/13 12:21	1330-20-7	
m&p-Xylene	**209J**	ug/L	250	77.5	25		01/29/13 12:21	179601-23-1	
o-Xylene	ND	ug/L	125	40.0	25		01/29/13 12:21	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		25		01/29/13 12:21	460-00-4	
Dibromofluoromethane (S)	99	%	70-130		25		01/29/13 12:21	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	70-130		25		01/29/13 12:21	17060-07-0	
Toluene-d8 (S)	101	%	70-130		25		01/29/13 12:21	2037-26-5	

Sample: 15729 MW-37 Dup **Lab ID: 92145825014** Collected: 01/21/13 13:00 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**5.1**	ug/L	0.21	0.21	10	01/28/13 16:08	01/29/13 13:29	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		10	01/28/13 16:08	01/29/13 13:29	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**11000**	ug/L	2500	1920	25		01/29/13 12:40	75-85-4	
tert-Amylmethyl ether	ND	ug/L	250	85.0	25		01/29/13 12:40	994-05-8	
Benzene	**2980**	ug/L	125	42.5	25		01/29/13 12:40	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2500	802	25		01/29/13 12:40	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2500	1440	25		01/29/13 12:40	75-65-0	
tert-Butyl Formate	ND	ug/L	1250	182	25		01/29/13 12:40	762-75-4	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Sample: 15729 MW-37 Dup **Lab ID: 92145825014** Collected: 01/21/13 13:00 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane	**84.0J**	ug/L	125	45.0	25		01/29/13 12:40	107-06-2	
Diisopropyl ether	**129**	ug/L	125	42.5	25		01/29/13 12:40	108-20-3	
Ethanol	ND	ug/L	5000	3440	25		01/29/13 12:40	64-17-5	
Ethylbenzene	**257**	ug/L	125	40.0	25		01/29/13 12:40	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	250	90.0	25		01/29/13 12:40	637-92-3	
Methyl-tert-butyl ether	**79.0J**	ug/L	125	42.5	25		01/29/13 12:40	1634-04-4	
Naphthalene	**139**	ug/L	125	50.0	25		01/29/13 12:40	91-20-3	
Toluene	**238**	ug/L	125	40.0	25		01/29/13 12:40	108-88-3	
Xylene (Total)	**229J**	ug/L	250	67.5	25		01/29/13 12:40	1330-20-7	
m&p-Xylene	**214J**	ug/L	250	77.5	25		01/29/13 12:40	179601-23-1	
o-Xylene	ND	ug/L	125	40.0	25		01/29/13 12:40	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		25		01/29/13 12:40	460-00-4	
Dibromofluoromethane (S)	96	%	70-130		25		01/29/13 12:40	1868-53-7	
1,2-Dichloroethane-d4 (S)	102	%	70-130		25		01/29/13 12:40	17060-07-0	
Toluene-d8 (S)	101	%	70-130		25		01/29/13 12:40	2037-26-5	

Sample: 15729 MW-48 **Lab ID: 92145825015** Collected: 01/21/13 12:25 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.17**	ug/L	0.021	0.021	1	01/28/13 16:08	01/28/13 20:13	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	112	%	60-140		1	01/28/13 16:08	01/28/13 20:13	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**6750**	ug/L	1000	768	10		01/29/13 21:50	75-85-4	
tert-Amylmethyl ether	**6.5J**	ug/L	10.0	3.4	1		01/29/13 09:01	994-05-8	
Benzene	**1080**	ug/L	50.0	17.0	10		01/29/13 21:50	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/29/13 09:01	624-95-3	
tert-Butyl Alcohol	**131**	ug/L	100	57.7	1		01/29/13 09:01	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/29/13 09:01	762-75-4	
1,2-Dichloroethane	**85.0**	ug/L	5.0	1.8	1		01/29/13 09:01	107-06-2	
Diisopropyl ether	**102**	ug/L	5.0	1.7	1		01/29/13 09:01	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/29/13 09:01	64-17-5	
Ethylbenzene	**28.0**	ug/L	5.0	1.6	1		01/29/13 09:01	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/29/13 09:01	637-92-3	
Methyl-tert-butyl ether	**37.4**	ug/L	5.0	1.7	1		01/29/13 09:01	1634-04-4	
Naphthalene	**88.3**	ug/L	5.0	2.0	1		01/29/13 09:01	91-20-3	
Toluene	**14.9**	ug/L	5.0	1.6	1		01/29/13 09:01	108-88-3	
Xylene (Total)	**10.7**	ug/L	10.0	2.7	1		01/29/13 09:01	1330-20-7	
m&p-Xylene	**9.8J**	ug/L	10.0	3.1	1		01/29/13 09:01	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/29/13 09:01	95-47-6	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Sample: 15729 MW-48 **Lab ID: 92145825015** Collected: 01/21/13 12:25 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		01/29/13 09:01	460-00-4	
Dibromofluoromethane (S)	98	%	70-130		1		01/29/13 09:01	1868-53-7	
1,2-Dichloroethane-d4 (S)	110	%	70-130		1		01/29/13 09:01	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		01/29/13 09:01	2037-26-5	

Sample: 15729 MW-50 **Lab ID: 92145825016** Collected: 01/21/13 12:00 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**10.9**	ug/L	0.41	0.41	20	01/28/13 16:08	01/29/13 13:50	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		20	01/28/13 16:08	01/29/13 13:50	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**2680**	ug/L	1000	768	10		01/29/13 22:09	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/29/13 09:19	994-05-8	
Benzene	**960**	ug/L	50.0	17.0	10		01/29/13 22:09	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/29/13 09:19	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/29/13 09:19	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/29/13 09:19	762-75-4	
1,2-Dichloroethane	**30.3**	ug/L	5.0	1.8	1		01/29/13 09:19	107-06-2	
Diisopropyl ether	**23.4**	ug/L	5.0	1.7	1		01/29/13 09:19	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/29/13 09:19	64-17-5	
Ethylbenzene	**183**	ug/L	50.0	16.0	10		01/29/13 22:09	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/29/13 09:19	637-92-3	
Methyl-tert-butyl ether	**1.8J**	ug/L	5.0	1.7	1		01/29/13 09:19	1634-04-4	
Naphthalene	**86.3**	ug/L	5.0	2.0	1		01/29/13 09:19	91-20-3	
Toluene	**1300**	ug/L	50.0	16.0	10		01/29/13 22:09	108-88-3	
Xylene (Total)	**799**	ug/L	100	27.0	10		01/29/13 22:09	1330-20-7	
m&p-Xylene	**546**	ug/L	100	31.0	10		01/29/13 22:09	179601-23-1	
o-Xylene	**253**	ug/L	50.0	16.0	10		01/29/13 22:09	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	113	%	70-130		1		01/29/13 09:19	460-00-4	
Dibromofluoromethane (S)	98	%	70-130		1		01/29/13 09:19	1868-53-7	
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		01/29/13 09:19	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		01/29/13 09:19	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Sample: 15729 MW-59 **Lab ID: 92145825017** Collected: 01/21/13 14:55 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/28/13 16:08	01/28/13 20:54	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	107	%	60-140		1	01/28/13 16:08	01/28/13 20:54	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**294**	ug/L	100	76.8	1		01/29/13 09:37	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/29/13 09:37	994-05-8	
Benzene	**15.1**	ug/L	5.0	1.7	1		01/29/13 09:37	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/29/13 09:37	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/29/13 09:37	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/29/13 09:37	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/29/13 09:37	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/29/13 09:37	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/29/13 09:37	64-17-5	
Ethylbenzene	**190**	ug/L	5.0	1.6	1		01/29/13 09:37	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/29/13 09:37	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/29/13 09:37	1634-04-4	
Naphthalene	**69.3**	ug/L	5.0	2.0	1		01/29/13 09:37	91-20-3	
Toluene	**489**	ug/L	25.0	8.0	5		01/29/13 22:27	108-88-3	
Xylene (Total)	**553**	ug/L	50.0	13.5	5		01/29/13 22:27	1330-20-7	
m&p-Xylene	**247**	ug/L	10.0	3.1	1		01/29/13 09:37	179601-23-1	
o-Xylene	**306**	ug/L	25.0	8.0	5		01/29/13 22:27	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		01/29/13 09:37	460-00-4	
Dibromofluoromethane (S)	99	%	70-130		1		01/29/13 09:37	1868-53-7	
1,2-Dichloroethane-d4 (S)	108	%	70-130		1		01/29/13 09:37	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		01/29/13 09:37	2037-26-5	

Sample: 15729 MW-62 **Lab ID: 92145825018** Collected: 01/21/13 10:20 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/28/13 16:08	01/28/13 21:14	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	105	%	60-140		1	01/28/13 16:08	01/28/13 21:14	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/29/13 09:56	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/29/13 09:56	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/29/13 09:56	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/29/13 09:56	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/29/13 09:56	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/29/13 09:56	762-75-4	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Sample: 15729 MW-62 **Lab ID: 92145825018** Collected: 01/21/13 10:20 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/29/13 09:56	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/29/13 09:56	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/29/13 09:56	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/29/13 09:56	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/29/13 09:56	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/29/13 09:56	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/29/13 09:56	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/29/13 09:56	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/29/13 09:56	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/29/13 09:56	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/29/13 09:56	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	92	%	70-130		1		01/29/13 09:56	460-00-4	
Dibromofluoromethane (S)	101	%	70-130		1		01/29/13 09:56	1868-53-7	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		01/29/13 09:56	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		01/29/13 09:56	2037-26-5	

Sample: 15729 WSW-1 **Lab ID: 92145825019** Collected: 01/21/13 16:10 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/28/13 16:09	01/28/13 21:35	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	01/28/13 16:09	01/28/13 21:35	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		01/24/13 13:40	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		01/24/13 13:40	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		01/24/13 13:40	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		01/24/13 13:40	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		01/24/13 13:40	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		01/24/13 13:40	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		01/24/13 13:40	107-06-2	
Diethyl ether (Ethyl ether)	ND	ug/L	1.0	0.18	1		01/24/13 13:40	60-29-7	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		01/24/13 13:40	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		01/24/13 13:40	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/24/13 13:40	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		01/24/13 13:40	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		01/24/13 13:40	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		01/24/13 13:40	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		01/24/13 13:40	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		01/24/13 13:40	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		01/24/13 13:40	179601-23-1	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Sample: 15729 WSW-1 **Lab ID: 92145825019** Collected: 01/21/13 16:10 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260								
o-Xylene	ND	ug/L	1.0	0.23	1		01/24/13 13:40	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	88	%	70-130		1		01/24/13 13:40	460-00-4	
Dibromofluoromethane (S)	112	%	70-130		1		01/24/13 13:40	1868-53-7	
1,2-Dichloroethane-d4 (S)	118	%	70-130		1		01/24/13 13:40	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		01/24/13 13:40	2037-26-5	

Sample: 15729 WSW-2 **Lab ID: 92145825020** Collected: 01/21/13 15:45 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/28/13 16:09	01/28/13 21:56	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	104	%	60-140		1	01/28/13 16:09	01/28/13 21:56	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		01/24/13 13:58	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		01/24/13 13:58	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		01/24/13 13:58	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		01/24/13 13:58	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		01/24/13 13:58	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		01/24/13 13:58	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		01/24/13 13:58	107-06-2	
Diethyl ether (Ethyl ether)	ND	ug/L	1.0	0.18	1		01/24/13 13:58	60-29-7	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		01/24/13 13:58	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		01/24/13 13:58	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		01/24/13 13:58	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		01/24/13 13:58	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		01/24/13 13:58	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		01/24/13 13:58	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		01/24/13 13:58	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		01/24/13 13:58	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		01/24/13 13:58	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		01/24/13 13:58	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	87	%	70-130		1		01/24/13 13:58	460-00-4	
Dibromofluoromethane (S)	111	%	70-130		1		01/24/13 13:58	1868-53-7	
1,2-Dichloroethane-d4 (S)	118	%	70-130		1		01/24/13 13:58	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		01/24/13 13:58	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Sample: 15729 Field Blank #4 **Lab ID: 92145825021** Collected: 01/21/13 17:00 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/28/13 16:09	01/28/13 22:16	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	104	%	60-140		1	01/28/13 16:09	01/28/13 22:16	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/29/13 08:06	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/29/13 08:06	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/29/13 08:06	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/29/13 08:06	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/29/13 08:06	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/29/13 08:06	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/29/13 08:06	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/29/13 08:06	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/29/13 08:06	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/29/13 08:06	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/29/13 08:06	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/29/13 08:06	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/29/13 08:06	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/29/13 08:06	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/29/13 08:06	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/29/13 08:06	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/29/13 08:06	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	89	%	70-130		1		01/29/13 08:06	460-00-4	
Dibromofluoromethane (S)	109	%	70-130		1		01/29/13 08:06	1868-53-7	
1,2-Dichloroethane-d4 (S)	121	%	70-130		1		01/29/13 08:06	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		01/29/13 08:06	2037-26-5	

Sample: 15729 Trip Blank #4 **Lab ID: 92145825022** Collected: 01/21/13 17:05 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/28/13 16:09	01/28/13 22:37	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	01/28/13 16:09	01/28/13 22:37	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/29/13 07:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/29/13 07:48	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/29/13 07:48	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/29/13 07:48	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/29/13 07:48	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/29/13 07:48	762-75-4	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Sample: 15729 Trip Blank #4 **Lab ID: 92145825022** Collected: 01/21/13 17:05 Received: 01/23/13 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/29/13 07:48	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/29/13 07:48	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/29/13 07:48	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/29/13 07:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/29/13 07:48	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/29/13 07:48	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/29/13 07:48	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/29/13 07:48	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/29/13 07:48	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/29/13 07:48	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/29/13 07:48	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	90	%	70-130		1		01/29/13 07:48	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		1		01/29/13 07:48	1868-53-7	
1,2-Dichloroethane-d4 (S)	121	%	70-130		1		01/29/13 07:48	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		01/29/13 07:48	2037-26-5	

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QUALITY CONTROL DATA

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

QC Batch: MSV/21798 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 92145825019, 92145825020

METHOD BLANK: 910437 Matrix: Water
Associated Lab Samples: 92145825019, 92145825020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	01/24/13 12:44	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	01/24/13 12:44	
Benzene	ug/L	ND	1.0	01/24/13 12:44	
Diethyl ether (Ethyl ether)	ug/L	ND	1.0	01/24/13 12:44	
Diisopropyl ether	ug/L	ND	1.0	01/24/13 12:44	
Ethanol	ug/L	ND	200	01/24/13 12:44	
Ethyl-tert-butyl ether	ug/L	ND	10.0	01/24/13 12:44	
Ethylbenzene	ug/L	ND	1.0	01/24/13 12:44	
m&p-Xylene	ug/L	ND	2.0	01/24/13 12:44	
Methyl-tert-butyl ether	ug/L	ND	1.0	01/24/13 12:44	
Naphthalene	ug/L	ND	1.0	01/24/13 12:44	
o-Xylene	ug/L	ND	1.0	01/24/13 12:44	
tert-Amyl Alcohol	ug/L	ND	100	01/24/13 12:44	
tert-Amylmethyl ether	ug/L	ND	10.0	01/24/13 12:44	
tert-Butyl Alcohol	ug/L	ND	100	01/24/13 12:44	
tert-Butyl Formate	ug/L	ND	50.0	01/24/13 12:44	
Toluene	ug/L	ND	1.0	01/24/13 12:44	
Xylene (Total)	ug/L	ND	2.0	01/24/13 12:44	
1,2-Dichloroethane-d4 (S)	%	112	70-130	01/24/13 12:44	
4-Bromofluorobenzene (S)	%	88	70-130	01/24/13 12:44	
Dibromofluoromethane (S)	%	110	70-130	01/24/13 12:44	
Toluene-d8 (S)	%	99	70-130	01/24/13 12:44	

LABORATORY CONTROL SAMPLE: 910438

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	53.3	107	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	942	94	70-130	
Benzene	ug/L	50	47.9	96	70-130	
Diethyl ether (Ethyl ether)	ug/L	50	51.0	102	70-130	
Diisopropyl ether	ug/L	50	50.5	101	70-130	
Ethanol	ug/L	2000	2320	116	70-130	
Ethyl-tert-butyl ether	ug/L	100	96.0	96	70-130	
Ethylbenzene	ug/L	50	49.6	99	70-130	
m&p-Xylene	ug/L	100	102	102	70-130	
Methyl-tert-butyl ether	ug/L	50	46.6	93	70-130	
Naphthalene	ug/L	50	52.9	106	70-130	
o-Xylene	ug/L	50	49.6	99	70-130	
tert-Amyl Alcohol	ug/L	1000	1100	110	70-130	
tert-Amylmethyl ether	ug/L	100	102	102	70-130	
tert-Butyl Alcohol	ug/L	500	498	100	70-130	

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QUALITY CONTROL DATA

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

LABORATORY CONTROL SAMPLE: 910438

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Formate	ug/L	400	413	103	70-130	
Toluene	ug/L	50	49.0	98	70-130	
Xylene (Total)	ug/L	150	152	101	70-130	
1,2-Dichloroethane-d4 (S)	%			109	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Dibromofluoromethane (S)	%			105	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 910439 910440

Parameter	Units	92145825019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	49.1	46.4	98	93	70-130	6	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	1250	1080	125	108	70-130	14	30	
Benzene	ug/L	ND	50	50	48.6	46.5	97	93	70-130	4	30	
Diethyl ether (Ethyl ether)	ug/L	ND	50	50	50.5	48.7	101	97	70-130	4	30	
Diisopropyl ether	ug/L	ND	50	50	53.9	51.4	108	103	70-130	5	30	
Ethanol	ug/L	ND	2000	2000	4920	3380	246	169	70-130	37	30	M0,R1
Ethyl-tert-butyl ether	ug/L	ND	100	100	101	96.3	101	96	70-130	5	30	
Ethylbenzene	ug/L	ND	50	50	50.3	46.9	101	94	70-130	7	30	
m&p-Xylene	ug/L	ND	100	100	103	95.3	103	95	70-130	8	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	51.6	49.6	103	99	70-130	4	30	
Naphthalene	ug/L	ND	50	50	52.8	50.2	106	100	70-130	5	30	
o-Xylene	ug/L	ND	50	50	49.7	46.0	99	92	70-130	8	30	
tert-Amyl Alcohol	ug/L	ND	1000	1000	1470	1270	147	127	70-130	15	30	M0
tert-Amylmethyl ether	ug/L	ND	100	100	110	105	110	105	70-130	4	30	
tert-Butyl Alcohol	ug/L	ND	500	500	739	663	148	132	70-130	11	30	M0
tert-Butyl Formate	ug/L	ND	400	400	354	293	89	73	70-130	19	30	
Toluene	ug/L	ND	50	50	48.4	46.0	97	92	70-130	5	30	
1,2-Dichloroethane-d4 (S)	%						104	103	70-130			
4-Bromofluorobenzene (S)	%						97	96	70-130			
Dibromofluoromethane (S)	%						102	103	70-130			
Toluene-d8 (S)	%						98	99	70-130			

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QUALITY CONTROL DATA

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

QC Batch: MSV/21803 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92145825001, 92145825002, 92145825003, 92145825004, 92145825005, 92145825006, 92145825007, 92145825008

METHOD BLANK: 910619 Matrix: Water
Associated Lab Samples: 92145825001, 92145825002, 92145825003, 92145825004, 92145825005, 92145825006, 92145825007, 92145825008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	01/25/13 05:04	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	01/25/13 05:04	
Benzene	ug/L	ND	5.0	01/25/13 05:04	
Diisopropyl ether	ug/L	ND	5.0	01/25/13 05:04	
Ethanol	ug/L	ND	200	01/25/13 05:04	
Ethyl-tert-butyl ether	ug/L	ND	10.0	01/25/13 05:04	
Ethylbenzene	ug/L	ND	5.0	01/25/13 05:04	
m&p-Xylene	ug/L	ND	10.0	01/25/13 05:04	
Methyl-tert-butyl ether	ug/L	ND	5.0	01/25/13 05:04	
Naphthalene	ug/L	ND	5.0	01/25/13 05:04	
o-Xylene	ug/L	ND	5.0	01/25/13 05:04	
tert-Amyl Alcohol	ug/L	ND	100	01/25/13 05:04	
tert-Amylmethyl ether	ug/L	ND	10.0	01/25/13 05:04	
tert-Butyl Alcohol	ug/L	ND	100	01/25/13 05:04	
tert-Butyl Formate	ug/L	ND	50.0	01/25/13 05:04	
Toluene	ug/L	ND	5.0	01/25/13 05:04	
Xylene (Total)	ug/L	ND	10.0	01/25/13 05:04	
1,2-Dichloroethane-d4 (S)	%	116	70-130	01/25/13 05:04	
4-Bromofluorobenzene (S)	%	92	70-130	01/25/13 05:04	
Dibromofluoromethane (S)	%	103	70-130	01/25/13 05:04	
Toluene-d8 (S)	%	101	70-130	01/25/13 05:04	

LABORATORY CONTROL SAMPLE: 910620

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	51.9	104	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1300	130	70-130	
Benzene	ug/L	50	53.3	107	70-130	
Diisopropyl ether	ug/L	50	57.7	115	70-130	
Ethanol	ug/L	2000	3020	151	70-130	L0
Ethyl-tert-butyl ether	ug/L	100	109	109	70-130	
Ethylbenzene	ug/L	50	51.8	104	70-130	
m&p-Xylene	ug/L	100	106	106	70-130	
Methyl-tert-butyl ether	ug/L	50	52.2	104	70-130	
Naphthalene	ug/L	50	58.1	116	70-130	
o-Xylene	ug/L	50	51.4	103	70-130	
tert-Amyl Alcohol	ug/L	1000	1530	153	70-130	L0
tert-Amylmethyl ether	ug/L	100	113	113	70-130	
tert-Butyl Alcohol	ug/L	500	582	116	70-130	
tert-Butyl Formate	ug/L	400	521	130	70-130	

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QUALITY CONTROL DATA

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

LABORATORY CONTROL SAMPLE: 910620

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	50	52.2	104	70-130	
Xylene (Total)	ug/L	150	157	105	70-130	
1,2-Dichloroethane-d4 (S)	%			104	70-130	
4-Bromofluorobenzene (S)	%			95	70-130	
Dibromofluoromethane (S)	%			99	70-130	
Toluene-d8 (S)	%			102	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 910621 910622

Parameter	Units	92145825005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	47.5	45.5	95	91	70-130	4	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	1080	1060	108	106	70-130	2	30	
Benzene	ug/L	ND	50	50	43.7	42.5	87	85	70-130	3	30	
Diisopropyl ether	ug/L	ND	50	50	40.3	38.3	81	77	70-130	5	30	
Ethanol	ug/L	ND	2000	2000	3210	3150	161	157	70-130	2	30	M0
Ethyl-tert-butyl ether	ug/L	ND	100	100	85.1	81.4	85	81	70-130	4	30	
Ethylbenzene	ug/L	ND	50	50	49.0	46.5	98	93	70-130	5	30	
m&p-Xylene	ug/L	ND	100	100	101	95.9	100	95	70-130	5	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	42.5	40.7	85	81	70-130	4	30	
Naphthalene	ug/L	ND	50	50	54.8	53.3	107	104	70-130	3	30	
o-Xylene	ug/L	ND	50	50	49.3	46.9	98	93	70-130	5	30	
tert-Amyl Alcohol	ug/L	ND	1000	1000	1200	1200	120	120	70-130	0	30	
tert-Amylmethyl ether	ug/L	ND	100	100	93.7	91.8	94	92	70-130	2	30	
tert-Butyl Alcohol	ug/L	ND	500	500	812	793	162	159	70-130	2	30	M1
tert-Butyl Formate	ug/L	ND	400	400	15.9J	11.6J	4	3	70-130		30	P5
Toluene	ug/L	ND	50	50	45.3	44.3	89	87	70-130	2	30	
1,2-Dichloroethane-d4 (S)	%						104	104	70-130			
4-Bromofluorobenzene (S)	%						103	103	70-130			
Dibromofluoromethane (S)	%						102	100	70-130			
Toluene-d8 (S)	%						97	97	70-130			

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QUALITY CONTROL DATA

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

QC Batch: MSV/21832 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92145825009, 92145825010, 92145825011, 92145825012, 92145825013, 92145825014, 92145825015, 92145825016, 92145825017, 92145825018, 92145825021, 92145825022

METHOD BLANK: 912030 Matrix: Water
Associated Lab Samples: 92145825009, 92145825010, 92145825011, 92145825012, 92145825013, 92145825014, 92145825015, 92145825016, 92145825017, 92145825018, 92145825021, 92145825022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	01/29/13 07:29	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	01/29/13 07:29	
Benzene	ug/L	ND	5.0	01/29/13 07:29	
Diisopropyl ether	ug/L	ND	5.0	01/29/13 07:29	
Ethanol	ug/L	ND	200	01/29/13 07:29	
Ethyl-tert-butyl ether	ug/L	ND	10.0	01/29/13 07:29	
Ethylbenzene	ug/L	ND	5.0	01/29/13 07:29	
m&p-Xylene	ug/L	ND	10.0	01/29/13 07:29	
Methyl-tert-butyl ether	ug/L	ND	5.0	01/29/13 07:29	
Naphthalene	ug/L	ND	5.0	01/29/13 07:29	
o-Xylene	ug/L	ND	5.0	01/29/13 07:29	
tert-Amyl Alcohol	ug/L	ND	100	01/29/13 07:29	
tert-Amylmethyl ether	ug/L	ND	10.0	01/29/13 07:29	
tert-Butyl Alcohol	ug/L	ND	100	01/29/13 07:29	
tert-Butyl Formate	ug/L	ND	50.0	01/29/13 07:29	
Toluene	ug/L	ND	5.0	01/29/13 07:29	
Xylene (Total)	ug/L	ND	10.0	01/29/13 07:29	
1,2-Dichloroethane-d4 (S)	%	120	70-130	01/29/13 07:29	
4-Bromofluorobenzene (S)	%	89	70-130	01/29/13 07:29	
Dibromofluoromethane (S)	%	110	70-130	01/29/13 07:29	
Toluene-d8 (S)	%	100	70-130	01/29/13 07:29	

LABORATORY CONTROL SAMPLE: 912031

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	55.3	111	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1030	103	70-130	
Benzene	ug/L	50	49.8	100	70-130	
Diisopropyl ether	ug/L	50	50.2	100	70-130	
Ethanol	ug/L	2000	2510	126	70-130	
Ethyl-tert-butyl ether	ug/L	100	99.2	99	70-130	
Ethylbenzene	ug/L	50	53.1	106	70-130	
m&p-Xylene	ug/L	100	109	109	70-130	
Methyl-tert-butyl ether	ug/L	50	49.1	98	70-130	
Naphthalene	ug/L	50	58.4	117	70-130	
o-Xylene	ug/L	50	54.3	109	70-130	
tert-Amyl Alcohol	ug/L	1000	1160	116	70-130	
tert-Amylmethyl ether	ug/L	100	106	106	70-130	
tert-Butyl Alcohol	ug/L	500	546	109	70-130	
tert-Butyl Formate	ug/L	400	447	112	70-130	

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QUALITY CONTROL DATA

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

LABORATORY CONTROL SAMPLE: 912031

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	50	51.9	104	70-130	
Xylene (Total)	ug/L	150	164	109	70-130	
1,2-Dichloroethane-d4 (S)	%			107	70-130	
4-Bromofluorobenzene (S)	%			104	70-130	
Dibromofluoromethane (S)	%			101	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 912032 912033

Parameter	Units	92145825011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	38.5	44.0	77	88	70-130	14	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	856	1010	86	101	70-130	16	30	
Benzene	ug/L	3.8J	50	50	47.4	52.8	87	98	70-130	11	30	
Diisopropyl ether	ug/L	ND	50	50	38.0	44.0	76	88	70-130	15	30	
Ethanol	ug/L	ND	2000	2000	2210	2410	110	120	70-130	9	30	
Ethyl-tert-butyl ether	ug/L	ND	100	100	76.8	88.7	77	89	70-130	14	30	
Ethylbenzene	ug/L	ND	50	50	44.0	50.5	87	100	70-130	14	30	
m&p-Xylene	ug/L	ND	100	100	87.9	102	88	102	70-130	15	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	38.3	44.1	76	87	70-130	14	30	
Naphthalene	ug/L	3.3J	50	50	48.0	54.8	89	103	70-130	13	30	
o-Xylene	ug/L	ND	50	50	43.9	51.0	88	102	70-130	15	30	
tert-Amyl Alcohol	ug/L	ND	1000	1000	945	1070	93	106	70-130	13	30	
tert-Amylmethyl ether	ug/L	ND	100	100	83.9	95.4	84	95	70-130	13	30	
tert-Butyl Alcohol	ug/L	ND	500	500	606	696	121	139	70-130	14	30	M0
tert-Butyl Formate	ug/L	ND	400	400	17.3J	14.4J	4	4	70-130		30	P5
Toluene	ug/L	ND	50	50	41.4	47.1	82	93	70-130	13	30	
1,2-Dichloroethane-d4 (S)	%						96	96	70-130			
4-Bromofluorobenzene (S)	%						102	102	70-130			
Dibromofluoromethane (S)	%						100	100	70-130			
Toluene-d8 (S)	%						101	100	70-130			

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QUALITY CONTROL DATA

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

QC Batch: OEXT/20492 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92145825001, 92145825002, 92145825003, 92145825004, 92145825005, 92145825006, 92145825007, 92145825008, 92145825009, 92145825010

METHOD BLANK: 910720 Matrix: Water
Associated Lab Samples: 92145825001, 92145825002, 92145825003, 92145825004, 92145825005, 92145825006, 92145825007, 92145825008, 92145825009, 92145825010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.021	01/25/13 00:17	
1-Chloro-2-bromopropane (S)	%	105	60-140	01/25/13 00:17	

LABORATORY CONTROL SAMPLE & LCSD: 910721 910722

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.26	0.27	90	92	60-140	3	20	
1-Chloro-2-bromopropane (S)	%				105	105	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 910723 910724

Parameter	Units	92145454019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	7.9	.29	.29	5.7	5.8	-748	-726	60-140	1	20	P6
1-Chloro-2-bromopropane (S)	%						163	166	60-140			S5

SAMPLE DUPLICATE: 910725

Parameter	Units	92145825010 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	63.2	42.7	39	20	R1
1-Chloro-2-bromopropane (S)	%	0	0			S4

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QUALITY CONTROL DATA

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

QC Batch: OEXT/20532 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92145825011, 92145825012, 92145825013, 92145825014, 92145825015, 92145825016, 92145825017, 92145825018, 92145825019, 92145825020, 92145825021, 92145825022

METHOD BLANK: 911932 Matrix: Water
Associated Lab Samples: 92145825011, 92145825012, 92145825013, 92145825014, 92145825015, 92145825016, 92145825017, 92145825018, 92145825019, 92145825020, 92145825021, 92145825022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.021	01/28/13 17:50	
1-Chloro-2-bromopropane (S)	%	104	60-140	01/28/13 17:50	

LABORATORY CONTROL SAMPLE & LCSD: 911933 911934

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.27	0.27	92	94	60-140	1	20	
1-Chloro-2-bromopropane (S)	%				103	104	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 911936 911937

Parameter	Units	201060005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.29	.29	0.29	0.28	100	98	60-140	2	20	
1-Chloro-2-bromopropane (S)	%						107	108	60-140			

SAMPLE DUPLICATE: 911935

Parameter	Units	201059745 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	106	106	1		

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QUALIFIERS

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine(8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

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TNI - The NELAC Institute.

LABORATORIES

PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
R1	RPD value was outside control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.
S5	Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: H.W. Detwiler 15729
Pace Project No.: 92145825

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92145825001	15729 MW-2D	EPA 8011	OEXT/20492	EPA 8011	GCSV/13792
92145825002	15729 MW-3	EPA 8011	OEXT/20492	EPA 8011	GCSV/13792
92145825003	15729 MW-4	EPA 8011	OEXT/20492	EPA 8011	GCSV/13792
92145825004	15729 MW-5	EPA 8011	OEXT/20492	EPA 8011	GCSV/13792
92145825005	15729 MW-12	EPA 8011	OEXT/20492	EPA 8011	GCSV/13792
92145825006	15729 MW-16D	EPA 8011	OEXT/20492	EPA 8011	GCSV/13792
92145825007	15729 MW-17R	EPA 8011	OEXT/20492	EPA 8011	GCSV/13792
92145825008	15729 MW-18R	EPA 8011	OEXT/20492	EPA 8011	GCSV/13792
92145825009	15729 MW-24	EPA 8011	OEXT/20492	EPA 8011	GCSV/13792
92145825010	15729 MW-24 Dup	EPA 8011	OEXT/20492	EPA 8011	GCSV/13792
92145825011	15729 MW-29	EPA 8011	OEXT/20532	EPA 8011	GCSV/13819
92145825012	15729 MW-30	EPA 8011	OEXT/20532	EPA 8011	GCSV/13819
92145825013	15729 MW-37	EPA 8011	OEXT/20532	EPA 8011	GCSV/13819
92145825014	15729 MW-37 Dup	EPA 8011	OEXT/20532	EPA 8011	GCSV/13819
92145825015	15729 MW-48	EPA 8011	OEXT/20532	EPA 8011	GCSV/13819
92145825016	15729 MW-50	EPA 8011	OEXT/20532	EPA 8011	GCSV/13819
92145825017	15729 MW-59	EPA 8011	OEXT/20532	EPA 8011	GCSV/13819
92145825018	15729 MW-62	EPA 8011	OEXT/20532	EPA 8011	GCSV/13819
92145825019	15729 WSW-1	EPA 8011	OEXT/20532	EPA 8011	GCSV/13819
92145825020	15729 WSW-2	EPA 8011	OEXT/20532	EPA 8011	GCSV/13819
92145825021	15729 Field Blank #4	EPA 8011	OEXT/20532	EPA 8011	GCSV/13819
92145825022	15729 Trip Blank #4	EPA 8011	OEXT/20532	EPA 8011	GCSV/13819
92145825019	15729 WSW-1	EPA 8260	MSV/21798		
92145825020	15729 WSW-2	EPA 8260	MSV/21798		
92145825001	15729 MW-2D	EPA 8260	MSV/21803		
92145825002	15729 MW-3	EPA 8260	MSV/21803		
92145825003	15729 MW-4	EPA 8260	MSV/21803		
92145825004	15729 MW-5	EPA 8260	MSV/21803		
92145825005	15729 MW-12	EPA 8260	MSV/21803		
92145825006	15729 MW-16D	EPA 8260	MSV/21803		
92145825007	15729 MW-17R	EPA 8260	MSV/21803		
92145825008	15729 MW-18R	EPA 8260	MSV/21803		
92145825009	15729 MW-24	EPA 8260	MSV/21832		
92145825010	15729 MW-24 Dup	EPA 8260	MSV/21832		
92145825011	15729 MW-29	EPA 8260	MSV/21832		
92145825012	15729 MW-30	EPA 8260	MSV/21832		
92145825013	15729 MW-37	EPA 8260	MSV/21832		
92145825014	15729 MW-37 Dup	EPA 8260	MSV/21832		
92145825015	15729 MW-48	EPA 8260	MSV/21832		
92145825016	15729 MW-50	EPA 8260	MSV/21832		
92145825017	15729 MW-59	EPA 8260	MSV/21832		
92145825018	15729 MW-62	EPA 8260	MSV/21832		
92145825021	15729 Field Blank #4	EPA 8260	MSV/21832		
92145825022	15729 Trip Blank #4	EPA 8260	MSV/21832		

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 1

1603969

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Emerald INC	Report To: Ronny Lowder	Attention:
Address: 2520 Tahoe Dr. Sumter, SC 29150	Copy To:	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: (803) 469-5454 Fax:	Project Name: H.W. Detwiler	Pace Project Manager: A. Baioni
Requested Due Date/TAT: standard	Project Number: 15729	Pace Profile #: 3876-15

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Btex, N, M	8260B 1,2 DCA	Oxygenates	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92145825
1	15729 MW-2D	WT	G			1/21/13	0945		6				6						X	X	X	X		001
2	" " MW-3						1030																	002
3	" " MW-4						1050																	003
4	" " MW-5						1515																	004
5	" " MW-12						1400																	005
6	" " MW-16D						0915																	006
7	" " MW-17R						1420																	007
8	" " MW-18R						1435																	008
9	" " MW-24						1325																	009
10	" " MW-24 Dup						1330																	010
11	" " MW-29						1115																	011
12	" " MW-30						1130		6				6											012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Robbie Robertson	1/22/13	0800	R Steele	1-22-13	16:35				
	Beavey			D Moody Pace	1-23-13	14:35				
	George Moody	1-23-13	16:40	RP Pace	1-23-13	16:40	2-8	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robbie Robertson

SIGNATURE of SAMPLER: Robbie Robertson

DATE Signed (MM/DD/YY): 1/22/13

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of 2

1603970

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Emerald INC.	Report To: Ronny Lowder	Attention:
Address: 2520 Tahoe Dr, Sumter, SC 29150	Copy To:	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: (803) 469-5454 Fax:	Project Name: H.W. Detwiler	Pace Project Manager: A. BAOINI
Requested Due Date/TAT:	Project Number: 15729	Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTEX, N,M	1,2 DCA (8260B)	Oxygenates	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92145825
1	15729 MW-37	WT	G			1/21/13	1255		6				6						X	X	X	X		013
2	" " MW-37 Dup						1300																	014
3	" " MW-48						1225																	015
4	" " MW-50						1200																	016
5	" " MW-59						1455																	017
6	" " MW-62						1020																	018
7	" " WSW-1						1610																*	use low detection limits 019
8	" " WSW-2						1545																*	" " " 020
9	" " Field Blank #4						1700		6				6											021
10	" " Trip Blank #4						1705		2				2											022
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Robbie Roberts	1/22/13	0800	R Steele	1-22-13	16:35				
	Beavey			G Moody-Pace	1-23-13	14:35				
	George Moody	1-23-13	16:40	RP Pace	1-23-13	16:40	2-8	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robbie Robertson

SIGNATURE of SAMPLER: Robbie Roberts

DATE Signed (MM/DD/YY): 1/22/13

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: October 31, 2012 Page 1 of 2
	Document Number: F-CHR-CS-03-rev.08	Issuing Authority: Pace Huntersville Quality Office

Client Name: Emeraid Project # 92145825

Where Received: ☒ Huntersville ☐ Asheville ☐ Eden ☐ Raleigh

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals Intact: ☐ yes ☐ no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1101 (T1102) **Type of Ice:** (Wet) Blue None ☒ Samples on ice, cooling process has begun

Temp Correction Factor T1101: No Correction T1102: No Correction

Corrected Cooler Temp.: 2-6 C **Biological Tissue is Frozen:** Yes No (N/A)

Temp should be above freezing to 6°C

Comments:

Date and initials of person examining contents: RP 1-23-13

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☒No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☒No ☐N/A	7.
Sufficient Volume:	☒Yes ☐No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No ☐N/A	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
Containers Intact:	☒Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix:_____	☐Yes ☒No ☐N/A	12. Trip Blank - NO TIME & NO Date COC Says 1-21-13 @ 17:05
All containers needing preservation have been checked.	☐Yes ☐No ☒N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☒N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	Initial when completed
Samples checked for dechlorination:	☐Yes ☐No ☒N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☒No ☐N/A	15.
Trip Blank Present:	☒Yes ☐No ☐N/A	16.
Trip Blank Custody Seals Present	☒Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted:_____ Date/Time:_____

Comments/ Resolution:_____

SCURF Review: AMB **Date:** 1/23/13 **SRF Review:** AMB **Date:** 1/24/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

February 19, 2013

Mr. Ronny Lowder
Emerald, Inc.
2520 Tahoe Drive
Sumter, SC 29150

RE: Project: H.W. Detwiler 15729
Pace Project No.: 92148278

Dear Mr. Lowder:
Enclosed are the analytical results for sample(s) received by the laboratory on February 15, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angela M. Baioni

Angela Baioni

angela.baioni@pacelabs.com
Project Manager

Enclosures

cc: Ms. Robbin Brown, Emerald, Inc.

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CERTIFICATIONS

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

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SAMPLE SUMMARY

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92148278001	**15729 MW-6**	Water	02/14/13 09:10	02/15/13 12:00
92148278002	**15729 MW-7**	Water	02/14/13 10:40	02/15/13 12:00
92148278003	**15729 MW-19**	Water	02/14/13 10:55	02/15/13 12:00
92148278004	**15729 MW-25**	Water	02/14/13 10:15	02/15/13 12:00
92148278005	**15729 MW-38**	Water	02/14/13 10:00	02/15/13 12:00
92148278006	**15729 MW-38 Dup**	Water	02/14/13 10:02	02/15/13 12:00
92148278007	**15729 MW-44**	Water	02/14/13 09:30	02/15/13 12:00
92148278008	**15729 MW-44 Dup**	Water	02/14/13 09:32	02/15/13 12:00
92148278009	**15729 MW-47**	Water	02/14/13 11:10	02/15/13 12:00
92148278010	**15729 MW-58**	Water	02/14/13 10:25	02/15/13 12:00
92148278011	**15729 MW-60**	Water	02/14/13 09:00	02/15/13 12:00
92148278012	**15729 MW-61**	Water	02/14/13 08:50	02/15/13 12:00
92148278013	**15729 MW-63**	Water	02/14/13 09:20	02/15/13 12:00
92148278014	**15729 MW-64**	Water	02/14/13 09:45	02/15/13 12:00
92148278015	**15729 MW-66**	Water	02/14/13 11:30	02/15/13 12:00
92148278016	**15729 Field Blank**	Water	02/14/13 11:05	02/15/13 12:00
92148278017	**15729 Trip Blank**	Water	02/14/13 00:00	02/15/13 12:00

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SAMPLE ANALYTE COUNT

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92148278001	15729 MW-6	EPA 8011	NU1	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92148278002	15729 MW-7	EPA 8011	NU1	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92148278003	15729 MW-19	EPA 8011	NU1	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92148278004	15729 MW-25	EPA 8011	NU1	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92148278005	15729 MW-38	EPA 8011	NU1	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92148278006	15729 MW-38 Dup	EPA 8011	NU1	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92148278007	15729 MW-44	EPA 8011	NU1	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92148278008	15729 MW-44 Dup	EPA 8011	NU1	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92148278009	15729 MW-47	EPA 8011	NU1	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92148278010	15729 MW-58	EPA 8011	NU1	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92148278011	15729 MW-60	EPA 8011	NU1	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92148278012	15729 MW-61	EPA 8011	NU1	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92148278013	15729 MW-63	EPA 8011	NU1	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92148278014	15729 MW-64	EPA 8011	NU1	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92148278015	15729 MW-66	EPA 8011	NU1	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92148278016	15729 Field Blank	EPA 8011	NU1	2	PASI-C
		EPA 8260	MCK	21	PASI-C
92148278017	15729 Trip Blank	EPA 8260	MCK	21	PASI-C

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

Sample: 15729 MW-6 **Lab ID: 92148278001** Collected: 02/14/13 09:10 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/16/13 12:20	02/16/13 14:41	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	98	%	60-140		1	02/16/13 12:20	02/16/13 14:41	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		02/15/13 16:04	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		02/15/13 16:04	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		02/15/13 16:04	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		02/15/13 16:04	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		02/15/13 16:04	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		02/15/13 16:04	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		02/15/13 16:04	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		02/15/13 16:04	108-20-3	
Ethanol	ND	ug/L	200	138	1		02/15/13 16:04	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		02/15/13 16:04	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		02/15/13 16:04	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		02/15/13 16:04	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		02/15/13 16:04	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		02/15/13 16:04	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/15/13 16:04	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		02/15/13 16:04	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		02/15/13 16:04	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		02/15/13 16:04	460-00-4	
Dibromofluoromethane (S)	101	%	70-130		1		02/15/13 16:04	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		02/15/13 16:04	17060-07-0	
Toluene-d8 (S)	95	%	70-130		1		02/15/13 16:04	2037-26-5	

Sample: 15729 MW-7 **Lab ID: 92148278002** Collected: 02/14/13 10:40 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/16/13 12:20	02/16/13 15:02	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	97	%	60-140		1	02/16/13 12:20	02/16/13 15:02	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		02/15/13 16:20	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		02/15/13 16:20	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		02/15/13 16:20	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		02/15/13 16:20	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		02/15/13 16:20	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		02/15/13 16:20	762-75-4	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

Sample: 15729 MW-7 **Lab ID: 92148278002** Collected: 02/14/13 10:40 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		02/15/13 16:20	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		02/15/13 16:20	108-20-3	
Ethanol	ND	ug/L	200	138	1		02/15/13 16:20	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		02/15/13 16:20	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		02/15/13 16:20	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		02/15/13 16:20	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		02/15/13 16:20	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		02/15/13 16:20	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/15/13 16:20	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		02/15/13 16:20	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		02/15/13 16:20	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		02/15/13 16:20	460-00-4	
Dibromofluoromethane (S)	101	%	70-130		1		02/15/13 16:20	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		02/15/13 16:20	17060-07-0	
Toluene-d8 (S)	96	%	70-130		1		02/15/13 16:20	2037-26-5	

Sample: 15729 MW-19 **Lab ID: 92148278003** Collected: 02/14/13 10:55 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/16/13 12:20	02/16/13 15:22	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	99	%	60-140		1	02/16/13 12:20	02/16/13 15:22	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		02/15/13 16:36	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		02/15/13 16:36	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		02/15/13 16:36	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		02/15/13 16:36	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		02/15/13 16:36	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		02/15/13 16:36	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		02/15/13 16:36	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		02/15/13 16:36	108-20-3	
Ethanol	ND	ug/L	200	138	1		02/15/13 16:36	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		02/15/13 16:36	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		02/15/13 16:36	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		02/15/13 16:36	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		02/15/13 16:36	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		02/15/13 16:36	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/15/13 16:36	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		02/15/13 16:36	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		02/15/13 16:36	95-47-6	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

Sample: 15729 MW-19 **Lab ID: 92148278003** Collected: 02/14/13 10:55 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		02/15/13 16:36	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		1		02/15/13 16:36	1868-53-7	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		02/15/13 16:36	17060-07-0	
Toluene-d8 (S)	96	%	70-130		1		02/15/13 16:36	2037-26-5	

Sample: 15729 MW-25 **Lab ID: 92148278004** Collected: 02/14/13 10:15 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**3.5**	ug/L	0.098	0.098	5	02/16/13 12:20	02/18/13 10:09	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		5	02/16/13 12:20	02/18/13 10:09	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**3420**	ug/L	2000	1540	20		02/15/13 16:51	75-85-4	
tert-Amylmethyl ether	ND	ug/L	200	68.0	20		02/15/13 16:51	994-05-8	
Benzene	**2810**	ug/L	100	34.0	20		02/15/13 16:51	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2000	642	20		02/15/13 16:51	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2000	1150	20		02/15/13 16:51	75-65-0	
tert-Butyl Formate	ND	ug/L	1000	146	20		02/15/13 16:51	762-75-4	
1,2-Dichloroethane	ND	ug/L	100	36.0	20		02/15/13 16:51	107-06-2	
Diisopropyl ether	ND	ug/L	100	34.0	20		02/15/13 16:51	108-20-3	
Ethanol	ND	ug/L	4000	2760	20		02/15/13 16:51	64-17-5	
Ethylbenzene	**783**	ug/L	100	32.0	20		02/15/13 16:51	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	200	72.0	20		02/15/13 16:51	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	100	34.0	20		02/15/13 16:51	1634-04-4	
Naphthalene	**131**	ug/L	100	40.0	20		02/15/13 16:51	91-20-3	
Toluene	**5150**	ug/L	500	160	100		02/17/13 14:52	108-88-3	
Xylene (Total)	**2260**	ug/L	200	54.0	20		02/15/13 16:51	1330-20-7	
m&p-Xylene	**1340**	ug/L	200	62.0	20		02/15/13 16:51	179601-23-1	
o-Xylene	**927**	ug/L	100	32.0	20		02/15/13 16:51	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		20		02/15/13 16:51	460-00-4	
Dibromofluoromethane (S)	98	%	70-130		20		02/15/13 16:51	1868-53-7	
1,2-Dichloroethane-d4 (S)	97	%	70-130		20		02/15/13 16:51	17060-07-0	
Toluene-d8 (S)	96	%	70-130		20		02/15/13 16:51	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

Sample: 15729 MW-38 **Lab ID: 92148278005** Collected: 02/14/13 10:00 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**15.7**	ug/L	0.50	0.50	25	02/16/13 12:20	02/18/13 10:29	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		25	02/16/13 12:20	02/18/13 10:29	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**6740**	ug/L	5000	3840	50		02/17/13 13:49	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	170	50		02/17/13 13:49	994-05-8	
Benzene	**1880**	ug/L	250	85.0	50		02/17/13 13:49	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	1600	50		02/17/13 13:49	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	2880	50		02/17/13 13:49	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	365	50		02/17/13 13:49	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	90.0	50		02/17/13 13:49	107-06-2	
Diisopropyl ether	ND	ug/L	250	85.0	50		02/17/13 13:49	108-20-3	
Ethanol	ND	ug/L	10000	6890	50		02/17/13 13:49	64-17-5	
Ethylbenzene	**948**	ug/L	250	80.0	50		02/17/13 13:49	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	180	50		02/17/13 13:49	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	85.0	50		02/17/13 13:49	1634-04-4	
Naphthalene	**274**	ug/L	250	100	50		02/17/13 13:49	91-20-3	
Toluene	**6340**	ug/L	250	80.0	50		02/17/13 13:49	108-88-3	
Xylene (Total)	**5770**	ug/L	500	135	50		02/17/13 13:49	1330-20-7	
m&p-Xylene	**3820**	ug/L	500	155	50		02/17/13 13:49	179601-23-1	
o-Xylene	**1950**	ug/L	250	80.0	50		02/17/13 13:49	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		50		02/17/13 13:49	460-00-4	
Dibromofluoromethane (S)	101	%	70-130		50		02/17/13 13:49	1868-53-7	
1,2-Dichloroethane-d4 (S)	97	%	70-130		50		02/17/13 13:49	17060-07-0	
Toluene-d8 (S)	95	%	70-130		50		02/17/13 13:49	2037-26-5	

Sample: 15729 MW-38 Dup **Lab ID: 92148278006** Collected: 02/14/13 10:02 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**18.0**	ug/L	0.50	0.50	25	02/16/13 12:20	02/18/13 10:50	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		25	02/16/13 12:20	02/18/13 10:50	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**5360**	ug/L	5000	3840	50		02/17/13 14:05	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	170	50		02/17/13 14:05	994-05-8	
Benzene	**2250**	ug/L	250	85.0	50		02/17/13 14:05	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	1600	50		02/17/13 14:05	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	2880	50		02/17/13 14:05	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	365	50		02/17/13 14:05	762-75-4	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

Sample: 15729 MW-38 Dup **Lab ID: 92148278006** Collected: 02/14/13 10:02 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane	ND	ug/L	250	90.0	50		02/17/13 14:05	107-06-2	
Diisopropyl ether	ND	ug/L	250	85.0	50		02/17/13 14:05	108-20-3	
Ethanol	ND	ug/L	10000	6890	50		02/17/13 14:05	64-17-5	
Ethylbenzene	**1220**	ug/L	250	80.0	50		02/17/13 14:05	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	180	50		02/17/13 14:05	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	85.0	50		02/17/13 14:05	1634-04-4	
Naphthalene	**234J**	ug/L	250	100	50		02/17/13 14:05	91-20-3	
Toluene	**6180**	ug/L	250	80.0	50		02/17/13 14:05	108-88-3	
Xylene (Total)	**6020**	ug/L	500	135	50		02/17/13 14:05	1330-20-7	
m&p-Xylene	**4080**	ug/L	500	155	50		02/17/13 14:05	179601-23-1	
o-Xylene	**1940**	ug/L	250	80.0	50		02/17/13 14:05	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		50		02/17/13 14:05	460-00-4	
Dibromofluoromethane (S)	101	%	70-130		50		02/17/13 14:05	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	70-130		50		02/17/13 14:05	17060-07-0	
Toluene-d8 (S)	95	%	70-130		50		02/17/13 14:05	2037-26-5	

Sample: 15729 MW-44 **Lab ID: 92148278007** Collected: 02/14/13 09:30 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**21.7**	ug/L	1.0	1.0	50	02/16/13 12:21	02/18/13 11:10	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		50	02/16/13 12:21	02/18/13 11:10	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	5000	3840	50		02/15/13 17:39	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	170	50		02/15/13 17:39	994-05-8	
Benzene	**996**	ug/L	250	85.0	50		02/15/13 17:39	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	1600	50		02/15/13 17:39	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	2880	50		02/15/13 17:39	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	365	50		02/15/13 17:39	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	90.0	50		02/15/13 17:39	107-06-2	
Diisopropyl ether	ND	ug/L	250	85.0	50		02/15/13 17:39	108-20-3	
Ethanol	ND	ug/L	10000	6890	50		02/15/13 17:39	64-17-5	
Ethylbenzene	**598**	ug/L	250	80.0	50		02/15/13 17:39	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	180	50		02/15/13 17:39	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	85.0	50		02/15/13 17:39	1634-04-4	
Naphthalene	**195J**	ug/L	250	100	50		02/15/13 17:39	91-20-3	
Toluene	**3960**	ug/L	250	80.0	50		02/15/13 17:39	108-88-3	
Xylene (Total)	**3510**	ug/L	500	135	50		02/15/13 17:39	1330-20-7	
m&p-Xylene	**2290**	ug/L	500	155	50		02/15/13 17:39	179601-23-1	
o-Xylene	**1210**	ug/L	250	80.0	50		02/15/13 17:39	95-47-6	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

Sample: 15729 MW-44 **Lab ID: 92148278007** Collected: 02/14/13 09:30 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		50		02/15/13 17:39	460-00-4	
Dibromofluoromethane (S)	99	%	70-130		50		02/15/13 17:39	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	70-130		50		02/15/13 17:39	17060-07-0	
Toluene-d8 (S)	96	%	70-130		50		02/15/13 17:39	2037-26-5	

Sample: 15729 MW-44 Dup **Lab ID: 92148278008** Collected: 02/14/13 09:32 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**23.3**	ug/L	1.0	1.0	50	02/16/13 12:21	02/18/13 11:31	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		50	02/16/13 12:21	02/18/13 11:31	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	5000	3840	50		02/15/13 17:55	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	170	50		02/15/13 17:55	994-05-8	
Benzene	**1060**	ug/L	250	85.0	50		02/15/13 17:55	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	1600	50		02/15/13 17:55	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	2880	50		02/15/13 17:55	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	365	50		02/15/13 17:55	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	90.0	50		02/15/13 17:55	107-06-2	
Diisopropyl ether	ND	ug/L	250	85.0	50		02/15/13 17:55	108-20-3	
Ethanol	ND	ug/L	10000	6890	50		02/15/13 17:55	64-17-5	
Ethylbenzene	**661**	ug/L	250	80.0	50		02/15/13 17:55	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	180	50		02/15/13 17:55	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	85.0	50		02/15/13 17:55	1634-04-4	
Naphthalene	**221J**	ug/L	250	100	50		02/15/13 17:55	91-20-3	
Toluene	**4170**	ug/L	250	80.0	50		02/15/13 17:55	108-88-3	
Xylene (Total)	**3770**	ug/L	500	135	50		02/15/13 17:55	1330-20-7	
m&p-Xylene	**2500**	ug/L	500	155	50		02/15/13 17:55	179601-23-1	
o-Xylene	**1270**	ug/L	250	80.0	50		02/15/13 17:55	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		50		02/15/13 17:55	460-00-4	
Dibromofluoromethane (S)	99	%	70-130		50		02/15/13 17:55	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	70-130		50		02/15/13 17:55	17060-07-0	
Toluene-d8 (S)	96	%	70-130		50		02/15/13 17:55	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

Sample: 15729 MW-47 **Lab ID: 92148278009** Collected: 02/14/13 11:10 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**4.1**	ug/L	0.097	0.097	5	02/16/13 12:21	02/18/13 11:51	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		5	02/16/13 12:21	02/18/13 11:51	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**10100**	ug/L	5000	3840	50		02/15/13 18:10	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	170	50		02/15/13 18:10	994-05-8	
Benzene	**5710**	ug/L	250	85.0	50		02/15/13 18:10	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	1600	50		02/15/13 18:10	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	2880	50		02/15/13 18:10	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	365	50		02/15/13 18:10	762-75-4	
1,2-Dichloroethane	**120J**	ug/L	250	90.0	50		02/15/13 18:10	107-06-2	
Diisopropyl ether	**204J**	ug/L	250	85.0	50		02/15/13 18:10	108-20-3	
Ethanol	ND	ug/L	10000	6890	50		02/15/13 18:10	64-17-5	
Ethylbenzene	**622**	ug/L	250	80.0	50		02/15/13 18:10	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	180	50		02/15/13 18:10	637-92-3	
Methyl-tert-butyl ether	**198J**	ug/L	250	85.0	50		02/15/13 18:10	1634-04-4	
Naphthalene	**108J**	ug/L	250	100	50		02/15/13 18:10	91-20-3	
Toluene	**1180**	ug/L	250	80.0	50		02/15/13 18:10	108-88-3	
Xylene (Total)	**574**	ug/L	500	135	50		02/15/13 18:10	1330-20-7	
m&p-Xylene	**523**	ug/L	500	155	50		02/15/13 18:10	179601-23-1	
o-Xylene	ND	ug/L	250	80.0	50		02/15/13 18:10	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		50		02/15/13 18:10	460-00-4	
Dibromofluoromethane (S)	100	%	70-130		50		02/15/13 18:10	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	70-130		50		02/15/13 18:10	17060-07-0	
Toluene-d8 (S)	96	%	70-130		50		02/15/13 18:10	2037-26-5	

Sample: 15729 MW-58 **Lab ID: 92148278010** Collected: 02/14/13 10:25 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	02/16/13 12:21	02/16/13 17:47	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	93	%	60-140		1	02/16/13 12:21	02/16/13 17:47	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**592**	ug/L	200	154	2		02/17/13 14:21	75-85-4	
tert-Amylmethyl ether	ND	ug/L	20.0	6.8	2		02/17/13 14:21	994-05-8	
Benzene	**282**	ug/L	10.0	3.4	2		02/17/13 14:21	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	200	64.2	2		02/17/13 14:21	624-95-3	
tert-Butyl Alcohol	ND	ug/L	200	115	2		02/17/13 14:21	75-65-0	
tert-Butyl Formate	ND	ug/L	100	14.6	2		02/17/13 14:21	762-75-4	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

Sample: 15729 MW-58 **Lab ID: 92148278010** Collected: 02/14/13 10:25 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane	ND	ug/L	10.0	3.6	2		02/17/13 14:21	107-06-2	
Diisopropyl ether	**4.6J**	ug/L	10.0	3.4	2		02/17/13 14:21	108-20-3	
Ethanol	ND	ug/L	400	276	2		02/17/13 14:21	64-17-5	
Ethylbenzene	**30.4**	ug/L	10.0	3.2	2		02/17/13 14:21	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	20.0	7.2	2		02/17/13 14:21	637-92-3	
Methyl-tert-butyl ether	**10.7**	ug/L	10.0	3.4	2		02/17/13 14:21	1634-04-4	
Naphthalene	**8.1J**	ug/L	10.0	4.0	2		02/17/13 14:21	91-20-3	
Toluene	**5.7J**	ug/L	10.0	3.2	2		02/17/13 14:21	108-88-3	
Xylene (Total)	**11.9J**	ug/L	20.0	5.4	2		02/17/13 14:21	1330-20-7	
m&p-Xylene	**8.0J**	ug/L	20.0	6.2	2		02/17/13 14:21	179601-23-1	
o-Xylene	**3.8J**	ug/L	10.0	3.2	2		02/17/13 14:21	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		2		02/17/13 14:21	460-00-4	
Dibromofluoromethane (S)	101	%	70-130		2		02/17/13 14:21	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	70-130		2		02/17/13 14:21	17060-07-0	
Toluene-d8 (S)	96	%	70-130		2		02/17/13 14:21	2037-26-5	

Sample: 15729 MW-60 **Lab ID: 92148278011** Collected: 02/14/13 09:00 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**14.4**	ug/L	0.39	0.39	20	02/16/13 12:21	02/18/13 12:32	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		20	02/16/13 12:21	02/18/13 12:32	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**4080**	ug/L	2000	1540	20		02/17/13 14:37	75-85-4	
tert-Amylmethyl ether	ND	ug/L	200	68.0	20		02/17/13 14:37	994-05-8	
Benzene	**1760**	ug/L	100	34.0	20		02/17/13 14:37	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2000	642	20		02/17/13 14:37	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2000	1150	20		02/17/13 14:37	75-65-0	
tert-Butyl Formate	ND	ug/L	1000	146	20		02/17/13 14:37	762-75-4	
1,2-Dichloroethane	ND	ug/L	100	36.0	20		02/17/13 14:37	107-06-2	
Diisopropyl ether	ND	ug/L	100	34.0	20		02/17/13 14:37	108-20-3	
Ethanol	ND	ug/L	4000	2760	20		02/17/13 14:37	64-17-5	
Ethylbenzene	**1220**	ug/L	100	32.0	20		02/17/13 14:37	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	200	72.0	20		02/17/13 14:37	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	100	34.0	20		02/17/13 14:37	1634-04-4	
Naphthalene	**205**	ug/L	100	40.0	20		02/17/13 14:37	91-20-3	
Toluene	**2730**	ug/L	100	32.0	20		02/17/13 14:37	108-88-3	
Xylene (Total)	**1640**	ug/L	200	54.0	20		02/17/13 14:37	1330-20-7	
m&p-Xylene	**1290**	ug/L	200	62.0	20		02/17/13 14:37	179601-23-1	
o-Xylene	**347**	ug/L	100	32.0	20		02/17/13 14:37	95-47-6	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

Sample: 15729 MW-60 **Lab ID: 92148278011** Collected: 02/14/13 09:00 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		20		02/17/13 14:37	460-00-4	
Dibromofluoromethane (S)	100	%	70-130		20		02/17/13 14:37	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	70-130		20		02/17/13 14:37	17060-07-0	
Toluene-d8 (S)	97	%	70-130		20		02/17/13 14:37	2037-26-5	

Sample: 15729 MW-61 **Lab ID: 92148278012** Collected: 02/14/13 08:50 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**34.0**	ug/L	1.0	1.0	50	02/16/13 12:21	02/18/13 12:52	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		50	02/16/13 12:21	02/18/13 12:52	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	10000	7680	100		02/15/13 18:58	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1000	340	100		02/15/13 18:58	994-05-8	
Benzene	**4490**	ug/L	500	170	100		02/15/13 18:58	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	3210	100		02/15/13 18:58	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	5770	100		02/15/13 18:58	75-65-0	
tert-Butyl Formate	ND	ug/L	5000	730	100		02/15/13 18:58	762-75-4	
1,2-Dichloroethane	ND	ug/L	500	180	100		02/15/13 18:58	107-06-2	
Diisopropyl ether	ND	ug/L	500	170	100		02/15/13 18:58	108-20-3	
Ethanol	ND	ug/L	20000	13800	100		02/15/13 18:58	64-17-5	
Ethylbenzene	**1370**	ug/L	500	160	100		02/15/13 18:58	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	360	100		02/15/13 18:58	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	500	170	100		02/15/13 18:58	1634-04-4	
Naphthalene	**205J**	ug/L	500	200	100		02/15/13 18:58	91-20-3	
Toluene	**10900**	ug/L	500	160	100		02/15/13 18:58	108-88-3	
Xylene (Total)	**6090**	ug/L	1000	270	100		02/15/13 18:58	1330-20-7	
m&p-Xylene	**4110**	ug/L	1000	310	100		02/15/13 18:58	179601-23-1	
o-Xylene	**1980**	ug/L	500	160	100		02/15/13 18:58	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		100		02/15/13 18:58	460-00-4	
Dibromofluoromethane (S)	100	%	70-130		100		02/15/13 18:58	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	70-130		100		02/15/13 18:58	17060-07-0	
Toluene-d8 (S)	97	%	70-130		100		02/15/13 18:58	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

Sample: 15729 MW-63 **Lab ID: 92148278013** Collected: 02/14/13 09:20 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/16/13 12:21	02/16/13 18:49	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	101	%	60-140		1	02/16/13 12:21	02/16/13 18:49	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		02/15/13 19:14	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		02/15/13 19:14	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		02/15/13 19:14	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		02/15/13 19:14	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		02/15/13 19:14	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		02/15/13 19:14	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		02/15/13 19:14	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		02/15/13 19:14	108-20-3	
Ethanol	ND	ug/L	200	138	1		02/15/13 19:14	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		02/15/13 19:14	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		02/15/13 19:14	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		02/15/13 19:14	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		02/15/13 19:14	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		02/15/13 19:14	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/15/13 19:14	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		02/15/13 19:14	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		02/15/13 19:14	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		02/15/13 19:14	460-00-4	
Dibromofluoromethane (S)	103	%	70-130		1		02/15/13 19:14	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		02/15/13 19:14	17060-07-0	
Toluene-d8 (S)	96	%	70-130		1		02/15/13 19:14	2037-26-5	

Sample: 15729 MW-64 **Lab ID: 92148278014** Collected: 02/14/13 09:45 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/16/13 12:21	02/16/13 19:10	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	101	%	60-140		1	02/16/13 12:21	02/16/13 19:10	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		02/15/13 19:30	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		02/15/13 19:30	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		02/15/13 19:30	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		02/15/13 19:30	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		02/15/13 19:30	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		02/15/13 19:30	762-75-4	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

Sample: 15729 MW-64 **Lab ID: 92148278014** Collected: 02/14/13 09:45 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		02/15/13 19:30	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		02/15/13 19:30	108-20-3	
Ethanol	ND	ug/L	200	138	1		02/15/13 19:30	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		02/15/13 19:30	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		02/15/13 19:30	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		02/15/13 19:30	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		02/15/13 19:30	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		02/15/13 19:30	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/15/13 19:30	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		02/15/13 19:30	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		02/15/13 19:30	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		02/15/13 19:30	460-00-4	
Dibromofluoromethane (S)	101	%	70-130		1		02/15/13 19:30	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		02/15/13 19:30	17060-07-0	
Toluene-d8 (S)	95	%	70-130		1		02/15/13 19:30	2037-26-5	

Sample: 15729 MW-66 **Lab ID: 92148278015** Collected: 02/14/13 11:30 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**21.7**	ug/L	0.50	0.50	25	02/16/13 12:22	02/18/13 13:12	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		25	02/16/13 12:22	02/18/13 13:12	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	5000	3840	50		02/15/13 19:46	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	170	50		02/15/13 19:46	994-05-8	
Benzene	**2430**	ug/L	250	85.0	50		02/15/13 19:46	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	1600	50		02/15/13 19:46	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	2880	50		02/15/13 19:46	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	365	50		02/15/13 19:46	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	90.0	50		02/15/13 19:46	107-06-2	
Diisopropyl ether	ND	ug/L	250	85.0	50		02/15/13 19:46	108-20-3	
Ethanol	ND	ug/L	10000	6890	50		02/15/13 19:46	64-17-5	
Ethylbenzene	**739**	ug/L	250	80.0	50		02/15/13 19:46	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	180	50		02/15/13 19:46	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	85.0	50		02/15/13 19:46	1634-04-4	
Naphthalene	ND	ug/L	250	100	50		02/15/13 19:46	91-20-3	
Toluene	**5580**	ug/L	250	80.0	50		02/15/13 19:46	108-88-3	
Xylene (Total)	**2450**	ug/L	500	135	50		02/15/13 19:46	1330-20-7	
m&p-Xylene	**1500**	ug/L	500	155	50		02/15/13 19:46	179601-23-1	
o-Xylene	**954**	ug/L	250	80.0	50		02/15/13 19:46	95-47-6	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

Sample: 15729 MW-66 **Lab ID: 92148278015** Collected: 02/14/13 11:30 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		50		02/15/13 19:46	460-00-4	
Dibromofluoromethane (S)	99	%	70-130		50		02/15/13 19:46	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	70-130		50		02/15/13 19:46	17060-07-0	
Toluene-d8 (S)	96	%	70-130		50		02/15/13 19:46	2037-26-5	

Sample: 15729 Field Blank **Lab ID: 92148278016** Collected: 02/14/13 11:05 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/16/13 12:22	02/16/13 20:52	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	94	%	60-140		1	02/16/13 12:22	02/16/13 20:52	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		02/15/13 15:32	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		02/15/13 15:32	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		02/15/13 15:32	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		02/15/13 15:32	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		02/15/13 15:32	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		02/15/13 15:32	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		02/15/13 15:32	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		02/15/13 15:32	108-20-3	
Ethanol	ND	ug/L	200	138	1		02/15/13 15:32	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		02/15/13 15:32	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		02/15/13 15:32	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		02/15/13 15:32	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		02/15/13 15:32	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		02/15/13 15:32	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/15/13 15:32	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		02/15/13 15:32	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		02/15/13 15:32	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		02/15/13 15:32	460-00-4	
Dibromofluoromethane (S)	99	%	70-130		1		02/15/13 15:32	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		02/15/13 15:32	17060-07-0	
Toluene-d8 (S)	95	%	70-130		1		02/15/13 15:32	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

Sample: 15729 Trip Blank **Lab ID: 92148278017** Collected: 02/14/13 00:00 Received: 02/15/13 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		02/17/13 13:33	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		02/17/13 13:33	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		02/17/13 13:33	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		02/17/13 13:33	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		02/17/13 13:33	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		02/17/13 13:33	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		02/17/13 13:33	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		02/17/13 13:33	108-20-3	
Ethanol	ND	ug/L	200	138	1		02/17/13 13:33	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		02/17/13 13:33	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		02/17/13 13:33	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		02/17/13 13:33	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		02/17/13 13:33	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		02/17/13 13:33	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/17/13 13:33	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		02/17/13 13:33	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		02/17/13 13:33	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	107	%	70-130		1		02/17/13 13:33	460-00-4	
Dibromofluoromethane (S)	101	%	70-130		1		02/17/13 13:33	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		02/17/13 13:33	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		02/17/13 13:33	2037-26-5	

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QUALITY CONTROL DATA

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

QC Batch: MSV/22036 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92148278001, 92148278002, 92148278003, 92148278004, 92148278007, 92148278008, 92148278009, 92148278012, 92148278013, 92148278014, 92148278015, 92148278016

METHOD BLANK: 923363 Matrix: Water
Associated Lab Samples: 92148278001, 92148278002, 92148278003, 92148278004, 92148278007, 92148278008, 92148278009, 92148278012, 92148278013, 92148278014, 92148278015, 92148278016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	02/15/13 15:16	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	02/15/13 15:16	
Benzene	ug/L	ND	5.0	02/15/13 15:16	
Diisopropyl ether	ug/L	ND	5.0	02/15/13 15:16	
Ethanol	ug/L	ND	200	02/15/13 15:16	
Ethyl-tert-butyl ether	ug/L	ND	10.0	02/15/13 15:16	
Ethylbenzene	ug/L	ND	5.0	02/15/13 15:16	
m&p-Xylene	ug/L	ND	10.0	02/15/13 15:16	
Methyl-tert-butyl ether	ug/L	ND	5.0	02/15/13 15:16	
Naphthalene	ug/L	ND	5.0	02/15/13 15:16	
o-Xylene	ug/L	ND	5.0	02/15/13 15:16	
tert-Amyl Alcohol	ug/L	ND	100	02/15/13 15:16	
tert-Amylmethyl ether	ug/L	ND	10.0	02/15/13 15:16	
tert-Butyl Alcohol	ug/L	ND	100	02/15/13 15:16	
tert-Butyl Formate	ug/L	ND	50.0	02/15/13 15:16	
Toluene	ug/L	ND	5.0	02/15/13 15:16	
Xylene (Total)	ug/L	ND	10.0	02/15/13 15:16	
1,2-Dichloroethane-d4 (S)	%	99	70-130	02/15/13 15:16	
4-Bromofluorobenzene (S)	%	100	70-130	02/15/13 15:16	
Dibromofluoromethane (S)	%	99	70-130	02/15/13 15:16	
Toluene-d8 (S)	%	97	70-130	02/15/13 15:16	

LABORATORY CONTROL SAMPLE: 923364

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	47.3	95	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	794	79	70-130	
Benzene	ug/L	50	47.4	95	70-130	
Diisopropyl ether	ug/L	50	44.4	89	70-130	
Ethanol	ug/L	2000	2380	119	70-130	
Ethyl-tert-butyl ether	ug/L	100	86.7	87	70-130	
Ethylbenzene	ug/L	50	48.4	97	70-130	
m&p-Xylene	ug/L	100	96.8	97	70-130	
Methyl-tert-butyl ether	ug/L	50	43.6	87	70-130	
Naphthalene	ug/L	50	48.9	98	70-130	
o-Xylene	ug/L	50	46.4	93	70-130	
tert-Amyl Alcohol	ug/L	1000	857	86	70-130	
tert-Amylmethyl ether	ug/L	100	99.0	99	70-130	
tert-Butyl Alcohol	ug/L	500	440	88	70-130	
tert-Butyl Formate	ug/L	400	338	84	70-130	

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QUALITY CONTROL DATA

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

LABORATORY CONTROL SAMPLE: 923364

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	50	48.5	97	70-130	
Xylene (Total)	ug/L	150	143	95	70-130	
1,2-Dichloroethane-d4 (S)	%			103	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Dibromofluoromethane (S)	%			98	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 923365 923366

Parameter	Units	92148289003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	56.3	48.1	113	96	70-130	16	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	1030	911	103	91	70-130	12	30	
Benzene	ug/L	ND	50	50	56.9	49.6	114	99	70-130	14	30	
Diisopropyl ether	ug/L	ND	50	50	53.2	45.8	106	92	70-130	15	30	
Ethanol	ug/L	ND	2000	2000	3090	2950	154	147	70-130	5	30	M1
Ethyl-tert-butyl ether	ug/L	ND	100	100	103	88.7	103	89	70-130	15	30	
Ethylbenzene	ug/L	ND	50	50	58.0	51.2	116	102	70-130	12	30	
m&p-Xylene	ug/L	ND	100	100	115	103	114	102	70-130	11	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	51.3	46.2	103	92	70-130	10	30	
Naphthalene	ug/L	ND	50	50	51.4	46.3	103	93	70-130	10	30	
o-Xylene	ug/L	ND	50	50	55.1	48.8	110	97	70-130	12	30	
tert-Amyl Alcohol	ug/L	ND	1000	1000	1100	975	110	97	70-130	12	30	
tert-Amylmethyl ether	ug/L	ND	100	100	118	99.6	118	100	70-130	17	30	
tert-Butyl Alcohol	ug/L	ND	500	500	748	676	150	135	70-130	10	30	M1
tert-Butyl Formate	ug/L	ND	400	400	ND	ND	1	0	70-130		30	P5
Toluene	ug/L	34.9	50	50	103	94.0	136	118	70-130	9	30	M1
1,2-Dichloroethane-d4 (S)	%						107	101	70-130			
4-Bromofluorobenzene (S)	%						99	100	70-130			
Dibromofluoromethane (S)	%						98	97	70-130			
Toluene-d8 (S)	%						99	96	70-130			

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QUALITY CONTROL DATA

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

QC Batch: MSV/22049 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92148278005, 92148278006, 92148278010, 92148278011, 92148278017

METHOD BLANK: 923941 Matrix: Water
Associated Lab Samples: 92148278005, 92148278006, 92148278010, 92148278011, 92148278017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	02/17/13 13:17	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	02/17/13 13:17	
Benzene	ug/L	ND	5.0	02/17/13 13:17	
Diisopropyl ether	ug/L	ND	5.0	02/17/13 13:17	
Ethanol	ug/L	ND	200	02/17/13 13:17	
Ethyl-tert-butyl ether	ug/L	ND	10.0	02/17/13 13:17	
Ethylbenzene	ug/L	ND	5.0	02/17/13 13:17	
m&p-Xylene	ug/L	ND	10.0	02/17/13 13:17	
Methyl-tert-butyl ether	ug/L	ND	5.0	02/17/13 13:17	
Naphthalene	ug/L	ND	5.0	02/17/13 13:17	
o-Xylene	ug/L	ND	5.0	02/17/13 13:17	
tert-Amyl Alcohol	ug/L	ND	100	02/17/13 13:17	
tert-Amylmethyl ether	ug/L	ND	10.0	02/17/13 13:17	
tert-Butyl Alcohol	ug/L	ND	100	02/17/13 13:17	
tert-Butyl Formate	ug/L	ND	50.0	02/17/13 13:17	
Toluene	ug/L	ND	5.0	02/17/13 13:17	
Xylene (Total)	ug/L	ND	10.0	02/17/13 13:17	
1,2-Dichloroethane-d4 (S)	%	98	70-130	02/17/13 13:17	
4-Bromofluorobenzene (S)	%	104	70-130	02/17/13 13:17	
Dibromofluoromethane (S)	%	102	70-130	02/17/13 13:17	
Toluene-d8 (S)	%	96	70-130	02/17/13 13:17	

LABORATORY CONTROL SAMPLE: 923942

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.3	97	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	823	82	70-130	
Benzene	ug/L	50	47.2	94	70-130	
Diisopropyl ether	ug/L	50	43.5	87	70-130	
Ethanol	ug/L	2000	2430	122	70-130	
Ethyl-tert-butyl ether	ug/L	100	81.6	82	70-130	
Ethylbenzene	ug/L	50	47.8	96	70-130	
m&p-Xylene	ug/L	100	96.4	96	70-130	
Methyl-tert-butyl ether	ug/L	50	45.2	90	70-130	
Naphthalene	ug/L	50	49.3	99	70-130	
o-Xylene	ug/L	50	47.8	96	70-130	
tert-Amyl Alcohol	ug/L	1000	892	89	70-130	
tert-Amylmethyl ether	ug/L	100	91.3	91	70-130	
tert-Butyl Alcohol	ug/L	500	481	96	70-130	
tert-Butyl Formate	ug/L	400	368	92	70-130	
Toluene	ug/L	50	48.4	97	70-130	

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QUALITY CONTROL DATA

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

LABORATORY CONTROL SAMPLE: 923942

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	144	96	70-130	
1,2-Dichloroethane-d4 (S)	%			101	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Dibromofluoromethane (S)	%			95	70-130	
Toluene-d8 (S)	%			96	70-130	

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QUALITY CONTROL DATA

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

QC Batch: OEXT/20832 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92148278001, 92148278002, 92148278003, 92148278004, 92148278005, 92148278006, 92148278007, 92148278008, 92148278009, 92148278010, 92148278011, 92148278012, 92148278013, 92148278014, 92148278015, 92148278016

METHOD BLANK: 923762 Matrix: Water
Associated Lab Samples: 92148278001, 92148278002, 92148278003, 92148278004, 92148278005, 92148278006, 92148278007, 92148278008, 92148278009, 92148278010, 92148278011, 92148278012, 92148278013, 92148278014, 92148278015, 92148278016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	02/16/13 13:39	
1-Chloro-2-bromopropane (S)	%	97	60-140	02/16/13 13:39	

LABORATORY CONTROL SAMPLE & LCSD: 923763 923764

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.24	0.25	82	86	60-140	3	20	
1-Chloro-2-bromopropane (S)	%				97	98	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 923765 923766

Parameter	Units	92148278014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.29	.29	0.23	0.23	80	80	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						100	98	60-140			

SAMPLE DUPLICATE: 923767

Parameter	Units	92148278015 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	21.7	21.9	1	20	
1-Chloro-2-bromopropane (S)	%	0	0			S4

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QUALIFIERS

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine(8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

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LABORATORIES

PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: H.W. Detwiler 15729
Pace Project No.: 92148278

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92148278001	15729 MW-6	EPA 8011	OEXT/20832	EPA 8011	GCSV/13963
92148278002	15729 MW-7	EPA 8011	OEXT/20832	EPA 8011	GCSV/13963
92148278003	15729 MW-19	EPA 8011	OEXT/20832	EPA 8011	GCSV/13963
92148278004	15729 MW-25	EPA 8011	OEXT/20832	EPA 8011	GCSV/13963
92148278005	15729 MW-38	EPA 8011	OEXT/20832	EPA 8011	GCSV/13963
92148278006	15729 MW-38 Dup	EPA 8011	OEXT/20832	EPA 8011	GCSV/13963
92148278007	15729 MW-44	EPA 8011	OEXT/20832	EPA 8011	GCSV/13963
92148278008	15729 MW-44 Dup	EPA 8011	OEXT/20832	EPA 8011	GCSV/13963
92148278009	15729 MW-47	EPA 8011	OEXT/20832	EPA 8011	GCSV/13963
92148278010	15729 MW-58	EPA 8011	OEXT/20832	EPA 8011	GCSV/13963
92148278011	15729 MW-60	EPA 8011	OEXT/20832	EPA 8011	GCSV/13963
92148278012	15729 MW-61	EPA 8011	OEXT/20832	EPA 8011	GCSV/13963
92148278013	15729 MW-63	EPA 8011	OEXT/20832	EPA 8011	GCSV/13963
92148278014	15729 MW-64	EPA 8011	OEXT/20832	EPA 8011	GCSV/13963
92148278015	15729 MW-66	EPA 8011	OEXT/20832	EPA 8011	GCSV/13963
92148278016	15729 Field Blank	EPA 8011	OEXT/20832	EPA 8011	GCSV/13963
92148278001	15729 MW-6	EPA 8260	MSV/22036		
92148278002	15729 MW-7	EPA 8260	MSV/22036		
92148278003	15729 MW-19	EPA 8260	MSV/22036		
92148278004	15729 MW-25	EPA 8260	MSV/22036		
92148278005	15729 MW-38	EPA 8260	MSV/22049		
92148278006	15729 MW-38 Dup	EPA 8260	MSV/22049		
92148278007	15729 MW-44	EPA 8260	MSV/22036		
92148278008	15729 MW-44 Dup	EPA 8260	MSV/22036		
92148278009	15729 MW-47	EPA 8260	MSV/22036		
92148278010	15729 MW-58	EPA 8260	MSV/22049		
92148278011	15729 MW-60	EPA 8260	MSV/22049		
92148278012	15729 MW-61	EPA 8260	MSV/22036		
92148278013	15729 MW-63	EPA 8260	MSV/22036		
92148278014	15729 MW-64	EPA 8260	MSV/22036		
92148278015	15729 MW-66	EPA 8260	MSV/22036		
92148278016	15729 Field Blank	EPA 8260	MSV/22036		
92148278017	15729 Trip Blank	EPA 8260	MSV/22049		

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Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Rush: 16447
24 hr rush

Page: 1 of 2

1671561

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Emerald Inc	Report To: R. Lowder	Attention:
Address: 2520 Tahoe Dr	Copy To:	Company Name:
Sumter SC 29150		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: 803 469-5454 Fax:	Project Name: H.W. Detwiler	Pace Project Manager: A. Baioni
Requested Due Date/TAT: [redacted]	Project Number: 15729	Pace Profile #: 3876-15

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	BTEX, N,M DCA OXYS	EDB	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92148278
1	15729 MW-6	WT	G			2-14-13	910		6				6						X	X		001
2	" MW-7						1040															002
3	" MW-19						1055															003
4	" MW-25						1015															004
5	" MW-38						1000															005
6	" MW-38 Dup						1002															006
7	" MW-44						930															007
8	" MW-44 Dup						932															008
9	" MW-47						1110															009
10	" MW-58						1025															010
11	" MW-60						900															011
12	" MW-61	WT	G			2-14-13	850		6				6						X	X		012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature]	2-14-13		[signature]	2-14-13	450				
				[signature]	2/15/13	1115				
	[signature]	2/15/13	1200	[signature]	2/15/13	12:00	28	yes	no	yes

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: William C. McClary

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 2-14-13

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

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www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of 2

1671562

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Emerald, Inc	Report To: R. Lowder	Attention:
Address: 2520 Tahoe Dr	Copy To:	Company Name:
Sunter, SC 29151		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: 803 469-5454 Fax:	Project Name: H.W. Detwiler	Pace Project Manager: A. Baioni
Requested Due Date/TAT:	Project Number: 15729	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTEX, N, M, DIA OXYS	EDB	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92148278
1	15729 MW-63	WT	G			2-14-13	920		6				6						X	X		013
2	" MW-64	↓	↓			↓	945		↓				↓						↓	↓		014
3	" MW-66	↓	↓			↓	1130		↓				↓						↓	↓		015
4	" Field Blank	↓	↓			↓	1105		6				6						↓	X		016
5	" Trip Blank	WT	G			2-14-13			2				2						X			017
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	[signature]	2-14-13		[signature]	2-14-13	4:50				
				[signature]	2/15/13	1115				
	[signature]	2/15/13	1200	[signature]	2/15/13	12:00	2.5	yes	no	yes

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: William McClary

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 2-14-13

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: October 31, 2012 Page 1 of 2
	Document Number: F-CHR-CS-03-rev.08	Issuing Authority: Pace Huntersville Quality Office

Client Name: Emerald

WO#: 92148278

Where Received: ☐ Huntersville ☐ Asheville ☐ Eden

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Custody Seal on Cooler/Box Present: ☐ yes ☐ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other

Thermometer Used: IR Gun T1101 T1102 **Type of Ice:** Wet Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor T1101: No Correction T1102: No Correction

Corrected Cooler Temp.: 2.5 C **Biological Tissue is Frozen:** Yes No N/A

Temp should be above freezing to 6°C

Comments:

Date and initials of person examining contents: 2/15/13

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:		
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	Initial when completed
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☑Yes ☐No ☐N/A	15. 2/15/13 +5
Trip Blank Present:	☑Yes ☐No ☐N/A	16. no tbs
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Craig McClary Date/Time: 2/16/13 8:48

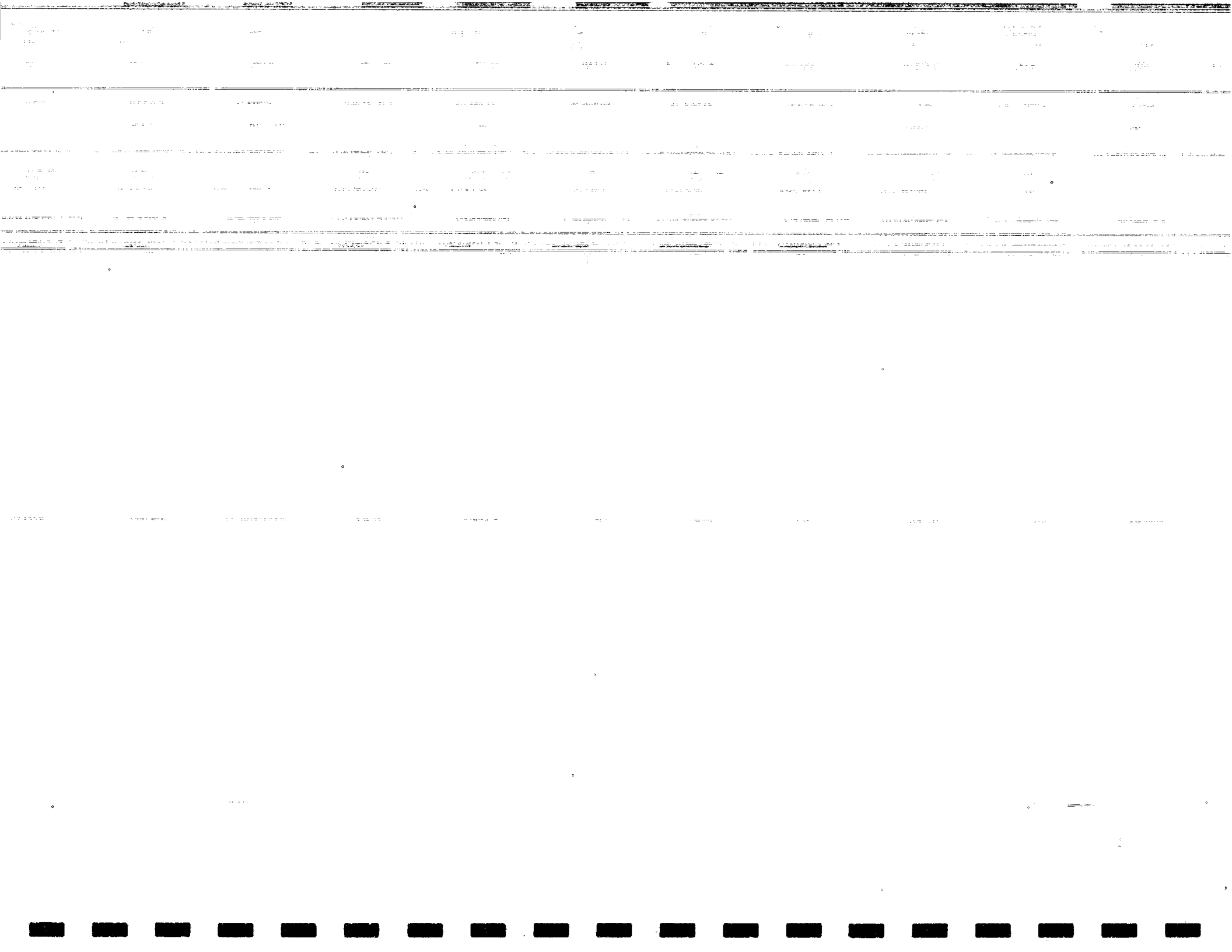
Comments/ Resolution: emailed client about TB. Looks like they used old TBs in their stock from 2011 that had a large amount of head space in them. Put on hold pending client authorization -AMB

SCURF Review: AMB **Date:** 2/15/13 **SRF Review:** AMB **Date:** 2/16/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

APPENDIX C

DISPOSAL MANIFESTS



Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

February 21, 2013

Mr. Shane S. Shull, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, SC 29201-1708

RE: Purge Water Treatment
HW Detwiler Company
37 South Church Street
Summerton, South Carolina
UST Permit #15729
Clarendon County

Dear Mr. Shull:

Emerald, Inc. is providing this letter to certify the on-site treatment of purge water at the subject site. This purge water was treated in compliance with the conditions set forth in "Proposed Conditions for use of Portable Activated Carbon Units for the Treatment of Small Volumes of Petroleum Hydrocarbon Contaminated Groundwater".

Applicability:

Groundwater to be treated is generated from well development and sampling.

Conditions:

1. The purge and development water is mixed prior to treatment by the activated carbon unit.
2. Free product was not detected in the purge water.
3. Groundwater analytical results from monitoring wells indicate average concentrations of hydrocarbons to be less than 5,000 parts per billion (ppb) Benzene and less than 20,000 ppb total BTEX.
4. The carbon filter material will be replaced after 5,000 gallons of treatment.

5. A record of usage will be maintained by the Contractor.
6. The manufacturer's recommendations have been adhered to.
7. Any SCDHEC recommendations and any conditions set forth by SCDHEC will be adhered to.

Purge waters were treated on-site by Emerald, Inc. personnel using a treatment drum loaded with approximately 50 pounds of activated carbon. This carbon will be loaded to a maximum amount of 3 pounds of total organic carbon or 5,000 gallons of development/purge water, whichever occurs first. Cumulative organic compounds absorbed by the activated carbon is tracked to ensure the capacity of the carbon is not exceeded.

Origin of Water	Treatment Date	Amount
Purge Water	1/11/13	27.75 Gallons
Purge Water	1/14/13	39.75 Gallons
Purge Water	1/15/13	31.50 Gallons
Purge Water	1/21/13	81.50 Gallons

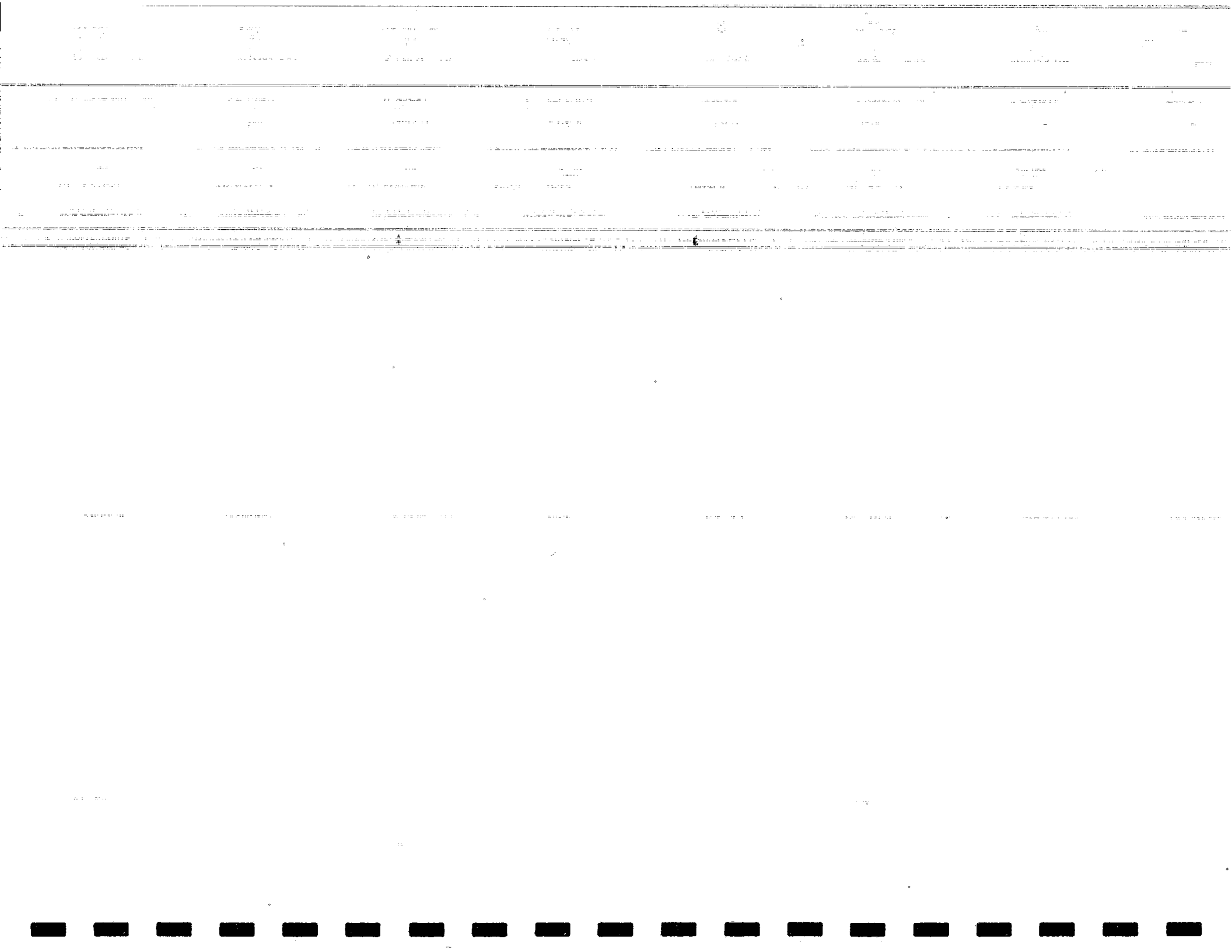
If you have any additional questions please contact Emerald, Inc. at your convenience. Emerald, Inc. can be reached at 803-469-5454.

Yours very truly,
EMERALD, INC.

William C. McClary, P.G.
Project Geologist

APPENDIX D

QAPP CONTRACTOR'S CHECKLIST



South Carolina
Underground Storage Tank Program

HW Detwiler Company
SCDHEC ID #15729
February 21, 2013

Contractor Checklist

For each report submitted to the UST Management Division, the contractor will be required to verify that all data elements for the required scope of work have been provided. For items not required for the scope of work, the N/A box should be checked. For items required and not completed or provided, the No box should be checked and a thorough description of the reason must be provided.

Item #	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?	X		
3	Is name, address, & phone number of current property owner provided?	X		
4	Is the DHEC Certified UST Site Rehabilitation contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed boring/monitoring wells provided?			X
6	Is the name, address, telephone number, and certification number of the certified laboratory(ies) performing analytical analyses provided?	X		
7	Has the facility history been summarized?	X		
8	Has the regional geology and hydrogeology been described?			X
9	Are the receptor survey results provided as required?			X
10	Has current use of the site and adjacent land been described?	X		
11	Has the site-specific geology and hydrogeology been described?			X
12	Has the primary soil type been described?			X
13	Have field screening results been described?			X
14	Has a description of the soil sample collection and preservation been detailed?			X
15	Has the field screening methodology and procedure been detailed?			X
16	Has the monitoring well installation and development dates been provided?			X
17	Has the method of well development been detailed?			X
18	Has justification been provided for the locations of the monitoring wells?			X
19	Have the monitoring wells been labeled in accordance with the UST QAPP guidelines?	X		
20	Has the groundwater sampling methodology been detailed?	X		
21	Have the groundwater sampling dates and groundwater measurements been provided?	X		
22	Has the purging methodology been detailed?	X		
23	Has the volume of water purged from each well provided along with measurements to verify that purging is complete? (Appendix A)	X		
24	If free-product is present, has the thickness been provided?	X		
25	Does the report include a brief discussion of the assessment done and the results?	X		
26	Does the report include a brief discussion of the aquifer evaluation and results?			X
27	Does the report include a brief discussion of the fate & transport models used?			X

South Carolina
Underground Storage Tank Program

HW Detwiler Company
SCDHEC ID #15729
February 21, 2013

Item #	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			X
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			X
30	Have the SSTLs for each compund and pathway been calculated? (Tier 2 Risk Evaluation)			X
31	Have recommendations for further action been provided and explained?	X		
32	Has the soil analytical data for the site been provided in tabular format?			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 1)	X		
34	Has the current and historical laboratory data been provided in tabular format? (Table 2 & 3)	X		
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			X
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			X
37	Has the topographic map been provided with all required elements? (Figure 2)	X		
38	Has the site base map been provided with all required elements? (Figure 3)	X		
39	Have the CoC site maps been provided? (Figure 5)	X		
40	Has the site potentiometric map been provided? (Figure 4)	X		
41	Have the geologic cross-sections been provided?			X
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			X
43	Has the site survey been provided and include all necessary elements?			X
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	X		
45	Is the laboratory performing the analyses properly certified?	X		
46	Has the tax map been included with all necessary elements?			X
47	Have the soil boring/field screening logs been provided?			X
48	Have the well completion logs and SCDHEC Form 1903 been provided?			X
49	Have the aquifer evaluation forms, data, graphs, equation, etc. been provided?			X
50	Have the disposal manifests been provided? (Appendix C)	X		
51	Has a copy of the local zoning regulations been provided?			X
52	Has all fate and transport modeling been provided?			X
53	Have copies of all access agreements obtained by the contractor been provided?			X
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided? (Appendix D)	X		

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

MAR 0 8 2004

MR HAROLD DETWILER
PO BOX 760
SUMMERTON SC 29148-0760

Re: H. W. Detwiler, Co., 37 S. Church St., Summerton, SC
UST Permit #15729; CA #21424; MWA #UMW-18165
Release 1 Reported June 22, 1993
Cost Agreement Received 01/16/04
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control (SCDHEC) recognizes your commitment to continue work at this site utilizing your own contractor. The Program has reviewed the referenced Cost Agreement and determined the next necessary scope of work to be the installation of wells to define the contaminate plume up gradient of the site and south of MW-10. Two Enhanced Fluid Recovery (EFR) events to remove free phase product from MW-1 and MW-13 and a comprehensive groundwater-sampling event have also been approved.

Cost Agreement #21424 has been approved in the amount shown on the enclosed cost agreement for well installation, two EFR events and one comprehensive sampling event for all monitoring wells associated with the release.

- The 8-hour EFR events should be conducted within 30 days of the date of this letter.
- Groundwater samples from all monitoring wells associated with the release should be collected no earlier than 30 days after the last EFR event and analyzed for BTEX, Naphthalene, and MTBE by EPA method 8260B.

The report submitted at the completion of these activities should include the following:

- A narrative portion documenting the two EFR events noting site conditions, the names of the EFR contractor, field personnel, date, times each EFR event started and ended, ambient air temperature, general weather conditions during the EFR event, and the estimated amount in gallons of the petroleum products removed as a liquid or vapor for each event. Wells containing free phase product should be gauged at the beginning and end of each EFR event. Disposal manifests for each EFR event should be included as part of the final report.

UST PROGRAM
DOCKETING # 1A Tech

On all correspondence or inquiries regarding this project, please reference **UST Permit # 15729.** If you have any questions, please feel free to contact me by phone at (803) 896-6648 or (800) 826-5435 (within South Carolina only), by fax at (803) 896-6245,or email at butlerap@dhec.sc.gov.

Sincerely,

Alexander Butler, Hydrogeologist
Owner/Operator Support Section
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Approved Cost Agreement (ACA)
Copy of Monitoring Well Approval (MWA)

cc: Emerald, Inc., PO Box 3050, Sumter, SC 29151 (with original MWA and copy of ACA)
Technical File (with copy of MWA and ACA)

SCDHEC/UST/021704

Approved Cost Agreement [redacted]424

Facility: 15729 H W DETWILER CO
BUTLERAP
PO Number:

Task / Description	Categories	Item Description	Qty / Pct	Unit Price	Amount
01 PLAN					
		A PLAN PREPARATION	1.0000	100.00	100.00
04 MOB/DEMOB					
		A EQUIPMENT	3.0000	500.00	1,500.00
		B PERSONNEL	6.0000	250.00	1,500.00
06 SOIL BORINGS (DRILLED)					
		SOIL BORINGS & FLD SCREENING	350.0000	17.00	5,950.00
08 ABANDONMENT					
		ABANDONMENT	350.0000	4.00	1,400.00
09 WELL INSTALLATION					
		B WATER TABLE (DRILLED)	200.0000	38.00	7,600.00
10 SAMPLE COLLECTION					
		A GROUND WATER	10.0000	55.00	550.00
		D GROUNDWATER NO-PURGE	24.0000	35.00	840.00
11 ANALYSES					
	GW GROUNDWATER	A BTEX+NAPTH+MTBE	34.0000	100.00	3,400.00
		E LEAD	34.0000	20.00	680.00
		F EDB	34.0000	55.00	1,870.00
16 SUBSEQUENT SURVEY					
		SUBSEQUENT SURVEY	1.0000	260.00	260.00
17 DISPOSAL					
		A1 WASTEWATER - PURGING/SAMPLING	5.0000	90.00	450.00
		A2 WASTEWATER - PUMPING TEST	3,000.0000	0.60	1,800.00
		C SOIL (TREATMENT/DISPOSAL)	20.0000	50.00	1,000.00
19 RPT/PROJECT MNGT & COORDINATIO					
		PCT PERCENT	0.1500	35,460.00	5,319.00
23 EFR					
		A 8 HOUR EVENT	2.0000	3,000.00	6,000.00
		C OFF GAS TREATMENT	16.0000	35.00	560.00
			Total Amount		40,779.00

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

Monitoring Well Installation Approval Form

Date of Issue: February 17, 2004 Approval No.: UMW-18165

Approval is hereby granted to:	Emerald, Inc.
On behalf of:	Harold Detwiler
UST Permit #:	15729
County:	Clarendon

This approval is for the construction of field screening and eight shallow monitoring wells in accordance with the South Carolina Well Standards and Regulations. The SUPERB Account does not pay the replacement of wells. The well(s) are to be constructed within the surficial aquifer for the intended purpose of monitoring groundwater quality and/or water level(s) at the referenced facility. Approval is provided with the following conditions:

1. The latitude and longitude, surveyed elevations, boring and/or geologist logs and actual (as built) construction details for each well will be submitted with the technical report.

2. Each well will be labeled with an identification plate constructed of a durable material affixed to the casing or surface pad where it is readily visible. The plate will provide monitoring well I.D.#, date of construction, static water level, and driller name and state certification #.

3. Well construction and sampling derived waste including, but not necessarily limited to, drill cuttings, drilling fluids, development and purge water should be managed properly and in compliance with applicable requirements. If containerized, each vessel should be clearly labeled with regard to contents, source, and date of activity.

4. A minimum of forty-eight (48) hours prior to initiation of drilling activities, please provide notice to Alexander Butler at (803) 896-6648 or butlerap@dhec.sc.gov.

5. Please provide groundwater quality analytical data (chemical analysis and/or water level(s)) and associated measurements (i.e., in-situ field measurements) to me with the technical report.

6. Monitoring wells and temporary monitoring wells will be installed by or under the direct supervision of a licensed well driller certified by the State of South Carolina.

7. Monitoring wells and temporary monitoring wells will be abandoned by or under the direct supervision of a licensed well driller certified by the State of South Carolina. Temporary monitoring wells shall not remain in place for longer than 30 days from the date of installation. Monitoring wells may be abandoned only upon concurrence by this Bureau.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and the Department of Health and Environmental Control Regulations R.61-71. Please remember to have a copy of this approval on the site during well installation.

Approved by:

Alexander Butler, Hydrogeologist
Owner/Operator Support Section
Underground Storage Tank Program

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
2600 Bull Street • Columbia, SC 29201 • Phone: (803) 898-3432 • www.scdhec.net

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

E-MAIL:
emeraldinc@ftc-i.net

TELEPHONE (803) 469-5454
FAX (803) 469-5465

UST
JUL 15 2010
PROGRAM

July 1, 2010

Minda Johnson, Hydrogeologist
Assessment Section
UST Management Division
Underground Storage Tank Program
Bureau of Land and Waste Management
SCDHEC
2600 Bull Street
Columbia, S.C. 29201

Re: H.W. Detwiler Co., 37 S. Church St., Summerton, SC
UST Permit #15729; CA #37777
Groundwater Sampling Event
Clarendon County

Dear Ms. Johnson:

On behalf of Mr. Harold Detwiler, Emerald, Inc. is providing you with one copy of the completed Groundwater Sampling Event report for the site. If you have any questions regarding the report and its findings, please contact me at either (803)469-5454 or via email at rllemerald@ftc-i.net.

Yours very truly,
Emerald, Inc.

Ronny Lowder/RB

Ronny L. Lowder
President

RLL/jrb
Enclosure

cc: Mr. Harold W. Detwiler, Jr.

Celebrating 20 Years
1990-2010

UST
DOCKET
2Tour
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Emerald, Inc.

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GROUNDWATER SAMPLING EVENT
(December 21-22, 2009)
H W DETWILER CO.
37 S. CHURCH STREET
SUMMERTON, SC
UST Permit # 15729

Prepared For:

South Carolina Department of Health & Environmental Control
Owner/Operator Assistance Section
Assessment and Corrective Action Branch
Division of UST Management
2600 Bull Street
Columbia, SC 29201

Prepared By:

EMERALD, INC.
UST Site Rehabilitation Contractor No. 67
2520 Tahoe Drive
P.O. Box 3050
Sumter, SC 29151

February 26, 2010

Celebrating 20 Years
1990-2010

Signature Page

This report was prepared by Emerald, Inc. using generally accepted practices. Any questions regarding such should be directed to Ronny L. Lowder at the office of Emerald, Inc. located at 2520 Tahoe Drive, Sumter, South Carolina, or telephone (803) 469-5454.

Ronny Lowder/RB

Ronny L. Lowder, President
EMERALD, INC.
UST Site Rehabilitation Contractor No. 67

Groundwater Sampling Event
(December 21-22, 2009)
H. W. Detwiler Co.
Summerton, SC

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2.0	Field Sampling Methodology & Water Level Measurements	2
3.0	Analytical Results	5
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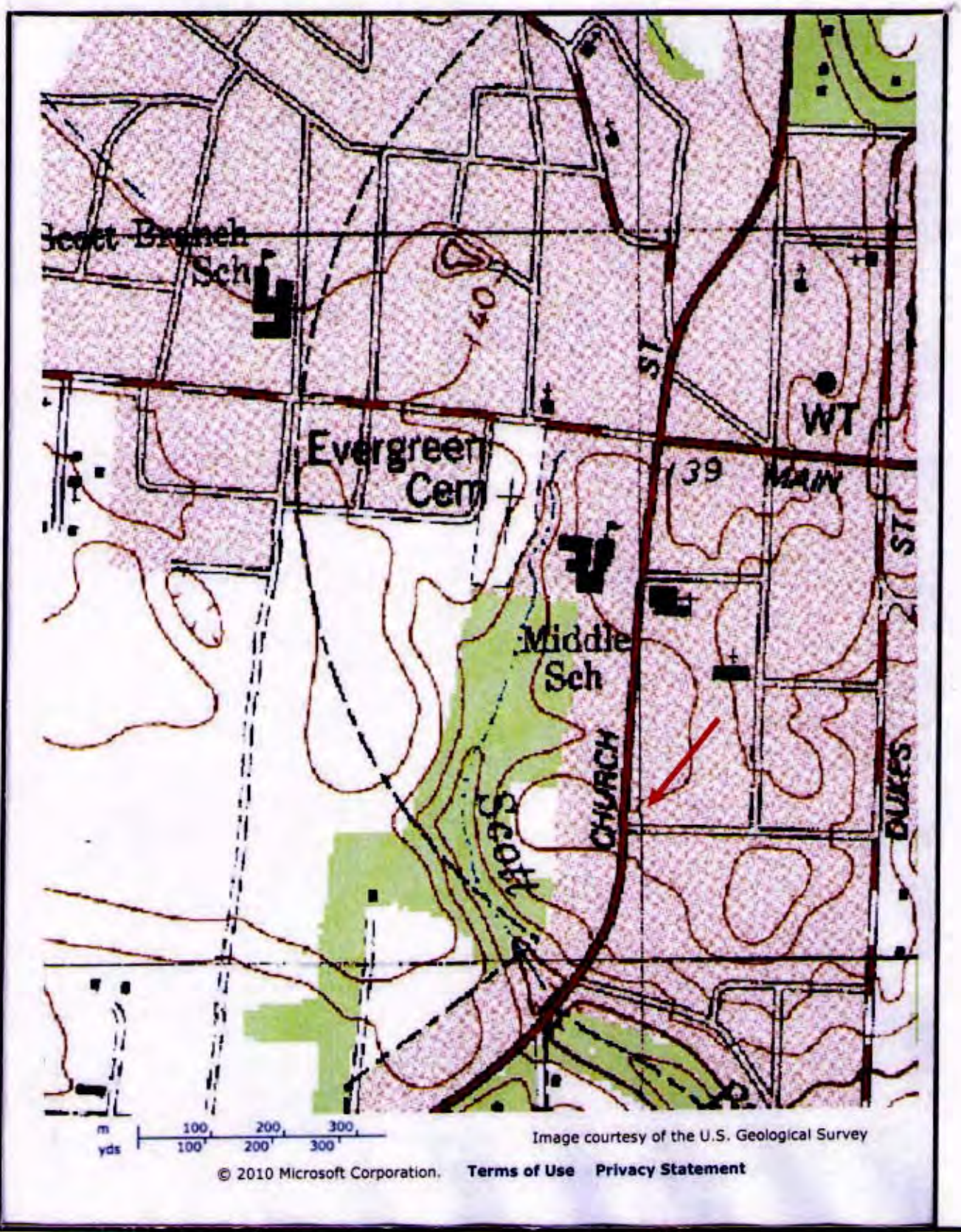
(A) Monitoring Well Purge Logs
(B) Analytical Results
(C) Disposal Manifest

1.0 Introduction

The H.W. Detwiler (Detwiler) site is located within the City of Summerton on the northeastern corner of the intersection of S. Church Street (Hwy. 15) and Burgess Street. The subject site is currently used as an office building. Formerly, the site was used by a construction company which stored gasoline in two (2) underground storage tanks (USTs) for its fleet of vehicles. The two (2) USTs, 1000 gallons each, were permanently closed by removal in June 1993 by G&K Tank Services. The Detwiler site is located within an area of mixed use. Commercial activities including a restaurant, a full service gasoline station (with USTs) and a convenience store with gasoline USTs are located west and northwest of the subject site respectively. The areas north, east and south of the subject site are used for residential purposes. According to local sources, a former gasoline station was located approximately 300 feet south of the Detwiler site (along the eastern side of S. Church Street) in the 1940s and 1950s. (This area is near MW15 as seen in Figure 3). A general site location map and a site topographic map are provided in Figures 1 and 2 respectively. Figure 3 provides a site survey map.

A site assessment was conducted by Duncan Environmental Associates, Inc. at the time of closure and a release notification was sent to SCDHEC on June 22, 1993. The site assessment showed soil contamination above the reporting limits for BTEX and TPH compounds.

In July 2000, Emerald, Inc. conducted an Initial Ground Water Assessment (IGWA) as directed by SCDHEC in the area of the former USTs. The results of the IGWA confirmed the presence of petroleum contaminants in the soil and ground water at the site. The monitoring well (MW01) measured 1.51 feet of liquid phase hydrocarbons (LPH) or



H.W. DETWILER CO.
31 S. CHURCH STREET
SUMMERTON, SC
SITE ID #15729

FIGURE 2
USGS TOPOGRAPHIC MAP
7.5 MINUTE SERIES
"SUMMERTON, SC" QUADRANGLE
SCALE: 1:24 000

Emerald, Inc.
Sumter, SC

DeLORME

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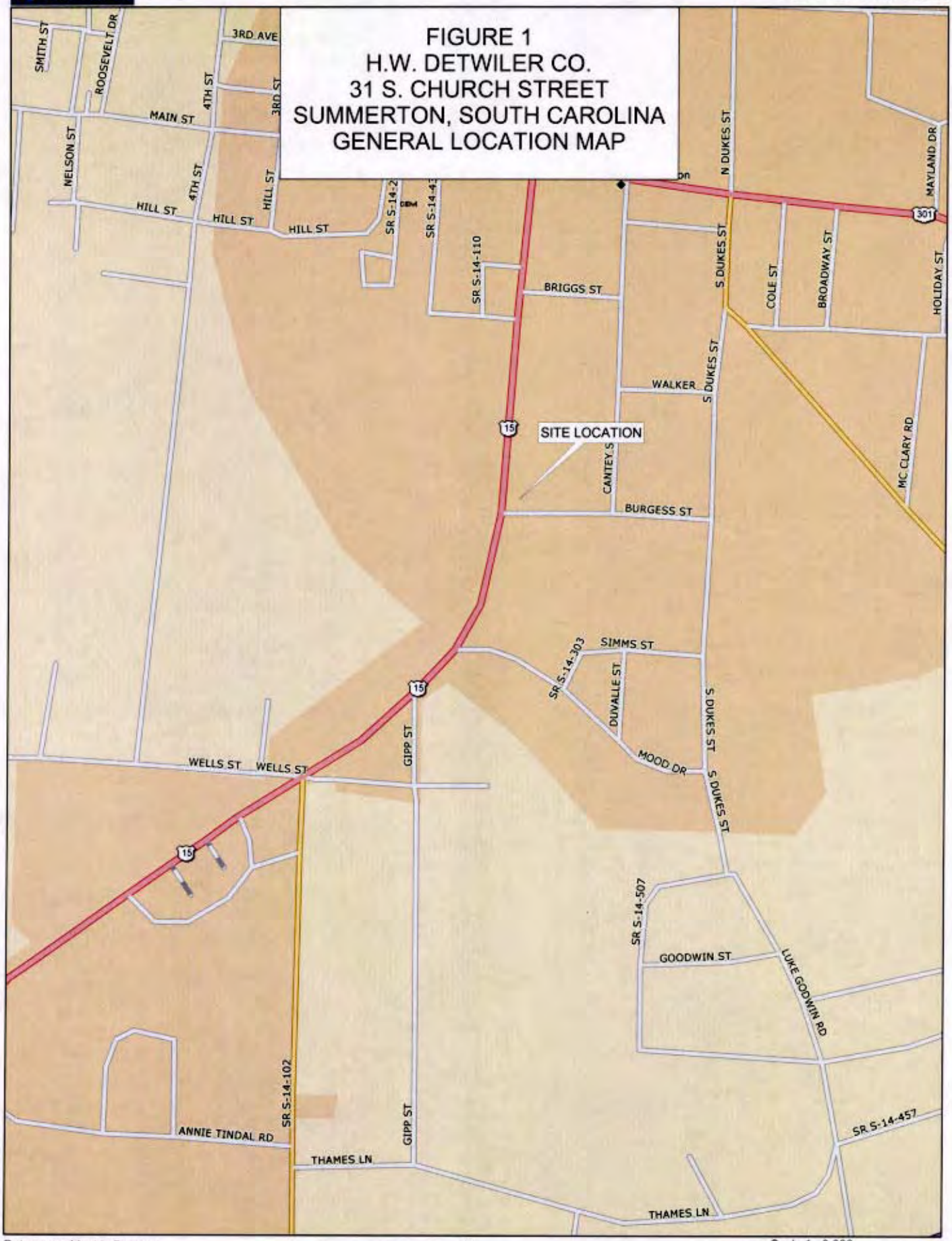
FIGURE 1
H.W. DETWILER CO.
31 S. CHURCH STREET
SUMMERTON, SOUTH CAROLINA
GENERAL LOCATION MAP



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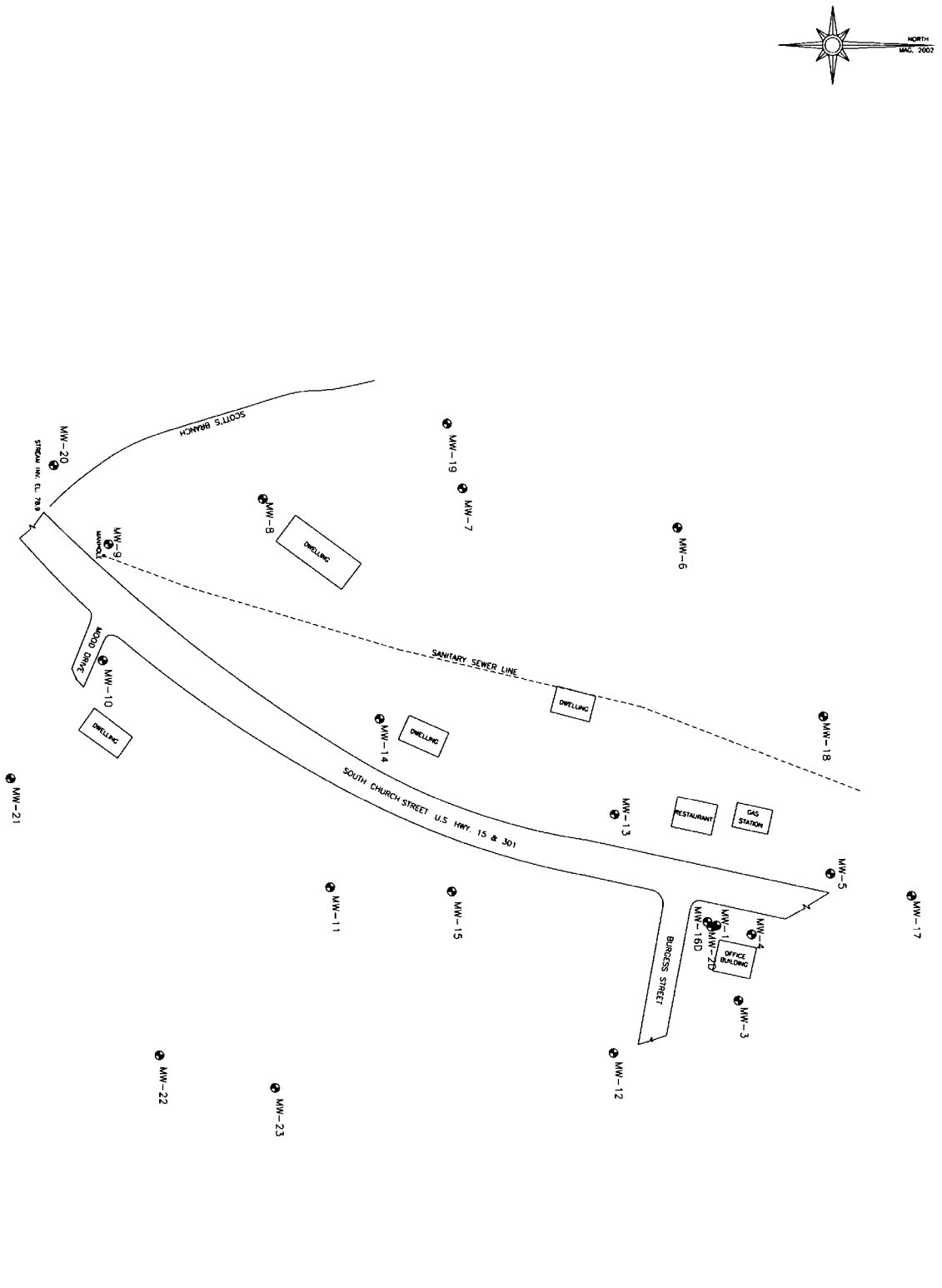
TN

MN (7.3°W)

Scale 1 : 8,000

1" = 666.7 ft

Data Zoom 14-6



PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. DETWILER 31 S. CHURCH STREET SUMMERTON, SC UST PERMIT #15729	FIGURE 3 SITE MAP	E1182HWLO FIELD WORK DATE(S): 12/21/09 & 12/22/09	SUMTER, SOUTH CAROLINA

free product after installation.

In August 2000, SCDHEC requested a Tier II proposal for the site, and in December 2000, SCDHEC approved the Tier II proposal submitted by Emerald, Inc. Emerald, Inc. personnel conducted the Tier II Assessment at the subject property in order to define the horizontal and vertical extent of the ground water contamination plume. The Tier II Assessment was submitted to SCDHEC in April 2002. Such assessment found that the free product plume extended southwest of the site underneath Church Street. In addition, the vertical extent of contamination had not been defined by the deeper well and the southeastern direction of the dissolved phase hydrocarbon plume was not defined. In August 2002, SCDHEC approved additional assessment to define the ground water plume both horizontally and vertically. This assessment found that the contaminant plume was not defined, and additional assessment was recommended for this site.

In December 2009, SCDHEC requested a comprehensive groundwater sampling event for the site. This report represents the findings of this event.

2.0 Field Sampling Methodology

On December 21-22, 2009, Emerald, Inc. personnel gauged the water level in each of the twenty-three (23) monitoring wells prior to sampling activities. (Note: Four monitoring wells were found to be destroyed during this event.) The water level measurements are included in the Monitoring Well Purge Log in Appendix A. After gauging each well, Emerald, Inc. personnel collected samples of water from each well using a clear disposable PVC bailer for each well. Samples were placed in laboratory-prepared bottles, labeled, and placed in the field ice chest for storage and shipment to the laboratory. All purged water was placed in 55 gallon steel drums and delivered to TK Tanks Services in Sumter, S.C., for proper disposal. Appendix C contains a copy of the

disposal manifest.

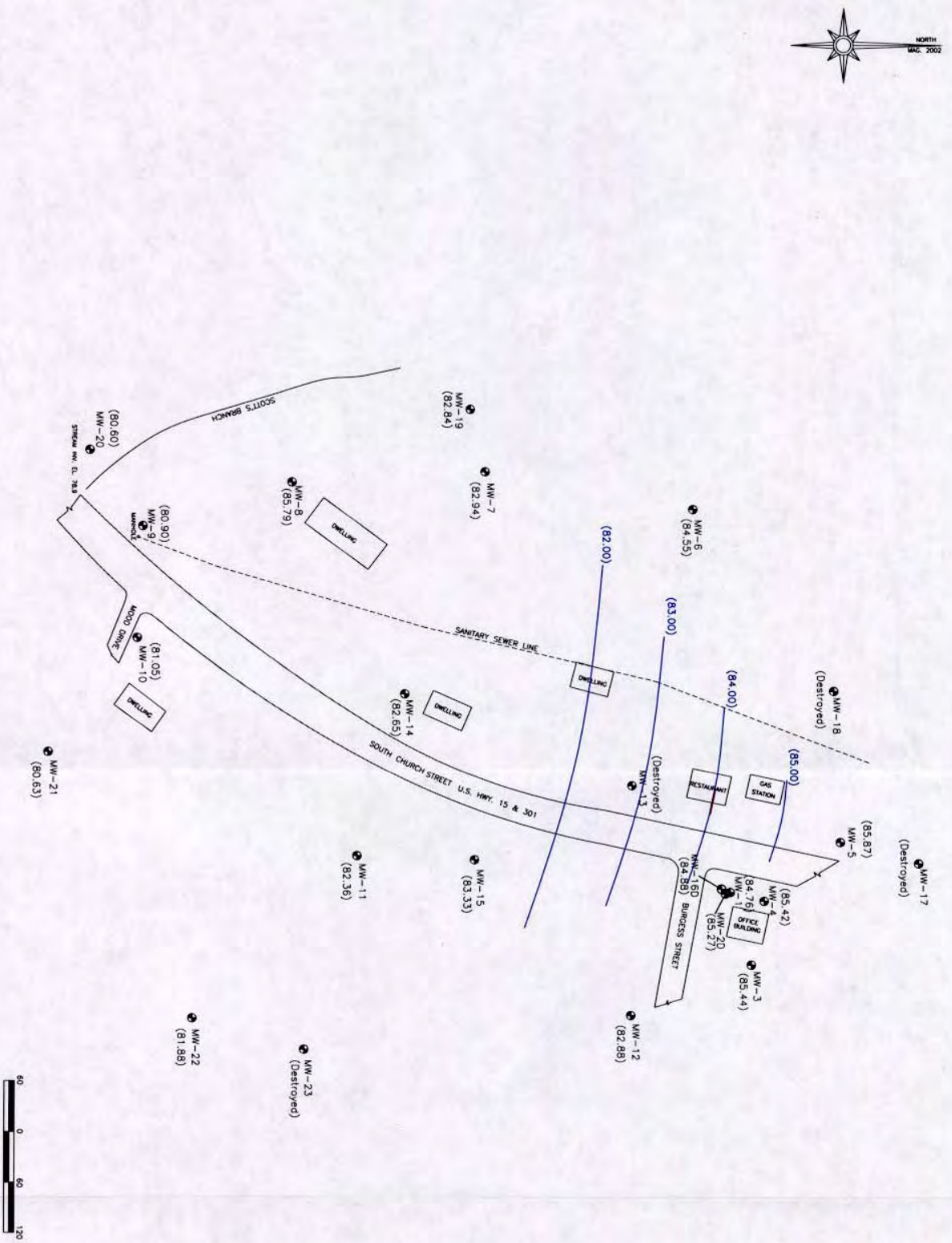
Table 1 shows the groundwater elevations at the site on the date of the sampling event. All measurements were taken from the surveyed top of well casing which was conducted during a prior assessment. Figure 4 contains a current groundwater elevation map with potentiometric surface lines.

TABLE 1
H.W. DETWILER CO.
GROUNDWATER ELEVATIONS
UST PERMIT #15729

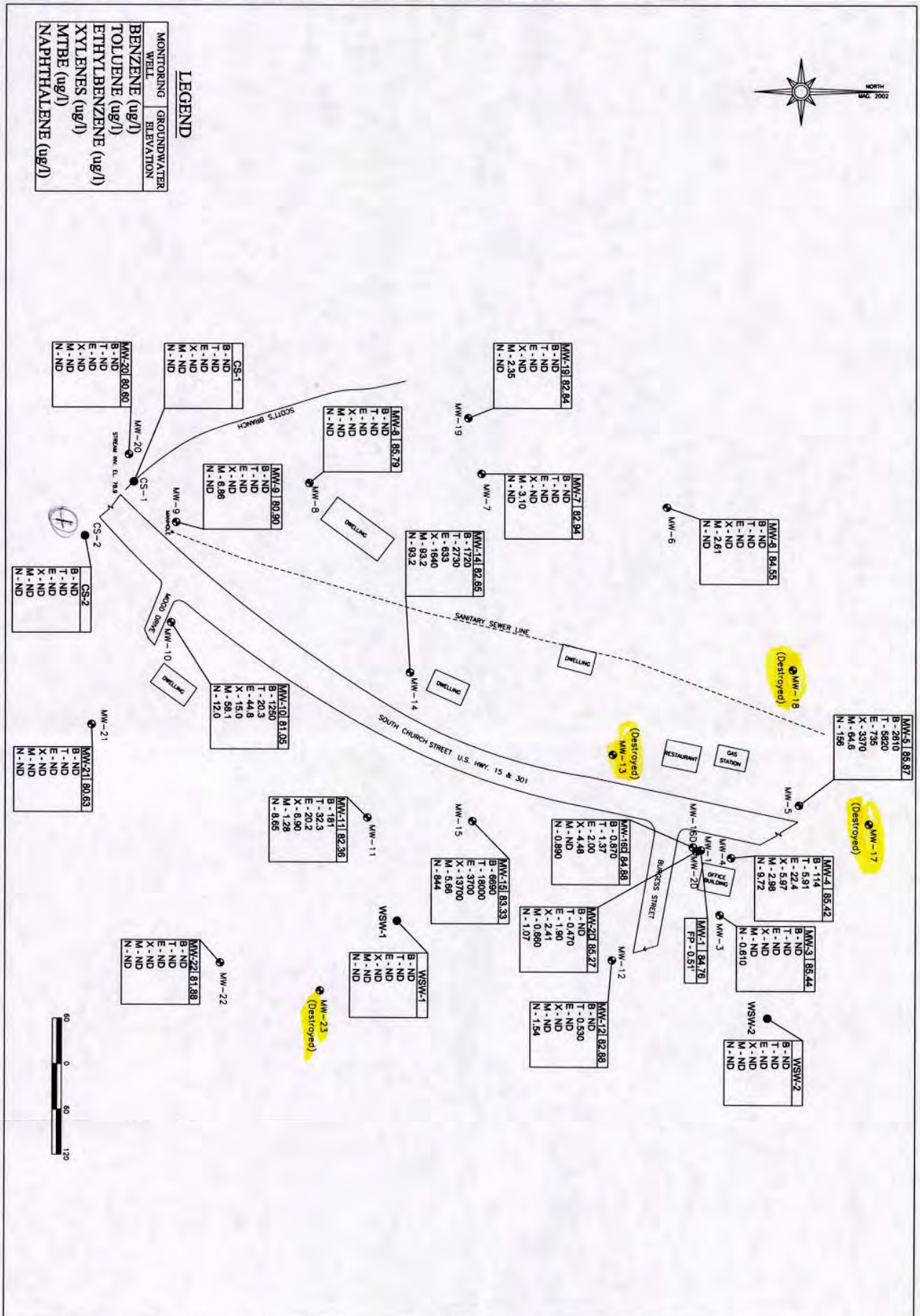
Date: 12/21/09 & 12/22/09

WELL ID#	STATIC WATER LEVEL*	SCREENED INTERVAL (ft.)	FREE PRODUCT THICKNESS (ft.)	TOP OF CASING ELEVATIONS	GROUND WATER ELEVATION
MW01	16.85	13 - 23	0.51	101.61	84.76
MW02D	16.68	42 - 47	ND	101.95	85.27
MW03	16.53	13 - 23	ND	101.97	85.44
MW04	15.95	15 - 25	ND	101.37	85.42
MW05	14.13	15 - 25	ND	100.00	85.87
MW06	17.74	15 - 25	ND	102.29	84.55
MW07	13.85	10 - 20	ND	96.79	82.94
MW08	3.70	5 - 15	ND	89.49	85.79
MW09	7.37	5 - 15	ND	88.27	80.9
MW10	11.88	8 - 18	ND	92.93	81.05
MW11	19.46	15 - 25	ND	101.82	82.36
MW12	18.57	15 - 25	ND	101.45	82.88
MW13	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed
MW14	16.40	15 - 25	ND	99.05	82.65
MW15	18.61	15 - 25	ND	101.94	83.33
MW16D	16.93	65 - 75	ND	101.81	84.88
MW17	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed
MW18	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed
MW19	9.90	5 - 15	ND	92.74	82.84
MW20	4.89	3 - 13	ND	85.49	80.6
MW21	8.67	3 - 13	ND	89.30	80.63
MW22	19.87	10 - 25	ND	101.75	81.88
MW23	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed

Notes: * - Depth below top of casing, in feet
ND - Not Detected



PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. DETWILER 31 S. CHURCH STREET SUMMERTON, SC UST PERMIT #15729	FIGURE 4 GROUNDWATER POTENTIOMETRIC SURFACE MAP	E1183HWLO FIELD WORK DATE(S): 12/21/09 & 12/22/09	SUMTER, SOUTH CAROLINA



PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. DETWILER 31 S. CHURCH STREET SUMMERTON, SC UST PERMIT #15729	FIGURE 5 GROUNDWATER CoC MAP	E1184HWLO FIELD WORK DATE(S): 12/21/09 & 12/22/09	SUMTER, SOUTH CAROLINA

3.0 Analytical Results

Table 2 shows the analytical results for the groundwater samples collected from the thirteen monitoring wells at the H. W. Detwiler site. Appendix B contains the Analytical Results from the laboratory and Figure 5 contains a site map with groundwater analytical results for each monitoring well location.

TABLE 2
GROUNDWATER ANALYTICAL
H.W. DETWILER CO.
UST PERMIT #15729

Date(s): 4/2/03, 4/12/03, 12/21/09, 12/22/09

Chemical of Concern	MW-1 4/2/03	MW-1 12/21/09	MW-2D 4/12/03	MW-2D 12/21/09	MW-3 4/2/03	MW-3 12/21/09	MW-4 4/2/03	MW-4 12/21/09	MW-5 4/2/03	MW-5 12/21/09
Benzene (µg/l)	FP-3.69'	FP-0.51'	22.6	ND	ND	ND	2860	**114**	1650	**2610**
Toluene (µg/l)	FP-3.69'	FP-0.51'	19.8	**0.470**	1.0	ND	1330	**5.91**	3000	**5820**
Ethylbenzene (µg/l)	FP-3.69'	FP-0.51'	28.3	**1.90**	ND	ND	581	**22.4**	372	**735**
Xylenes (µg/l)	FP-3.69'	FP-0.51'	47.9	**2.41**	ND	ND	1490	**5.97**	1640	**3370**
MTBE (µg/l)	FP-3.69'	FP-0.51'	ND	**0.660**	ND	ND	198	**2.98**	246	**64.6**
Naphthalene (µg/l)	FP-3.69'	FP-0.51'	9.90	**1.07**	ND	**0.610**	146	**9.72**	94.7	**156**
1,2-DCA (µg/l)	FP-3.69'	FP-0.51'	NT	ND	NT	ND	NT	ND	NT	ND
EDB (µg/l)	FP-3.69'	FP-0.51'	0.15	ND	ND	ND	13.6	**0.1709**	22.0	**34.78**
Lead (mg/l)	FP-3.69'	FP-0.51'	NT	**0.00820**	NT	**0.00320**	NT	**0.0136**	NT	**0.0845**

Note: ND - Non-Detect
NT - Not Tested

TABLE 2
GROUNDWATER ANALYTICAL
H.W. DETWILER CO.
UST PERMIT #15729

Date(s): 4/2/03, 4/12/03, 12/21/09, 12/22/09

Chemical of Concern	MW-6 4/2/03	MW-6 12/22/09	MW-7 4/12/03	MW-7 12/22/09	MW-8 4/12/03	MW-8 12/22/09	MW-9 4/12/03	MW-9 12/22/09	MW-10 4/12/03	MW-10 12/22/09
Benzene (µg/l)	ND	ND	ND	ND	ND	ND	1.4	ND	2000	**1250**
Toluene (µg/l)	2.0	ND	ND	ND	ND	ND	ND	ND	34.4	**20.3**
Ethylbenzene (µg/l)	ND	ND	ND	ND	ND	ND	ND	ND	169	**44.8**
Xylenes (µg/l)	2.2	ND	ND	ND	ND	ND	ND	ND	25.0	**15.0**
MTBE (µg/l)	6.8	**2.61**	15.3	**3.10**	3.3	ND	181	**6.86**	38.6	**58.1**
Naphthalene (µg/l)	ND	ND	ND	ND	ND	ND	ND	ND	22.6	**12.0**
1,2-DCA (µg/l)	NT	ND	NT	ND	NT	ND	NT	ND	NT	ND
EDB (µg/l)	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.1719**
Lead (mg/kg)	NT	**0.0333**	NT	**0.0312**	NT	**0.0214**	NT	**0.136**	NT	**0.0436**

Note: ND - Non-Detect
NT - Not Tested

TABLE 2
GROUNDWATER ANALYTICAL
H.W. DETWILER CO.
UST PERMIT #15729

Date(s): 4/2/03, 4/12/03, 12/21/09, 12/22/09

Chemical of Concern	MW-11 4/12/03	MW-11 12/21/09	MW-12 4/2/03	MW-12 12/21/09	MW-13 4/2/03	MW-13 12/21/09	MW-14 4/12/03	MW-14 12/22/09	MW-15 4/12/03	MW-15 12/21/09
Benzene (µg/l)	1100	**181**	ND	ND	FP-0.48'	Destroyed	1190	**1250**	7160	**6690**
Toluene (µg/l)	4.2	**32.3**	1.3	**0.530**	FP-0.48'	Destroyed	501	**20.3**	15300	**18000**
Ethylbenzene (µg/l)	11.2	**20.2**	ND	ND	FP-0.48'	Destroyed	390	**44.8**	1850	**3700**
Xylenes (µg/l)	3.2	**6.90**	1.5	ND	FP-0.48'	Destroyed	344	**15.0**	8350	**13700**
MTBE (µg/l)	ND	**1.28**	ND	ND	FP-0.48'	Destroyed	2110	**58.1**	ND	**5.66**
Naphthalene (µg/l)	8.80	**8.65**	ND	**1.54**	FP-0.48'	Destroyed	41.3	**12.0**	282	**844**
1,2-DCA (µg/l)	NT	ND	NT	ND	FP-0.48'	Destroyed	NT	ND	NT	ND
EDB (µg/l)	0.23	ND	ND	ND	FP-0.48'	Destroyed	0.12	**0.1719**	152	**46.78**
Lead (mg/kg)	NT	**0.0341**	NT	**0.0176**	FP-0.48'	Destroyed	NT	**0.0436**	NT	**0.244**

Note: ND - Non-Detect
NT - Not Tested

TABLE 2
GROUNDWATER ANALYTICAL
H.W. DETWILER CO.
UST PERMIT #15729

Date(s): 4/2/03, 4/12/03, 12/21/09, 12/22/09

Chemical of Concern	MW-16D 4/2/03	MW-16D 12/21/09	MW-17 4/2/03	MW-17 12/21/09	MW-18 4/2/03	MW-18 12/21/09	MW-19 4/12/03	MW-19 12/22/09	MW-20 4/12/03	MW-20 12/22/09
Benzene (µg/l)	4.4	**0.870**	200	Destroyed	6.5	Destroyed	ND	ND	ND	ND
Toluene (µg/l)	16.9	**1.37**	700	Destroyed	426	Destroyed	ND	ND	ND	ND
Ethylbenzene (µg/l)	5.2	**2.00**	ND	Destroyed	327	Destroyed	ND	ND	ND	ND
Xylenes (µg/l)	19.6	**4.48**	720	Destroyed	978	Destroyed	ND	ND	ND	ND
MTBE (µg/l)	ND	ND	ND	Destroyed	70.8	Destroyed	ND	**2.35**	ND	ND
Naphthalene (µg/l)	ND	**0.890**	ND	Destroyed	49.0	Destroyed	ND	ND	ND	ND
1,2-DCA (µg/l)	NT	ND	NT	Destroyed	NT	Destroyed	NT	ND	NT	ND
EDB (µg/l)	ND	ND	0.04	Destroyed	ND	Destroyed	ND	ND	ND	ND
Lead (mg/kg)	NT	**0.00400**	NT	Destroyed	NT	Destroyed	NT	**0.210**	NT	**0.214**

Note: ND - Non-Detect
NT - Not Tested

TABLE 2
GROUNDWATER ANALYTICAL
H.W. DETWILER CO.
UST PERMIT #15729

Date(s): 4/2/03, 4/12/03, 12/21/09, 12/22/09

Chemical of Concern	MW-21 4/12/03	MW-21 12/22/09	MW-22 4/12/03	MW-22 12/22/09	MW-23 4/12/03	MW-23 12/22/09	WSW-1 12/22/09	WSW-2 12/22/09	CS-1 12/22/09	CS-2 12/22/09
Benzene (µg/l)	ND	ND	ND	ND	ND	Destroyed	ND	ND	ND	ND
Toluene (µg/l)	ND	ND	ND	ND	ND	Destroyed	ND	ND	ND	ND
Ethylbenzene (µg/l)	ND	ND	ND	ND	ND	Destroyed	ND	ND	ND	ND
Xylenes (µg/l)	ND	ND	ND	ND	ND	Destroyed	ND	ND	ND	ND
MTBE (µg/l)	ND	ND	ND	ND	ND	Destroyed	ND	ND	ND	ND
Naphthalene (µg/l)	ND	ND	ND	ND	ND	Destroyed	ND	ND	ND	ND
1,2-DCA (µg/l)	NT	ND	NT	ND	NT	Destroyed	ND	ND	ND	ND
EDB (µg/l)	ND	ND	ND	ND	ND	Destroyed	ND	ND	NT	NT
Lead (mg/kg)	NT	**0.0630**	NT	**0.0491**	NT	Destroyed	NT	NT	NT	NT

Note: ND - Non-Detect
NT - Not Tested

4.0 Conclusions and Recommendations

During this event, groundwater samples were collected from 18 of the 23 monitoring wells at the H. W. Detwiler site (MW-1 contained 0.51 feet of free product; MW-13, MW-17, MW-18, and MW-23 had been destroyed), two surface water samples from the Scott's Branch Creek, and two private water supply wells. The analytical results indicate that the petroleum groundwater contaminant plume is not defined horizontally along the northern portion of the site. Two perimeter wells (MW-17 and MW-18) in the northern direction have been destroyed, and MW-4 located slightly north of the former UST area, contains Benzene at 114 ug/L. The area southeast of MW-11 located downgradient of the site is not defined as well. The results for the surface water samples and the two water supply wells were non-detect.

As a result of the findings during this event, Emerald, Inc. recommends additional field screening of the groundwater with monitoring well installation north of the source area to define the extent of the contaminant plume. In addition, the groundwater contaminant plume needs to be defined in the southeast direction beyond MW-11 with additional monitoring wells installed southeast of Scott's Branch. Additional deep wells need to be installed in the downgradient position north of Scott's Branch to determine if the contaminant plume is migrating downward near Scott's Branch. MW-13, which has shown levels of free product in the past should be replaced along with further definition of the free product plume.

5.0 Appendices

(A) Monitoring Well Purge Logs

(B) Analytical Results

(C) Disposal Manifest

APPENDIX A

MONITORING WELL PURGE LOGS

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-1

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** 23.00 ft

STREET: 31 S. Church Street **STATIC WATER LEVEL:** 16.85 ft

CITY: Summerton **WATER HEIGHT (Hw):** -

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** -

$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: -

DATE: 12/21/2009 **EMERALD PERSONNEL:** Jamie Bateman

Conditions: Sunny, 40°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1030	-	-	-	-	FPL - 16.34'
					WL - 16.85'
					Total FP - 0.51'

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-2D

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** 47.00 ft.

STREET: 31 S. Church Street **STATIC WATER LEVEL:** 16.68 ft.

CITY: Summerton **WATER HEIGHT (Hw):** 30.32 ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** 5.03 x 3 = 15.10 gal.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 15.25 gal.

DATE: 12/21/2009 **EMERALD PERSONNEL:** Jamie Bateman

Conditions: Sunny, 35°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1216	5.25	14.8	131	7.10	Clear, No Odor
1225	5.0	18.4	130	6.82	Clear, Slight Odor
1235	5.0	17.7	125	6.73	Tan, Slight Odor
1238	Sample	-	-	-	Tan, Slight Odor

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-3

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** 23.00 ft.

STREET: 31 S. Church Street **STATIC WATER LEVEL:** 16.53 ft.

CITY: Summerton **WATER HEIGHT (Hw):** 6.47 ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** 1.07 x 3 = 3.21 gal.

$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: 3.25 gal.

DATE: 12/21/2009 **EMERALD PERSONNEL:** Dalton Reames

Conditions: Sunny, 40°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1044	1.25	18.1	84.2	4.41	Tan-Orange, No Odor
1047	1.0	18.7	116.8	4.25	Tan-Orange, No Odor
1050	1.0	19.1	119	4.07	Tan-Orange, No Odor
1055	Sample	-	-	-	Tan-Orange, No Odor
					DO = 3.52 mg/l @ 18.6°C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-4

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** 25.00 ft.

STREET: 31 S. Church Street **STATIC WATER LEVEL:** 15.95 ft.

CITY: Summerton **WATER HEIGHT (Hw):** 9.05 ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** 1.5 x 3 = 4.5 gal.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 4.5 gal.

DATE: 12/21/2009 **EMERALD PERSONNEL:** Dalton Reames

Conditions: Sunny, 41°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1146	1.5	20.5	69.1	4.79	Orangish-Tan, Slight Odor
1149	1.5	21.2	68.1	4.61	Orangish-Tan, Slight Odor
1152	1.5	21.3	68.1	4.61	Orangish-Tan, Slight Odor
1155	Sample	-	-	-	Orangish-Tan, Slight Odor
					DO = 3.34 mg/l @ 21.4°C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-5

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** 25.00 ft.

STREET: 31 S. Church Street **STATIC WATER LEVEL:** 14.13 ft.

CITY: Summerton **WATER HEIGHT (Hw):** 10.87 ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** 1.80 x 3 = 5.41 gal.

$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: 5.50 gal.

DATE: 12/21/2009 **EMERALD PERSONNEL:** Jamie Bateman

Conditions: Sunny, 40°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1310	2.0	16.9	195	6.14	Tan, Strong Odor
1315	2.0	18.2	139	6.05	Tan, Strong Odor
1318	1.5	17.4	135	6.06	Tan, Strong Odor
1321	Sample	-	-	-	Tan, Strong Odor
					DO = 2.69 mg/l @ 19.5°C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-6

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** 25.00 ft.

STREET: 31 S. Church Street **STATIC WATER LEVEL:** 17.74 ft.

CITY: Summerton **WATER HEIGHT (Hw):** 7.26 ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** 1.21 x 3 = 3.62 gal.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3.75 gal

DATE: 12/22/2009 **EMERALD PERSONNEL:** Dalton Reames

Conditions: Sunny, 55°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1447	1.25	17.9	38	5.14	Tan-Orange, No Odor
1450	1.25	17.6	36	5.11	Tan-Orange, No Odor
1453	1.25	16.9	34	5.02	Tan-Orange, No Odor
1456	Sample	-	-	-	Tan-Orange, No Odor
					* Obstruction in casing at 20.6'
					DO = 4.01 mg/l @ 17.1°C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-7

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** 20.00 ft.

STREET: 31 S. Church Street **STATIC WATER LEVEL:** 13.85 ft.

CITY: Summerton **WATER HEIGHT (Hw):** 6.15 ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** 1.02 x 3 = 3.06 gal.

Vw = (Hw) (Dw^2) (7 5 gal/ft^3) (0.785)

PURGE VOLUME: 3.0 gal.

DATE: 12/22/2009 **EMERALD PERSONNEL:** Dalton Reames

Conditions: Sunny, 42°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1116	1.0	16.9	48.5	4.37	Tan-Orange, No Odor
1119	1.0	18.0	44.6	4.33	Tan-Orange, No Odor
1122	1.0	18.0	42.7	4.20	Tan-Orange, No Odor
1125	Sample	-	-	-	Tan-Orange, No Odor
					DO = 4.11 mg/l @ 17.1°C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-8

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** 15.00 ft.

STREET: 31 S. Church Street **STATIC WATER LEVEL:** 3.70 ft.

CITY: Summerton **WATER HEIGHT (Hw):** 11.30 ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** 1.88 x 3 = 5.63 gal.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 6.0 gal.

DATE: 12/22/2009 **EMERALD PERSONNEL:** Jamie Bateman

Conditions: Sunny, 45°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1134	2.0	16.6	63	6.05	Cloudy, No Odor
1138	2.0	16.4	62	6.00	Tan, No Odor
1144	2.0	15.7	61	5.97	Tan, No Odor
1147	Sample	-	-	-	Tan, No Odor
					DO = 3.03 mg/l @ 13.3°C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-9

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** 15.00 ft.

STREET: 31 S. Church Street **STATIC WATER LEVEL:** 7.37 ft.

CITY: Summerton **WATER HEIGHT (Hw):** 7.63 ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** 1.27 x 3 = 3.81 gal.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: .75 gal.

DATE: 12/22/2009 **EMERALD PERSONNEL:** Dalton Reames

Conditions: Sunny, 49°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1202	0.25	16.5	190.7	5.27	Cloudy, Slight Odor
1203	0.25	17.8	147.3	5.24	Cloudy, Slight Odor
1204	0.25	18.3	128.1	5.13	Cloudy, Slight Odor
1205	Sample	-	-	-	Cloudy, Slight Odor
					* Obstruction in well at exactly 10' below TOC.
					DO = 3.49 mg/l @ 17.6°C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-10

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** 18.00 ft.

STREET: 31 S. Church Street **STATIC WATER LEVEL:** 11.88 ft.

CITY: Summerton **WATER HEIGHT (Hw):** 6.12 ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** 1.02 x 3 = 3.05 gal

$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$

PURGE VOLUME: 3.00 gal

DATE: 12/22/2009 **EMERALD PERSONNEL:** Jamie Bateman

Conditions: Sunny, 55°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1347	1.0	19.7	83	4.96	Tan, Mild Odor
1350	1.0	19.8	60	5.02	Tan, Mild Odor
1353	1.0	19.7	59	5.02	Tan, Mild Odor
1356	Sample	-	-	-	Tan, Mild Odor
					DO = 1.22 mg/l @ 19.1°C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-11

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** 25.00 ft.

STREET: 31 S. Church Street **STATIC WATER LEVEL:** 19.46 ft.

CITY: Summerton **WATER HEIGHT (Hw):** 5.54 ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** .92 x 3 = 2.76 gal.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3.0 gal.

DATE: 12/21/2009 **EMERALD PERSONNEL:** Jamie Bateman

Conditions: Sunny, 45°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1409	1.0	16.7	116	5.54	Tan, No Odor
1412	1.0	16.8	92	5.39	Orange, Mild Odor
1415	1.0	16.6	109	5.22	Orange, Mild Odor
1418	Sample	-	-	-	Orange, Mild Odor
					DO = 1.64 mg/l @ 20.1°C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-12

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** 25.00 ft.

STREET: 31 S. Church Street **STATIC WATER LEVEL:** 18.57 ft.

CITY: Summerton **WATER HEIGHT (Hw):** 6.43 ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** 1.07 x 3 = 3.21 gal.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3.25 gal.

DATE: 12/21/2009 **EMERALD PERSONNEL:** Dalton Reames

Conditions: Sunny, 44°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1232	1.25	18.0	50.2	4.71	Orange-Tan, No Odor
1235	1.0	18.7	42.6	4.47	Orange-Tan, No Odor
1238	1.0	19.3	49.4	4.30	Orange-Tan, No Odor
1240	Sample	-	-	-	Orange-Tan, No Odor
					DO = 5.45 mg/l @ 19.1°C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-13

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** -

STREET: 31 S. Church Street **STATIC WATER LEVEL:** -

CITY: Summerton **WATER HEIGHT (Hw):** -

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** -

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: -

DATE: 12/22/2009 **EMERALD PERSONNEL:** Jamie Bateman

Conditions:

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
					*Well has been covered by new asphalt in parking lot.

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-14

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** 25.00 ft.

STREET: 31 S. Church Street **STATIC WATER LEVEL:** 16.40 ft.

CITY: Summerton **WATER HEIGHT (Hw):** 8.60 ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** 1.43 x 3 = 4.28 gal.

$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$

PURGE VOLUME: 4.50 gal.

DATE: 12/22/2009 **EMERALD PERSONNEL:** Jamie Bateman

Conditions: Sunny, 45°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1049	1.5	18.3	78	5.84	Tan, Slight Odor
1053	1.5	18.8	128	6.08	Tan, Mild Odor
1058	1.5	17.7	124	6.27	Tan, Mild Odor
1101	Sample	-	-	-	Tan, Mild Odor
					DO = 2.69 mg/l @ 14.0°C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-15

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** 25.00 ft.

STREET: 31 S. Church Street **STATIC WATER LEVEL:** 18.61 ft.

CITY: Summerton **WATER HEIGHT (Hw):** 6.39 ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** 1.06 x 3 = 3.18 gal.

$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$

PURGE VOLUME: 3.25 gal.

DATE: 12/21/2009 **EMERALD PERSONNEL:** Dalton Reames

Conditions: Sunny, 50°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1407	1.25	18.0	105.1	5.20	Brown-Grey, Strong Odor, Globules Visible
1410	1.0	19.0	102.6	5.71	Brown-Grey, Strong Odor, Globules Visible
1413	1.0	20.1	98.2	5.77	Brown-Grey, Strong Odor, Globules Visible
1415	Sample	-	-	-	Brown-Grey, Strong Odor, Sheen Present
					DO = 4.23 mg/l @ 20.1°C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-16D

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** 75.00 ft.

STREET: 31 S. Church Street **STATIC WATER LEVEL:** 16.93 ft

CITY: Summerton **WATER HEIGHT (Hw):** 58.07 ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** 9.64 x 3 = 28.92 gal.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 29 gal.

DATE: 12/21/2009 **EMERALD PERSONNEL:** Jamie Bateman

Conditions: Sunny, 35°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1101	10.0	16.0	203	7.47	Clear, Organic Odor
1118	10.0	17.8	198	7.40	Clear, Organic Odor
1132	9.0	18.3	198	7.52	Clear, Organic Odor
1135	Sample	-	-	-	Clear, Organic Odor
					DO = 3.42 mg/l @ 16.0°C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-17

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** -

STREET: 31 S. Church Street **STATIC WATER LEVEL:** -

CITY: Summerton **WATER HEIGHT (Hw):** -

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** -

$Vw = (Hw) (Dw^2) (7.5\ gal/ft^3) (0.785)$

PURGE VOLUME: -

DATE: 12/22/2009 **EMERALD PERSONNEL:** Jamie Bateman

Conditions:

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
					*Unable to locate well. Possibly destroyed when new sidewalks were installed.

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-18

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** -

STREET: 31 S. Church Street **STATIC WATER LEVEL:** -

CITY: Summerton **WATER HEIGHT (Hw):** -

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** -

$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: -

DATE: 12/22/2009 **EMERALD PERSONNEL:** Jamie Bateman

Conditions:

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
					*Well destroyed. Dollar General has been built over well.

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-19

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** 15.00 ft.

STREET: 31 S. Church Street **STATIC WATER LEVEL:** 9.90 ft.

CITY: Summerton **WATER HEIGHT (Hw):** 5.10 ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** .85 x 3 = 2.55 gal.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 2.5 gal.

DATE: 12/22/2009 **EMERALD PERSONNEL:** Dalton Reames

Conditions: Sunny, 41°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1054	1.0	16.9	49.1	4.84	Brown-Tan, No Odor
1056	0.75	17 1	49.2	4.68	Brown-Tan, No Odor
1058	0.75	17.3	48.5	4.69	Brown-Tan, No Odor
1100	Sample	-	-	-	Brown-Tan, No Odor
					DO = 5.81 mg/l @ 16.9°C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-20

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** 13.00 ft.

STREET: 31 S. Church Street **STATIC WATER LEVEL:** 4.89 ft.

CITY: Summerton **WATER HEIGHT (Hw):** 8.11 ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** 1.35 x 3 = 4.04 gal.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 4.25 gal.

DATE: 12/22/2009 **EMERALD PERSONNEL:** Jamie Bateman

Conditions: Sunny, 50°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1214	1.5	19.6	84	5.20	Tan, No Odor
1217	1.5	19.1	70	5.00	Tan, No Odor
1221	1.25	20.1	71	5.02	Tan, No Odor
1224	Sample	-	-	-	Tan, No Odor
					DO = 3.88 mg/l @ 19.5°C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-21

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** 13.00 ft.

STREET: 31 S. Church Street **STATIC WATER LEVEL:** 8.67 ft.

CITY: Summerton **WATER HEIGHT (Hw):** 4.33 ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** .72 x 3 = 2.16 gal.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 2.25 gal.

DATE: 12/22/2009 **EMERALD PERSONNEL:** Dalton Reames

Conditions: Sunny, 54°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1401	0.75	20.0	39.9	5.26	Cloudy, No Odor
1404	0.75	20.0	31.3	4.82	Milky Orange, No Odor
1407	0.75	20.4	31.4	4.70	Milky Orange, No Odor
1410	Sample	-	-	-	Milky Orange, No Odor
					DO = 4.03 mg/l @ 20.6°C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-22

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** 25.00 ft.

STREET: 31 S. Church Street **STATIC WATER LEVEL:** 19.87 ft.

CITY: Summerton **WATER HEIGHT (Hw):** 5.13 ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** .85 x 3 = 2.55 gal.

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3.0 gal.

DATE: 12/22/2009 **EMERALD PERSONNEL:** Jamie Bateman

Conditions: Sunny, 55°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1304	1.0	23.5	93	4.88	Orange, No Odor
1309	1.0	20.6	89	4.72	Orange, No Odor
1313	1.0	20.4	89	4.66	Orange, No Odor
1316	Sample	-	-	-	Orange, No Odor
					DO = 5.41 mg/l @ 21.1°C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-23

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** -

STREET: 31 S. Church Street **STATIC WATER LEVEL:** -

CITY: Summerton **WATER HEIGHT (Hw):** -

COUNTY: Clarendon **WELL DIAMETER (Dw):** .166 ft.

STATE: South Carolina **WELL VOLUME (Vw):** -

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: -

DATE: 12/22/2009 **EMERALD PERSONNEL:** Jamie Bateman

Conditions:

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
					*House on site now. Shed could be over well or well destroyed.

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - WSW-1

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** 175' (per owner)

STREET: 31 S. Church Street **STATIC WATER LEVEL:** -

CITY: Summerton **WATER HEIGHT (Hw):** -

COUNTY: Clarendon **WELL DIAMETER (Dw):** -

STATE: South Carolina **WELL VOLUME (Vw):** -

$Vw = (Hw) (Dw^2) (7.5\ gal/ft^3) (0.785)$

PURGE VOLUME: -

DATE: 12/21/2009 **EMERALD PERSONNEL:** Dalton Reames

Conditions: Sunny, 50°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
	* Sampled sprinkler head adjacent to the buried WSW.				
	* The well is located at 35 S. Church Street directly behind home.				
	* Well supplies sprinkler system & inground pool.				
	* Charlie Johnson: Homeowner - informed that the well is 175' total depth				
1425	Sample	-	-	-	Clear, No Odor

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - WSW-2

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** 170'

STREET: 31 S. Church Street **STATIC WATER LEVEL:** -

CITY: Summerton **WATER HEIGHT (Hw):** -

COUNTY: Clarendon **WELL DIAMETER (Dw):** -

STATE: South Carolina **WELL VOLUME (Vw):** -

$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: -

DATE: 12/22/2009 **EMERALD PERSONNEL:** Dalton Reames

Conditions: Sunny, 50°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
	* Sampled spigot at pump.				
	* The pump is in a pump house in the back yard of 24 S. Cantey Street. (Dubose residence)				
	* Well is 170' per well tag.				
	* Used for irrigation only.				
1640	Sample	-	-	-	Clear, No Odor

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - CS-1

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** -

STREET: 31 S. Church Street **STATIC WATER LEVEL:** -

CITY: Summerton **WATER HEIGHT (Hw):** -

COUNTY: Clarendon **WELL DIAMETER (Dw):** -

STATE: South Carolina **WELL VOLUME (Vw):** -

$Vw = (Hw) (Dw^2) (7.5\ gal/ft^3) (0.785)$

PURGE VOLUME: -

DATE: 12/22/2009 **EMERALD PERSONNEL:** Dalton Reames

Conditions: Sunny, 50°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1235	Sampled Scott's Branch Creek about 30' west of S. Church St.				Clear, No Odor

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - CS-2

PROJECT: H. W. Detwiler Co. **TOTAL WELL DEPTH:** -

STREET: 31 S. Church Street **STATIC WATER LEVEL:** -

CITY: Summerton **WATER HEIGHT (Hw):** -

COUNTY: Clarendon **WELL DIAMETER (Dw):** -

STATE: South Carolina **WELL VOLUME (Vw):** -

$Vw = (Hw) (Dw^2) (7.5\ gal/ft^3) (0.785)$

PURGE VOLUME: -

DATE: 12/22/2009 **EMERALD PERSONNEL:** Dalton Reames

Conditions: Sunny, 50°F

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1250	Sampled Scott's Branch Creek about 20' east of S. Church St.				Clear, No Odor

APPENDIX B

ANALYTICAL RESULTS

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

January 04, 2010 2:52:07PM

Client: Emerald, Inc. (8583)
P. O. Box 3050
Sumter, SC 29151
Attn: Robbin Brown

Work Order: NSL2578
Project Name: Detwiler
Project Nbr: [none]
P/O Nbr:
Date Received: 12/23/09

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
MW-6	NSL2578-01	12/22/09 14:56
MW-7	NSL2578-02	12/22/09 11:25
MW-8	NSL2578-03	12/22/09 11:47
MW-9	NSL2578-04	12/22/09 12:05
MW-10	NSL2578-05	12/22/09 13:56
MW-14	NSL2578-06	12/22/09 11:01
MW-19	NSL2578-07	12/22/09 11:00
MW-20	NSL2578-08	12/22/09 12:24
MW-21	NSL2578-09	12/22/09 14:10
MW-22	NSL2578-10	12/22/09 13:16
WSW-1	NSL2578-11	12/22/09 14:25
CS-1	NSL2578-12	12/22/09 12:35
CS-2	NSL2578-13	12/22/09 12:50
WSW-2	NSL2578-14	12/22/09 16:40
Trip Blank	NSL2578-15	12/22/09 00:01

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

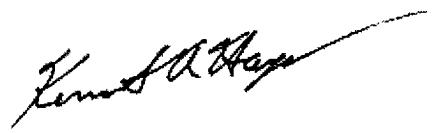
This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately at 615-726-0177.

South Carolina Certification Number: 84009001

The Chain(s) of Custody, 3 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:



Ken A. Hayes

Senior Project Manager

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Emerald, Inc (8583)	Work Order	NSL2578
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/23/09 09 15

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Analyst	Batch
Sample ID: NSL2578-01 (MW-6 - Ground Water) Sampled: 12/22/09 14:56										
Total Metals by EPA 6010C										
Lead	**0.0333**		mg/L	0 00210	0 00500	1	12/29/09 01 25	SW846 6010C	LTB	9124326
EDB by EPA Method 8011										
1,2-Dibromoethane (EDB)	ND		ug/L	0 005043	0 02017	1	12/29/09 19 11	SW846 8011	WAM	9124742
Surr 1,3-Dichlorobenzene (43-150%)	*97 %*					*1*	*12 29 09 19 11*	*SW846 8011*	*WAM*	*9124742*
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0 350	1 00	1	12/30/09 11 49	SW846 8260B	NKN	9124480
Benzene	ND		ug/L	0 410	1 00	1	12/30/09 11 49	SW846 8260B	NKN	9124480
Ethylbenzene	ND		ug/L	0 350	1 00	1	12/30/09 11 49	SW846 8260B	NKN	9124480
Methyl tert-Butyl Ether	**2.61**		ug/L	0 320	1 00	1	12/30/09 11 49	SW846 8260B	NKN	9124480
Naphthalene	ND		ug/L	0 380	5 00	1	12/30/09 11 49	SW846 8260B	NKN	9124480
Toluene	ND		ug/L	0 350	1 00	1	12/30/09 11 49	SW846 8260B	NKN	9124480
Xylenes, total	ND		ug/L	0 730	3 00	1	12/30/09 11 49	SW846 8260B	NKN	9124480
Surr 1,2-Dichloroethane-d4 (63-140%)	*100 %*					*1*	*12 30 09 11 49*	*SW846 8260B*	*NKN*	*9124480*
Surr Dibromofluoromethane (73-131%)	*98 %*					*1*	*12 30 09 11 49*	*SW846 8260B*	*NKN*	*9124480*
Surr Toluene-d8 (80-120%)	*99 %*					*1*	*12 30 09 11 49*	*SW846 8260B*	*NKN*	*9124480*
Surr 4-Bromofluorobenzene (79-125%)	*95 %*					*1*	*12 30 09 11 49*	*SW846 8260B*	*NKN*	*9124480*
Sample ID: NSL2578-02 (MW-7 - Ground Water) Sampled: 12/22/09 11:25										
Total Metals by EPA 6010C										
Lead	**0.0312**		mg/L	0 00210	0 00500	1	12/29/09 01 28	SW846 6010C	LTB	9124326
EDB by EPA Method 8011										
1,2-Dibromoethane (EDB)	ND		ug/L	0 005029	0 02011	1	12/28/09 20 18	SW846 8011	WAM	9124500
Surr 1,3-Dichlorobenzene (43-150%)	*60 %*					*1*	*12 28 09 20 18*	*SW846 8011*	*WAM*	*9124500*
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0 350	1 00	1	12/30/09 12 16	SW846 8260B	NKN	9124480
Benzene	ND		ug/L	0 410	1 00	1	12/30/09 12 16	SW846 8260B	NKN	9124480
Ethylbenzene	ND		ug/L	0 350	1 00	1	12/30/09 12 16	SW846 8260B	NKN	9124480
Methyl tert-Butyl Ether	**3.10**		ug/L	0 320	1 00	1	12/30/09 12 16	SW846 8260B	NKN	9124480
Naphthalene	ND		ug/L	0 380	5 00	1	12/30/09 12 16	SW846 8260B	NKN	9124480
Toluene	ND		ug/L	0 350	1 00	1	12/30/09 12 16	SW846 8260B	NKN	9124480
Xylenes, total	ND		ug/L	0 730	3 00	1	12/30/09 12 16	SW846 8260B	NKN	9124480
Surr 1 2-Dichloroethane-d4 (63-140%)	*100 %*					*1*	*12 30 09 12 16*	*SW846 8260B*	*NKN*	*9124480*
Surr Dibromofluoromethane (73-131%)	*100 %*					*1*	*12 30 09 12 16*	*SW846 8260B*	*NKN*	*9124480*
Surr Toluene-d8 (80-120%)	*98 %*					*1*	*12 30 09 12 16*	*SW846 8260B*	*NKN*	*9124480*
Surr 4-Bromofluorobenzene (79-125%)	*92 %*					*1*	*12 30 09 12 16*	*SW846 8260B*	*NKN*	*9124480*

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Emerald, Inc (8583)	Work Order	NSL2578
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/23/09 09 15

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Analyst	Batch
Sample ID: NSL2578-03 (MW-8 - Ground Water) Sampled: 12/22/09 11:47										
Total Metals by EPA 6010C										
Lead	**0.0214**		mg/L	0 00210	0 00500	1	12/29/09 01 46	SW846 6010C	LTB	9124326
EDB by EPA Method 8011										
1,2-Dibromoethane (EDB)	ND		ug/L	0 005043	0 02017	1	12/28/09 20 40	SW846 8011	WAM	9124500
Surr 1,3-Dichlorobenzene (43-150%)	*59 %*					*1*	*12 28 09 20 40*	*SW846 8011*	*WAM*	*9124500*
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0 350	1 00	1	12/30/09 12 42	SW846 8260B	NKN	9124480
Benzene	ND		ug/L	0 410	1 00	1	12/30/09 12 42	SW846 8260B	NKN	9124480
Ethylbenzene	ND		ug/L	0 350	1 00	1	12/30/09 12 42	SW846 8260B	NKN	9124480
Methyl tert-Butyl Ether	ND		ug/L	0 320	1 00	1	12/30/09 12 42	SW846 8260B	NKN	9124480
Naphthalene	ND		ug/L	0 380	5 00	1	12/30/09 12 42	SW846 8260B	NKN	9124480
Toluene	ND		ug/L	0 350	1 00	1	12/30/09 12 42	SW846 8260B	NKN	9124480
Xylenes, total	ND		ug/L	0 730	3 00	1	12/30/09 12 42	SW846 8260B	NKN	9124480
Surr 1,2-Dichloroethane-d4 (63-140%)	*100 %*					*1*	*12 30 09 12 42*	*SW846 8260B*	*NKN*	*9124480*
Surr Dibromofluoromethane (73-131%)	*100 %*					*1*	*12 30 09 12 42*	*SW846 8260B*	*NKN*	*9124480*
Surr Toluene-d8 (80-120%)	*99 %*					*1*	*12 30 09 12 42*	*SW846 8260B*	*NKN*	*9124480*
Surr 4-Bromofluorobenzene (79-125%)	*104 %*					*1*	*12 30 09 12 42*	*SW846 8260B*	*NKN*	*9124480*
Sample ID: NSL2578-04 (MW-9 - Ground Water) Sampled: 12/22/09 12:05										
Total Metals by EPA 6010C										
Lead	**0.136**		mg/L	0 00210	0 00500	1	12/29/09 01 49	SW846 6010C	LTB	9124326
EDB by EPA Method 8011										
1,2-Dibromoethane (EDB)	ND		ug/L	0 005102	0 02041	1	12/28/09 21 02	SW846 8011	WAM	9124500
Surr 1,3-Dichlorobenzene (43-150%)	*60 %*					*1*	*12 28 09 21 02*	*SW846 8011*	*WAM*	*9124500*
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0 350	1 00	1	12/30/09 13 09	SW846 8260B	NKN	9124480
Benzene	ND		ug/L	0 410	1 00	1	12/30/09 13 09	SW846 8260B	NKN	9124480
Ethylbenzene	ND		ug/L	0 350	1 00	1	12/30/09 13 09	SW846 8260B	NKN	9124480
Methyl tert-Butyl Ether	**6.86**		ug/L	0 320	1 00	1	12/30/09 13 09	SW846 8260B	NKN	9124480
Naphthalene	ND		ug/L	0 380	5 00	1	12/30/09 13 09	SW846 8260B	NKN	9124480
Toluene	ND		ug/L	0 350	1 00	1	12/30/09 13 09	SW846 8260B	NKN	9124480
Xylenes, total	ND		ug/L	0 730	3 00	1	12/30/09 13 09	SW846 8260B	NKN	9124480
Surr 1,2-Dichloroethane-d4 (63-140%)	*102 %*					*1*	*12 30 09 13 09*	*SW846 8260B*	*NKN*	*9124480*
Surr Dibromofluoromethane (73-131%)	*102 %*					*1*	*12 30 09 13 09*	*SW846 8260B*	*NKN*	*9124480*
Surr Toluene-d8 (80-120%)	*99 %*					*1*	*12 30 09 13 09*	*SW846 8260B*	*NKN*	*9124480*
Surr 4-Bromofluorobenzene (79-125%)	*94 %*					*1*	*12 30 09 13 09*	*SW846 8260B*	*NKN*	*9124480*

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Emerald, Inc (8583)	Work Order	NSL2578
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/23/09 09 15

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Analyst	Batch
Sample ID: NSL2578-05 (MW-10 - Ground Water) Sampled: 12/22/09 13:56										
Total Metals by EPA 6010C										
Lead	**0.0436**		mg/L	0 00210	0 00500	1	12/29/09 01 53	SW846 6010C	LTB	9124326
EDB by EPA Method 8011										
1,2-Dibromoethane (EDB)	**0.1719**		ug/L	0 005014	0 02006	1	12/28/09 21 23	SW846 8011	WAM	9124500
Surr 1,3-Dichlorobenzene (43-150%)	*75 %*					*1*	*12 28 09 21 23*	*SW846 8011*	*WAM*	*9124500*
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0 350	1 00	1	12/30/09 13 36	SW846 8260B	NKN	9124480
Benzene	**1250**		ug/L	4 10	10 0	10	12/31/09 01 10	SW846 8260B	NKN	9125204
Ethylbenzene	**44.8**		ug/L	0 350	1 00	1	12/30/09 13 36	SW846 8260B	NKN	9124480
Methyl tert-Butyl Ether	**58.1**		ug/L	0 320	1 00	1	12/30/09 13 36	SW846 8260B	NKN	9124480
Naphthalene	**12.0**		ug/L	0 380	5 00	1	12/30/09 13 36	SW846 8260B	NKN	9124480
Toluene	**20.3**		ug/L	0 350	1 00	1	12/30/09 13 36	SW846 8260B	NKN	9124480
Xylenes, total	**15.0**		ug/L	0 730	3 00	1	12/30/09 13 36	SW846 8260B	NKN	9124480
Surr 1,2-Dichloroethane-d4 (63-140%)	*106 %*					*1*	*12/30/09 13 36*	*SW846 8260B*	*NKN*	*9124480*
Surr 1,2-Dichloroethane-d4 (63-140%)	*97 %*					*10*	*12/31/09 01 10*	*SW846 8260B*	*NKN*	*9125204*
Surr Dibromofluoromethane (73-131%)	*96 %*					*1*	*12 30 09 13 36*	*SW846 8260B*	*NKN*	*9124480*
Surr Dibromofluoromethane (73-131%)	*98 %*					*10*	*12/31/09 01 10*	*SW846 8260B*	*NKN*	*9125204*
Surr Toluene-d8 (80-120%)	*101 %*					*1*	*12/30/09 13 36*	*SW846 8260B*	*NKN*	*9124480*
Surr Toluene-d8 (80-120%)	*99 %*					*10*	*12/31/09 01 10*	*SW846 8260B*	*NKN*	*9125204*
Surr 4-Bromofluorobenzene (79-125%)	*96 %*					*1*	*12 30 09 13 36*	*SW846 8260B*	*NKN*	*9124480*
Surr 4-Bromofluorobenzene (79-125%)	*93 %*					*10*	*12 31 09 01 10*	*SW846 8260B*	*NKN*	*9125204*
Sample ID: NSL2578-06 (MW-14 - Ground Water) Sampled: 12/22/09 11:01										
Total Metals by EPA 6010C										
Lead	**0.0302**		mg/L	0 00210	0 00500	1	12/29/09 01 56	SW846 6010C	LTB	9124326
EDB by EPA Method 8011										
1,2-Dibromoethane (EDB)	**0.1153**		ug/L	0 005043	0 02017	1	12/28/09 21 45	SW846 8011	WAM	9124500
Surr 1,3-Dichlorobenzene (43-150%)	*143 %*					*1*	*12 28 09 21 45*	*SW846 8011*	*WAM*	*9124500*
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0 350	1 00	1	12/30/09 14 02	SW846 8260B	NKN	9124480
Benzene	**1720**		ug/L	4 10	10 0	10	12/31/09 01 36	SW846 8260B	NKN	9125204
Ethylbenzene	**633**		ug/L	3 50	10 0	10	12/31/09 01 36	SW846 8260B	NKN	9125204
Methyl tert-Butyl Ether	**93.2**		ug/L	0 320	1 00	1	12/30/09 14 02	SW846 8260B	NKN	9124480
Naphthalene	**93.2**		ug/L	0 380	5 00	1	12/30/09 14 02	SW846 8260B	NKN	9124480
Toluene	**2730**		ug/L	35 0	100	100	12/31/09 14 10	SW846 8260B	NKN	9125226
Xylenes, total	**1640**		ug/L	7 30	30 0	10	12/31/09 01 36	SW846 8260B	NKN	9125204
Surr 1,2-Dichloroethane-d4 (63-140%)	*113 %*					*1*	*12 30 09 14 02*	*SW846 8260B*	*NKN*	*9124480*
Surr 1,2-Dichloroethane-d4 (63-140%)	*99 %*					*10*	*12 31 09 01 36*	*SW846 8260B*	*NKN*	*9125204*
Surr 1,2-Dichloroethane-d4 (63-140%)	*100 %*					*100*	*12 31 09 14 10*	*SW846 8260B*	*NKN*	*9125226*
Surr Dibromofluoromethane (73-131%)	*96 %*					*1*	*12 30 09 14 02*	*SW846 8260B*	*NKN*	*9124480*

Client	Emerald, Inc (8583)	Work Order	NSL2578
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/23/09 09 15

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Analyst	Batch
Sample ID: NSL2578-06 (MW-14 - Ground Water) - cont. Sampled: 12/22/09 11:01										
Volatile Organic Compounds by EPA Method 8260B - cont.										
Surr Dibromofluoromethane (73-131%)	*98 %*					*10*	*12 31 09 01 36*	*SW846 8260B*	*NKN*	*9125204*
Surr Dibromofluoromethane (73-131%)	*101 %*					*100*	*12 31 09 14 10*	*SW846 8260B*	*NKN*	*9125226*
Surr Toluene-d8 (80-120%)	*99 %*					*1*	*12 30 09 14 02*	*SW846 8260B*	*NKN*	*9124480*
Surr Toluene-d8 (80-120%)	*99 %*					*10*	*12 31 09 01 36*	*SW846 8260B*	*NKN*	*9125204*
Surr Toluene-d8 (80-120%)	*103 %*					*100*	*12 31 09 14 10*	*SW846 8260B*	*NKN*	*9125226*
Surr 4-Bromofluorobenzene (79-125%)	*105 %*					*1*	*12 30 09 14 02*	*SW846 8260B*	*NKN*	*9124480*
Surr 4-Bromofluorobenzene (79-125%)	*95 %*					*10*	*12 31 09 01 36*	*SW846 8260B*	*NKN*	*9125204*
Surr 4-Bromofluorobenzene (79-125%)	*105 %*					*100*	*12 31 09 14 10*	*SW846 8260B*	*NKN*	*9125226*
Sample ID: NSL2578-07 (MW-19 - Ground Water) Sampled: 12/22/09 11:00										
Total Metals by EPA 6010C										
Lead	**0.210**		mg/L	0.00210	0 00500	1	12/29/09 01 59	SW846 6010C	LTB	9124326
EDB by EPA Method 8011										
1,2-Dibromoethane (EDB)	ND		ug/L	0 005178	0 02071	1	12/28/09 22 07	SW846 8011	WAM	9124500
Surr 1,3-Dichlorobenzene (43-150%)	*61 %*					*1*	*12 28 09 22 07*	*SW846 8011*	*WAM*	*9124500*
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0 350	1 00	1	12/30/09 14 29	SW846 8260B	NKN	9124480
Benzene	ND		ug/L	0 410	1 00	1	12/30/09 22 30	SW846 8260B	NKN	9125204
Ethylbenzene	ND		ug/L	0 350	1 00	1	12/30/09 22 30	SW846 8260B	NKN	9125204
Methyl tert-Butyl Ether	**2.35**		ug/L	0 320	1 00	1	12/30/09 22 30	SW846 8260B	NKN	9125204
Naphthalene	ND		ug/L	0 380	5 00	1	12/30/09 22 30	SW846 8260B	NKN	9125204
Toluene	ND		ug/L	0 350	1 00	1	12/30/09 22 30	SW846 8260B	NKN	9125204
Xylenes, total	ND		ug/L	0 730	3 00	1	12/30/09 22 30	SW846 8260B	NKN	9125204
Surr 1,2-Dichloroethane-d4 (63-140%)	*98 %*					*1*	*12 30 09 14 29*	*SW846 8260B*	*NKN*	*9124480*
Surr 1,2-Dichloroethane-d4 (63-140%)	*98 %*					*1*	*12 30 09 22 30*	*SW846 8260B*	*NKN*	*9125204*
Surr Dibromofluoromethane (73-131%)	*97 %*					*1*	*12 30 09 14 29*	*SW846 8260B*	*NKN*	*9124480*
Surr Dibromofluoromethane (73-131%)	*99 %*					*1*	*12 30 09 22 30*	*SW846 8260B*	*NKN*	*9125204*
Surr Toluene-d8 (80-120%)	*99 %*					*1*	*12 30 09 14 29*	*SW846 8260B*	*NKN*	*9124480*
Surr Toluene-d8 (80-120%)	*100 %*					*1*	*12 30 09 22 30*	*SW846 8260B*	*NKN*	*9125204*
Surr 4-Bromofluorobenzene (79-125%)	*96 %*					*1*	*12 30 09 14 29*	*SW846 8260B*	*NKN*	*9124480*
Surr 4-Bromofluorobenzene (79-125%)	*104 %*					*1*	*12 30 09 22 30*	*SW846 8260B*	*NKN*	*9125204*

Client	Emerald, Inc. (8583)	Work Order:	NSL2578
	P. O. Box 3050	Project Name:	Detwiler
	Sumter, SC 29151	Project Number:	[none]
Attn	Robbin Brown	Received:	12/23/09 09:15

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Analyst	Batch
Sample ID: NSL2578-10 (MW-22 - Ground Water) Sampled: 12/22/09 13:16										
Total Metals by EPA 6010C										
Lead	0.0491		mg/L	0.00210	0.00500	1	12/29/09 02:09	SW846 6010C	LTB	9124326
EDB by EPA Method 8011										
1,2-Dibromoethane (EDB)	ND		ug/L	0.005000	0.02000	1	12/29/09 19:32	SW846 8011	WAM	9124742
Surr: 1,3-Dichlorobenzene (43-150%)	*105 %*					*1*	*12/29/09 19:32*	*SW846 8011*	*WAM*	*9124742*
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0.350	1.00	1	12/30/09 15:49	SW846 8260B	NKN	9124480
Benzene	ND		ug/L	0.410	1.00	1	12/30/09 15:49	SW846 8260B	NKN	9124480
Ethylbenzene	ND		ug/L	0.350	1.00	1	12/30/09 15:49	SW846 8260B	NKN	9124480
Methyl tert-Butyl Ether	ND		ug/L	0.320	1.00	1	12/30/09 15:49	SW846 8260B	NKN	9124480
Naphthalene	ND		ug/L	0.380	5.00	1	12/30/09 15:49	SW846 8260B	NKN	9124480
Toluene	ND		ug/L	0.350	1.00	1	12/30/09 15:49	SW846 8260B	NKN	9124480
Xylenes, total	ND		ug/L	0.730	3.00	1	12/30/09 15:49	SW846 8260B	NKN	9124480
Surr: 1,2-Dichloroethane-d4 (63-140%)	*98 %*					*1*	*12/30/09 15:49*	*SW846 8260B*	*NKN*	*9124480*
Surr: Dibromofluoromethane (73-131%)	*99 %*					*1*	*12/30/09 15:49*	*SW846 8260B*	*NKN*	*9124480*
Surr: Toluene-d8 (80-120%)	*99 %*					*1*	*12/30/09 15:49*	*SW846 8260B*	*NKN*	*9124480*
Surr: 4-Bromofluorobenzene (79-125%)	*95 %*					*1*	*12/30/09 15:49*	*SW846 8260B*	*NKN*	*9124480*
Sample ID: NSL2578-11 (WSW-1 - Ground Water) Sampled: 12/22/09 14:25										
EDB by EPA Method 8011										
1,2-Dibromoethane (EDB)	ND		ug/L	0.005000	0.02000	1	12/29/09 19:54	SW846 8011	WAM	9124742
Surr: 1,3-Dichlorobenzene (43-150%)	*99 %*					*1*	*12/29/09 19:54*	*SW846 8011*	*WAM*	*9124742*
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0.350	1.00	1	12/30/09 16:16	SW846 8260B	NKN	9124480
Benzene	ND		ug/L	0.410	1.00	1	12/30/09 16:16	SW846 8260B	NKN	9124480
Ethylbenzene	ND		ug/L	0.350	1.00	1	12/30/09 16:16	SW846 8260B	NKN	9124480
Methyl tert-Butyl Ether	ND		ug/L	0.320	1.00	1	12/30/09 16:16	SW846 8260B	NKN	9124480
Naphthalene	ND		ug/L	0.380	5.00	1	12/30/09 16:16	SW846 8260B	NKN	9124480
Toluene	ND		ug/L	0.350	1.00	1	12/30/09 16:16	SW846 8260B	NKN	9124480
Xylenes, total	ND		ug/L	0.730	3.00	1	12/30/09 16:16	SW846 8260B	NKN	9124480
Surr: 1,2-Dichloroethane-d4 (63-140%)	*99 %*					*1*	*12/30/09 16:16*	*SW846 8260B*	*NKN*	*9124480*
Surr: Dibromofluoromethane (73-131%)	*99 %*					*1*	*12/30/09 16:16*	*SW846 8260B*	*NKN*	*9124480*
Surr: Toluene-d8 (80-120%)	*98 %*					*1*	*12/30/09 16:16*	*SW846 8260B*	*NKN*	*9124480*
Surr: 4-Bromofluorobenzene (79-125%)	*96 %*					*1*	*12/30/09 16:16*	*SW846 8260B*	*NKN*	*9124480*
Sample ID: NSL2578-12 (CS-1 - Ground Water) Sampled: 12/22/09 12:35										
Volatile Organic Compounds by EPA Method 8260B										
Benzene	ND		ug/L	0.410	1.00	1	12/30/09 16:42	SW846 8260B	NKN	9124480
Ethylbenzene	ND		ug/L	0.350	1.00	1	12/30/09 16:42	SW846 8260B	NKN	9124480
Methyl tert-Butyl Ether	ND		ug/L	0.320	1.00	1	12/30/09 16:42	SW846 8260B	NKN	9124480

Client	Emerald, Inc (8583)	Work Order	NSL2578
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/23/09 09 15

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Analyst	Batch
Sample ID: NSL2578-10 (MW-22 - Ground Water) Sampled: 12/22/09 13:16										
Total Metals by EPA 6010C										
Lead	**0.0491**		mg/L	0 00210	0 00500	1	12/29/09 02 09	SW846 6010C	LTB	9124326
EDB by EPA Method 8011										
1,2-Dibromoethane (EDB)	ND		ug/L	0 005000	0 02000	1	12/29/09 19 32	SW846 8011	WAM	9124742
Surr 1,3-Dichlorobenzene (43-150%)	*105 %*					*1*	*12 29 09 19 32*	*SW846 8011*	*WAM*	*9124742*
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0 350	1 00	1	12/30/09 15 49	SW846 8260B	NKN	9124480
Benzene	ND		ug/L	0 410	1 00	1	12/30/09 15 49	SW846 8260B	NKN	9124480
Ethylbenzene	ND		ug/L	0 350	1 00	1	12/30/09 15 49	SW846 8260B	NKN	9124480
Methyl tert-Butyl Ether	ND		ug/L	0 320	1 00	1	12/30/09 15 49	SW846 8260B	NKN	9124480
Naphthalene	ND		ug/L	0 380	5 00	1	12/30/09 15 49	SW846 8260B	NKN	9124480
Toluene	ND		ug/L	0 350	1 00	1	12/30/09 15 49	SW846 8260B	NKN	9124480
Xylenes, total	ND		ug/L	0 730	3 00	1	12/30/09 15 49	SW846 8260B	NKN	9124480
Surr 1,2-Dichloroethane-d4 (63-140%)	*98 %*					*1*	*12 30 09 15 49*	*SW846 8260B*	*NKN*	*9124480*
Surr Dibromofluoromethane (73-131%)	*99 %*					*1*	*12 30 09 15 49*	*SW846 8260B*	*NKN*	*9124480*
Surr Toluene-d8 (80-120%)	*99 %*					*1*	*12 30 09 15 49*	*SW846 8260B*	*NKN*	*9124480*
Surr 4-Bromofluorobenzene (79-125%)	*95 %*					*1*	*12/30 09 15 49*	*SW846 8260B*	*NKN*	*9124480*
Sample ID: NSL2578-11 (WSW-1 - Ground Water) Sampled: 12/22/09 14:25										
EDB by EPA Method 8011										
1,2-Dibromoethane (EDB)	ND		ug/L	0 005000	0 02000	1	12/29/09 19 54	SW846 8011	WAM	9124742
Surr 1,3-Dichlorobenzene (43-150%)	*99 %*					*1*	*12/29 09 19 54*	*SW846 8011*	*WAM*	*9124742*
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0 350	1 00	1	12/30/09 16 16	SW846 8260B	NKN	9124480
Benzene	ND		ug/L	0 410	1 00	1	12/30/09 16 16	SW846 8260B	NKN	9124480
Ethylbenzene	ND		ug/L	0 350	1 00	1	12/30/09 16 16	SW846 8260B	NKN	9124480
Methyl tert-Butyl Ether	ND		ug/L	0 320	1 00	1	12/30/09 16 16	SW846 8260B	NKN	9124480
Naphthalene	ND		ug/L	0 380	5 00	1	12/30/09 16 16	SW846 8260B	NKN	9124480
Toluene	ND		ug/L	0 350	1 00	1	12/30/09 16 16	SW846 8260B	NKN	9124480
Xylenes, total	ND		ug/L	0 730	3 00	1	12/30/09 16 16	SW846 8260B	NKN	9124480
Surr 1,2-Dichloroethane-d4 (63-140%)	*99 %*					*1*	*12/30 09 16 16*	*SW846 8260B*	*NKN*	*9124480*
Surr Dibromofluoromethane (73-131%)	*99 %*					*1*	*12 30 09 16 16*	*SW846 8260B*	*NKN*	*9124480*
Surr Toluene-d8 (80-120%)	*98 %*					*1*	*12 30 09 16 16*	*SW846 8260B*	*NKN*	*9124480*
Surr 4-Bromofluorobenzene (79-125%)	*96 %*					*1*	*12/30 09 16 16*	*SW846 8260B*	*NKN*	*9124480*
Sample ID: NSL2578-12 (CS-1 - Ground Water) Sampled: 12/22/09 12:35										
Volatile Organic Compounds by EPA Method 8260B										
Benzene	ND		ug/L	0 410	1 00	1	12/30/09 16 42	SW846 8260B	NKN	9124480
Ethylbenzene	ND		ug/L	0 350	1.00	1	12/30/09 16 42	SW846 8260B	NKN	9124480
Methyl tert-Butyl Ether	ND		ug/L	0 320	1 00	1	12/30/09 16 42	SW846 8260B	NKN	9124480

Client	Emerald, Inc (8583)	Work Order	NSL2578
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/23/09 09 15

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Analyst	Batch
Sample ID: NSL2578-12 (CS-1 - Ground Water) - cont. Sampled: 12/22/09 12:35										
Volatile Organic Compounds by EPA Method 8260B - cont.										
Naphthalene	ND		ug/L	0 380	5 00	1	12/30/09 16 42	SW846 8260B	NKN	9124480
Toluene	ND		ug/L	0 350	1 00	1	12/30/09 16 42	SW846 8260B	NKN	9124480
Xylenes, total	ND		ug/L	0 730	3 00	1	12/30/09 16 42	SW846 8260B	NKN	9124480
Surr 1,2-Dichloroethane-d4 (63-140%)	*100 %*					*1*	*12 30 09 16 42*	*SW846 8260B*	*NKN*	*9124480*
Surr Dibromofluoromethane (73-131%)	*99 %*					*1*	*12 30 09 16 42*	*SW846 8260B*	*NKN*	*9124480*
Surr Toluene-d8 (80-120%)	*99 %*					*1*	*12 30 09 16 42*	*SW846 8260B*	*NKN*	*9124480*
Surr 4-Bromofluorobenzene (79-125%)	*95 %*					*1*	*12 30 09 16 42*	*SW846 8260B*	*NKN*	*9124480*
Sample ID: NSL2578-13 (CS-2 - Ground Water) Sampled: 12/22/09 12:50										
Volatile Organic Compounds by EPA Method 8260B										
Benzene	ND		ug/L	0 410	1 00	1	12/30/09 17 09	SW846 8260B	NKN	9124480
Ethylbenzene	ND		ug/L	0 350	1 00	1	12/30/09 17 09	SW846 8260B	NKN	9124480
Methyl tert-Butyl Ether	ND		ug/L	0 320	1 00	1	12/30/09 17 09	SW846 8260B	NKN	9124480
Naphthalene	ND		ug/L	0 380	5 00	1	12/30/09 17 09	SW846 8260B	NKN	9124480
Toluene	ND		ug/L	0 350	1 00	1	12/30/09 17 09	SW846 8260B	NKN	9124480
Xylenes, total	ND		ug/L	0 730	3 00	1	12/30/09 17 09	SW846 8260B	NKN	9124480
Surr 1,2-Dichloroethane-d4 (63-140%)	*99 %*					*1*	*12 30 09 17 09*	*SW846 8260B*	*NKN*	*9124480*
Surr Dibromofluoromethane (73-131%)	*99 %*					*1*	*12 30 09 17 09*	*SW846 8260B*	*NKN*	*9124480*
Surr Toluene-d8 (80-120%)	*99 %*					*1*	*12 30 09 17 09*	*SW846 8260B*	*NKN*	*9124480*
Surr 4-Bromofluorobenzene (79-125%)	*94 %*					*1*	*12 30 09 17 09*	*SW846 8260B*	*NKN*	*9124480*
Sample ID: NSL2578-14 (WSW-2 - Ground Water) Sampled: 12/22/09 16:40										
EDB by EPA Method 8011										
1,2-Dibromoethane (EDB)	ND		ug/L	0 004986	0 01994	1	12/29/09 20 16	SW846 8011	WAM	9124742
Surr 1,3-Dichlorobenzene (43-150%)	*100 %*					*1*	*12 29 09 20 16*	*SW846 8011*	*WAM*	*9124742*
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0 350	1 00	1	12/30/09 17 36	SW846 8260B	NKN	9124480
Benzene	ND		ug/L	0 410	1 00	1	12/30/09 17 36	SW846 8260B	NKN	9124480
Ethylbenzene	ND		ug/L	0 350	1 00	1	12/30/09 17 36	SW846 8260B	NKN	9124480
Methyl tert-Butyl Ether	ND		ug/L	0 320	1 00	1	12/30/09 17 36	SW846 8260B	NKN	9124480
Naphthalene	ND		ug/L	0 380	5 00	1	12/30/09 17 36	SW846 8260B	NKN	9124480
Toluene	ND		ug/L	0 350	1 00	1	12/30/09 17 36	SW846 8260B	NKN	9124480
Xylenes, total	ND		ug/L	0 730	3 00	1	12/30/09 17 36	SW846 8260B	NKN	9124480
Surr 1,2-Dichloroethane-d4 (63-140%)	*100 %*					*1*	*12 30 09 17 36*	*SW846 8260B*	*NKN*	*9124480*
Surr Dibromofluoromethane (73-131%)	*100 %*					*1*	*12 30 09 17 36*	*SW846 8260B*	*NKN*	*9124480*
Surr Toluene-d8 (80-120%)	*99 %*					*1*	*12 30 09 17 36*	*SW846 8260B*	*NKN*	*9124480*
Surr 4-Bromofluorobenzene (79-125%)	*95 %*					*1*	*12 30 09 17 36*	*SW846 8260B*	*NKN*	*9124480*

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Emerald, Inc (8583)	Work Order	NSL2578
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/23/09 09 15

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Analyst	Batch
Sample ID: NSL2578-15 (Trip Blank - Ground Water) Sampled: 12/22/09 00:01										
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0 350	1 00	1	12/30/09 11 22	SW846 8260B	NKN	9124480
Benzene	ND		ug/L	0 410	1 00	1	12/30/09 11 22	SW846 8260B	NKN	9124480
Ethylbenzene	ND		ug/L	0 350	1 00	1	12/30/09 11 22	SW846 8260B	NKN	9124480
Methyl tert-Butyl Ether	ND		ug/L	0 320	1 00	1	12/30/09 11 22	SW846 8260B	NKN	9124480
Naphthalene	ND		ug/L	0 380	5 00	1	12/30/09 11 22	SW846 8260B	NKN	9124480
Toluene	ND		ug/L	0 350	1 00	1	12/30/09 11 22	SW846 8260B	NKN	9124480
Xylenes, total	ND		ug/L	0 730	3 00	1	12/30/09 11 22	SW846 8260B	NKN	9124480
Surr 1,2-Dichloroethane-d4 (63-140%)	*100 %*					*1*	*12/30/09 11 22*	*SW846 8260B*	*NKN*	*9124480*
Surr Dibromofluoromethane (73-131%)	*98 %*					*1*	*12/30/09 11 22*	*SW846 8260B*	*NKN*	*9124480*
Surr Toluene-d8 (80-120%)	*99 %*					*1*	*12/30/09 11 22*	*SW846 8260B*	*NKN*	*9124480*
Surr 4-Bromofluorobenzene (79-125%)	*94 %*					*1*	*12/30/09 11 22*	*SW846 8260B*	*NKN*	*9124480*

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Emerald, Inc (8583)	Work Order	NSL2578
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/23/09 09 15

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
EDB by EPA Method 8011							
SW846 8011	9124742	NSL2578-01	34 70	2 00	12/28/09 16 20	LJT	EPA 8011
SW846 8011	9124500	NSL2578-02	34 80	2 00	12/28/09 12 00	WAM	EPA 8011
SW846 8011	9124500	NSL2578-03	34 70	2 00	12/28/09 12 00	WAM	EPA 8011
SW846 8011	9124500	NSL2578-04	34 30	2 00	12/28/09 12 00	WAM	EPA 8011
SW846 8011	9124500	NSL2578-05	34 90	2 00	12/28/09 12 00	WAM	EPA 8011
SW846 8011	9124500	NSL2578-06	34 70	2 00	12/28/09 12 00	WAM	EPA 8011
SW846 8011	9124500	NSL2578-07	33 80	2 00	12/28/09 12 00	WAM	EPA 8011
SW846 8011	9124500	NSL2578-08	35 30	2 00	12/28/09 12 00	WAM	EPA 8011
SW846 8011	9124500	NSL2578-09	35 30	2 00	12/28/09 12 00	WAM	EPA 8011
SW846 8011	9124742	NSL2578-10	35 00	2 00	12/28/09 16 20	LJT	EPA 8011
SW846 8011	9124742	NSL2578-11	35 00	2 00	12/28/09 16 20	LJT	EPA 8011
SW846 8011	9124742	NSL2578-14	35 10	2 00	12/28/09 16 20	LJT	EPA 8011
Total Metals by EPA 6010C							
SW846 6010C	9124326	NSL2578-01	50 00	50 00	12/26/09 13 35	MB	EPA 3010A / 6010
SW846 6010C	9124326	NSL2578-02	50 00	50 00	12/26/09 13 35	MB	EPA 3010A / 6010
SW846 6010C	9124326	NSL2578-03	50 00	50 00	12/26/09 13 35	MB	EPA 3010A / 6010
SW846 6010C	9124326	NSL2578-04	50 00	50 00	12/26/09 13 35	MB	EPA 3010A / 6010
SW846 6010C	9124326	NSL2578-05	50 00	50 00	12/26/09 13 35	MB	EPA 3010A / 6010
SW846 6010C	9124326	NSL2578-06	50 00	50 00	12/26/09 13 35	MB	EPA 3010A / 6010
SW846 6010C	9124326	NSL2578-07	50 00	50 00	12/26/09 13 35	MB	EPA 3010A / 6010
SW846 6010C	9124326	NSL2578-08	50 00	50 00	12/26/09 13 35	MB	EPA 3010A / 6010
SW846 6010C	9124326	NSL2578-09	50 00	50 00	12/26/09 13 35	MB	EPA 3010A / 6010
SW846 6010C	9124326	NSL2578-10	50 00	50 00	12/26/09 13 35	MB	EPA 3010A / 6010

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Emerald, Inc (8583)	Work Order	NSL2578
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/23/09 09 15

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q C Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA 6010C						
9124326-BLK1						
Lead	<0 00210		mg/L	9124326	9124326-BLK1	12/29/09 00 28
EDB by EPA Method 8011						
9124500-BLK1						
1,2-Dibromoethane (EDB)	<0 005000		ug/L	9124500	9124500-BLK1	12/28/09 13 44
Surrogate 1,3-Dichlorobenzene	103%			9124500	9124500-BLK1	12/28/09 13 44
9124742-BLK1						
1,2-Dibromoethane (EDB)	<0 005000		ug/L	9124742	9124742-BLK1	12/29/09 17 44
Surrogate 1,3-Dichlorobenzene	99%			9124742	9124742-BLK1	12/29/09 17 44
Volatile Organic Compounds by EPA Method 8260B						
9124480-BLK1						
1,2-Dichloroethane	<0 350		ug/L	9124480	9124480-BLK1	12/30/09 10 56
Benzene	<0 410		ug/L	9124480	9124480-BLK1	12/30/09 10 56
Ethylbenzene	<0 350		ug/L	9124480	9124480-BLK1	12/30/09 10 56
Methyl tert-Butyl Ether	<0 320		ug/L	9124480	9124480-BLK1	12/30/09 10 56
Naphthalene	<0 380		ug/L	9124480	9124480-BLK1	12/30/09 10 56
Toluene	<0 350		ug/L	9124480	9124480-BLK1	12/30/09 10 56
Xylenes, total	<0 730		ug/L	9124480	9124480-BLK1	12/30/09 10 56
Surrogate 1,2-Dichloroethane-d4	98%			9124480	9124480-BLK1	12/30/09 10 56
Surrogate 1,2-Dichloroethane-d4	98%			9124480	9124480-BLK1	12/30/09 10 56
Surrogate Dibromofluoromethane	97%			9124480	9124480-BLK1	12/30/09 10 56
Surrogate Dibromofluoromethane	97%			9124480	9124480-BLK1	12/30/09 10 56
Surrogate Toluene-d8	100%			9124480	9124480-BLK1	12/30/09 10 56
Surrogate Toluene-d8	100%			9124480	9124480-BLK1	12/30/09 10 56
Surrogate 4-Bromofluorobenzene	104%			9124480	9124480-BLK1	12/30/09 10 56
Surrogate 4-Bromofluorobenzene	104%			9124480	9124480-BLK1	12/30/09 10 56
9125204-BLK1						
Benzene	<0 410		ug/L	9125204	9125204-BLK1	12/30/09 22 03
Ethylbenzene	<0 350		ug/L	9125204	9125204-BLK1	12/30/09 22 03
Methyl tert-Butyl Ether	<0 320		ug/L	9125204	9125204-BLK1	12/30/09 22 03
Naphthalene	<0 380		ug/L	9125204	9125204-BLK1	12/30/09 22 03
Toluene	<0 350		ug/L	9125204	9125204-BLK1	12/30/09 22 03
Xylenes, total	<0 730		ug/L	9125204	9125204-BLK1	12/30/09 22 03
Surrogate 1,2-Dichloroethane-d4	97%			9125204	9125204-BLK1	12/30/09 22 03
Surrogate Dibromofluoromethane	97%			9125204	9125204-BLK1	12/30/09 22 03
Surrogate Toluene-d8	101%			9125204	9125204-BLK1	12/30/09 22 03
Surrogate 4-Bromofluorobenzene	93%			9125204	9125204-BLK1	12/30/09 22 03
9125226-BLK1						

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Client	Emerald, Inc (8583)	Work Order	NSL2578
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/23/09 09 15

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q C Batch	Lab Number	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B						
9125226-BLK1						
Benzene	<0 410		ug/L	9125226	9125226-BLK1	12/31/09 13 12
Ethylbenzene	<0 350		ug/L	9125226	9125226-BLK1	12/31/09 13 12
Methyl tert-Butyl Ether	<0 320		ug/L	9125226	9125226-BLK1	12/31/09 13 12
Naphthalene	<0 380		ug/L	9125226	9125226-BLK1	12/31/09 13 12
Toluene	<0 350		ug/L	9125226	9125226-BLK1	12/31/09 13 12
Xylenes, total	<0 730		ug/L	9125226	9125226-BLK1	12/31/09 13 12
Surrogate 1,2-Dichloroethane-d4	97%			9125226	9125226-BLK1	12/31/09 13 12
Surrogate Dibromofluoromethane	97%			9125226	9125226-BLK1	12/31/09 13 12
Surrogate Toluene-d8	102%			9125226	9125226-BLK1	12/31/09 13 12
Surrogate 4-Bromofluorobenzene	105%			9125226	9125226-BLK1	12/31/09 13 12

Client	Emerald, Inc (8583)	Work Order	NSL2578
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/23/09 09 15

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val	Analyzed Val	Q	Units	% Rec	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA 6010C								
9124326-BS1								
Lead	0 0500	0 0495		mg/L	99%	80 - 120	9124326	12/29/09 00 31
EDB by EPA Method 8011								
9124500-BS1								
1,2-Dibromoethane (EDB)	0 286	0 3429		ug/L	120%	60 - 141	9124500	12/28/09 14 06
Surrogate 1,3-Dichlorobenzene	5 71	6 11			107%	43 - 150	9124500	12/28/09 14 06
9124742-BS1								
1,2-Dibromoethane (EDB)	0 286	0 3429		ug/L	120%	60 - 141	9124742	12/29/09 18 05
Surrogate 1,3-Dichlorobenzene	5 71	6 23			109%	43 - 150	9124742	12/29/09 18 05
Volatile Organic Compounds by EPA Method 8260B								
9124480-BS1								
1,2-Dichloroethane	50 0	46 1		ug/L	92%	70 - 134	9124480	12/30/09 09 09
Benzene	50 0	46 4		ug/L	93%	80 - 121	9124480	12/30/09 09 09
Ethylbenzene	50 0	47 4		ug/L	95%	78 - 133	9124480	12/30/09 09 09
Methyl tert-Butyl Ether	50 0	46 2		ug/L	92%	76 - 120	9124480	12/30/09 09 09
Naphthalene	50 0	51 6		ug/L	103%	71 - 139	9124480	12/30/09 09 09
Toluene	50 0	46 7		ug/L	93%	78 - 125	9124480	12/30/09 09 09
Xylenes, total	150	149		ug/L	99%	78 - 134	9124480	12/30/09 09 09
Surrogate 1,2-Dichloroethane-d4	25 0	24 7			99%	63 - 140	9124480	12/30/09 09 09
Surrogate 1,2-Dichloroethane-d4	25 0	24 7			99%	63 - 140	9124480	12/30/09 09 09
Surrogate Dibromofluoromethane	25 0	25 1			100%	73 - 131	9124480	12/30/09 09 09
Surrogate Dibromofluoromethane	25 0	25 1			100%	73 - 131	9124480	12/30/09 09 09
Surrogate Toluene-d8	25 0	24 9			100%	80 - 120	9124480	12/30/09 09 09
Surrogate Toluene-d8	25 0	24 9			100%	80 - 120	9124480	12/30/09 09 09
Surrogate 4-Bromofluorobenzene	25 0	24 2			97%	79 - 125	9124480	12/30/09 09 09
Surrogate 4-Bromofluorobenzene	25 0	24 2			97%	79 - 125	9124480	12/30/09 09 09
9125204-BS1								
Benzene	50 0	49 0		ug/L	98%	80 - 121	9125204	12/30/09 20 16
Ethylbenzene	50 0	49 0		ug/L	98%	78 - 133	9125204	12/30/09 20 16
Methyl tert-Butyl Ether	50 0	49 2		ug/L	98%	76 - 120	9125204	12/30/09 20 16
Naphthalene	50 0	54 8		ug/L	110%	71 - 139	9125204	12/30/09 20 16
Toluene	50 0	48 7		ug/L	97%	78 - 125	9125204	12/30/09 20 16
Xylenes, total	150	155		ug/L	103%	78 - 134	9125204	12/30/09 20 16
Surrogate 1,2-Dichloroethane-d4	25 0	24 5			98%	63 - 140	9125204	12/30/09 20 16
Surrogate Dibromofluoromethane	25 0	25 2			101%	73 - 131	9125204	12/30/09 20 16
Surrogate Toluene-d8	25 0	25 0			100%	80 - 120	9125204	12/30/09 20 16
Surrogate 4-Bromofluorobenzene	25 0	25 2			101%	79 - 125	9125204	12/30/09 20 16
9125226-BS1								

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Client	Emerald, Inc (8583)	Work Order	NSL2578
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/23/09 09 15

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val	Analyzed Val	Q	Units	% Rec	Target Range	Batch	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B								
9125226-BS1								
Benzene	50 0	52 6		ug/L	105%	80 - 121	9125226	12/31/09 11 16
Ethylbenzene	50 0	54 3		ug/L	109%	78 - 133	9125226	12/31/09 11 16
Methyl tert-Butyl Ether	50 0	56 6		ug/L	113%	76 - 120	9125226	12/31/09 11 16
Naphthalene	50 0	58 5		ug/L	117%	71 - 139	9125226	12/31/09 11 16
Toluene	50 0	51 2		ug/L	102%	78 - 125	9125226	12/31/09 11 16
Xylenes, total	150	166		ug/L	111%	78 - 134	9125226	12/31/09 11 16
Surrogate 1,2-Dichloroethane-d4	50 0	47 3			95%	63 - 140	9125226	12/31/09 11 16
Surrogate Dibromofluoromethane	50 0	49 0			98%	73 - 131	9125226	12/31/09 11 16
Surrogate Toluene-d8	50 0	50 4			101%	80 - 120	9125226	12/31/09 11 16
Surrogate 4-Bromofluorobenzene	50 0	50 6			101%	79 - 125	9125226	12/31/09 11 16

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Client	Emerald, Inc (8583)	Work Order	NSL2578
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/23/09 09 15

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig Val	Duplicate	Q	Units	Spike Conc	% Rec	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
EDB by EPA Method 8011												
9124500-BSD1												
1,2-Dibromoethane (EDB)		0 3429		ug/L	0 286	120%	60 - 141	0	50	9124500		12/28/09 14 28
Surrogate 1,3-Dichlorobenzene		6 51		ug/L	5 71	114%	43 - 150			9124500		12/28/09 14 28
Volatile Organic Compounds by EPA Method 8260B												
9124480-BSD1												
1,2-Dichloroethane		46 6		ug/L	50 0	93%	70 - 134	1	25	9124480		12/30/09 09 35
Benzene		47 1		ug/L	50 0	94%	80 - 121	1	12	9124480		12/30/09 09 35
Ethylbenzene		48 2		ug/L	50 0	96%	78 - 133	2	12	9124480		12/30/09 09 35
Methyl tert-Butyl Ether		46 8		ug/L	50 0	94%	76 - 120	1	32	9124480		12/30/09 09 35
Naphthalene		53 3		ug/L	50 0	107%	71 - 139	3	30	9124480		12/30/09 09 35
Toluene		46 9		ug/L	50 0	94%	78 - 125	0 5	35	9124480		12/30/09 09 35
Xylenes, total		153		ug/L	150	102%	78 - 134	3	18	9124480		12/30/09 09 35
Surrogate 1,2-Dichloroethane-d4		24 8		ug/L	25 0	99%	63 - 140			9124480		12/30/09 09 35
Surrogate 1,2-Dichloroethane-d4		24 8		ug/L	25 0	99%	63 - 140			9124480		12/30/09 09 35
Surrogate Dibromofluoromethane		24 9		ug/L	25 0	100%	73 - 131			9124480		12/30/09 09 35
Surrogate Dibromofluoromethane		24 9		ug/L	25 0	100%	73 - 131			9124480		12/30/09 09 35
Surrogate Toluene-d8		24 4		ug/L	25 0	98%	80 - 120			9124480		12/30/09 09 35
Surrogate Toluene-d8		24 4		ug/L	25 0	98%	80 - 120			9124480		12/30/09 09 35
Surrogate 4-Bromofluorobenzene		24 1		ug/L	25 0	96%	79 - 125			9124480		12/30/09 09 35
Surrogate 4-Bromofluorobenzene		24 1		ug/L	25 0	96%	79 - 125			9124480		12/30/09 09 35
9125204-BSD1												
Benzene		49 4		ug/L	50 0	99%	80 - 121	0 8	12	9125204		12/30/09 20 43
Ethylbenzene		50 4		ug/L	50 0	101%	78 - 133	3	12	9125204		12/30/09 20 43
Methyl tert-Butyl Ether		48 9		ug/L	50 0	98%	76 - 120	0 6	32	9125204		12/30/09 20 43
Naphthalene		54 8		ug/L	50 0	110%	71 - 139	0	30	9125204		12/30/09 20 43
Toluene		50 3		ug/L	50 0	101%	78 - 125	3	35	9125204		12/30/09 20 43
Xylenes, total		159		ug/L	150	106%	78 - 134	2	18	9125204		12/30/09 20 43
Surrogate 1,2-Dichloroethane-d4		24 3		ug/L	25 0	97%	63 - 140			9125204		12/30/09 20 43
Surrogate Dibromofluoromethane		25 0		ug/L	25 0	100%	73 - 131			9125204		12/30/09 20 43
Surrogate Toluene-d8		25 3		ug/L	25 0	101%	80 - 120			9125204		12/30/09 20 43
Surrogate 4-Bromofluorobenzene		25 1		ug/L	25 0	100%	79 - 125			9125204		12/30/09 20 43
9125226-BSD1												
Benzene		48 1		ug/L	50 0	96%	80 - 121	9	12	9125226		12/31/09 11 45
Ethylbenzene		50 5		ug/L	50 0	101%	78 - 133	7	12	9125226		12/31/09 11 45
Methyl tert-Butyl Ether		52 8		ug/L	50 0	106%	76 - 120	7	32	9125226		12/31/09 11 45
Naphthalene		54 4		ug/L	50 0	109%	71 - 139	7	30	9125226		12/31/09 11.45
Toluene		47 8		ug/L	50 0	96%	78 - 125	7	35	9125226		12/31/09 11·45
Xylenes, total		152		ug/L	150	101%	78 - 134	9	18	9125226		12/31/09 11 45
Surrogate 1,2-Dichloroethane-d4		46 2		ug/L	50 0	92%	63 - 140			9125226		12/31/09 11 45

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Client	Emerald, Inc (8583)	Work Order	NSL2578
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/23/09 09 15

PROJECT QUALITY CONTROL DATA

LCS Dup - Cont.

Analyte	Orig Val	Duplicate	Q	Units	Spike Conc	% Rec	Target Range	RPD Limit	Batch	Sample Duplicated	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B											
9125226-BSD1											
Surrogate Dibromofluoromethane		48 4		ug/L	50 0	97%	73 - 131		9125226		12/31/09 11 45
Surrogate Toluene-d8		50 5		ug/L	50 0	101%	80 - 120		9125226		12/31/09 11 45
Surrogate 4-Bromofluorobenzene		50 6		ug/L	50 0	101%	79 - 125		9125226		12/31/09 11 45

Client	Emerald, Inc (8583)	Work Order	NSL2578
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/23/09 09 15

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig Val	MS Val	Q	Units	Spike Conc	% Rec	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Total Metals by EPA 6010C										
9124326-MS1										
Lead	0 00420	0 0562		mg/L	0 0500	104%	75 - 125	9124326	NSL2536-02	12/29/09 00 41
EDB by EPA Method 8011										
9124500-MS1										
1,2-Dibromoethane (EDB)	ND	0 3955		ug/L	0 282	140%	24 - 162	9124500	NSL2476-21	12/28/09 14 50
Surrogate 1,3-Dichlorobenzene		5 48		ug/L	5 65	97%	43 - 150	9124500	NSL2476-21	12/28/09 14 50
9124742-MS1										
1,2-Dibromoethane (EDB)	ND	0 2841		ug/L	0 284	100%	24 - 162	9124742	NSL2578-01	12/29/09 18 27
Surrogate 1,3-Dichlorobenzene		5 23		ug/L	5 68	92%	43 - 150	9124742	NSL2578-01	12/29/09 18 27
Volatile Organic Compounds by EPA Method 8260B										
9124480-MS1										
1,2-Dichloroethane	ND	46 1		ug/L	50 0	92%	72 - 137	9124480	NSL2578-01	12/30/09 18 29
Benzene	ND	47 4		ug/L	50 0	95%	65 - 151	9124480	NSL2578-01	12/30/09 18 29
Ethylbenzene	ND	49 6		ug/L	50 0	99%	68 - 157	9124480	NSL2578-01	12/30/09 18 29
Methyl tert-Butyl Ether	2 61	48 9		ug/L	50 0	93%	56 - 152	9124480	NSL2578-01	12/30/09 18 29
Naphthalene	ND	53 6		ug/L	50 0	107%	56 - 161	9124480	NSL2578-01	12/30/09 18 29
Toluene	ND	51 1		ug/L	50 0	102%	61 - 153	9124480	NSL2578-01	12/30/09 18 29
Xylenes, total	ND	159		ug/L	150	106%	68 - 158	9124480	NSL2578-01	12/30/09 18 29
Surrogate 1,2-Dichloroethane-d4		24 4		ug/L	25 0	97%	63 - 140	9124480	NSL2578-01	12/30/09 18 29
Surrogate 1,2-Dichloroethane-d4		24 4		ug/L	25 0	97%	63 - 140	9124480	NSL2578-01	12/30/09 18 29
Surrogate Dibromofluoromethane		24 2		ug/L	25 0	97%	73 - 131	9124480	NSL2578-01	12/30/09 18 29
Surrogate Dibromofluoromethane		24 2		ug/L	25 0	97%	73 - 131	9124480	NSL2578-01	12/30/09 18 29
Surrogate Toluene-d8		24 9		ug/L	25 0	100%	80 - 120	9124480	NSL2578-01	12/30/09 18 29
Surrogate Toluene-d8		24 9		ug/L	25 0	100%	80 - 120	9124480	NSL2578-01	12/30/09 18 29
Surrogate 4-Bromofluorobenzene		25 1		ug/L	25 0	100%	79 - 125	9124480	NSL2578-01	12/30/09 18 29
Surrogate 4-Bromofluorobenzene		25 1		ug/L	25 0	100%	79 - 125	9124480	NSL2578-01	12/30/09 18 29
9125204-MS1										
Benzene	1250	1690		ug/L	500	88%	65 - 151	9125204	NSL2578-05RE 1	12/31/09 05 37
Ethylbenzene	42 0	500		ug/L	500	92%	68 - 157	9125204	NSL2578-05RE 1	12/31/09 05 37
Methyl tert-Butyl Ether	59 1	502		ug/L	500	89%	56 - 152	9125204	NSL2578-05RE 1	12/31/09 05 37
Naphthalene	12 7	489		ug/L	500	95%	56 - 161	9125204	NSL2578-05RE 1	12/31/09 05 37
Toluene	19 7	481		ug/L	500	92%	61 - 153	9125204	NSL2578-05RE 1	12/31/09 05 37

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Client	Emerald, Inc (8583)	Work Order	NSL2578
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/23/09 09 15

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig Val	MS Val	Q	Units	Spike Conc	% Rec	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B										
9125204-MS1										
Xylenes, total	7 30	1450		ug/L	1500	96%	68 - 158	9125204	NSL2578-05RE 1	12/31/09 05 37
Surrogate 1,2-Dichloroethane-d4		23 8		ug/L	25 0	95%	63 - 140	9125204	NSL2578-05RE 1	12/31/09 05 37
Surrogate Dibromofluoromethane		24 7		ug/L	25 0	99%	73 - 131	9125204	NSL2578-05RE 1	12/31/09 05 37
Surrogate Toluene-d8		24 7		ug/L	25 0	99%	80 - 120	9125204	NSL2578-05RE 1	12/31/09 05 37
Surrogate 4-Bromofluorobenzene		24 1		ug/L	25 0	96%	79 - 125	9125204	NSL2578-05RE 1	12/31/09 05 37
9125226-MS1										
Benzene	ND	54 5		ug/L	50 0	109%	65 - 151	9125226	NSL2946-01	12/31/09 20 26
Ethylbenzene	ND	57 0		ug/L	50 0	114%	68 - 157	9125226	NSL2946-01	12/31/09 20 26
Methyl tert-Butyl Ether	ND	55 5		ug/L	50 0	111%	56 - 152	9125226	NSL2946-01	12/31/09 20 26
Naphthalene	ND	56 4		ug/L	50 0	113%	56 - 161	9125226	NSL2946-01	12/31/09 20 26
Toluene	ND	53 5		ug/L	50 0	107%	61 - 153	9125226	NSL2946-01	12/31/09 20 26
Xylenes, total	ND	171		ug/L	150	114%	68 - 158	9125226	NSL2946-01	12/31/09 20 26
Surrogate 1,2-Dichloroethane-d4		46 9		ug/L	50 0	94%	63 - 140	9125226	NSL2946-01	12/31/09 20 26
Surrogate Dibromofluoromethane		50 1		ug/L	50 0	100%	73 - 131	9125226	NSL2946-01	12/31/09 20 26
Surrogate Toluene-d8		50 4		ug/L	50 0	101%	80 - 120	9125226	NSL2946-01	12/31/09 20 26
Surrogate 4-Bromofluorobenzene		51 5		ug/L	50 0	103%	79 - 125	9125226	NSL2946-01	12/31/09 20 26

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Client	Emerald, Inc (8583)	Work Order	NSL2578
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/23/09 09 15

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig Val	Duplicate	Q	Units	Spike Conc	% Rec	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Total Metals by EPA 6010C												
9124326-MSD1												
Lead	0 00420	0 0560		mg/L	0 0500	104%	75 - 125	0 4	20	9124326	NSL2536-02	12/29/09 00 58
EDB by EPA Method 8011												
9124500-MSD1												
1,2-Dibromoethane (EDB)	ND	0 3458		ug/L	0 288	120%	24 - 162	13	50	9124500	NSL2476-21	12/28/09 15 12
Surrogate 1,3-Dichlorobenzene		4 90		ug/L	5 76	85%	43 - 150			9124500	NSL2476-21	12/28/09 15 12
9124742-MSD1												
1,2-Dibromoethane (EDB)	ND	0 3458		ug/L	0 288	120%	24 - 162	20	50	9124742	NSL2578-01	12/29/09 18 49
Surrogate 1,3-Dichlorobenzene		5 94		ug/L	5 76	103%	43 - 150			9124742	NSL2578-01	12/29/09 18 49
Volatile Organic Compounds by EPA Method 8260B												
9124480-MSD1												
1,2-Dichloroethane	ND	46 2		ug/L	50 0	92%	72 - 137	0 2	25	9124480	NSL2578-01	12/30/09 18 56
Benzene	ND	47 6		ug/L	50 0	95%	65 - 151	0 4	12	9124480	NSL2578-01	12/30/09 18 56
Ethylbenzene	ND	48 1		ug/L	50 0	96%	68 - 157	3	12	9124480	NSL2578-01	12/30/09 18 56
Methyl tert-Butyl Ether	2.61	48 6		ug/L	50 0	92%	56 - 152	0 6	32	9124480	NSL2578-01	12/30/09 18 56
Naphthalene	ND	51 2		ug/L	50 0	102%	56 - 161	5	30	9124480	NSL2578-01	12/30/09 18 56
Toluene	ND	48 8		ug/L	50 0	98%	61 - 153	5	35	9124480	NSL2578-01	12/30/09 18 56
Xylenes, total	ND	152		ug/L	150	101%	68 - 158	5	18	9124480	NSL2578-01	12/30/09 18 56
Surrogate 1,2-Dichloroethane-d4		24 2		ug/L	25 0	97%	63 - 140			9124480	NSL2578-01	12/30/09 18 56
Surrogate 1,2-Dichloroethane-d4		24 2		ug/L	25 0	97%	63 - 140			9124480	NSL2578-01	12/30/09 18 56
Surrogate Dibromofluoromethane		24 6		ug/L	25 0	99%	73 - 131			9124480	NSL2578-01	12/30/09 18 56
Surrogate Dibromofluoromethane		24 6		ug/L	25 0	99%	73 - 131			9124480	NSL2578-01	12/30/09 18 56
Surrogate Toluene-d8		25 1		ug/L	25 0	100%	80 - 120			9124480	NSL2578-01	12/30/09 18 56
Surrogate Toluene-d8		25 1		ug/L	25 0	100%	80 - 120			9124480	NSL2578-01	12/30/09 18 56
Surrogate 4-Bromofluorobenzene		24 8		ug/L	25 0	99%	79 - 125			9124480	NSL2578-01	12/30/09 18 56
Surrogate 4-Bromofluorobenzene		24 8		ug/L	25 0	99%	79 - 125			9124480	NSL2578-01	12/30/09 18 56
9125204-MSD1												
Benzene	1250	1710		ug/L	500	92%	65 - 151	1	12	9125204	NSL2578-05RE 1	12/31/09 06 03
Ethylbenzene	42 0	478		ug/L	500	87%	68 - 157	5	12	9125204	NSL2578-05RE 1	12/31/09 06 03
Methyl tert-Butyl Ether	59 1	502		ug/L	500	89%	56 - 152	0 04	32	9125204	NSL2578-05RE 1	12/31/09 06 03
Naphthalene	12 7	472		ug/L	500	92%	56 - 161	4	30	9125204	NSL2578-05RE 1	12/31/09 06 03
Toluene	19 7	466		ug/L	500	89%	61 - 153	3	35	9125204	NSL2578-05RE 1	12/31/09 06 03
Xylenes, total	7 30	1400		ug/L	1500	93%	68 - 158	4	18	9125204	NSL2578-05RE 1	12/31/09 06 03
Surrogate 1,2-Dichloroethane-d4		24 3		ug/L	25 0	97%	63 - 140			9125204	NSL2578-05RE 1	12/31/09 06 03

Client	Emerald, Inc (8583)	Work Order	NSL2578
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/23/09 09 15

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup - Cont.

Analyte	Orig Val	Duplicate	Q	Units	Spike Conc	% Rec	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B												
9125204-MSD1												
Surrogate Dibromofluoromethane		24 7		ug/L	25 0	99%	73 - 131			9125204	NSL2578-05RE 1	12/31/09 06 03
Surrogate Toluene-d8		24 7		ug/L	25 0	99%	80 - 120			9125204	NSL2578-05RE 1	12/31/09 06 03
Surrogate 4-Bromofluorobenzene		24 4		ug/L	25 0	98%	79 - 125			9125204	NSL2578-05RE 1	12/31/09 06 03
9125226-MSD1												
Benzene	ND	50 7		ug/L	50 0	101%	65 - 151	7	12	9125226	NSL2946-01	12/31/09 20:55
Ethylbenzene	ND	52 8		ug/L	50 0	106%	68 - 157	8	12	9125226	NSL2946-01	12/31/09 20:55
Methyl tert-Butyl Ether	ND	51 4		ug/L	50 0	103%	56 - 152	8	32	9125226	NSL2946-01	12/31/09 20 55
Naphthalene	ND	54 0		ug/L	50 0	108%	56 - 161	4	30	9125226	NSL2946-01	12/31/09 20 55
Toluene	ND	49 4		ug/L	50 0	99%	61 - 153	8	35	9125226	NSL2946-01	12/31/09 20 55
Xylenes, total	ND	159		ug/L	150	106%	68 - 158	7	18	9125226	NSL2946-01	12/31/09 20:55
Surrogate 1,2-Dichloroethane-d4		44 0		ug/L	50 0	88%	63 - 140			9125226	NSL2946-01	12/31/09 20 55
Surrogate Dibromofluoromethane		48 5		ug/L	50 0	97%	73 - 131			9125226	NSL2946-01	12/31/09 20 55
Surrogate Toluene-d8		50 7		ug/L	50 0	101%	80 - 120			9125226	NSL2946-01	12/31/09 20 55
Surrogate 4-Bromofluorobenzene		50 2		ug/L	50 0	100%	79 - 125			9125226	NSL2946-01	12/31/09 20 55

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Client	Emerald, Inc (8583)	Work Order	NSL2578
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/23/09 09 15

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	South Carolina
SW846 6010C	Water		X	X
SW846 8011	Water	N/A	X	X
SW846 8260B	Water	N/A	X	X

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Emerald, Inc (8583)	Work Order	NSL2578
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/23/09 09 15

DATA QUALIFIERS AND DEFINITIONS

ND Not detected at the reporting limit (or method detection limit if shown)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Nashville, TN

COOLER RECEI

NSL2578

Cooler Received/Opened On_12/23/09 @ 09:15

0

1. Tracking #_____ 3804 _____(last 4 digits, FedEx)

Courier: ___FED-EX IR Gun ID___97310166

2. Temperature of rep. sample or temp blank when opened: 3.2 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1-FRONT

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES..NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...#_____

NSL2578
01/05/10 23.59

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Nashville Division
2960 Foster Creighton
Nashville, TN 37204

Phone: 615-726-0177
Toll Free: 800-765-0980
Fax: 615-726-3404

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?

Compliance Monitoring? Yes ✓ No

Enforcement Action? Yes ____ No

Client Name/Account #: Emerald, Inc # 1405608
Address: 214 W Liberty Street
City/State/Zip: Sumter, SC 29150
Project Manager: Ronny Lowder
Telephone Number: 803.773.5454 **Fax No.:** 803-775-1970
Sampler Name: (Print) Jamie Bateman / Dalton Reames
Sampler Signature:

Site State: SC
PO#:
TA Quote #:
Project ID: DETWILER
Project #:

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Ice	Preservative: HNO_3 (Red Label)	Preservative: HCl (Blue Label)	Preservative: NaOH (Orange Label)	Preservative: H_2SO_4 Plastic (Yellow Label)	Preservative: H_2SO_4 Glass (Yellow Label)	Preservative: None (Black Label)	Preservative: Other (Specify)	Matrix: Groundwater	Matrix: Wastewater	Matrix: Drinking Water	Matrix: Sludge	Matrix: Soil	Matrix: Other (specify)	Analyze For: BTEX+NAPTH+MTBE	Analyze For: 1,2 DCA - 8260B	Analyze For: EDB - 8011	Analyze For: TOTAL LEAD						RUSH TAT (Pre-Schedule)
mw 6	12/22/09	1456	7	X		N		1	6						X						X	X	X	X				NSL 2578-		01	
mw-7		1125																												02	
mw-8		1147																												03	
mw-9		1205																												04	
mw-10		1356																												05	
mw-14		1101																												06	
mw-19		1100																												07	
mw-20		1224																												08	
mw-21		1410																												09	
mw-22		1316																												10	

Special Instructions:

Method of Shipment: FEDEX

Laboratory Comments:
Temperature Upon Receipt: 3.2c
VOCs Free of Headspace? Y

Relinquished by	Date	Time	Received by	Date	Time
	12/22/09	1800	Fed Ex	12/22/09	1800
Relinquished by	Date	Time	Received by TestAmerica	Date	Time
				12-23-09	@12.23.09 0915

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Nashville Division
2960 Foster Creighton
Nashville, TN 37204

Phone: 615-726-0177
Toll Free: 800-765-0980
Fax: 615-726-3404

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?

Compliance Monitoring? Yes ✓ No

Enforcement Action? Yes ____ No

Client Name/Account #: Emerald, Inc # 1405608

Address: 214 W. Liberty Street

City/State/Zip: Sumter, SC 29150

Site State: SC

Project Manager: Ronny Lowder

PO#:

Telephone Number: 803.773.5454 **Fax No.:** 803-775-1970

TA Quote #:

Sampler Name: (Print) Jamie Bateman / Dalton Reames

Project ID: DETWILER

Sampler Signature:

Project #:

Sample ID / Description	Date Sampled	Time Sampled	No of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Ice	Preservative: HNO_3 (Red Label)	Preservative: HCl (Blue Label)	Preservative: NaOH (Orange Label)	Preservative: H_2SO_4 Plastic (Yellow Label)	Preservative: H_2SO_4 Glass (Yellow Label)	Preservative: None (Black Label)	Preservative: Other (Specify)	Matrix: Groundwater	Matrix: Wastewater	Matrix: Drinking Water	Matrix: Sludge	Matrix: Soil	Matrix: Other (specify)	Analyze For: BTEX+NAPTH+MTBE	Analyze For: 1,2 DCA - 8260B	Analyze For: EDB - 8011	Analyze For: TOTAL LEAD								RUSH TAT (Pre-Schedule)
MSW-1	12/21/09	1425	3	X		N			3						X						2	2	1							2978-11	
CS-1		1235																			X									12	
CS-2		1250																			X									13	
MSW-2		1640																			2	2	1							14	

Special Instructions:

MSW-1 & MSW-2 - Use 2 vials for 8260B & 1 for EDB

FEDEX

Laboratory Comments:

Temperature Upon Receipt 3.2°

VOCs Free of Headspace? Y

Relinquished by:	Date	Time	Received by:	Date	Time
	12/22/09	1800	Fed Ex	12/22/09	1800
Relinquished by:	**Date**	**Time**	**Received by TestAmerica:**	**Date**	**Time**
				12-23-09	0945

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

December 31, 2009 1:04:14PM

Client: Emerald, Inc. (8583)
P. O. Box 3050
Sumter, SC 29151
Attn: Robbin Brown

Work Order: NSL2455
Project Name: Detwiler
Project Nbr: [none]
P/O Nbr:
Date Received: 12/22/09

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
MW-2d	NSL2455-01	12/21/09 12:38
MW-3	NSL2455-02	12/21/09 10:55
MW-4	NSL2455-03	12/21/09 11:55
MW-5	NSL2455-04	12/21/09 13:21
MW-11	NSL2455-05	12/21/09 14 18
MW-12	NSL2455-06	12/21/09 12 40
MW-15	NSL2455-07	12/21/09 14.15
MW-16d	NSL2455-08	12/21/09 11:35
Trip Blank	NSL2455-09	12/21/09 00:01

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

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South Carolina Certification Number: 84009001

The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.

These results relate only to the items tested. This report shall not be reproduced except in full and with permission of the laboratory.

All solids results are reported in wet weight unless specifically stated.
Estimated uncertainty is available upon request.
This report has been electronically signed.
Report Approved By:

Ken A Hayes

Senior Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Emerald, Inc (8583)	Work Order	NSL2455
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/22/09 08 30

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Analyst	Batch
Sample ID: NSL2455-01 (MW-2d - Ground Water) Sampled: 12/21/09 12:38										
Total Metals by EPA 6010C										
Lead	**0.00820**		mg/L	0 00210	0 00500	1	12/29/09 08 38	SW846 6010C	LTB	9124150
EDB by EPA Method 8011										
1,2-Dibromoethane (EDB)	ND		ug/L	0 004972	0 01989	1	12/24/09 20 22	SW846 8011	WAM	9124025
Surr 1,3-Dichlorobenzene (43-150%)	*99 %*					*1*	*12 24 09 20 22*	*SW846 8011*	*WAM*	*9124025*
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0.350	1 00	1	12/23/09 22 54	SW846 8260B	JJR	9124200
Benzene	ND		ug/L	0.410	1 00	1	12/23/09 22 54	SW846 8260B	JJR	9124200
Ethylbenzene	**1.90**		ug/L	0 350	1 00	1	12/23/09 22 54	SW846 8260B	JJR	9124200
Methyl tert-Butyl Ether	**0.660**	J, CF7	ug/L	0.320	1 00	1	12/23/09 22 54	SW846 8260B	JJR	9124200
Naphthalene	**1.07**	J	ug/L	0.380	5 00	1	12/24/09 17 19	SW846 8260B	JJR/H	9124483
Toluene	**0.470**	J, CF7	ug/L	0.350	1 00	1	12/23/09 22 54	SW846 8260B	JJR	9124200
Xylenes, total	**2.41**	J	ug/L	0 730	3 00	1	12/24/09 17 19	SW846 8260B	JJR/H	9124483
Surr 1,2-Dichloroethane-d4 (63-140%)	*101 %*					*1*	*12 23 09 22 54*	*SW846 8260B*	*JJR*	*9124200*
Surr 1,2-Dichloroethane-d4 (63-140%)	*100 %*					*1*	*12 24 09 17 19*	*SW846 8260B*	*JJR H*	*9124483*
Surr Dibromofluoromethane (73-131%)	*111 %*					*1*	*12 23 09 22 54*	*SW846 8260B*	*JJR*	*9124200*
Surr Dibromofluoromethane (73-131%)	*105 %*					*1*	*12 24 09 17 19*	*SW846 8260B*	*JJR H*	*9124483*
Surr Toluene-d8 (80-120%)	*98 %*					*1*	*12 23 09 22 54*	*SW846 8260B*	*JJR*	*9124200*
Surr Toluene-d8 (80-120%)	*94 %*					*1*	*12 24 09 17 19*	*SW846 8260B*	*JJR H*	*9124483*
Surr 4-Bromofluorobenzene (79-125%)	*94 %*					*1*	*12 23 09 22 54*	*SW846 8260B*	*JJR*	*9124200*
Surr 4-Bromofluorobenzene (79-125%)	*90 %*					*1*	*12 24 09 17 19*	*SW846 8260B*	*JJR H*	*9124483*
Sample ID: NSL2455-02 (MW-3 - Ground Water) Sampled: 12/21/09 10:55										
Total Metals by EPA 6010C										
Lead	**0.00320**	J	mg/L	0.00210	0 00500	1	12/29/09 08 41	SW846 6010C	LTB	9124150
EDB by EPA Method 8011										
1,2-Dibromoethane (EDB)	ND		ug/L	0.005117	0 02047	1	12/24/09 20 44	SW846 8011	WAM	9124025
Surr 1,3-Dichlorobenzene (43-150%)	*93 %*					*1*	*12 24 09 20 44*	*SW846 8011*	*WAM*	*9124025*
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0.350	1 00	1	12/23/09 23 18	SW846 8260B	JJR	9124200
Benzene	ND		ug/L	0 410	1 00	1	12/23/09 23 18	SW846 8260B	JJR	9124200
Ethylbenzene	ND		ug/L	0.350	1 00	1	12/23/09 23 18	SW846 8260B	JJR	9124200
Methyl tert-Butyl Ether	ND		ug/L	0 320	1 00	1	12/23/09 23 18	SW846 8260B	JJR	9124200
Naphthalene	**0.610**	CF7, J	ug/L	0 380	5 00	1	12/23/09 23 18	SW846 8260B	JJR	9124200
Toluene	ND		ug/L	0.350	1 00	1	12/23/09 23 18	SW846 8260B	JJR	9124200
Xylenes, total	ND		ug/L	0 730	3 00	1	12/23/09 23 18	SW846 8260B	JJR	9124200
Surr 1,2-Dichloroethane-d4 (63-140%)	*106 %*					*1*	*12 23 09 23 18*	*SW846 8260B*	*JJR*	*9124200*
Surr Dibromofluoromethane (73-131%)	*115 %*					*1*	*12 23 09 23 18*	*SW846 8260B*	*JJR*	*9124200*
Surr Toluene-d8 (80-120%)	*91 %*					*1*	*12 23 09 23 18*	*SW846 8260B*	*JJR*	*9124200*
Surr 4-Bromofluorobenzene (79-125%)	*94 %*					*1*	*12 23 09 23 18*	*SW846 8260B*	*JJR*	*9124200*

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Emerald, Inc (8583)	Work Order	NSL2455
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/22/09 08 30

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Analyst	Batch
Sample ID: NSL2455-02 (MW-3 - Ground Water) - cont. Sampled: 12/21/09 10:55										
Sample ID: NSL2455-03 (MW-4 - Ground Water) Sampled: 12/21/09 11:55										
Total Metals by EPA 6010C										
Lead	**0.0136**		mg/L	0 00210	0 00500	1	12/29/09 08 51	SW846 6010C	LTB	9124150
EDB by EPA Method 8011										
1,2-Dibromoethane (EDB)	**0.1709**		ug/L	0 004986	0 01994	1	12/24/09 21 06	SW846 8011	WAM	9124025
Surr 1,3-Dichlorobenzene (43-150%)	*112 %*					*1*	*12 24 09 21 06*	*SW846 8011*	*WAM*	*9124025*
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0 350	1 00	1	12/23/09 23 43	SW846 8260B	JJR	9124200
Benzene	**114**		ug/L	0 410	1 00	1	12/23/09 23 43	SW846 8260B	JJR	9124200
Ethylbenzene	**22.4**		ug/L	0 350	1 00	1	12/23/09 23 43	SW846 8260B	JJR	9124200
Methyl tert-Butyl Ether	**2.98**		ug/L	0 320	1 00	1	12/23/09 23 43	SW846 8260B	JJR	9124200
Naphthalene	**9.72**		ug/L	0 380	5 00	1	12/23/09 23 43	SW846 8260B	JJR	9124200
Toluene	**5.91**		ug/L	0 350	1 00	1	12/23/09 23 43	SW846 8260B	JJR	9124200
Xylenes, total	**5.97**		ug/L	0 730	3.00	1	12/23/09 23 43	SW846 8260B	JJR	9124200
Surr 1,2-Dichloroethane-d4 (63-140%)	*97 %*					*1*	*12 23 09 23 43*	*SW846 8260B*	*JJR*	*9124200*
Surr Dibromofluoromethane (73-131%)	*99 %*					*1*	*12 23 09 23 43*	*SW846 8260B*	*JJR*	*9124200*
Surr Toluene-d8 (80-120%)	*99 %*					*1*	*12 23 09 23 43*	*SW846 8260B*	*JJR*	*9124200*
Surr 4-Bromofluorobenzene (79-125%)	*97 %*					*1*	*12 23 09 23 43*	*SW846 8260B*	*JJR*	*9124200*
Sample ID: NSL2455-04 (MW-5 - Ground Water) Sampled: 12/21/09 13:21										
Total Metals by EPA 6010C										
Lead	**0.0845**		mg/L	0.00210	0 00500	1	12/29/09 08 54	SW846 6010C	LTB	9124150
EDB by EPA Method 8011										
1,2-Dibromoethane (EDB)	**34.78**		ug/L	1 014	4 058	200	12/30/09 00 15	SW846 8011	WAM	9124499
Surr 1,3-Dichlorobenzene (43-150%)	*	*Z3*				*200*	*12 30 09 00 15*	*SW846 8011*	*WAM*	*9124499*
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0 350	1 00	1	12/24/09 00 07	SW846 8260B	JJR	9124200
Benzene	**2610**		ug/L	41 0	100	100	12/24/09 20 41	SW846 8260B	JJR/H	9124483
Ethylbenzene	**735**		ug/L	3 50	10 0	10	12/24/09 20 17	SW846 8260B	JJR/H	9124483
Methyl tert-Butyl Ether	**64.6**		ug/L	0 320	1 00	1	12/24/09 00 07	SW846 8260B	JJR	9124200
Naphthalene	**156**		ug/L	0 380	5.00	1	12/24/09 00 07	SW846 8260B	JJR	9124200
Toluene	**5820**		ug/L	35 0	100	100	12/24/09 20 41	SW846 8260B	JJR/H	9124483
Xylenes, total	**3370**		ug/L	7.30	30 0	10	12/24/09 20 17	SW846 8260B	JJR/H	9124483
Surr 1,2-Dichloroethane-d4 (63-140%)	*98 %*					*1*	*12 24 09 00 07*	*SW846 8260B*	*JJR*	*9124200*
Surr 1,2-Dichloroethane-d4 (63-140%)	*97 %*					*10*	*12 24 09 20 17*	*SW846 8260B*	*JJR H*	*9124483*
Surr 1,2-Dichloroethane-d4 (63-140%)	*104 %*					*100*	*12 24 09 20 41*	*SW846 8260B*	*JJR H*	*9124483*
Surr Dibromofluoromethane (73-131%)	*85 %*					*1*	*12 24 09 00 07*	*SW846 8260B*	*JJR*	*9124200*
Surr Dibromofluoromethane (73-131%)	*95 %*					*10*	*12 24 09 20 17*	*SW846 8260B*	*JJR H*	*9124483*
Surr Dibromofluoromethane (73-131%)	*103 %*					*100*	*12 24 09 20 41*	*SW846 8260B*	*JJR H*	*9124483*

Client	Emerald, Inc (8583)	Work Order:	NSL2455
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received:	12/22/09 08 30

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Analyst	Batch
Sample ID: NSL2455-04 (MW-5 - Ground Water) - cont. Sampled: 12/21/09 13:21										
Volatile Organic Compounds by EPA Method 8260B - cont.										
Surr Toluene-d8 (80-120%)	*103 %*					*1*	*12 24 09 00 07*	*SW846 8260B*	*JJR*	*9124200*
Surr Toluene-d8 (80-120%)	*99 %*					*10*	*12 24 09 20 17*	*SW846 8260B*	*JJR H*	*9124483*
Surr Toluene-d8 (80-120%)	*95 %*					*100*	*12 24 09 20 41*	*SW846 8260B*	*JJR H*	*9124483*
Surr 4-Bromofluorobenzene (79-125%)	*86 %*					*1*	*12 24 09 00 07*	*SW846 8260B*	*JJR*	*9124200*
Surr 4-Bromofluorobenzene (79-125%)	*94 %*					*10*	*12 24 09 20 17*	*SW846 8260B*	*JJR H*	*9124483*
Surr 4-Bromofluorobenzene (79-125%)	*99 %*					*100*	*12 24 09 20 41*	*SW846 8260B*	*JJR H*	*9124483*
Sample ID: NSL2455-05 (MW-11 - Ground Water) Sampled: 12/21/09 14:18										
Total Metals by EPA 6010C										
Lead	**0.0341**		mg/L	0.00210	0 00500	1	12/29/09 09 12	SW846 6010C	LTB	9124150
EDB by EPA Method 8011										
1,2-Dibromoethane (EDB)	ND		ug/L	0.004930	0 01972	1	12/30/09 11 45	SW846 8011	WAM	9124499
Surr 1,3-Dichlorobenzene (43-150%)	*79 %*					*1*	*12 30 09 11 45*	*SW846 8011*	*WAM*	*9124499*
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0 350	1 00	1	12/24/09 00 32	SW846 8260B	JJR	9124200
Benzene	**181**		ug/L	0.410	1 00	1	12/24/09 17 44	SW846 8260B	JJR/H	9124483
Ethylbenzene	**20.2**		ug/L	0.350	1 00	1	12/24/09 00 32	SW846 8260B	JJR	9124200
Methyl tert-Butyl Ether	**1.28**		ug/L	0 320	1 00	1	12/24/09 00 32	SW846 8260B	JJR	9124200
Naphthalene	**8.65**		ug/L	0 380	5 00	1	12/24/09 17 44	SW846 8260B	JJR/H	9124483
Toluene	**32.3**		ug/L	0 350	1 00	1	12/24/09 00 32	SW846 8260B	JJR	9124200
Xylenes, total	**6.90**		ug/L	0.730	3 00	1	12/24/09 17 44	SW846 8260B	JJR/H	9124483
Surr 1,2-Dichloroethane-d4 (63-140%)	*86 %*					*1*	*12 24 09 00 32*	*SW846 8260B*	*JJR*	*9124200*
Surr 1,2-Dichloroethane-d4 (63-140%)	*100 %*					*1*	*12 24 09 17 44*	*SW846 8260B*	*JJR H*	*9124483*
Surr Dibromofluoromethane (73-131%)	*89 %*					*1*	*12 24 09 00 32*	*SW846 8260B*	*JJR*	*9124200*
Surr Dibromofluoromethane (73-131%)	*98 %*					*1*	*12 24 09 17 44*	*SW846 8260B*	*JJR H*	*9124483*
Surr Toluene-d8 (80-120%)	*99 %*					*1*	*12 24 09 00 32*	*SW846 8260B*	*JJR*	*9124200*
Surr Toluene-d8 (80-120%)	*97 %*					*1*	*12 24 09 17 44*	*SW846 8260B*	*JJR H*	*9124483*
Surr 4-Bromofluorobenzene (79-125%)	*97 %*					*1*	*12 24 09 00 32*	*SW846 8260B*	*JJR*	*9124200*
Surr 4-Bromofluorobenzene (79-125%)	*95 %*					*1*	*12 24 09 17 44*	*SW846 8260B*	*JJR H*	*9124483*
Sample ID: NSL2455-06 (MW-12 - Ground Water) Sampled: 12/21/09 12:40										
Total Metals by EPA 6010C										
Lead	**0.0176**		mg/L	0 00210	0 00500	1	12/29/09 09 15	SW846 6010C	LTB	9124150
EDB by EPA Method 8011										
1,2-Dibromoethane (EDB)	ND		ug/L	0 005058	0 02023	1	12/24/09 21 28	SW846 8011	WAM	9124025
Surr 1,3-Dichlorobenzene (43-150%)	*84 %*					*1*	*12 24 09 21 28*	*SW846 8011*	*WAM*	*9124025*
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0 350	1 00	1	12/24/09 00 56	SW846 8260B	JJR	9124200
Benzene	ND		ug/L	0 410	1 00	1	12/24/09 00 56	SW846 8260B	JJR	9124200

Client	Emerald, Inc (8583)	Work Order	NSL2455
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/22/09 08 30

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Analyst	Batch
Sample ID: NSL2455-06 (MW-12 - Ground Water) - cont. Sampled: 12/21/09 12:40										
Volatile Organic Compounds by EPA Method 8260B - cont.										
Ethylbenzene	ND		ug/L	0.350	1 00	1	12/24/09 00:56	SW846 8260B	JJR	9124200
Methyl tert-Butyl Ether	ND		ug/L	0 320	1 00	1	12/24/09 00 56	SW846 8260B	JJR	9124200
Naphthalene	**1.54**	J, CF7	ug/L	0 380	5 00	1	12/24/09 00 56	SW846 8260B	JJR	9124200
Toluene	**0.530**	J, CF7	ug/L	0 350	1 00	1	12/24/09 00 56	SW846 8260B	JJR	9124200
Xylenes, total	ND		ug/L	0 730	3 00	1	12/24/09 00:56	SW846 8260B	JJR	9124200
Surr 1,2-Dichloroethane-d4 (63-140%)	*98 %*					*1*	*12 24 09 00 56*	*SW846 8260B*	*JJR*	*9124200*
Surr Dibromofluoromethane (73-131%)	*109 %*					*1*	*12 24 09 00 56*	*SW846 8260B*	*JJR*	*9124200*
Surr Toluene-d8 (80-120%)	*95 %*					*1*	*12 24 09 00 56*	*SW846 8260B*	*JJR*	*9124200*
Surr 4-Bromofluorobenzene (79-125%)	*95 %*					*1*	*12 24 09 00 56*	*SW846 8260B*	*JJR*	*9124200*
Sample ID: NSL2455-07 (MW-15 - Ground Water) Sampled: 12/21/09 14:15										
Total Metals by EPA 6010C										
Lead	**0.244**		mg/L	0 00210	0 00500	1	12/29/09 09 18	SW846 6010C	LTB	9124150
EDB by EPA Method 8011										
1,2-Dibromoethane (EDB)	**46.78**		ug/L	1 023	4 094	200	12/30/09 12 07	SW846 8011	WAM	9124499
Surr 1,3-Dichlorobenzene (43-150%)	*	*Z3*				*200*	*12 30 09 12:07*	*SW846 8011*	*WAM*	*9124499*
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0 350	1 00	1	12/24/09 01 20	SW846 8260B	JJR	9124200
Benzene	**6690**		ug/L	82 0	200	200	12/24/09 21 30	SW846 8260B	JJR/H	9124483
Ethylbenzene	**3700**		ug/L	7 00	20 0	20	12/24/09 21 06	SW846 8260B	JJR/H	9124483
Methyl tert-Butyl Ether	**5.66**		ug/L	0 320	1 00	1	12/24/09 01 20	SW846 8260B	JJR	9124200
Naphthalene	**844**		ug/L	7.60	100	20	12/24/09 21 06	SW846 8260B	JJR/H	9124483
Toluene	**18000**		ug/L	70 0	200	200	12/24/09 21 30	SW846 8260B	JJR/H	9124483
Xylenes, total	**13700**		ug/L	146	600	200	12/24/09 21 30	SW846 8260B	JJR/H	9124483
Surr 1,2-Dichloroethane-d4 (63-140%)	*100 %*					*1*	*12 24 09 01 20*	*SW846 8260B*	*JJR*	*9124200*
Surr 1,2-Dichloroethane-d4 (63-140%)	*89 %*					*20*	*12 24 09 21 06*	*SW846 8260B*	*JJR H*	*9124483*
Surr 1 2-Dichloroethane-d4 (63-140%)	*93 %*					*200*	*12 24 09 21 30*	*SW846 8260B*	*JJR H*	*9124483*
Surr Dibromofluoromethane (73-131%)	*84 %*					*1*	*12 24 09 01 20*	*SW846 8260B*	*JJR*	*9124200*
Surr Dibromofluoromethane (73-131%)	*88 %*					*20*	*12 24 09 21 06*	*SW846 8260B*	*JJR H*	*9124483*
Surr Dibromofluoromethane (73-131%)	*99 %*					*200*	*12 24 09 21 30*	*SW846 8260B*	*JJR H*	*9124483*
Surr Toluene-d8 (80-120%)	*106 %*					*1*	*12 24 09 01 20*	*SW846 8260B*	*JJR*	*9124200*
Surr Toluene-d8 (80-120%)	*103 %*					*20*	*12 24 09 21 06*	*SW846 8260B*	*JJR H*	*9124483*
Surr Toluene-d8 (80-120%)	*98 %*					*200*	*12 24 09 21 30*	*SW846 8260B*	*JJR H*	*9124483*
Surr 4-Bromofluorobenzene (79-125%)	*92 %*					*1*	*12 24 09 01 20*	*SW846 8260B*	*JJR*	*9124200*
Surr 4-Bromofluorobenzene (79-125%)	*92 %*					*20*	*12 24 09 21 06*	*SW846 8260B*	*JJR H*	*9124483*
Surr 4-Bromofluorobenzene (79-125%)	*95 %*					*200*	*12 24 09 21 30*	*SW846 8260B*	*JJR H*	*9124483*

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Emerald, Inc (8583)	Work Order	NSL2455
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/22/09 08:30

ANALYTICAL REPORT

Analyte	Result	Flag	Units	MDL	MRL	Dilution Factor	Analysis Date/Time	Method	Analyst	Batch
Sample ID: NSL2455-08 (MW-16d - Ground Water) Sampled: 12/21/09 11:35										
Total Metals by EPA 6010C										
Lead	**0.00400**	J	mg/L	0 00210	0 00500	1	12/29/09 09 22	SW846 6010C	LTB	9124150
EDB by EPA Method 8011										
1,2-Dibromoethane (EDB)	ND		ug/L	0.005043	0 02017	1	12/24/09 21 50	SW846 8011	WAM	9124025
Surr 1,3-Dichlorobenzene (43-150%)	*104 %*					*1*	*12 24 09 21 50*	*SW846 8011*	*WAM*	*9124025*
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0 350	1.00	1	12/24/09 05.25	SW846 8260B	JJR/H	9123729
Benzene	**0.870**	J	ug/L	0.410	1 00	1	12/24/09 05 25	SW846 8260B	JJR/H	9123729
Ethylbenzene	**2.00**		ug/L	0 350	1.00	1	12/24/09 05 25	SW846 8260B	JJR/H	9123729
Methyl tert-Butyl Ether	ND		ug/L	0.320	1 00	1	12/24/09 05 25	SW846 8260B	JJR/H	9123729
Naphthalene	**0.890**	J	ug/L	0 380	5.00	1	12/24/09 05 25	SW846 8260B	JJR/H	9123729
Toluene	**1.37**		ug/L	0 350	1 00	1	12/24/09 05 25	SW846 8260B	JJR/H	9123729
Xylenes, total	**4.48**		ug/L	0 730	3 00	1	12/24/09 05 25	SW846 8260B	JJR/H	9123729
Surr 1,2-Dichloroethane-d4 (63-140%)	*100 %*					*1*	*12 24 09 05 25*	*SW846 8260B*	*JJR H*	*9123729*
Surr Dibromofluoromethane (73-131%)	*104 %*					*1*	*12 24 09 05 25*	*SW846 8260B*	*JJR H*	*9123729*
Surr Toluene-d8 (80-120%)	*94 %*					*1*	*12 24 09 05.25*	*SW846 8260B*	*JJR H*	*9123729*
Surr 4-Bromofluorobenzene (79-125%)	*99 %*					*1*	*12 24 09 05 25*	*SW846 8260B*	*JJR H*	*9123729*
Sample ID: NSL2455-09 (Trip Blank - Ground Water) Sampled: 12/21/09 00:01										
Volatile Organic Compounds by EPA Method 8260B										
1,2-Dichloroethane	ND		ug/L	0 350	1 00	1	12/23/09 19 39	SW846 8260B	JJR	9124200
Benzene	ND		ug/L	0 410	1 00	1	12/23/09 19 39	SW846 8260B	JJR	9124200
Ethylbenzene	ND		ug/L	0 350	1 00	1	12/23/09 19 39	SW846 8260B	JJR	9124200
Methyl tert-Butyl Ether	ND		ug/L	0 320	1 00	1	12/23/09 19 39	SW846 8260B	JJR	9124200
Naphthalene	ND		ug/L	0 380	5 00	1	12/23/09 19 39	SW846 8260B	JJR	9124200
Toluene	ND		ug/L	0.350	1 00	1	12/23/09 19 39	SW846 8260B	JJR	9124200
Xylenes, total	ND		ug/L	0.730	3 00	1	12/23/09 19 39	SW846 8260B	JJR	9124200
Surr 1,2-Dichloroethane-d4 (63-140%)	*105 %*					*1*	*12 23 09 19 39*	*SW846 8260B*	*JJR*	*9124200*
Surr Dibromofluoromethane (73-131%)	*113 %*					*1*	*12 23 09 19 39*	*SW846 8260B*	*JJR*	*9124200*
Surr Toluene-d8 (80-120%)	*86 %*					*1*	*12 23 09 19 39*	*SW846 8260B*	*JJR*	*9124200*
Surr 4-Bromofluorobenzene (79-125%)	*100 %*					*1*	*12 23 09 19 39*	*SW846 8260B*	*JJR*	*9124200*

Client	Emerald, Inc (8583)	Work Order	NSL2455
	P O Box 3050	Project Name.	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/22/09 08:30

SAMPLE EXTRACTION DATA

Parameter	Batch	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Extraction Method
EDB by EPA Method 8011							
SW846 8011	9124025	NSL2455-01	35 20	2 00	12/24/09 12 00	LJT	EPA 8011
SW846 8011	9124025	NSL2455-02	34 20	2 00	12/24/09 12 00	LJT	EPA 8011
SW846 8011	9124025	NSL2455-03	35 10	2 00	12/24/09 12 00	LJT	EPA 8011
SW846 8011	9124499	NSL2455-04	34 50	2 00	12/28/09 15 15	WAM	EPA 8011
SW846 8011	9124499	NSL2455-04RE1	34.50	2 00	12/28/09 15 15	WAM	EPA 8011
SW846 8011	9124499	NSL2455-05	35 50	2 00	12/28/09 15 15	WAM	EPA 8011
SW846 8011	9124499	NSL2455-05RE1	35 50	2.00	12/28/09 15 15	WAM	EPA 8011
SW846 8011	9124025	NSL2455-06	34 60	2 00	12/24/09 12 00	LJT	EPA 8011
SW846 8011	9124499	NSL2455-07	34 20	2 00	12/28/09 15.15	WAM	EPA 8011
SW846 8011	9124499	NSL2455-07RE1	34 20	2 00	12/28/09 15 15	WAM	EPA 8011
SW846 8011	9124499	NSL2455-07RE2	34.20	2 00	12/28/09 15 15	WAM	EPA 8011
SW846 8011	9124025	NSL2455-08	34.70	2 00	12/24/09 12 00	LJT	EPA 8011
Total Metals by EPA 6010C							
SW846 6010C	9124150	NSL2455-01	50.00	50 00	12/23/09 17 15	MB	EPA 3010A / 6010
SW846 6010C	9124150	NSL2455-02	50 00	50 00	12/23/09 17 15	MB	EPA 3010A / 6010
SW846 6010C	9124150	NSL2455-03	50 00	50 00	12/23/09 17 15	MB	EPA 3010A / 6010
SW846 6010C	9124150	NSL2455-04	50.00	50 00	12/23/09 17 15	MB	EPA 3010A / 6010
SW846 6010C	9124150	NSL2455-05	50 00	50.00	12/23/09 17 15	MB	EPA 3010A / 6010
SW846 6010C	9124150	NSL2455-06	50 00	50 00	12/23/09 17 15	MB	EPA 3010A / 6010
SW846 6010C	9124150	NSL2455-07	50 00	50 00	12/23/09 17 15	MB	EPA 3010A / 6010
SW846 6010C	9124150	NSL2455-08	50 00	50 00	12/23/09 17 15	MB	EPA 3010A / 6010

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Client	Emerald, Inc (8583)	Work Order	NSL2455
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/22/09 08.30

PROJECT QUALITY CONTROL DATA
Blank

Analyte	Blank Value	Q	Units	Q C Batch	Lab Number	Analyzed Date/Time
Total Metals by EPA 6010C						
9124150-BLK1						
Lead	<0 00210		mg/L	9124150	9124150-BLK1	12/29/09 07 40
EDB by EPA Method 8011						
9124025-BLK1						
1.2-Dibromoethane (EDB)	<0 005000		ug/L	9124025	9124025-BLK1	12/24/09 13 02
Surrogate 1,3-Dichlorobenzene	95%			9124025	9124025-BLK1	12/24/09 13 02
9124499-BLK1						
1.2-Dibromoethane (EDB)	<0 005000		ug/L	9124499	9124499-BLK1	12/28/09 23:33
Surrogate 1,3-Dichlorobenzene	105%			9124499	9124499-BLK1	12/28/09 23.33
Volatile Organic Compounds by EPA Method 8260B						
9123729-BLK1						
1.2-Dichloroethane	<0 350		ug/L	9123729	9123729-BLK1	12/24/09 05 00
Benzene	<0 410		ug/L	9123729	9123729-BLK1	12/24/09 05 00
Ethylbenzene	<0 350		ug/L	9123729	9123729-BLK1	12/24/09 05 00
Methyl tert-Butyl Ether	<0 320		ug/L	9123729	9123729-BLK1	12/24/09 05 00
Naphthalene	<0 380		ug/L	9123729	9123729-BLK1	12/24/09 05 00
Toluene	<0 350		ug/L	9123729	9123729-BLK1	12/24/09 05 00
Xylenes, total	<0 730		ug/L	9123729	9123729-BLK1	12/24/09 05 00
Surrogate 1,2-Dichloroethane-d4	106%			9123729	9123729-BLK1	12/24/09 05 00
Surrogate 1,2-Dichloroethane-d4	106%			9123729	9123729-BLK1	12/24/09 05 00
Surrogate Dibromofluoromethane	116%			9123729	9123729-BLK1	12/24/09 05.00
Surrogate Dibromofluoromethane	116%			9123729	9123729-BLK1	12/24/09 05 00
Surrogate Toluene-d8	94%			9123729	9123729-BLK1	12/24/09 05 00
Surrogate Toluene-d8	94%			9123729	9123729-BLK1	12/24/09 05 00
Surrogate 4-Bromofluorobenzene	90%			9123729	9123729-BLK1	12/24/09 05 00
Surrogate 4-Bromofluorobenzene	90%			9123729	9123729-BLK1	12/24/09 05 00
9124200-BLK1						
1.2-Dichloroethane	<0 350		ug/L	9124200	9124200-BLK1	12/23/09 17 12
Benzene	<0 410		ug/L	9124200	9124200-BLK1	12/23/09 17 12
Ethylbenzene	<0 350		ug/L	9124200	9124200-BLK1	12/23/09 17 12
Methyl tert-Butyl Ether	<0 320		ug/L	9124200	9124200-BLK1	12/23/09 17 12
Naphthalene	<0 380		ug/L	9124200	9124200-BLK1	12/23/09 17:12
Toluene	<0 350		ug/L	9124200	9124200-BLK1	12/23/09 17 12
Xylenes, total	<0 730		ug/L	9124200	9124200-BLK1	12/23/09 17 12
Surrogate 1,2-Dichloroethane-d4	106%			9124200	9124200-BLK1	12/23/09 17 12
Surrogate 1,2-Dichloroethane-d4	106%			9124200	9124200-BLK1	12/23/09 17 12
Surrogate Dibromofluoromethane	107%			9124200	9124200-BLK1	12/23/09 17 12
Surrogate Dibromofluoromethane	107%			9124200	9124200-BLK1	12/23/09 17 12

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Emerald, Inc (8583)	Work Order	NSL2455
	P O Box 3050	Project Name:	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/22/09 08 30

PROJECT QUALITY CONTROL DATA
Blank - Cont.

Analyte	Blank Value	Q	Units	Q C Batch	Lab Number	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B						
9124200-BLK1						
Surrogate Toluene-d8	92%			9124200	9124200-BLK1	12/23/09 17 12
Surrogate Toluene-d8	92%			9124200	9124200-BLK1	12/23/09 17 12
Surrogate 4-Bromofluorobenzene	98%			9124200	9124200-BLK1	12/23/09 17 12
Surrogate 4-Bromofluorobenzene	98%			9124200	9124200-BLK1	12/23/09 17 12
9124483-BLK1						
Benzene	<0 410		ug/L	9124483	9124483-BLK1	12/24/09 16 01
Ethylbenzene	<0 350		ug/L	9124483	9124483-BLK1	12/24/09 16 01
Methyl tert-Butyl Ether	<0 320		ug/L	9124483	9124483-BLK1	12/24/09 16 01
Naphthalene	<0 380		ug/L	9124483	9124483-BLK1	12/24/09 16 01
Toluene	<0 350		ug/L	9124483	9124483-BLK1	12/24/09 16 01
Xylenes, total	<0 730		ug/L	9124483	9124483-BLK1	12/24/09 16 01
Surrogate 1,2-Dichloroethane-d4	101%			9124483	9124483-BLK1	12/24/09 16 01
Surrogate Dibromofluoromethane	104%			9124483	9124483-BLK1	12/24/09 16 01
Surrogate Toluene-d8	91%			9124483	9124483-BLK1	12/24/09 16 01
Surrogate 4-Bromofluorobenzene	97%			9124483	9124483-BLK1	12/24/09 16 01

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Emerald, Inc (8583)	Work Order	NSL2455
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/22/09 08.30

PROJECT QUALITY CONTROL DATA
LCS

Analyte	Known Val	Analyzed Val	Q	Units	% Rec	Target Range	Batch	Analyzed Date/Time
Total Metals by EPA 6010C								
9124150-BS1								
Lead	0 0500	0.0547		mg/L	109%	80 - 120	9124150	12/29/09 07 43
EDB by EPA Method 8011								
9124025-BS1								
1.2-Dibromoethane (EDB)	0 286	0 3429		ug/L	120%	60 - 141	9124025	12/24/09 13 24
Surrogate 1,3-Dichlorobenzene	5.71	6 63			116%	43 - 150	9124025	12/24/09 13 24
9124499-BS1								
1.2-Dibromoethane (EDB)	0 286	0 2857		ug/L	100%	60 - 141	9124499	12/28/09 23 55
Surrogate 1,3-Dichlorobenzene	5 71	6 06			106%	43 - 150	9124499	12/28/09 23 55
Volatile Organic Compounds by EPA Method 8260B								
9123729-BS1								
1.2-Dichloroethane	20 0	17 1		ug/L	86%	70 - 134	9123729	12/24/09 03 22
Benzene	20 0	18 4		ug/L	92%	80 - 121	9123729	12/24/09 03 22
Ethylbenzene	20 0	17 8		ug/L	89%	78 - 133	9123729	12/24/09 03 22
Methyl tert-Butyl Ether	20 0	19 9		ug/L	100%	76 - 120	9123729	12/24/09 03 22
Naphthalene	20 0	21 8		ug/L	109%	71 - 139	9123729	12/24/09 03 22
Toluene	20 0	19 0		ug/L	95%	78 - 125	9123729	12/24/09 03 22
Xylenes, total	60 0	53 3		ug/L	89%	78 - 134	9123729	12/24/09 03 22
Surrogate 1,2-Dichloroethane-d4	30 0	28 3			94%	63 - 140	9123729	12/24/09 03 22
Surrogate 1,2-Dichloroethane-d4	30 0	28 3			94%	63 - 140	9123729	12/24/09 03 22
Surrogate Dibromofluoromethane	30 0	29 7			99%	73 - 131	9123729	12/24/09 03 22
Surrogate Dibromofluoromethane	30 0	29 7			99%	73 - 131	9123729	12/24/09 03 22
Surrogate Toluene-d8	30 0	29 1			97%	80 - 120	9123729	12/24/09 03 22
Surrogate Toluene-d8	30 0	29 1			97%	80 - 120	9123729	12/24/09 03 22
Surrogate 4-Bromofluorobenzene	30 0	27 1			90%	79 - 125	9123729	12/24/09 03 22
Surrogate 4-Bromofluorobenzene	30 0	27.1			90%	79 - 125	9123729	12/24/09 03 22
9124200-BS1								
1.2-Dichloroethane	20.0	19.5		ug/L	98%	70 - 134	9124200	12/23/09 15 34
Benzene	20 0	18 4		ug/L	92%	80 - 121	9124200	12/23/09 15 34
Ethylbenzene	20 0	18 2		ug/L	91%	78 - 133	9124200	12/23/09 15 34
Methyl tert-Butyl Ether	20 0	22 7		ug/L	113%	76 - 120	9124200	12/23/09 15 34
Naphthalene	20 0	25 2		ug/L	126%	71 - 139	9124200	12/23/09 15 34
Toluene	20.0	19 4		ug/L	97%	78 - 125	9124200	12/23/09 15 34
Xylenes, total	60 0	56.0		ug/L	93%	78 - 134	9124200	12/23/09 15 34
Surrogate 1,2-Dichloroethane-d4	30 0	31 0			103%	63 - 140	9124200	12/23/09 15 34
Surrogate 1,2-Dichloroethane-d4	30 0	31 0			103%	63 - 140	9124200	12/23/09 15 34
Surrogate Dibromofluoromethane	30 0	29 2			97%	73 - 131	9124200	12/23/09 15 34
Surrogate Dibromofluoromethane	30 0	29 2			97%	73 - 131	9124200	12/23/09 15 34

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Emerald, Inc (8583)	Work Order	NSL2455
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/22/09 08 30

PROJECT QUALITY CONTROL DATA
LCS - Cont.

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec	Target Range	Batch	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B								
9124200-BS1								
Surrogate Toluene-d8	30 0	30 0			100%	80 - 120	9124200	12/23/09 15 34
Surrogate Toluene-d8	30 0	30 0			100%	80 - 120	9124200	12/23/09 15 34
Surrogate 4-Bromofluorobenzene	30.0	27 4			91%	79 - 125	9124200	12/23/09 15 34
Surrogate 4-Bromofluorobenzene	30 0	27 4			91%	79 - 125	9124200	12/23/09 15 34
9124483-BS1								
Benzene	20 0	18 0		ug/L	90%	80 - 121	9124483	12/24/09 13 34
Ethylbenzene	20 0	17.2		ug/L	86%	78 - 133	9124483	12/24/09 13 34
Methyl tert-Butyl Ether	20 0	24 0		ug/L	120%	76 - 120	9124483	12/24/09 13 34
Naphthalene	20.0	25.2		ug/L	126%	71 - 139	9124483	12/24/09 13 34
Toluene	20 0	18.2		ug/L	91%	78 - 125	9124483	12/24/09 13 34
Xylenes, total	60 0	52.2		ug/L	87%	78 - 134	9124483	12/24/09 13 34
Surrogate 1,2-Dichloroethane-d4	30 0	27 8			93%	63 - 140	9124483	12/24/09 13 34
Surrogate Dibromofluoromethane	30 0	28 6			95%	73 - 131	9124483	12/24/09 13 34
Surrogate Toluene-d8	30 0	29 2			97%	80 - 120	9124483	12/24/09 13 34
Surrogate 4-Bromofluorobenzene	30 0	27 1			90%	79 - 125	9124483	12/24/09 13 34

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Emerald, Inc (8583)	Work Order	NSL2455
	P O Box 3050	Project Name.	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/22/09 08:30

PROJECT QUALITY CONTROL DATA

LCS Dup

Analyte	Orig. Val	Duplicate	Q	Units	Spike Conc	% Rec	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B												
9123729-BSD1												
1,2-Dichloroethane		18 0		ug/L	20 0	90%	70 - 134	5	25	9123729		12/24/09 03 47
Benzene		19 1		ug/L	20 0	96%	80 - 121	4	12	9123729		12/24/09 03 47
Ethylbenzene		18 6		ug/L	20 0	93%	78 - 133	4	12	9123729		12/24/09 03 47
Methyl tert-Butyl Ether		19 9		ug/L	20 0	100%	76 - 120	0 1	32	9123729		12/24/09 03 47
Naphthalene		22 0		ug/L	20 0	110%	71 - 139	1	30	9123729		12/24/09 03 47
Toluene		19 9		ug/L	20 0	99%	78 - 125	5	35	9123729		12/24/09 03 47
Xylenes, total		56 5		ug/L	60 0	94%	78 - 134	6	18	9123729		12/24/09 03 47
Surrogate 1,2-Dichloroethane-d4		28 4		ug/L	30 0	95%	63 - 140			9123729		12/24/09 03 47
Surrogate 1,2-Dichloroethane-d4		28 4		ug/L	30 0	95%	63 - 140			9123729		12/24/09 03 47
Surrogate Dibromofluoromethane		29 8		ug/L	30 0	99%	73 - 131			9123729		12/24/09 03 47
Surrogate Dibromofluoromethane		29 8		ug/L	30 0	99%	73 - 131			9123729		12/24/09 03 47
Surrogate Toluene-d8		29 4		ug/L	30 0	98%	80 - 120			9123729		12/24/09 03 47
Surrogate Toluene-d8		29 4		ug/L	30 0	98%	80 - 120			9123729		12/24/09 03 47
Surrogate 4-Bromofluorobenzene		26 7		ug/L	30 0	89%	79 - 125			9123729		12/24/09 03 47
Surrogate 4-Bromofluorobenzene		26 7		ug/L	30 0	89%	79 - 125			9123729		12/24/09 03 47
9124200-BSD1												
1,2-Dichloroethane		19 0		ug/L	20 0	95%	70 - 134	3	25	9124200		12/23/09 15 59
Benzene		18 4		ug/L	20 0	92%	80 - 121	0 05	12	9124200		12/23/09 15 59
Ethylbenzene		18 2		ug/L	20 0	91%	78 - 133	0 06	12	9124200		12/23/09 15 59
Methyl tert-Butyl Ether		23 2		ug/L	20 0	116%	76 - 120	2	32	9124200		12/23/09 15 59
Naphthalene		24 4		ug/L	20 0	122%	71 - 139	3	30	9124200		12/23/09 15 59
Toluene		19 3		ug/L	20 0	96%	78 - 125	0 8	35	9124200		12/23/09 15 59
Xylenes, total		55.9		ug/L	60 0	93%	78 - 134	0 3	18	9124200		12/23/09 15 59
Surrogate 1,2-Dichloroethane-d4		31 0		ug/L	30 0	103%	63 - 140			9124200		12/23/09 15 59
Surrogate 1,2-Dichloroethane-d4		31 0		ug/L	30 0	103%	63 - 140			9124200		12/23/09 15 59
Surrogate Dibromofluoromethane		29 2		ug/L	30 0	97%	73 - 131			9124200		12/23/09 15 59
Surrogate Dibromofluoromethane		29 2		ug/L	30 0	97%	73 - 131			9124200		12/23/09 15 59
Surrogate Toluene-d8		29 4		ug/L	30 0	98%	80 - 120			9124200		12/23/09 15 59
Surrogate Toluene-d8		29 4		ug/L	30 0	98%	80 - 120			9124200		12/23/09 15 59
Surrogate 4-Bromofluorobenzene		26 5		ug/L	30 0	88%	79 - 125			9124200		12/23/09 15 59
Surrogate 4-Bromofluorobenzene		26 5		ug/L	30 0	88%	79 - 125			9124200		12/23/09 15 59
9124483-BSD1												
Benzene		19 4		ug/L	20 0	97%	80 - 121	7	12	9124483		12/24/09 14 47
Ethylbenzene		18.5		ug/L	20 0	92%	78 - 133	7	12	9124483		12/24/09 14 47
Methyl tert-Butyl Ether		25 2	L1	ug/L	20 0	126%	76 - 120	5	32	9124483		12/24/09 14 47
Naphthalene		25 6		ug/L	20 0	128%	71 - 139	2	30	9124483		12/24/09 14 47
Toluene		19 7		ug/L	20 0	99%	78 - 125	8	35	9124483		12/24/09 14 47
Xylenes, total		57 0		ug/L	60 0	95%	78 - 134	9	18	9124483		12/24/09 14 47
Surrogate 1,2-Dichloroethane-d4		29 6		ug/L	30 0	98%	63 - 140			9124483		12/24/09 14 47

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Emerald, Inc (8583)	Work Order	NSL2455
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/22/09 08:30

PROJECT QUALITY CONTROL DATA

LCS Dup - Cont.

Analyte	Orig Val	Duplicate	Q	Units	Spike Conc	% Rec	Target Range	RPD Limit	Batch	Sample Duplicated	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B											
9124483-BSD1											
Surrogate: Dibromofluoromethane		30.3		ug/L	30.0	101%	73 - 131		9124483		12/24/09 14:47
Surrogate: Toluene-d8		28.8		ug/L	30.0	96%	80 - 120		9124483		12/24/09 14:47
Surrogate: 4-Bromofluorobenzene		26.2		ug/L	30.0	87%	79 - 125		9124483		12/24/09 14:47

Client	Emerald, Inc (8583)	Work Order	NSL2455
	P O Box 3050	Project Name.	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/22/09 08 30

PROJECT QUALITY CONTROL DATA
Matrix Spike

Analyte	Orig Val	MS Val	Q	Units	Spike Conc	% Rec	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Total Metals by EPA 6010C										
9124150-MS1										
Lead	0 00320	0 0567		mg/L	0 0500	107%	75 - 125	9124150	NSL2455-02	12/29/09 08 45
EDB by EPA Method 8011										
9124025-MS1										
1,2-Dibromoethane (EDB)	ND	0 2874		ug/L	0 287	100%	24 - 162	9124025	NSL2455-02	12/24/09 13 46
Surrogate 1,3-Dichlorobenzene		5 80		ug/L	5 75	101%	43 - 150	9124025	NSL2455-02	12/24/09 13 46
9124499-MS1										
1,2-Dibromoethane (EDB)	ND	0 2841		ug/L	0 284	100%	24 - 162	9124499	NSL2476-04	12/29/09 00 16
Surrogate 1,3-Dichlorobenzene		5 97		ug/L	5 68	105%	43 - 150	9124499	NSL2476-04	12/29/09 00 16
9124499-MS2										
1,2-Dibromoethane (EDB)	ND	1 756	MHA	ug/L	0 283	620%	24 - 162	9124499	NSL2476-09	12/29/09 01 00
Surrogate 1,3-Dichlorobenzene		5 89		ug/L	5.67	104%	43 - 150	9124499	NSL2476-09	12/29/09 01 00
9124499-MS3										
1,2-Dibromoethane (EDB)	1 983	2 265		ug/L	0 276	102%	24 - 162	9124499	NSL2476-15	12/29/09 23 32
Surrogate 1,3-Dichlorobenzene		6 80		ug/L	5 52	123%	43 - 150	9124499	NSL2476-15	12/29/09 23 32
Volatile Organic Compounds by EPA Method 8260B										
9123729-MS1										
1,2-Dichloroethane	ND	38.3		ug/L	50 0	77%	72 - 137	9123729	NSL1891-03	12/24/09 11 07
Benzene	0 600	40 7		ug/L	50 0	80%	65 - 151	9123729	NSL1891-03	12/24/09 11 07
Ethylbenzene	0 290	42 0		ug/L	50 0	83%	68 - 157	9123729	NSL1891-03	12/24/09 11 07
Methyl tert-Butyl Ether	0 300	59 6		ug/L	50 0	119%	56 - 152	9123729	NSL1891-03	12/24/09 11 07
Naphthalene	3 40	64.3		ug/L	50 0	122%	56 - 161	9123729	NSL1891-03	12/24/09 11 07
Toluene	ND	42 6		ug/L	50 0	85%	61 - 153	9123729	NSL1891-03	12/24/09 11 07
Xylenes, total	0 450	122		ug/L	150	81%	68 - 158	9123729	NSL1891-03	12/24/09 11 07
Surrogate 1,2-Dichloroethane-d4		25 2		ug/L	30 0	84%	63 - 140	9123729	NSL1891-03	12/24/09 11 07
Surrogate, 1,2-Dichloroethane-d4		25 2		ug/L	30.0	84%	63 - 140	9123729	NSL1891-03	12/24/09 11 07
Surrogate Dibromofluoromethane		28 6		ug/L	30.0	95%	73 - 131	9123729	NSL1891-03	12/24/09 11 07
Surrogate Dibromofluoromethane		28 6		ug/L	30.0	95%	73 - 131	9123729	NSL1891-03	12/24/09 11 07
Surrogate Toluene-d8		28 5		ug/L	30 0	95%	80 - 120	9123729	NSL1891-03	12/24/09 11 07
Surrogate Toluene-d8		28 5		ug/L	30.0	95%	80 - 120	9123729	NSL1891-03	12/24/09 11 07
Surrogate 4-Bromofluorobenzene		26 5		ug/L	30 0	88%	79 - 125	9123729	NSL1891-03	12/24/09 11 07
Surrogate, 4-Bromofluorobenzene		26 5		ug/L	30.0	88%	79 - 125	9123729	NSL1891-03	12/24/09 11 07
9124200-MS1										
1,2-Dichloroethane	36 0	1960		ug/L	2500	77%	72 - 137	9124200	NSL2289-15RE1	12/24/09 01 45

Client	Emerald, Inc (8583)	Work Order	NSL2455
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/22/09 08 30

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig Val	MS Val	Q	Units	Spike Conc	% Rec	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B										
9124200-MS1										
Benzene	34 5	2280		ug/L	2500	90%	65 - 151	9124200	NSL2289-15RE 1	12/24/09 01 45
Ethylbenzene	2120	3880		ug/L	2500	70%	68 - 157	9124200	NSL2289-15RE 1	12/24/09 01 45
Methyl tert-Butyl Ether	ND	2470		ug/L	2500	99%	56 - 152	9124200	NSL2289-15RE 1	12/24/09 01 45
Naphthalene	384	4500	M7	ug/L	2500	165%	56 - 161	9124200	NSL2289-15RE 1	12/24/09 01 45
Toluene	787	3310		ug/L	2500	101%	61 - 153	9124200	NSL2289-15RE 1	12/24/09 01 45
Xylenes, total	5970	11400		ug/L	7500	72%	68 - 158	9124200	NSL2289-15RE 1	12/24/09 01 45
Surrogate 1,2-Dichloroethane-d4		27 8		ug/L	30 0	93%	63 - 140	9124200	NSL2289-15RE 1	12/24/09 01 45
Surrogate 1,2-Dichloroethane-d4		27 8		ug/L	30 0	93%	63 - 140	9124200	NSL2289-15RE 1	12/24/09 01 45
Surrogate Dibromofluoromethane		27.1		ug/L	30 0	90%	73 - 131	9124200	NSL2289-15RE 1	12/24/09 01 45
Surrogate Dibromofluoromethane		27 1		ug/L	30 0	90%	73 - 131	9124200	NSL2289-15RE 1	12/24/09 01 45
Surrogate Toluene-d8		29 4		ug/L	30 0	98%	80 - 120	9124200	NSL2289-15RE 1	12/24/09 01 45
Surrogate Toluene-d8		29 4		ug/L	30 0	98%	80 - 120	9124200	NSL2289-15RE 1	12/24/09 01 45
Surrogate 4-Bromofluorobenzene		27 6		ug/L	30 0	92%	79 - 125	9124200	NSL2289-15RE 1	12/24/09 01 45
Surrogate 4-Bromofluorobenzene		27 6		ug/L	30 0	92%	79 - 125	9124200	NSL2289-15RE 1	12/24/09 01 45
9124483-MS1										
Benzene	2610	6670		ug/L	5000	81%	65 - 151	9124483	NSL2455-04RE 2	12/24/09 23 32
Ethylbenzene	799	5520		ug/L	5000	94%	68 - 157	9124483	NSL2455-04RE 2	12/24/09 23 32
Methyl tert-Butyl Ether	77 0	4640		ug/L	5000	91%	56 - 152	9124483	NSL2455-04RE 2	12/24/09 23 32
Naphthalene	231	5120		ug/L	5000	98%	56 - 161	9124483	NSL2455-04RE 2	12/24/09 23 32
Toluene	5820	9980		ug/L	5000	83%	61 - 153	9124483	NSL2455-04RE 2	12/24/09 23 32
Xylenes, total	3720	18300		ug/L	15000	97%	68 - 158	9124483	NSL2455-04RE 2	12/24/09 23 32
Surrogate 1,2-Dichloroethane-d4		29 8		ug/L	30 0	99%	63 - 140	9124483	NSL2455-04RE 2	12/24/09 23 32
Surrogate Dibromofluoromethane		29 4		ug/L	30 0	98%	73 - 131	9124483	NSL2455-04RE 2	12/24/09 23 32
Surrogate Toluene-d8		29 1		ug/L	30 0	97%	80 - 120	9124483	NSL2455-04RE 2	12/24/09 23 32

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Emerald, Inc (8583)	Work Order	NSL2455
	P O. Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received.	12/22/09 08:30

PROJECT QUALITY CONTROL DATA
Matrix Spike - Cont.

Analyte	Orig. Val.	MS Val	Q	Units	Spike Conc	% Rec	Target Range	Batch	Sample Spiked	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B										
9124483-MS1										
Surrogate 4-Bromofluorobenzene		27 1		ug/L	30 0	90%	79 - 125	9124483	NSL2455-04RE 2	12/24/09 23 32

Client	Emerald, Inc (8583)	Work Order	NSL2455
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number.	[none]
Attn	Robbin Brown	Received	12/22/09 08 30

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup

Analyte	Orig Val	Duplicate	Q	Units	Spike Conc	% Rec	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Total Metals by EPA 6010C												
9124150-MSD1												
Lead	0 00320	0 0561		mg/L	0 0500	106%	75 - 125	1	20	9124150	NSL2455-02	12/29/09 08 48
EDB by EPA Method 8011												
9124025-MSD1												
1,2-Dibromoethane (EDB)	ND	0 2874		ug/L	0 287	100%	24 - 162	0	50	9124025	NSL2455-02	12/24/09 14 08
Surrogate 1,3-Dichlorobenzene		5 23		ug/L	5 75	91%	43 - 150			9124025	NSL2455-02	12/24/09 14 08
9124499-MSD1												
1,2-Dibromoethane (EDB)	ND	0 2825		ug/L	0 282	100%	24 - 162	0 6	50	9124499	NSL2476-04	12/29/09 01 21
Surrogate 1,3-Dichlorobenzene		5 31		ug/L	5 65	94%	43 - 150			9124499	NSL2476-04	12/29/09 01 21
9124499-MSD2												
1,2-Dibromoethane (EDB)	ND	1 988	MHA	ug/L	0 292	680%	24 - 162	12	50	9124499	NSL2476-09	12/29/09 00 38
Surrogate 1,3-Dichlorobenzene		5 96		ug/L	5 85	102%	43 - 150			9124499	NSL2476-09	12/29/09 00 38
9124499-MSD3												
1,2-Dibromoethane (EDB)	1 983	2 955	M1	ug/L	0 284	342%	24 - 162	26	50	9124499	NSL2476-15	12/29/09 23 53
Surrogate 1,3-Dichlorobenzene		5 85		ug/L	5 68	103%	43 - 150			9124499	NSL2476-15	12/29/09 23 53
Volatile Organic Compounds by EPA Method 8260B												
9123729-MSD1												
1,2-Dichloroethane	ND	39 7		ug/L	50 0	79%	72 - 137	4	25	9123729	NSL1891-03	12/24/09 11 31
Benzene	0 600	42 3		ug/L	50 0	83%	65 - 151	4	12	9123729	NSL1891-03	12/24/09 11 31
Ethylbenzene	0 290	41.3		ug/L	50 0	82%	68 - 157	2	12	9123729	NSL1891-03	12/24/09 11 31
Methyl tert-Butyl Ether	0 300	62 8		ug/L	50 0	125%	56 - 152	5	32	9123729	NSL1891-03	12/24/09 11 31
Naphthalene	3 40	66 6		ug/L	50 0	126%	56 - 161	4	30	9123729	NSL1891-03	12/24/09 11 31
Toluene	ND	43 2		ug/L	50 0	86%	61 - 153	1	35	9123729	NSL1891-03	12/24/09 11 31
Xylenes, total	0 450	122		ug/L	150	81%	68 - 158	0.7	18	9123729	NSL1891-03	12/24/09 11 31
Surrogate 1,2-Dichloroethane-d4		25 7		ug/L	30 0	86%	63 - 140			9123729	NSL1891-03	12/24/09 11 31
Surrogate 1,2-Dichloroethane-d4		25 7		ug/L	30 0	86%	63 - 140			9123729	NSL1891-03	12/24/09 11 31
Surrogate Dibromofluoromethane		29 0		ug/L	30 0	97%	73 - 131			9123729	NSL1891-03	12/24/09 11 31
Surrogate. Dibromofluoromethane		29 0		ug/L	30 0	97%	73 - 131			9123729	NSL1891-03	12/24/09 11 31
Surrogate Toluene-d8		28.4		ug/L	30 0	95%	80 - 120			9123729	NSL1891-03	12/24/09 11 31
Surrogate Toluene-d8		28 4		ug/L	30 0	95%	80 - 120			9123729	NSL1891-03	12/24/09 11 31
Surrogate 4-Bromofluorobenzene		26 0		ug/L	30 0	87%	79 - 125			9123729	NSL1891-03	12/24/09 11 31
Surrogate 4-Bromofluorobenzene		26 0		ug/L	30 0	87%	79 - 125			9123729	NSL1891-03	12/24/09 11 31
9124200-MSD1												
1,2-Dichloroethane	36 0	2030		ug/L	2500	80%	72 - 137	3	25	9124200	NSL2289-15RE1	12/24/09 02 09
Benzene	34 5	2330		ug/L	2500	92%	65 - 151	2	12	9124200	NSL2289-15RE1	12/24/09 02 09

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Emerald, Inc (8583)	Work Order	NSL2455
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/22/09 08 30

PROJECT QUALITY CONTROL DATA

Matrix Spike Dup - Cont.

Analyte	Orig Val	Duplicate	Q	Units	Spike Conc	% Rec.	Target Range	RPD	Limit	Batch	Sample Duplicated	Analyzed Date/Time
Volatile Organic Compounds by EPA Method 8260B												
9124200-MSD1												
Ethylbenzene	2120	4030		ug/L	2500	76%	68 - 157	4	12	9124200	NSL2289-15RE 1	12/24/09 02 09
Methyl tert-Butyl Ether	ND	2670		ug/L	2500	107%	56 - 152	8	32	9124200	NSL2289-15RE 1	12/24/09 02 09
Naphthalene	384	3390		ug/L	2500	120%	56 - 161	28	30	9124200	NSL2289-15RE 1	12/24/09 02 09
Toluene	787	3320		ug/L	2500	101%	61 - 153	0.3	35	9124200	NSL2289-15RE 1	12/24/09 02 09
Xylenes, total	5970	12100		ug/L	7500	81%	68 - 158	6	18	9124200	NSL2289-15RE 1	12/24/09 02 09
Surrogate 1,2-Dichloroethane-d4		25 4		ug/L	30 0	85%	63 - 140			9124200	NSL2289-15RE 1	12/24/09 02 09
Surrogate 1,2-Dichloroethane-d4		25 4		ug/L	30 0	85%	63 - 140			9124200	NSL2289-15RE 1	12/24/09 02 09
Surrogate Dibromofluoromethane		28 5		ug/L	30 0	95%	73 - 131			9124200	NSL2289-15RE 1	12/24/09 02 09
Surrogate Dibromofluoromethane		28 5		ug/L	30 0	95%	73 - 131			9124200	NSL2289-15RE 1	12/24/09 02 09
Surrogate Toluene-d8		29 9		ug/L	30 0	100%	80 - 120			9124200	NSL2289-15RE 1	12/24/09 02 09
Surrogate Toluene-d8		29 9		ug/L	30 0	100%	80 - 120			9124200	NSL2289-15RE 1	12/24/09 02 09
Surrogate 4-Bromofluorobenzene		27.0		ug/L	30 0	90%	79 - 125			9124200	NSL2289-15RE 1	12/24/09 02 09
Surrogate 4-Bromofluorobenzene		27 0		ug/L	30 0	90%	79 - 125			9124200	NSL2289-15RE 1	12/24/09 02 09
9124483-MSD1												
Benzene	2610	6770		ug/L	5000	83%	65 - 151	1	12	9124483	NSL2455-04RE 2	12/24/09 23 56
Ethylbenzene	799	5290		ug/L	5000	90%	68 - 157	4	12	9124483	NSL2455-04RE 2	12/24/09 23 56
Methyl tert-Butyl Ether	77 0	4930		ug/L	5000	97%	56 - 152	6	32	9124483	NSL2455-04RE 2	12/24/09 23 56
Naphthalene	231	5740		ug/L	5000	110%	56 - 161	11	30	9124483	NSL2455-04RE 2	12/24/09 23 56
Toluene	5820	10600		ug/L	5000	96%	61 - 153	6	35	9124483	NSL2455-04RE 2	12/24/09 23 56
Xylenes, total	3720	17000		ug/L	15000	88%	68 - 158	7	18	9124483	NSL2455-04RE 2	12/24/09 23 56
Surrogate 1,2-Dichloroethane-d4		30 8		ug/L	30 0	103%	63 - 140			9124483	NSL2455-04RE 2	12/24/09 23 56
Surrogate Dibromofluoromethane		30 3		ug/L	30 0	101%	73 - 131			9124483	NSL2455-04RE 2	12/24/09 23 56
Surrogate Toluene-d8		30 0		ug/L	30 0	100%	80 - 120			9124483	NSL2455-04RE 2	12/24/09 23 56
Surrogate 4-Bromofluorobenzene		26 4		ug/L	30 0	88%	79 - 125			9124483	NSL2455-04RE 2	12/24/09 23 56

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Emerald, Inc (8583)	Work Order	NSL2455
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/22/09 08 30

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	AIHA	Nelac	South Carolina
SW846 6010C	Water		X	X
SW846 8011	Water	N/A	X	X
SW846 8260B	Water	N/A	X	X

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

Client	Emerald, Inc (8583)	Work Order	NSL2455
	P O Box 3050	Project Name	Detwiler
	Sumter, SC 29151	Project Number	[none]
Attn	Robbin Brown	Received	12/22/09 08 30

DATA QUALIFIERS AND DEFINITIONS

CF7	Result may be elevated due to carry over from previously analyzed sample.
J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
L1	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above acceptance limits.
M1	The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
M7	The MS and/or MSD were above the acceptance limits. See Blank Spike (LCS)
MHA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
Z3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
ND	Not detected at the reporting limit (or method detection limit if shown)

METHOD MODIFICATION NOTES

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Nashville, TN

COOLER RECEIP

NSL2455

Cooler Received/Opened On_12/22/09 @ 08:30

0

1. Tracking #_3790_____(last 4 digits, FedEx)

Courier: ___FED-EX IR Gun ID___97310166

2. Temperature of rep. sample or temp blank when opened: 0.6 *Degrees Celsius*

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES (NO) NA

4. Were custody seals on outside of cooler? (YES)...NO...NA

If yes, how many and where: 2 FRONT

5. Were the seals intact, signed, and dated correctly? (YES)...NO...NA

6. Were custody papers inside cooler? (YES)...NO...NA

I certify that I opened the cooler and answered questions 1-6 (intial) _____

7. Were custody seals on containers: YES (NO) and intact YES...NO...(NA)

Were these signed and dated correctly? YES...NO...(NA)

8. Packing mat'l used? (Bubblewrap) (Plastic bag) Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: (Ice) Ice-pack Ice (direct contact) Dry Ice Other None

10. Did all containers arrive in good condition (unbroken)? (YES)..NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? (YES)..NO...NA

12. Did all container labels and tags agree with custody papers? (YES)..NO...NA

13a. Were VOA vials received? (YES)..NO...NA

b. Was there any observable headspace present in any VOA vial? YES..(NO)..NA

14. Was there a Trip Blank in this cooler? (YES)..NO...NA If multiple coolers, sequence #_____ 2455-07

I certify that I unloaded the cooler and answered questions 7-14 (intial) _____

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES..NO..(NA)

b. Did the bottle labels indicate that the correct preservatives were used (YES)..NO...NA

16. Was residual chlorine present? YES...NO...(NA)

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (intial) _____

17. Were custody papers properly filled out (ink, signed, etc)? (YES)..NO...NA

18. Did you sign the custody papers in the appropriate place? (YES)..NO...NA

19. Were correct containers used for the analysis requested? (YES)..NO...NA

20. Was sufficient amount of sample sent in each container? (YES)..NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (intial) _____

I certify that I attached a label with the unique LIMS number to each container (intial) _____

21. Were there Non-Conformance issues at login? YES..(NO) Was a PIPE generated? YES..(NO)..#_____

BIS = Broken in shipment

Cooler Receipt Form doc

NSL2455
01/04/10 23:59

1 of 1

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Nashville Division
2960 Foster Creighton
Nashville, TN 37204

Phone: 615-726-0177
Toll Free: 800-765-0980
Fax: 615-726-3404

Client Name/Account #: Emerald, Inc # 1405608
Address: 214 W. Liberty Street
City/State/Zip: Sumter, SC 29150
Project Manager: Ronny Lowder
Telephone Number: 803.773.5454 **Fax No.:**
Sampler Name: (Print) Dalton Reaves / Jamie Patterson
Sampler Signature: Dalton Reaves / Jamie Patterson

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring? Yes ✓ No
Enforcement Action? Yes ___ No

Site State: SC
PO#:
TA Quote #:
Project ID: DETWILER
Project #:

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservation: Ice	HNO3 (Red Label)	HCl (Blue Label)	NaOH (Orange Label)	H2SO4 Plastic (Yellow Label)	H2SO4 Glass(Yellow Label)	None (Black Label)	Other (Specify)	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Other (specify)	Analyze For: BTEX+NAPTH+MTBE	1,2 DCA - 8260B	EDB - 8011	TOTAL LEAD							RUSH TAT (Pre-Schedule)
MW-2d	12/21/09	1238	7	X		N	X	1	6						X						X	X	X	X				NSL 2455-01		
MW-3		1055																										02		
MW-4		1155																										03		
MW-5		1321																										04		
MW-11		1418																										05		
MW-12		1240																										06		
MW-15		1415																										07		
MW-16d	↓	1135	↓	↓		↓	↓	↓	↓						↓						↓	↓	↓	↓				08		

Special Instructions:
MW-15 has light sheen

Method of Shipment: FEDEX

Relinquished by	Date	Time	Received by	Date	Time
	12/21/09	1830			
Relinquished by:	Date	Time	Received by TestAmerica	Date	Time

Laboratory Comments:
Temperature Upon Receipt
VOCs Free of Headspace? Y

APPENDIX C

DISPOSAL MANIFEST

NON-HAZARDOUS WASTE MANIFEST

1. Generator's Name and Mailing Address	DETWILER SITE 31 S. CHURCH STREET SUMMERTON, SC UST PERMIT #15729	Manifest Document No.	2. Page 1 of
4. Generator's Phone			
6. Transporter 1 Company Name: EMERALD, INC.	8. US EPA ID Number	A. State Transporter's ID	
		B. Transporter 1 Phone: 803-773-5454	
7. Transporter 2 Company Name	9. US EPA ID Number	C. State Transporter's ID	
		D. Transporter 2 Phone	
9. Designated Facility Name and Site Address: TK TANK SERVICES 425 BOULEVARD ROAD SUMTER, SC 29150	10. US EPA ID Number	E. State Facility's ID	
		F. Facility's Phone: 803-418-5314	

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER-PROFILE #			100 gal	
b.				
c.				
d.				

15. Additional Descriptions for Materials Listed Above	H. Handling Codes for Wastes Listed Above

Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Date

Printed/Typed Name	Signature	Month	Day	Year
Dalton Reames	[signature]	1	12	10

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Dalton Reames	[signature]	1	12	10

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name	Signature	Month	Day	Year
Joseph W. Stanton	[signature]	1	12	10

GENERATOR

TRANSPORTER

FACILITY

CERTIFICATE OF DISPOSAL

This certifies that

T K TANK SERVICES, INC

#Gallons **100** **Contaminant** **Virgin Petroleum/Water**

This is to certify that the above water/product has been processed and disposed of

in accordance with and exceeding EPA regulations on petroleum contaminated soils from

DETWILER SITE--SUMMERTON SC

1-12-10
Date

Tommy Hicks
Signature

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

MR HAROLD W DETWILER JR
31 SOUTH CHURCH STREET
SUMMERTON SC 29706

MAR 22 2013

Re: **Corrective Action Options** – 2nd Request
H.W. Detwiler Co.
37 South Church Street, Summerton, SC 29148
UST Permit # 15729
Release reported June 22, 1993
Report of Groundwater Sampling Received March 5, 2013
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Management Division (Division) of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced Groundwater Sampling Report submitted by Emerald, Inc., on your behalf. The report indicates that active corrective action is necessary at the site to mitigate petroleum impact and ensure that there is no detrimental exposure to human health or the environment.

Funds from the State Underground Petroleum Environmental Response Bank (SUPERB) Account will soon be available for active corrective action. The selected technology must reduce free product and petroleum chemicals of concern (CoC) concentrations to site-specific target levels (SSTLs) determined by the Division.

The SUPERB Site Rehabilitation and Fund Access Regulations R.61-98 require the UST owner/operator to develop and implement a reasonable, cost-effective corrective action to be performed by an Agency-certified site rehabilitation contractor. As the owner/operator for the release reported on June 22, 1993, you may choose one of two options as to how to proceed with this requirement: state lead or owner/operator lead.

State Lead Option:

- If you choose the state lead option, the Division will procure a certified site rehabilitation contractor to perform corrective action on your behalf. The Agency will enter into an enforceable contract with the awarded contractor. As long as you do not interfere with or prohibit the work at your site, you will not be responsible in the event the state selected contractor does not perform appropriately or does not make satisfactory progress towards achieving the established corrective action goals. To utilize the state lead option, please sign and return the applicable Permission and Right-of-Entry forms within 15 days of the date of this letter.

Owner/Operator Lead Option:

- If you select the owner/operator lead option, you will be required to select a contractor to perform the corrective action. In order to assist you in determining the clean-up technology, time frame, clean-up levels, and associated costs, the Division will prepare a technical specification package and provide you copies to send to contractors of your choice.

In addition, the Division will announce the request for solicitations in the South Carolina Business Opportunities, a bi-weekly state government publication, to ensure that an adequate solicitation response is obtained so that a fair and competitive price can be established. This announcement will clearly indicate that you will select the contractor to implement the corrective action.

- Compensation to the contractor will be from the SUPERB Account, but you may have the obligation to pay your selected contractor for any costs not approved by the Agency.
- The Division strongly suggests that a written contract between you and the selected contractor be developed following the completion of the solicitation process. The parties to this contract would be you and the contractor you choose; the Agency would not be a party to this contract. The Division's function would be to monitor and ensure progress of corrective action activities.
- If the contractor you select does not or cannot complete the required activities, you will be required to find another certified contractor to complete the required activities for the remainder of the existing financial approval amount. No additional funding from the SUPERB Account may be allowed. Under R.61-92, Part 280: Underground Storage Tank Control Regulations, you as the owner/operator are ultimately responsible to the Agency for the actions of your contractor. The Agency will pursue enforcement actions against you if the contractor you select does not make satisfactory progress towards achieving established corrective actions goals. To utilize the owner/operator lead option, please sign and return the enclosed Active Corrective Action Options Form within 15 days of the date of this letter.

On all correspondence or inquiries regarding this project, please reference UST Permit #15729. If you have any questions, please contact me by phone (803)896-6396, fax (803)896-6245 or by email at ShullSS@dhec.sc.gov.

Sincerely,

Shane S. Shull, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management

enc: Permission/Right-of-Entry forms
Active Corrective Action Options form

cc: Technical file (w/o enc)

State Lead Option

UST Sharon APR 18 2013 PROGRAM

PERMISSION FORM

UNDERGROUND STORAGE TANK AND PROPERTY OWNER

UST Permit # 15729

If you are both the owner of the former or existing underground storage tanks for the release reported on June 22, 1993 and the current property owner, please complete this form.

I, HAROLD Detwiler, certify that I am the identified legal owner of the underground storage tanks for the release reported on June 22, 1993 and property located at the facility identified below or serve as the authorized representative for the owner. I grant permission to the South Carolina Department of Health and Environmental Control (Agency) to secure on my behalf contractor services to conduct assessment and corrective action activities as required, and authorize the Agency, or a contractor selected by the Agency, to enter this property at reasonable times only to accomplish these site rehabilitation tasks. The contractor(s) will be designated as my contractor for only the required site rehabilitation activities. Compensation to the contractor(s) will be from the SUPERB Account and I will have no obligation to pay the contractor(s). I understand that the Agency or its contractor will be responsible for notifying me of all activities that are necessary prior to their initiation and will promptly provide to me a copy of each environmental report. I understand that I may choose to select my own contractor at the completion of any phase of work by notifying the Underground Storage Tank Management Division in writing.

Name of Facility H W DETWILER Co. Phone # 803-840-2444

Street Address of Facility 31 SOUTH CHURCH ST.

Town, City, District, Suburb SUMMERTOWN, SC

Name of nearest intersecting street, road, highway, alley

BURGESS Is this facility within the city limits? (yes or no) _____

Does a public water or sewer utility service this facility? (yes or no) YES, if no, please provide the name and phone number of a person that we can contact that can assist in the location of private water and septic tank lines _____, phone number _____

Is the property currently leased or rented to someone? (yes or no) NO. If yes, please provide their name _____ and phone number _____ and let them know about the pending site rehabilitation activities. If vehicles or other mobile structures are parked over the monitoring wells, they should be moved before the Agency's contractor arrives at the site.

NAME of UST/property owner (Please Print): HAROLD DETWILER

UST Docketing 21 tech

Phone Number (home) 803-485-3192 (work) 803-840-2444

Signature of UST/property Owner: [signature]

Witness: [signature]

Date: April 15 Month Day 2013 Year

State Lead Option

RIGHT-OF-ENTRY FORM

PROPERTY OWNER

UST Permit # 15729

If you are the Property Owner or are the authorized representative for that person, but did not own the former or existing underground storage tanks at the time the release was reported, please complete this form.

I, HAROLD DETWILER, certify that I am the legal owner of the property identified below or serve as the authorized representative for the property owner. I authorize the South Carolina Department of Health and Environmental Control (Agency), or a contractor selected by the Agency, to enter this property at reasonable times only to conduct assessment and corrective action activities, as required. The contractor will be designated as the contractor for the UST owner or operator for only the required environmental site rehabilitation activities. Compensation to the contractor will be from the SUPERB Account and I will have no obligation to pay the contractor. I understand that the Agency or its contractor will notify me of all activities that are necessary prior to their initiation and will promptly provide to me a summary of the data upon request.

Name of Facility H W DETWILER CO. Phone # 803-840-2444

Street Address of Facility 31 South Chwch st.

Town, City, District, Suburb SUMMERTON, SC

Name of nearest intersecting street, road, highway, alley

BURGESS Is this facility within the city limits? (yes or no) yes

Does a public water or sewer utility service this facility? (yes or no) Yes, if no, please provide the name and phone number of a person that we can contact that can assist in the location of private water and septic tank lines , phone number

Is the property currently leased or rented to someone? (yes or no) No. If yes, please provide their name and phone number and let them know about the pending site rehabilitation activities. If vehicles or other mobile structures are parked over the monitoring wells, they should be moved before the Agency's contractor arrives at the site.

NAME of Property owner (Please Print): HAROLD DETWILER

Phone Number (home) 803-485-3192 (work) 803-840-2444

Current Mailing Address: 29 S. Church st., Summerton, SC 29148

Signature of Property Owner:

Witness:

Date: April 15 Month Day 2013 Year

D H E C
PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

MR HAROLD W DETWILER JR
31 SOUTH CHURCH STREET
SUMMERTON SC 29706

MAR 22 2013

Re: **Corrective Action Options** – 2nd Request
H.W. Detwiler Co.
37 South Church Street, Summerton, SC 29148
UST Permit # 15729
Release reported June 22, 1993
Report of Groundwater Sampling Received March 5, 2013
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Management Division (Division) of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced Groundwater Sampling Report submitted by Emerald, Inc., on your behalf. The report indicates that active corrective action is necessary at the site to mitigate petroleum impact and ensure that there is no detrimental exposure to human health or the environment.

Funds from the State Underground Petroleum Environmental Response Bank (SUPERB) Account will soon be available for active corrective action. The selected technology must reduce free product and petroleum chemicals of concern (CoC) concentrations to site-specific target levels (SSTLs) determined by the Division.

The SUPERB Site Rehabilitation and Fund Access Regulations R.61-98 require the UST owner/operator to develop and implement a reasonable, cost-effective corrective action to be performed by an Agency-certified site rehabilitation contractor. As the owner/operator for the release reported on June 22, 1993, you may choose one of two options as to how to proceed with this requirement: state lead or owner/operator lead.

State Lead Option:

- If you choose the state lead option, the Division will procure a certified site rehabilitation contractor to perform corrective action on your behalf. The Agency will enter into an enforceable contract with the awarded contractor. As long as you do not interfere with or prohibit the work at your site, you will not be responsible in the event the state selected contractor does not perform appropriately or does not make satisfactory progress towards achieving the established corrective action goals. To utilize the state lead option, please sign and return the applicable Permission and Right-of-Entry forms within 15 days of the date of this letter.

Owner/Operator Lead Option:

- If you select the owner/operator lead option, you will be required to select a contractor to perform the corrective action. In order to assist you in determining the clean-up technology, time frame, clean-up levels, and associated costs, the Division will prepare a technical specification package and provide you copies to send to contractors of your choice.

In addition, the Division will announce the request for solicitations in the South Carolina Business Opportunities, a bi-weekly state government publication, to ensure that an adequate solicitation response is obtained so that a fair and competitive price can be established. This announcement will clearly indicate that you will select the contractor to implement the corrective action.

- Compensation to the contractor will be from the SUPERB Account, but you may have the obligation to pay your selected contractor for any costs not approved by the Agency.
- The Division strongly suggests that a written contract between you and the selected contractor be developed following the completion of the solicitation process. The parties to this contract would be you and the contractor you choose; the Agency would not be a party to this contract. The Division's function would be to monitor and ensure progress of corrective action activities.
- If the contractor you select does not or cannot complete the required activities, you will be required to find another certified contractor to complete the required activities for the remainder of the existing financial approval amount. No additional funding from the SUPERB Account may be allowed. Under R.61-92, Part 280: Underground Storage Tank Control Regulations, you as the owner/operator are ultimately responsible to the Agency for the actions of your contractor. The Agency will pursue enforcement actions against you if the contractor you select does not make satisfactory progress towards achieving established corrective actions goals. To utilize the owner/operator lead option, please sign and return the enclosed Active Corrective Action Options Form within 15 days of the date of this letter.

On all correspondence or inquiries regarding this project, please reference UST Permit #15729. If you have any questions, please contact me by phone (803)896-6396, fax (803)896-6245 or by email at ShullSS@dhec.sc.gov.

Sincerely,

Shane S. Shull, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management

enc: Permission/Right-of-Entry forms
Active Corrective Action Options form

cc: Technical file (w/o enc)

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

MR HAROLD DETWILER JR
31 SOUTH CHURCH STREET
SUMMERTON SC 29148-9170

AUG 0 2 2013

Re: **QAPP Contractor Addendum**
HW Detwiler Company & Summerton Auto Service
37 S. Church Street & 29 S. Church St., Summerton, SC 29148
UST Permit Numbers 15729 & 02420
Releases Reported June 22, 1993 & May 11, 2010
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Management Division (Division) of the South Carolina Department of Health and Environmental Control (Agency) recognizes your commitment to continue work at these sites using Emerald, Inc., as your contractor. The next scope of work will be groundwater sampling and an updated site survey as outlined in the UST Quality Assurance Program Plan (QAPP) Revision 2.0. Please have your contractor plan to conduct a comprehensive sampling event for both sites and analyze for BTEX, Naphthalene, Oxygenates, 1,2-DCA, MTBE and EDB. In addition, an updated, comprehensive site survey is requested for both of the referenced sites. All work should be conducted in accordance with QAPP Revision 2.0, and in compliance with all applicable regulations. A copy of QAPP Rev. 2.0 is available at http://www.scdhec.gov/environment/lwm/usthome/Qapp.htm.

Your contractor must complete and submit a QAPP Contractor Addendum and cost agreement for the aforementioned scope of work within 30 days of the date of this letter. Upon review and approval of the Addendum and cost agreement, the Division will issue a directive to you for the work.

On all correspondence concerning this site, please reference UST Permit Numbers 15729 & 02420. If there are any questions, feel free to contact me by telephone (803) 898-0607, fax (803) 898-0673, or by e-mail at ShullSS@dhec.sc.gov.

Sincerely,

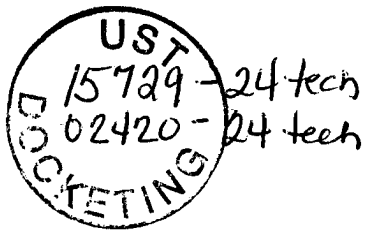
Shane S. Shull, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

cc: Emerald, Inc., P.O. Box 3050, Sumter, SC 29151-3050
Technical File

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

MR HAROLD W DETWILER JR
31 SOUTH CHURCH STREET
SUMMERTON SC 29148-0769

SEP 11 2013



Re: **Groundwater Sampling Directive**
HW Detwiler Company & Summerton Auto Service
37 South Church St. & 29 South Church St., Summerton, SC 29148
UST Permits 15729 & 02420; CA Nos. 44885 & 45867
Release Reported June 22, 1993 (UST Permit 15729)
Release No.3 Reported May 11, 2010 (UST Permit 02420)
Combined QAPP Addendum Received September 5, 2013
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Management Division (Division) of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced addendum submitted on your behalf by Emerald, Inc. In order to evaluate current conditions on these sites, sampling of the monitoring wells is necessary. All work should be conducted in accordance with the UST Quality Assurance Program Plan (QAPP) Revision 2.0 and must be conducted in compliance with all applicable regulations. A copy of the Agency's Quality Assurance Program Plan, Rev. 2.0, for the UST Management Division is available at http://www.scdhec.gov/environment/lwm/usthome/Qapp.htm.

Activities at the site should begin immediately upon receipt of this letter. Cost agreement number 44885 (UST Permit # 15729) and 45867 (UST Permit # 02420) have been approved for the amounts shown on the enclosed cost agreement forms. Costs have been approved for an updated comprehensive survey of both sites and comprehensive sampling of monitoring wells, water supply wells and surface waters. Samples should be analyzed for BTEX, Naphthalene, Oxygenates, 1,2 DCA, Ethanol, MTBE and EDB. Analyses should be in accordance with Appendix E of the QAPP Rev. 2.0 and to include duplicate samples, field and trip blanks.

The Monitoring Report and invoices are due within 60 days from the date of this letter. The report submitted at the completion of these activities should include the required information outlined in the QAPP. Please note that all applicable South Carolina certification requirements apply to the services and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

Emerald, Inc., can submit an invoice for direct payment from State Underground Petroleum Environmental Response Bank (SUPERB) Account for pre-approved costs. By law, the SUPERB Account cannot compensate any costs that are not pre-approved. Please note that applicable South Carolina certification requirements regarding the services and report preparation must be satisfied. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

Please note that Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the Agency is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be pre-approved by the Agency for the cost to be paid. The Agency reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, the Agency reserves the right to question and/or reject costs if deemed unreasonable and the right to audit project records at any time during the project or after completion of work.

Please note, if unnecessary dilutions are completed resulting in reporting limits of individual Chemicals of Concern (CoC) in excess of Risk-Based Screening Levels (RBSLs), the data cannot be used. In those cases, the Division may deny payment for any non-detect analysis where the reporting limit exceeds the RBSL. The UST Management Division encourages the use of 'J' values as necessary so the appropriate action can be determined for a release.

The Agency grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. The transport and disposal must be conducted in accordance with the QAPP. If the CoC concentrations based on laboratory analysis are below RBSLs, please contact the project manager for approval to dispose of soil and/or groundwater on site. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

On all correspondence regarding this site, please reference UST Permit numbers 15729 & 02420 and CA numbers 44885 & 45867. If you have any questions regarding this correspondence, please contact me by telephone at (803) 898-0607, by fax at (803) 898-0673, or by e-mail at ShullSS@dhec.sc.gov.

Sincerely,

Shane S. Shull, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreements 44885 and 45867
Signed Site Specific QAPP Contractor Addendum

cc: Emerald, Inc., P.O. Box 3050, Sumter, SC 29151-3050 (w/enc)
Technical File (w/enc)

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SCDHEC UST Programmatic QAPP
For
HW Detwiler Company
SCDHEC Site ID #15729
37 South Church Street
Summerton, South Carolina
And
Summerton Auto Service
SCDHEC Site ID #02420
29 South Church Street
Summerton, South Carolina

Prepared by:
William C. McClary, P.G.
Site Rehabilitation Contractor
Emerald, Inc.
2520 Tahoe Drive
Sumter, South Carolina
Phone: 803-469-5454

Date: 8/30/2013
SCDHEC Site Rehabilitation Contractor Certification Number UCC-067

Approvals

Shane Shull SCDHEC Project Manager	_____ Signature	Date 9-9-13
Ronny Lowder Contractor QA Manager	_____ Signature	Date 09/03/2013
William C. McClary, P.G. Site Rehabilitation Contractor	_____ Signature	Date 9-3-13
for Jeff Graham Laboratory Director	_____ Signature	Date 8/30/2013

Approved Cost Agreement 44885

Facility: 15729 H W DETWILER CO
SHULLSS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
01 PLAN						
		C	TIER II/COMP. PLAN/QAPP APP B	1.0000	525.00	525.00
03 COMPREHENSIVE SURVEY						
		A	COMPREHENSIVE SURVEY	3.0000	1,000.00	3,000.00
04 MOB/DEMOB						
		B	PERSONNEL	4.0000	290.00	1,160.00
10 SAMPLE COLLECTION						
		A	GROUND WATER	4.0000	55.00	220.00
		C	WATER SUPPLY	6.0000	30.00	180.00
		D	GROUNDWATER NO-PURGE	52.0000	35.00	1,820.00
		E	GAUGE WELL ONLY	13.0000	20.00	260.00
		H	FIELD BLANK	4.0000	5.00	20.00
11 ANALYSES						
	GW GROUNDWATER	A1	BTEXNM+OXYGS+1,2-DCA+ETH-8260B	83.0000	100.00	8,300.00
		F	EDB	79.0000	55.00	4,345.00
17 DISPOSAL						
		A	WASTEWATER	150.0000	0.80	120.00
19 RPT/PROJECT MNGT & COORDINATIO						
		PCT	PERCENT	0.1500	19,950.00	2,992.50
				Total Amount		22,942.50

Approved Cost Agreement 45867

Facility: 02420 SUMMERTON AUTO SERVICE

SHULLSS

PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
01 PLAN						
		C	TIER II/COMP. PLAN/QAPP APP B	1.0000	525.00	525.00
03 COMPREHENSIVE SURVEY						
		A	COMPREHENSIVE SURVEY	3.0000	1,000.00	3,000.00
04 MOB/DEMOB						
		B	PERSONNEL	1.0000	290.00	290.00
10 SAMPLE COLLECTION						
		A	GROUND WATER	10.0000	55.00	550.00
		D	GROUNDWATER NO-PURGE	1.0000	35.00	35.00
		H	FIELD BLANK	1.0000	5.00	5.00
11 ANALYSES						
	GW GROUNDWATER	A1	BTEXNM+OXYGS+1,2-DCA+ETH-8260B	13.0000	100.00	1,300.00
		F	EDB	12.0000	55.00	660.00
17 DISPOSAL						
		A	WASTEWATER	150.0000	0.80	120.00
19 RPT/PROJECT MNGT & COORDINATIO						
		PCT	PERCENT	0.1500	6,485.00	972.75
				Total Amount		7,457.75

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

UST
DEC 2 3 2013
PROGRAM

December 18, 2013

UST
25 tech
DOCKETING

Shane S. Shull, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management
SCDHEC
2600 Bull Street
Columbia, S.C. 29201

Re: H.W. Detwiler Co., 37 S. Church St., Summerton, SC 29148
UST Permit #15729; CA #44885
Report of Groundwater Sampling (December 17, 2013)
Clarendon County

Dear Mr. Shull:

On behalf of Mr. Harold Detwiler, Emerald, Inc. is providing you with one copy of the completed Report of Groundwater Sampling for the Detwiler site. As the report states, the horizontal and vertical extent of the groundwater contamination appears to be reasonably defined. Free phase product was detected in thirteen monitoring wells during this event. We have recommended a series of long duration AFVR events to remove the free product detected at the site and continued monitoring of the contaminant plume.

If you have any questions regarding the report and its findings, please contact either Chad McClary or myself at (803) 469-5454.

Yours very truly,
Emerald, Inc.

Ronny L. Lowder
President

RLL/jrb

Enclosure

cc: Mr. Harold W. Detwiler, Jr.

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

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TELEPHONE (803) 469-5454
FAX (803) 469-5465

REPORT OF GROUNDWATER SAMPLING
HW DETWILER COMPANY
37 SOUTH CHURCH STREET
SUMMERTON, SOUTH CAROLINA
UST PERMIT #15729
COST AGREEMENT #44885

Prepared For:

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

Prepared By:

Emerald, Inc.
UST Site Rehabilitation Contractor #67
P.O. Box 3050
2520 Tahoe Drive
Sumter, South Carolina 29151

December 17, 2013

Signature Page

This document entitled "Report of Groundwater Sampling", has been prepared for the South Carolina Department of Health and Environmental Control to describe investigative activities initiated at the HW Detwiler Company site located in Summerton, South Carolina. It has been prepared under the direct supervision of William C. McClary, P.G. in accordance with the UST Quality Assurance Division Plan and signed Contractor Addendum dated September 9, 2012. All questions or comments concerning this report should be directed to Ronny L. Lowder or William C. McClary, P.G., Emerald, Inc., at 803-469-5454.

Emerald, Inc.

Ronny L. Lowder
President

Emerald, Inc.

William C. McClary, P.G.
South Carolina Registration #2386

Report of Groundwater Sampling
HW Detwiler Company
37 South Church Street
Summerton, South Carolina

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Figure 2) - USGS Topographic Map
Figure 3) - Site Map
Figure 4) - Groundwater Contour Map
Figure 5) - Groundwater CoC Map

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A) Purge Logs
B) Analytical Data Sheets
C) Disposal Manifests
D) RLS Survey
E) Surrounding Property Owner Notifications
F) QAPP Contractor's Checklist

1.0 Introduction

The HW Detwiler Company (UST Permit #15729) site is located at 37 South Church Street in Summerton, Clarendon County, SC. Figure 1 contains a general location map showing surrounding roadways, and Figure 2 contains a topographic map for the area. The subject site is currently used as an office building. According to Clarendon County tax records, the site is currently owned by Helen D. Todd (710 Knotty Pine Road, Charleston, SC 29412). Formerly, the site was used by a construction company which stored gasoline in two underground storage tanks (USTs) for its fleet of vehicles. The two USTs, 1,000 gallons each, were permanently closed by removal in June 1993 by G&K Tank Services. A release of petroleum product was reported to SCDHEC in June 1993 and confirmed in July 1993. The responsible party for this release is Harold W. Detwiler Jr. (31 South Church Street, Summerton, SC 29148).

The Detwiler site is located within an area of mixed use. Commercial activities including a restaurant, a former gasoline service station (Summerton Auto Service SCDHEC Site ID #02420) and a convenience store currently maintaining USTs (A&P Convenience SCDHEC Site ID #13013 and SC650 SCDHEC Site ID #02422) are located west and northwest of the subject site respectively. The areas north, east and south of the subject site are used for residential purposes. According to local sources, a former gasoline station was located approximately 300 feet south of the HW Detwiler site (along the eastern side of S. Church Street) in the 1940s and 1950s. This area of the former station is near MW-15 as seen in Figure 3.

A site assessment was conducted by Duncan Environmental Associates, Inc. at the time of closure and a release notification was sent to SCDHEC on June 22, 1993. This assessment indicated soil contamination above the reporting limits for BTEX and TPH compounds.

In July 2000, an Initial Ground Water Assessment (IGWA) was conducted by Emerald, Inc. at the subject site. This assessment included the installation of one groundwater monitoring well. Gauging of this well indicated the presence of free product adjacent to the former UST

basin. In April 2002 Emerald, Inc. submitted a Tier II assessment report for the subject site. This assessment included field screening, the installation of fourteen additional monitoring wells, aquifer testing, and monitoring well sampling. Groundwater sampling indicated the groundwater contaminant plume was not fully defined. In April 2003, Emerald, Inc submitted a Tier II Assessment Report (Addendum 01). This assessment included field screening, monitoring well installation, monitoring well sampling and surface water sampling. This assessment was conducted to better define the horizontal and vertical extent of the contaminant plume. In February 2010, at the request of SCDHEC, Emerald, Inc. conducted a comprehensive groundwater sampling event to provide current groundwater quality data for the subject site. During this sampling event, four monitoring wells were not located and possibly destroyed. In August 2010, SCDHEC requested Aggressive Fluid Vapor Recovery Event (AFVR), additional monitoring well installation and monitoring well sampling at the subject site.

In June 2012, Emerald, Inc. submitted a Report of Monitoring Well Installation documenting the installation of twenty additional shallow monitoring wells at the subject site to better define the free product plume. In January 2012, at the request of SCDHEC, Emerald, Inc. conducted a comprehensive groundwater sampling event at the subject site to obtain current groundwater quality data.

In August 2013, SCDHEC requested a QAPP Contractor Addendum for a comprehensive groundwater sampling event at the subject site to obtain current groundwater quality data. In November 2013, Emerald, Inc. initiated work under the approved QAPP signed September 9, 2013. This report represents the findings of this event.

2.0 Site Activities

Emerald, Inc. personnel conducted this comprehensive groundwater sampling event at the HW Detwiler Company to provide current groundwater quality data. Field activities required to generate site-specific information for the site are described in detail within this section.

Figure 3 contains a site map for the site presenting well locations, relevant structures and utilities.

2.1 Static Water Level Measurement

Prior to well purging, sample collection or gauging of the 61 monitoring wells located at the subject site, water levels were taken to the nearest 0.01 foot using a graduated electronic indicator. Figure 3 contains a map for the HW Detwiler site presenting well locations, relevant structures and utilities. Monitoring wells MW-20 and MW-23 were not located during this sampling event. Access was not granted by the property owner to sample monitoring wells MW-32 and MW-35i during this sampling event. Measurements were taken from the surveyed top of the well casing so they could be referenced to a common datum. Water levels and groundwater elevations are summarized in Table 1. Based upon the groundwater elevations recorded during this sampling event, groundwater flow in the shallow aquifer appears to be toward the south. Depth to water measurements obtained during the initial sampling event was used to prepare the groundwater contour map for the site. See Figure 4 for a Groundwater Contour Map for the shallow aquifer. Free phase product was detected in 13 monitoring wells gauged during this sampling event.

The following table documents the of free phase product thickness recorded at the at the HW Detwiler site:

Monitoring Well	Product Thickness (ft.)
15729 MW-1	0.44
15729 MW-13R	0.04
15729 MW-15	2.76
15729 MW-28	1.18
15729 MW-36	0.78
15729 MW-39	1.01
15729 MW-40	1.56
15729 MW-41	0.41
15729 MW-43	3.32
15729 MW-45	1.87
15729 MW-46	2.29
15729 MW-49	2.24
15729 MW-51	2.47

2.2 Groundwater Sampling

On November 12 and 13, 2013, groundwater samples were collected from 48 monitoring wells (MW-2D, MW-3 through MW-12, MW-14, MW-16D, MW-17R, MW-18R, MW-19, MW-21, MW-22, MW-24 through MW-27, MW-29 through MW-31, MW-33, MW-34D, MW-37, MW-38, MW-42, MW-44, MW-47, MW-48, MW-50, MW-52 through MW-64 and MW-66) at the subject site.

In addition to these groundwater samples, four duplicate samples (MW-24, MW-37, MW-53 and MW-61), two Field Blanks and four Trip Blanks were also collected. One trip blank was included in each cooler shipped to the laboratory. Each sample collected at the site was documented as to the cooler in which it was placed and a dedicated trip blank was included in each cooler for quality control purposes.

Pre-existing wells that bracketed the watertable and had been sampled in the last year were not purged prior to sample collection. Pre-existing wells not bracketing the watertable

were purged by hand bailing until five well volumes were removed from the well, the pH, conductivity, temperature and turbidity readings were within 10% or dryness, whichever occurred first (see Well Purge Logs in Appendix A). Field equipment was properly calibrated as described in the site specific QAPP prior to obtaining readings at the site. Following well purging or gauging, a groundwater sample was collected from each well using a new disposable PVC bailer. Each groundwater sample was poured directly from the bailer into appropriate laboratory supplied containers for analysis. Downhole sampling equipment was properly decontaminated between each sampling location. A total of 62 gallons of purge water was treated on-site using an activated carbon drum. (See Appendix C for a copy of the disposal manifest).

Samples were immediately packed in crushed ice in the field ice chest and shipped to Pace Analytical, Inc. of Huntersville, NC (SC Certification #99006001) for laboratory analysis. Each sample was analyzed for BTEX, Naphthalene, MTBE, 1-2 DCA, 8 Oxygenates (EPA Method 8260B) and EDB (EPA Method 8011). Analytical results for the groundwater samples are presented on Tables 2 and 3 with the laboratory reports in Appendix B.

2.3 Water Supply Well Sampling

On November 13, 2013, samples were collected from one nearby water supply well. WSW-2 is an irrigation well located at 24 South Cantey Street (Dubose Residence). A sample was collected from a spigot at the well pump house in the back yard of the residence. Three more water supply wells have been previously identified with the site but were not sampled during this event. WSW-1 is an irrigation well located at 35 South Church Street (Property Owner Jean and Charlie Johnson, P.O. Box 698, Summerton, SC). This residence appears to be no longer occupied, with no power to the pump. WSW-3 and WSW-4 are located at 1021 Gipp Street (David Van Wynsberghe, Rt. 1 Box 521, Summerton, SC). WSW-3 is a water supply well supplying water to the residence and WSW-4 is an irrigation well located at the rear

of the same residence. The property owner would not allow access to the property for sampling of WSW-3 and WSW-4. Water supply well locations are presented on Figure 3.

Samples were collected after allowing the well pump to run for approximately 10 minutes or until the well pump turned on. Water supply well samples were packed in crushed ice in the field ice chest and shipped to Pace Analytical Services, Inc. of Huntersville, NC (SC Certification #99006001) for laboratory analysis. Each water supply well sample was documented as to the cooler in which it was placed and a dedicated trip blank was included in the cooler for quality control purposes. These samples were analyzed for BTEX, Naphthalene, MTBE, 1-2 DCA, 8 Oxygenates (EPA Method 8260B) and EDB (EPA Method 8011). Analytical results for these water supply well samples are presented on Tables 2 and 3 with the laboratory reports found in Appendix B.

2.4 Surface Water Sampling

On November 13, 2013, three surface water samples (SW-1, CS-1 and CS-2) were collected at the subject site. SW-1 was sampled from a sewer manhole located south of MW-45. This sample was collected by lowering a disposable bailer into the manhole to collect a sample. CS-1 was collected from Scotts Branch, on the western side of South Church Street. CS-2 was collected from Scotts Branch, east of the bridge over South Church Street. This sample was collected from the area surveyed for the stream cross section. CS-1 and CS-2 were collected by lowering laboratory supplied containers into the surface water body to collect a sample. One surface water previously sampled at the site was not sampled during this event. The property owner would not allow access to the property for sampling of PS-1. Surface water sampling locations are presented on Figure 3.

Surface water samples were packed in crushed ice in the field ice chest and shipped to Pace Analytical Services, Inc. of Huntersville, NC (SC Certification #99006001) for laboratory analysis. These samples were documented as to the cooler in which it was placed and a

dedicated trip blank was included in the cooler for quality control purposes. These samples were analyzed for BTEX, Naphthalene, MTBE, 1-2 DCA, 8 Oxygenates (EPA Method 8260B) and EDB (EPA Method 8011). Analytical results for these surface water samples are presented on Tables 2 and 3 with the laboratory reports found in Appendix B.

2.5 Analytical Results

Tables 2 and 3 summarize the groundwater analytical results at the subject site, and Appendix B contains a copy of the laboratory reports. Groundwater samples were collected from 48 monitoring wells and free product was gauged in 13 monitoring wells during this assessment. Measurable free product was detected in MW-1, MW-13R, MW-15, MW-28, MW-36, MW-39, MW-40, MW-41, MW-43, MW-45, MW-46, MW-49 and MW-51 during this sampling event. Concentrations of chemicals of concern have generally remained constant or increased since the last sampling event. Figure 5 presents a Groundwater CoC Map for the site.

2.6 Comprehensive Survey

A comprehensive survey was performed by Construction Support Services of Columbia, SC (Jay Joshi PLS #14811) personnel on November 20, 2013. This survey was conducted to locate the horizontal and vertical position of the monitoring wells, buildings, roadways, and utilities on and surrounding the subject site. Figure 3 presents the locations of monitoring wells and Table 2 contains the well head elevations for the monitoring wells. A copy of the RLS survey is presented in Appendix D.

3.0 Results, Conclusions, and Recommendations

During this assessment, groundwater samples were collected from 48 monitoring wells, 13 wells were found to contain free product, one water supply well and three surface water samples were collected at the HW Detwiler Company site. Measurable free product was detected in MW-1, MW-13R, MW-15, MW-28, MW-36, MW-39, MW-40, MW-41, MW-43,

MW-45, MW-46, MW-49 and MW-51 during this sampling event. Analytical results from groundwater samples indicate concentrations of chemicals of concern (CoCs) associated with the site have generally remained constant or increased since the last sampling event. Data collected during the event indicates that the direction of groundwater flow in the shallow aquifer is to the south. Free product detected in monitoring wells MW-15, MW-40, MW-41, MW-43 and MW-51 may be associated with a former gasoline service station located on this property. According to the current property owner, a service station maintaining USTs was demolished prior to construction of the residence currently occupying the location.

Given the above findings during this Report of Groundwater Sampling at the site, Emerald, Inc. recommends a series of long duration AFVR events to remove free product detected at the site and periodic sampling to monitor the contaminant plume.

TABLES

TABLE 1
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 1 OF 4

Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Turbidity (ntu)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
15729 MW-1	3/10/02	PROD	PROD	PROD	13-23	19.44	21.22	1.78	101.64	81.74
	4/12/03	PROD	PROD	PROD		11.40	15.09	3.69	101.64	89.28
	11/11/04	PROD	PROD	PROD		16.88	17.78	0.90	101.64	84.53
	12/21/09	PROD	PROD	PROD		16.34	16.85	0.51	101.64	85.17
	9/8/10	PROD	PROD	PROD		16.73	17.29	0.56	101.64	84.76
	11/19/10	PROD	PROD	PROD		17.25	18.13	0.88	101.64	84.16
	7/13/11	PROD	PROD	PROD		17.23	18.11	0.88	101.64	84.18
	1/21/13	PROD	PROD	PROD		17.00	17.98	0.98	101.64	84.39
	11/13/13	PROD	PROD	PROD		16.21	16.65	0.44	101.64	85.32
15729 MW-2D	3/10/02	--	--	--	42-47	--	18.29	--	101.96	83.67
	4/12/03	--	--	--		--	14.80	--	101.96	87.16
	12/21/09	--	--	--		--	16.68	--	101.96	85.28
	11/22/10	3.51	24.3	--		--	17.96	--	101.96	84.00
	7/13/11	4.76	25.8	--		--	18.23	--	101.96	83.73
	1/21/13	2.32	18.4	59		--	17.50	--	101.96	84.46
	11/13/13	2.94	21.4	33		--	16.93	--	101.96	85.03
15729 MW-3	3/10/02	--	--	--	13-23	--	18.09	--	102.01	83.92
	4/2/03	--	--	--		--	13.45	--	102.01	88.56
	12/21/09	--	--	--		--	16.53	--	102.01	85.48
	11/22/10	--	--	--		--	17.75	--	102.01	84.26
	7/13/11	5.09	23.6	--		--	17.71	--	102.01	84.30
	1/21/13	2.44	16.9	148		--	17.45	--	102.01	84.56
	11/13/13	2.27	17.5	13		--	17.76	--	102.01	84.25
15729 MW-4	3/10/02	--	--	--	15-25	--	17.39	--	101.37	83.98
	4/2/03	--	--	--		--	11.98	--	101.37	89.39
	12/21/09	--	--	--		--	15.95	--	101.37	85.42
	11/22/10	--	--	--		--	17.02	--	101.37	84.35
	7/13/11	4.63	23.7	--		--	16.99	--	101.37	84.38
	1/21/13	1.15	18.8	50		--	16.74	--	101.37	84.63
	11/13/13	1.78	20.4	16		--	16.12	--	101.37	85.25
15729 MW-5	3/10/02	--	--	--	15-25	--	15.52	--	100.04	84.52
	4/2/03	--	--	--		--	14.34	--	100.04	85.70
	12/21/09	--	--	--		--	14.13	--	100.04	85.91
	11/22/10	--	--	--		--	15.25	--	100.04	84.79
	1/21/13	1.45	21.5	27		--	14.87	--	100.04	85.17
	11/13/13	1.02	20.3	10		--	15.50	--	100.04	84.54
15729 MW-6	3/10/02	--	--	--	15-25	--	18.56	--	102.29	83.73
	4/2/03	--	--	--		--	15.70	--	102.29	86.59
	12/22/09	--	--	--		--	17.74	--	102.29	84.55
	11/22/10	--	--	--		--	18.51	--	102.29	83.78
	7/11/11	3.81	26.6	--		--	18.42	--	102.29	83.87
	1/15/13	1.55	21.3	320		--	18.21	--	102.29	84.08
	2/14/13	1.31	16.9	30.5		--	17.98	--	102.29	84.31
	11/13/13	1.97	16.6	211		--	17.97	--	102.29	84.32
15729 MW-7	3/10/02	--	--	--	10-20	--	14.55	--	96.77	82.22
	4/12/03	--	--	--		--	12.09	--	96.77	84.68
	12/22/09	--	--	--		--	13.85	--	96.77	82.92
	11/19/10	--	--	--		--	14.57	--	96.77	82.20
	7/11/11	1.60	25.3	--		--	14.80	--	96.77	81.97
	1/15/13	3.98	18.8	7		--	14.38	--	96.77	82.39
	2/14/13	3.92	17.2	32.7		--	13.83	--	96.77	82.94
	11/12/13	4.86	19.1	27			14.10	--	96.77	82.67
15729 MW-8	3/10/02	--	--	--	5-15	--	8.35	--	89.44	81.09
	4/12/03	--	--	--		--	3.10	--	89.44	86.34
	12/22/09	--	--	--		--	3.70	--	89.44	85.74
	11/19/10	--	--	--		--	8.36	--	89.44	81.08
	7/11/11	2.71	24.7	--		--	5.72	--	89.44	83.72
	1/11/13	6.21	18.0	348		--	5.50	--	89.44	83.94
	11/12/13	4.60	21.2	31		--	7.94	--	89.44	81.50
15729 MW-9	3/10/02	--	--	--	5-15	--	8.21	--	88.21	80.00
	4/12/03	--	--	--		--	5.40	--	88.21	82.81
	12/22/09	--	--	--		--	7.37	--	88.21	80.84
	11/19/10	--	--	--		--	8.14	--	88.21	80.07
	7/11/11	1.45	25.2	--		--	8.22	--	88.21	79.99
	1/11/13	3.82	19.0	>1,000		--	8.00	--	88.21	80.21
	11/12/13	2.85	21.2	53		--	7.81	--	88.21	80.40
15729 MW-10	3/10/02	--	--	--	8-18	--	12.81	--	92.89	80.08
	4/12/03	--	--	--		--	10.02	--	92.89	82.87
	12/22/09	--	--	--		--	11.88	--	92.89	81.01
	11/19/10	--	--	--		--	12.75	--	92.89	80.14
	7/11/11	5.39	25.3	--		--	12.82	--	92.89	80.07
	1/11/13	2.79	21.9	284		--	12.56	--	92.89	80.33
	11/12/13	1.30	21.3	15		--	12.23	--	92.89	80.66
15729 MW-11	3/10/02	--	--	--	15-25	--	20.61	--	101.81	81.20
	4/12/03	--	--	--		--	13.66	--	101.81	88.15
	12/21/09	--	--	--		--	19.46	--	101.81	82.35
	11/19/10	--	--	--		--	20.36	--	101.81	81.45
	7/11/11	3.00	26.3	--		--	20.26	--	101.81	81.55
	1/14/13	2.01	22.4	7		--	20.20	--	101.81	81.61
	11/12/13	3.88	20.2	54		--	19.10	--	101.81	82.71

Notes:

1. ug/l = micrograms per liter
2. mg/l = milligrams per liter
3. NT = Not Tested
4. NL = Not Located
5. PROD = Free Phase Product Detected
6. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline

TABLE 1
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
PAGE 2 OF 4

Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Turbidity (ntu)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
15729 MW-12	3/10/02	--	--	--	15-25	--	20.29	--	103.42	83.13
	4/2/03	--	--	--		--	13.52	--	103.42	89.90
	12/21/09	--	--	--		--	18.57	--	103.42	84.85
	11/22/10	--	--	--		--	19.75	--	103.42	83.67
	7/13/11	4.13	24.1	--		--	19.70	--	103.42	83.72
	1/21/13	3.71	19.8	221		--	19.50	--	103.42	83.92
	11/13/13	4.21	18.6	12		--	18.50	--	103.42	84.92
15729 MW-13	3/10/02	PROD	PROD	PROD	15-25	19.10	20.38	1.28	102.69	83.26
	4/2/03	PROD	PROD	PROD		14.45	14.93	0.48	102.69	88.12
	11/11/04	PROD	PROD	PROD		18.40	19.10	0.70	102.69	84.11
	12/22/09	NL	NL	NL		NL	NL	NL	102.69	NL
15729 MW-13R	11/19/10	PROD	PROD	PROD	12-22	18.88	20.11	1.23	102.76	83.56
	7/11/11	PROD	PROD	PROD		19.08	19.19	0.11	102.76	83.65
	1/15/13	PROD	PROD	PROD		18.85	19.15	0.30	102.76	83.83
	11/12/13	PROD	PROD	PROD		18.42	18.46	0.04	102.76	84.33
15729 MW-14	3/10/02	--	--	--	15-25	--	17.33	--	99.07	81.74
	4/12/03	--	--	--		--	12.39	--	99.07	86.68
	12/22/09	--	--	--		--	16.40	--	99.07	82.67
	11/19/10	--	--	--		--	17.20	--	99.07	81.87
	7/11/11	1.90	26.0	--		--	12.19	--	99.07	86.88
	1/14/13	1.50	20.4	5		--	17.00	--	99.07	82.07
	11/12/13	3.92	19.8	111		--	16.37	--	99.07	82.70
15729 MW-15	3/10/02	--	--	--	15-25	--	19.75	--	101.93	82.18
	4/12/03	--	--	--		--	12.94	--	101.93	88.99
	12/21/09	--	--	--		--	18.61	--	101.93	83.32
	11/19/10	PROD	PROD	PROD		19.36	19.57	0.21	101.93	82.52
	7/11/11	PROD	PROD	PROD		19.26	19.56	0.30	101.93	82.59
	1/14/13	PROD	PROD	PROD		18.72	21.99	3.27	101.93	82.36
	11/12/13	PROD	PROD	PROD		17.54	20.30	2.76	101.93	83.67
15729 MW-16D	4/2/03	--	--	--	65-75	--	12.10	--	101.84	89.74
	12/21/09	--	--	--		--	16.93	--	101.84	84.91
	11/22/10	4.21	24.4	--		--	18.18	--	101.84	83.66
	7/13/11	4.45	27.4	--		--	18.31	--	101.84	83.53
	1/21/13	1.18	16.3	21		--	17.90	--	101.84	83.94
	11/12/13	0.76	20.7	142		--	17.09	--	101.84	84.75
15729 MW-17	4/2/03	--	--	--	8-18	--	9.50	--	98.81	89.31
	12/22/09	NL	NL	NL		NL	NL	NL	98.81	NL
15729 MW-17R	11/22/10	4.03	22.5	--	10-20	--	13.40	--	98.86	85.46
	1/21/13	1.21	21.8	12		--	12.97	--	98.86	85.89
	11/13/13	1.44	21.2	43		--	12.40	--	98.86	86.46
15729 MW-18	4/2/03	--	--	--	13-23	--	13.45	--	100.86	87.41
	12/22/09	NL	NL	NL		NL	NL	NL	100.86	NL
15729 MW-18R	11/22/10	4.18	20.5	--	12-22	--	14.38	--	99.32	84.94
	1/21/13	0.85	20.6	72		--	14.35	--	99.32	84.97
	11/13/13	1.38	18.6	317		--	13.73	--	99.32	85.59
15729 MW-19	4/12/03	--	--	--	5-15	--	7.60	--	92.78	85.18
	12/22/09	--	--	--		--	9.90	--	92.78	82.88
	11/19/10	--	--	--		--	10.58	--	92.78	82.20
	7/11/11	4.60	27.1	--		--	10.61	--	92.78	82.17
	1/15/13	1.30	17.9	121		--	10.38	--	92.78	82.40
	2/14/13	2.21	16.1	99		--	9.66	--	92.78	83.12
	11/12/13	1.80	18.5	47		--	10.17	--	92.78	82.61
15729 MW-20	4/12/03	--	--	--	3-13	--	3.52	--	85.47	81.95
	12/22/09	--	--	--		--	4.89	--	85.47	80.58
	11/19/10	--	--	--		--	5.47	--	85.47	80.00
	7/11/11	1.70	26.3	--		--	5.57	--	85.47	79.90
	1/11/13	NL	NL	NL		NL	NL	NL	85.47	NL
	11/12/13	NL	NL	NL		NL	NL	NL	85.47	NL
15729 MW-21	4/12/03	--	--		3-13	--	5.05	--	89.24	84.19
	12/22/09	--	--			--	8.67	--	89.24	80.57
	11/19/10	--	--			--	9.90	--	89.24	79.34
	7/11/11	5.80	26.1			--	10.00	--	89.24	79.24
	1/11/13	1.33	21.7	533		--	9.60	--	89.24	79.64
	11/12/13	1.85	21.5	24		--	9.19	--	89.24	80.05
15729 MW-22	4/12/03	--	--	--	10-25	--	11.96	--	101.70	89.74
	12/22/09	--	--	--		--	19.87	--	101.70	81.83
	11/19/10	--	--	--		--	20.77	--	101.70	80.93
	7/11/11	4.83	26.7	--		--	20.70	--	101.70	81.00
	1/14/13	2.28	20.2	63		--	20.73	--	101.70	80.97
	11/12/13	1.06	19.7	25		--	19.21	--	101.70	82.49
15729 MW-23	4/12/03	--	--	--	10-25	--	13.87	--	103.32	89.45
	12/22/09	NL	NL	NL		NL	NL	NL	103.32	NL
	1/11/13	NL	NL	NL		NL	NL	NL	103.32	NL
	11/12/13	NL	NL	NL		NL	NL	NL	103.32	NL

Notes:

1. ug/l = micrograms per liter
2. mg/l = milligrams per liter
3. NT = Not Tested
4. NL = Not Located
5. PROD = Free Phase Product Detected
6. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline

TABLE 1
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
PAGE 3 OF 4

Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Turbidity (ntu)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
15729 MW-24	11/22/10	4.40	21.4	--	13-23	--	19.48	--	103.34	83.86
	7/11/11	3.33	26.1	--		--	19.39	--	103.34	83.95
	1/21/13	1.06	20.6	29		--	19.21	--	103.34	84.13
	11/13/13	1.44	17.9	16		--	18.63	--	103.34	84.71
15729 MW-25	11/22/10	4.01	21.6	--	12-22	--	18.26	--	101.19	82.93
	7/11/11	1.91	27.0	--		--	18.19	--	101.19	83.00
	1/15/13	0.74	20.5	19		--	18.02	--	101.19	83.17
	2/14/13	1.96	18.1	47		--	17.85	--	101.19	83.34
	11/13/13	1.79	17.6	11		--	17.46	--	101.19	83.73
15729 MW-26	11/19/10	6.41	19.4	--	12-22	--	16.49	--	97.73	81.24
	7/11/11	3.03	26.1	--		--	16.50	--	97.73	81.23
	1/14/13	3.82	20.6	9		--	16.30	--	97.73	81.43
	11/12/13	4.31	22.3	45		--	15.66	--	97.73	82.07
15729 MW-27	11/19/10	5.40	21.0	--	12-22	--	17.89	--	99.04	81.15
	7/11/11	2.80	27.3	--		--	17.85	--	99.04	81.19
	1/14/13	1.02	21.6	97		--	17.68	--	99.04	81.36
	11/12/13	4.14	21.2	69		--	16.90	--	99.04	82.14
15729 MW-28	11/22/10	3.51	24.7	--	12-22	--	17.33	--	101.46	84.13
	1/21/13	PROD	PROD	PROD		16.65	17.98	1.33	101.46	84.46
	11/13/13	PROD	PROD	PROD		16.14	17.32	1.18	101.46	85.01
15729 MW-29	11/22/10	4.39	20.7	--	13-23	--	16.39	--	100.77	84.38
	7/13/11	4.11	23.8	--		--	16.36	--	100.77	84.41
	1/21/13	1.55	20.7	30		--	16.12	--	100.77	84.65
	11/13/13	1.53	19.7	13		--	15.46	--	100.77	85.31
15729 MW-30	11/22/10	5.83	20.3	--	13-23	--	20.49	--	102.90	82.41
	7/11/11	4.41	26.9	--		--	20.24	--	102.90	82.66
	1/21/13	1.45	17.9	57		--	20.23	--	102.90	82.67
	11/13/13	2.63	16.9	7		--	19.20	--	102.90	83.70
15729 MW-31	11/19/10	6.20	20.9	--	12-22	--	18.80	--	99.98	81.18
	7/11/11	3.03	27.1	--		--	18.71	--	99.98	81.27
	1/14/13	2.31	21.3	5		--	18.65	--	99.98	81.33
	11/12/13	4.49	20.5	586		--	17.49	--	99.98	82.49
15729 MW-32	11/19/10	6.89	20.5	--	2-12	--	4.24	--	83.50	79.26
	7/11/11	1.05	24.2	--		--	4.49	--	83.50	79.01
	1/11/13	1.97	16.7	185		--	4.15	--	83.50	79.35
	11/12/13	NS	NS	NS		NS	NS	NS	83.50	NS
15729 MW-33	11/19/10	5.70	21.5	--	14-24	--	16.31	--	98.26	81.95
	7/11/11	2.10	24.9	--		--	16.35	--	98.26	81.91
	1/14/13	1.41	19.5	58		--	16.12	--	98.26	82.14
	11/12/13	1.50	20.0	30		--	15.66	--	98.26	82.60
15729 MW-34D	11/19/10	4.11	21.2	--	45-50	--	16.68	--	97.98	81.30
	7/11/11	0.04	26.4	--		--	16.73	--	97.98	81.25
	1/14/13	1.71	20.7	34		--	16.50	--	97.98	81.48
	11/12/13	3.30	23.3	>1,000		--	15.61	--	97.98	82.37
15729 MW-35i	11/19/10	6.44	21.4	--	26-31	--	4.07	--	83.57	79.50
	7/11/11	1.50	25.0	--		--	4.31	--	83.57	79.26
	1/11/13	6.37	18.0	22		--	4.02	--	83.57	79.55
	11/12/13	NS	NS	NS		NS	NS	NS	83.57	NS
15729 MW-36	7/11/11	3.40	27.6	--	15-25	--	17.74	--	101.71	83.97
	1/15/13	PROD	PROD	PROD		17.32	17.36	0.04	101.71	84.38
	11/13/13	PROD	PROD	PROD		16.90	17.68	0.78	101.71	84.61
15729 MW-37	7/13/11	4.96	27.1	--	15-25	--	19.68	--	103.21	83.53
	1/21/13	1.47	18.9	103		--	19.50	--	103.21	83.71
	11/13/13	1.42	18.1	34		--	18.86	--	103.21	84.35
15729 MW-38	7/11/11	3.99	26.7	--	15-25	--	18.20	--	101.92	83.72
	1/15/13	0.85	23.8	42		--	18.12	--	101.92	83.80
	2/14/13	0.98	19.5	23		--	17.86	--	101.92	84.06
	11/13/13	0.94	17.3	36		--	17.64	--	101.92	84.28
15729 MW-39	7/11/11	PROD	PROD	PROD	15-25	18.15	20.10	1.95	101.99	83.33
	1/15/13	PROD	PROD	PROD		18.23	18.28	0.05	101.99	83.75
	11/13/13	PROD	PROD	PROD		17.72	18.73	1.01	101.99	84.01
15729 MW-40	7/11/11	PROD	PROD	PROD	15-25	18.45	20.37	1.92	102.15	83.20
	1/21/13	PROD	PROD	PROD		18.41	20.20	1.79	102.15	83.27
	11/13/13	PROD	PROD	PROD		17.82	19.38	1.56	102.15	83.92
15729 MW-41	7/11/11	1.03	26.1	Sheen	15-25	Sheen	18.73	Sheen	101.29	82.56
	1/14/13	PROD	PROD	PROD		18.60	19.00	0.40	101.29	82.59
	11/12/13	PROD	PROD	PROD		17.63	18.04	0.41	101.29	83.55

Notes:

1. ug/l = micrograms per liter
2. mg/l = milligrams per liter
3. NT = Not Tested
4. NL = Not Located
5. PROD = Free Phase Product Detected
6. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline
7. NS = Not Sampled, MW-32 & MW-35i samples not collected due to property owner's refusal for access

TABLE 1
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
PAGE 4 OF 4

Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Turbidity (ntu)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
15729 MW-42	7/11/11	0.50	26.9	--	15-25	--	19.11	--	101.67	82.56
	1/14/13	0.63	22.1	4		--	19.08	--	101.67	82.59
	11/12/13	NR	20.6	43		--	18.03	--	101.67	83.64
15729 MW-43	7/11/11	PROD	PROD	PROD	15-25	18.88	20.54	1.66	101.92	82.61
	1/14/13	PROD	PROD	PROD		18.68	21.11	2.43	101.92	82.61
	11/12/13	PROD	PROD	PROD		17.26	20.58	3.32	101.92	83.80
15729 MW-44	7/11/11	4.14	27.0	--	15-25	--	18.70	--	102.42	83.72
	1/15/13	1.11	22.6	38		--	18.48	--	102.42	83.94
	2/14/13	0.95	20.1	72.2		--	18.34	--	102.42	84.08
	11/13/13	0.61	19.9	18		--	18.06	--	102.42	84.36
15729 MW-45	7/11/11	4.44	27.3	--	15-25	--	18.33	--	101.50	83.17
	1/15/13	PROD	PROD	PROD		17.50	17.52	0.02	101.50	83.99
	11/13/13	PROD	PROD	PROD		17.28	19.15	1.87	101.50	83.73
15729 MW-46	1/21/13	PROD	PROD	PROD	15-25	18.90	20.89	1.99	103.26	83.84
	11/13/13	PROD	PROD	PROD		18.16	20.45	2.29	103.26	84.50
15729 MW-47	1/15/13	1.19	23.4	371	15-25	--	19.60	--	103.19	83.59
	2/14/13	1.19	20.3	45.3		--	20.81	--	103.19	82.38
	11/13/13	1.32	18.2	23		--	18.93	--	103.19	84.26
15729 MW-48	1/21/13	1.87	18.5	41	15-25	--	19.14	--	102.53	83.39
	11/13/13	3.16	17.6	12		--	18.48	--	102.53	84.05
15729 MW-49	1/21/13	PROD	PROD	PROD	15-25	18.40	20.50	2.10	101.83	82.88
	11/13/13	PROD	PROD	PROD		17.50	19.74	2.24	101.83	83.75
15729 MW-50	1/21/13	1.31	17.5	133	15-25	--	18.87	--	101.66	82.79
	11/13/13	1.56	14.3	10		--	17.93	--	101.66	83.73
15729 MW-51	1/14/13	PROD	PROD	PROD	15-25	18.75	21.10	2.35	102.06	82.70
	11/12/13	PROD	PROD	PROD		17.69	20.16	2.47	102.06	83.73
15729 MW-52	1/14/13	0.58	22.7	3	15-25	--	19.25	--	101.77	82.52
	11/12/13	0.79	20.7	17		--	18.08	--	101.77	83.69
15729 MW-53	1/14/13	0.71	22.2	47	15-25	--	19.17	--	101.14	81.97
	11/12/13	0.90	21.1	351		--	18.08	--	101.14	83.06
15729 MW-54	1/14/13	0.72	23.4	4	15-25	--	19.07	--	101.12	82.05
	11/12/13	0.98	21.5	11		--	18.10	--	101.12	83.02
15729 MW-55	1/11/13	0.87	20.2	500	14-24	--	18.10	--	99.37	81.27
	11/12/13	2.86	20.8	18		--	17.14	--	99.37	82.23
15729 MW-56	1/11/13	0.60	21.5	>1,000	13-23	--	16.65	--	97.92	81.27
	11/12/13	1.26	21.1	27		--	15.97	--	97.92	81.95
15729 MW-57	1/11/13	0.11	21.4	>1,000	12-22	--	15.80	--	97.31	81.51
	11/12/13	1.21	22.2	10		--	15.31	--	97.31	82.00
15729 MW-58	1/15/13	1.83	21.4	15	14-24	--	17.72	--	100.49	82.77
	2/14/13	2.48	19.5	28.6		--	17.42	--	100.49	83.07
	11/13/13	3.34	19.1	11		--	17.15	--	100.49	83.34
15729 MW-59	1/21/13	1.14	20.4	16	13-23	--	16.92	--	101.59	84.67
	11/13/13	0.78	21.9	125		--	16.58	--	101.59	85.01
15729 MW-60	1/15/13	0.77	22.6	21	15-25	--	18.82	--	103.08	84.26
	2/14/13	1.01	20.0	22.1		--	18.76	--	103.08	84.32
	11/13/13	1.16	17.6	15		--	18.42	--	103.08	84.66
15729 MW-61	1/15/13	0.67	23.4	41	15-25	--	18.90	--	102.85	83.95
	2/14/13	0.66	20.8	14.6		--	18.84	--	102.85	84.01
	11/13/13	1.41	19.0	40		--	18.39	--	102.85	84.46
15729 MW-62	1/21/13	3.03	16.8	55	15-25	--	17.74	--	101.99	84.25
	11/13/13	2.35	20.2	10		--	16.96	--	101.99	85.03
15729 MW-63	1/15/13	0.91	22.5	27	14-24	--	18.01	--	102.01	84.00
	2/14/13	1.19	18.8	99.9		--	17.91	--	102.01	84.10
	11/13/13	0.76	17.7	45		--	17.62	--	102.01	84.39
15729 MW-64	1/15/13	4.12	22.4	86	14-24	--	17.49	--	100.95	83.46
	2/14/13	3.65	17.6	48		--	17.22	--	100.95	83.73
	11/13/13	4.90	15.5	20		--	17.22	--	100.95	83.73
15729 MW-66	1/15/13	2.48	23.3	113	14-24	--	18.42	--	101.97	83.55
	2/14/13	2.58	18.3	10.6		--	0.00	--	101.97	101.97
	11/13/13	1.64	17.2	10		--	17.70	--	101.97	84.27

Notes:

1. ug/l = micrograms per liter
2. mg/l = milligrams per liter
3. NT = Not Tested
4. NL = Not Located
5. PROD = Free Phase Product Detected
6. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline
7. NR = Not Recorded, Dissolved Oxygen not obtained due to meter malfunction at time of reading

TABLE 2
GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 1 OF 5

Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-1	4/2/03	Free Product - 3.69 Feet								
	12/21/09	Free Product - 0.51 Feet								
	7/13/11	Free Product - 0.88 Feet								
	1/21/13	Free Product - 0.98 Feet								
	11/13/13	Free Product - 0.44 Feet								
15729 MW-2D	4/12/03	**22.6**	**19.8**	**28.3**	**47.9**	ND	**9.90**	NT	**0.15**	NT
	12/21/09	ND	**0.470**	**1.90**	**2.41**	**0.660**	**1.07**	ND	ND	**8.20**
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-3	4/2/03	ND	**1.0**	ND	ND	ND	ND	NT	ND	NT
	12/21/09	ND	ND	ND	ND	ND	**0.610**	ND	ND	**3.20**
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-4	7/13/01	**2,860**	**1,330**	**581**	**1,490**	**198**	**146**	NT	**13.6**	NT
	12/21/09	**114**	**5.91**	**22.4**	**5.97**	**2.98**	**9.72**	ND	**0.1709**	**13.6**
	11/22/10	**169**	**3.5J**	**3.5J**	<10.0	**4.9J**	**6.7**	**5.5**	**0.13**	<5.0
	7/13/11	**688**	**184**	**129**	**283**	**26.1**	**52.6**	**18.2**	**4.8**	NT
	1/21/13	**1,050**	**610**	**218**	**521**	**52.1**	**77.3**	**25.0**	**9.7**	NT
	11/13/13	**410**	**18.0**	**51.9**	**23.1**	**12.3**	**16.0**	**6.9**	**0.88**	NT
15729 MW-5	4/2/03	**1,650**	**3,000**	**372**	**1,640**	**246**	**94.7**	NT	**22.0**	NT
	12/21/09	**2,610**	**5,820**	**735**	**3,370**	**64.6**	**156**	ND	**34.78**	**84.5**
	11/22/10	**63.9**	**154**	**22.1**	**107**	<5.0	**6.3**	<5.0	**0.91**	<5.0
	1/21/13	**209**	**815**	**135**	**530**	**2.3J**	**24.4**	**1.9J**	**1.3**	NT
	11/13/13	**21.9**	**40.1**	**50.2**	**37.8**	<5.0	**52.7**	<5.0	**0.14**	NT
15729 MW-6	4/2/03	ND	**2.0**	ND	**2.2**	**6.8**	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	**2.61**	ND	ND	ND	**33.3**
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-7	4/12/03	ND	ND	ND	ND	**15.3**	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	**3.10**	ND	ND	ND	**31.2**
	11/19/10	<5.0	<5.0	<5.0	<10.0	**3.1J**	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-8	4/12/03	ND	ND	ND	ND	**3.3**	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	**21.4**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019	NT
15729 MW-9	4/12/03	**1.4**	ND	ND	ND	**181**	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	**6.86**	ND	ND	ND	**136**
	11/19/10	<5.0	<5.0	<5.0	<10.0	**6.5**	<5.0	<5.0	<0.020	**17.9**
	7/11/11	<5.0	<5.0	<5.0	<10.0	**1.9J**	<5.0	<5.0	<0.020	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	**38.4**	<5.0	<5.0	<0.020	NT
15729 MW-10	4/12/03	**2,000**	**34.4**	**169**	**25.0**	**38.6**	**22.6**	NT	ND	NT
	12/22/09	**1,250**	**20.3**	**44.8**	**15.0**	**58.1**	**12.0**	ND	**0.1719**	**43.6**
	11/19/10	**42.3**	<5.0	**3.8J**	<10.0	**38.3**	<5.0	**13.6**	<0.020	<5.0
	7/11/11	**777**	**5.0**	**14.7**	**8.3J**	**54.4**	**6.3**	**12.0**	<0.020	NT
	1/11/13	**208**	<10.0	**15.6**	<20.0	**38.1**	<10.0	**5.9J**	<0.020	NT
	11/12/13	**34.3**	<5.0	**3.4J**	<10.0	**7.4**	<5.0	<5.0	<0.020	NT
15729 MW-11	4/12/03	**1,100**	**4.2**	**11.2**	**3.2**	ND	**8.80**	NT	**0.23**	NT
	12/21/09	**181**	**32.3**	**20.2**	**6.90**	**1.28**	**8.65**	ND	ND	**34.1**
	11/19/10	**63.6**	<5.0	**1.1J**	<10.0	**2.3J**	**4.0J**	<5.0	<0.020	<5.0
	7/11/11	**72.9**	**20.6**	**8.9**	**18.7**	<5.0	**4.3J**	**2.7J**	<0.020	NT
	1/14/13	**1,470**	**23.9J**	**49.1J**	<100	**28.3J**	**36.5J**	<50.0	**0.082**	NT
	11/12/13	**1.8J**	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-12	4/2/03	ND	**1.3**	ND	**1.5**	ND	ND	NT	ND	NT
	12/21/09	ND	**0.530**	ND	ND	ND	**1.54**	ND	ND	**17.6**
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT

Notes:

1. ug/l = micrograms per liter
2. mg/l = milligrams per liter
3. ND = Not Detected
4. NT = Not Tested
5. NL = Not Located
6. PROD= Free Phase Product detected
7. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

TABLE 2
GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 2 OF 5

Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-13	4/2/03	Free Product - 0.48 Feet								
	12/21/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-13R	11/19/10	Free Product - 1.23 Feet								
	7/11/11	Free Product - 0.11 Feet								
	1/15/13	Free Product - 0.30 Feet								
	11/12/13	Free Product - 0.04 Feet								
15729 MW-14	4/12/03	**1,190**	**501**	**390**	**344**	**2,110**	**41.3**	NT	**0.12**	NT
	12/22/09	**1,250**	**20.3**	**44.8**	**15.0**	**58.1**	**12.0**	ND	**0.1719**	**43.6**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	**323**	**593**	**78.7**	**216**	**4.5J**	**4.9J**	<5.0	<0.020	NT
	1/14/13	**421**	**431**	**200**	**497**	**10.5J**	**33.3**	<12.5	**0.024**	NT
	11/12/13	**185**	**154**	**96.1**	**120**	**2.9J**	**7.8**	<5.0	<0.019	NT
15729 MW-15	4/12/03	**7,160**	**15,300**	**1,850**	**8,350**	ND	**282**	NT	**152**	NT
	12/21/09	**6,690**	**18,000**	**3,700**	**13,700**	**5.66**	**844**	ND	**46.78**	**244**
	11/19/10	Free Product - 0.21 Feet								
	7/11/11	Free Product - 0.30 Feet								
	1/14/13	Free Product - 3.27 Feet								
	11/12/13	Free Product - 2.76 Feet								
15729 MW-16D	4/2/03	**4.4**	**16.9**	**5.2**	**19.6**	ND	ND	NT	ND	NT
	12/21/09	**0.870**	**1.37**	**2.00**	**4.48**	ND	**0.890**	ND	ND	**4.00**
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	**1.7J**	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-17	4/2/03	**200**	**700**	ND	**720**	ND	ND	NT	**0.04**	NT
	12/21/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-17R	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	**2.3J**	<5.0	<0.020	NT
15729 MW-18	4/2/03	**6.5**	**426**	**327**	**978**	**70.8**	**49.0**	NT	ND	NT
	12/21/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-18R	11/22/10	<5.0	<5.0	<5.0	<10.0	**4.1J**	<5.0	<5.0	<0.019	<5.0
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	**2.6J**	<5.0	<5.0	<0.020	NT
15729 MW-19	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	**2.35**	ND	ND	ND	**210**
	11/19/10	<5.0	<5.0	<5.0	<10.0	**3.9J**	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-20	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	NT	ND	**214**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	**7.5**
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/11/13	NL	NL	NL	NL	NL	NL	NL	NL	NL
	11/12/13	NL	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-21	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	**63.0**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	**0.028**	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	**0.023**	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	**0.029**	NT
15729 MW-22	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	**49.1**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-23	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
	11/19/10	NL	NL	NL	NL	NL	NL	NL	NL	NL
	1/11/13	NL	NL	NL	NL	NL	NL	NL	NL	NL
	11/12/13	NL	NL	NL	NL	NL	NL	NL	NL	NL

Notes:

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TABLE 2
GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
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Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-24	11/22/10	6,830	17,300	2,320	10,400	<500	397J	<500	87.8	65.4
	7/11/11	4,940	10,200	1,080	6,800	<500	226J	<500	146	NT
	1/21/13	6,410	6,130	778	3,160	233J	254J	<500	58.4	NT
	11/13/13	6,380	12,400	1,220	4,900	51.3	282J	106	105	NT
15729 MW-24 DUP	1/21/13	6,880	6,620	882	3,470	233J	269J	<500	63.2	NT
	11/13/13	6,670	11,100	1,150	4,550	58.0	271J	117	95.2	NT
15729 MW-25	11/22/10	4,060	5,550	471J	1,720	266J	<500	<500	54.9	17.0
	7/11/11	4,440	7,500	890	2,740	103J	142J	<250	30.9	NT
	2/14/13	2,810	5,150	783	2,260	<100	131	<100	3.5	NT
	11/13/13	29.1	9.4	6.6	24.1	<5.0	8.0	<5.0	14.7	NT
15729 MW-26	11/19/10	211	10.7	15.2	17.7	11.8	4.4J	1.7J	<0.020	<5.0
	7/11/11	257	72.7	81.3	103	7.1J	11.3	<10.0	<0.020	NT
	1/14/13	1,080	324	235	505	23.7J	46.1J	<50.0	<0.021	NT
	11/12/13	390	63.5	143	266	15.3	37.9	4.7J	<0.019	NT
15729 MW-27	11/19/10	177	2.2J	8.4	<10.0	9.1	<5.0	4.3J	<0.020	<5.0
	7/11/11	461	3.8J	11.8	23.4	12.3	8.7	9.1	0.040	NT
	1/14/13	178	<5.0	9.8	4.5J	6.9	<5.0	<5.0	<0.021	NT
	11/12/13	2,510	27.6	175	19.8	46.0	31.1	27.1	0.15	NT
15729 MW-28	11/22/10	3,410	5,070	698	3,250	164J	173J	<250	22.8	52.1
	1/21/13	Free Product - 1.33 Feet								
	11/13/13	Free Product - 1.18 Feet								
15729 MW-29	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	3.8J	<5.0	<5.0	<10.0	<5.0	3.3J	<5.0	<0.020	NT
	11/13/13	<5.0	2.0J	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-30	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	298	1.6J	<5.0	5.2J	<5.0	43.9	3.1J	0.29	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-31	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.18	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.080	NT
	1/14/13	135	<5.0	<5.0	<10.0	<5.0	3.1J	<5.0	0.058	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-32	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS	NS
15729 MW-33	11/19/10	144	714	152	419	<50.0	<50.0	<50.0	0.20	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	20.4	53.6	17.0	45.7	<5.0	<5.0	<5.0	0.039	NT
15729 MW-34D	11/19/10	<5.0	<5.0	<5.0	<10.0	4.1J	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	2.0J	<5.0	<5.0	<0.020	NT
	1/14/13	<5.0	<5.0	<5.0	<10.0	1.9J	<5.0	<5.0	<0.021	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-35i	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS	NS
15729 MW-36	7/11/11	2,130	2,790	527	2,180	95.1J	126	<100	14.1	NT
	1/15/13	Free Product - 0.04 Feet								
	11/13/13	Free Product - 0.78 Feet								
15729 MW-37	7/13/11	2,760	1,580	409	808	<125	86.4J	75.5J	14.5	NT
	1/21/13	2,810	220	244	224J	80.2J	134	81.6J	5.0	NT
	11/13/13	633	210	112	165	10.9	20.7	17.6	2.5	NT
15729 MW-37 DUP	1/21/13	2,980	238	257	229J	79.0J	139	84.0J	5.1	NT
	11/13/13	39.5	3.7J	4.6J	<10.0	<5.0	2.7J	1.9J	1.2	NT
15729 MW-38	7/11/11	2,790	16,700	2,590	12,300	<500	349J	<500	20.7	NT
	2/14/13	1,880	6,340	948	5,770	<250	274	<250	15.7	NT
	11/13/13	1,340	4,180	775	3,770	<5.0	184	<5.0	8.6	NT

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GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 4 OF 5

Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-38 DUP	2/14/13	2,250	6,180	1,220	6,020	<250	234J	<250	18.0	NT
15729 MW-39	7/11/11	Free Product - 1.95 Feet								
	1/15/13	Free Product - 0.05 Feet								
	11/13/13	Free Product - 1.01 Feet								
15729 MW-40	7/11/11	Free Product - 1.92 Feet								
	1/21/13	Free Product - 1.79 Feet								
	11/13/13	Free Product - 1.56 Feet								
15729 MW-41	7/11/11	7,090	9,700	1,680	3,970	<500	434J	<500	21.8	NT
	1/14/13	Free Product - 0.40 Feet								
	11/12/13	Free Product - 0.41 Feet								
15729 MW-42	7/11/11	337	613	462	865	<25.0	93.8	<25.0	1.1	NT
	1/14/13	1,250	2,210	523	792	<125	96.0J	<125	6.5	NT
	11/12/13	28.4	45.2	781	633	<5.0	172	<5.0	<0.020	NT
15729 MW-43	7/11/11	Free Product - 1.66 Feet								
	1/14/13	Free Product - 2.43 Feet								
	11/12/13	Free Product - 3.32 Feet								
15729 MW-44	7/11/11	4,040	11,800	1,690	7,260	<500	245J	<500	107	NT
	2/14/13	996	3,960	598	3,510	<250	195J	<250	21.7	NT
	11/13/13	4,360	12,900	1,410	6,940	143	292J	81.3	112	NT
15729 MW-44 DUP	2/14/13	1,060	4,170	661	3,770	<250	221J	<250	23.3	NT
15729 MW-45	7/11/11	2,000	11,000	1,960	7,570	<500	<500	<500	13.6	NT
	1/15/13	Free Product - 0.02 Feet								
	11/13/13	Free Product - 1.87 Feet								
15729 MW-46	1/21/13	Free Product - 1.99 Feet								
	11/13/13	Free Product - 2.29 Feet								
15729 MW-47	2/14/13	5,710	1,180	622	574	198J	108J	120J	4.1	NT
	11/13/13	1,940	275	243	224	25.3	51.8	40.9	2.2	NT
15729 MW-48	1/21/13	1,080	14.9	28.0	10.7	37.4	88.3	85.0	0.17	NT
	11/13/13	39.8	3.5J	<5.0	<10.0	<5.0	5.7	4.4J	<0.020	NT
15729 MW-49	1/21/13	Free Product - 2.10 Feet								
	11/13/13	Free Product - 2.24 Feet								
15729 MW-50	1/21/13	960	1,300	183	799	1.8J	86.3	30.3	10.9	NT
	11/13/13	3,370	7,580	777	3,630	1.7J	82.7	34.2	95.2	NT
15729 MW-51	1/14/13	Free Product - 2.35 Feet								
	11/12/13	Free Product - 2.47 Feet								
15729 MW-52	1/14/13	1,070	162	832	644	1.9J	142	<5.0	0.092	NT
	11/12/13	5.6	95.1	285	835	<5.0	58.4	<5.0	<0.020	NT
15729 MW-53	1/14/13	9,410	5,350	1,290	1,610	196	182	<5.0	4.3	NT
	11/12/13	1,940	248	199	130	30.9	48.7	39.1	0.41	NT
15729 MW-53 DUP	11/12/13	1,270	251	154	115	21.0	26.6	22.9	0.39	NT
15729 MW-54	1/14/13	<5.0	3.8J	236	343	<5.0	88.4	<5.0	<0.021	NT
	11/12/13	<5.0	25.6	731	1,910	<5.0	226	<5.0	<0.020	NT
15729 MW-55	1/11/13	524	74.6	24.0	39.0	89.4	38.0	94.2	0.052	NT
	11/12/13	75.2	5.5	15.6	<10.0	<5.0	6.1	2.6J	0.046	NT
15729 MW-56	1/11/13	2,100	299	198	273	38.3	42.9	10.3	<0.020	NT
	11/12/13	3,220	26.2	259	11.6	90.6	81.9	33.2	0.040	NT
15729 MW-57	1/11/13	944	93.8	327	317	37.2	54.3	9.5	<0.020	NT
	11/12/13	605	<5.0	37.4	<10.0	19.8	10.1	5.9	<0.020	NT
15729 MW-58	2/14/13	282	5.7J	30.4	11.9J	10.7	8.1J	<10.0	<0.019	NT
	11/13/13	56.5	54.8	13.7	34.7	<5.0	3.3J	<5.0	0.090	NT
15729 MW-59	1/21/13	15.1	489	190	553	<5.0	69.3	<5.0	<0.020	NT
	11/13/13	196	540	59.1	563	5.2	35.4	<5.0	0.023	NT

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GROUNDWATER ANALYTICAL DATA
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SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 5 OF 5

Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-60	2/14/13	1,760	2,730	1,220	1,640	<100	205	<100	14.4	NT
	11/13/13	1,680	1,960	1,210	1,470	<50.0	189	<50.0	8.8	NT
15729 MW-61	2/14/13	4,490	10,900	1,370	6,090	<500	205J	<500	34.0	NT
	11/13/13	10,600	17,800	1,680	8,020	208	316	60.3	111	NT
15729 MW-61 DUP	11/13/13	9,500	19,200	1,950	9,370	128	505	53.3	134	NT
15729 MW-62	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	3.1J	<5.0	6.0J	<5.0	4.4J	<5.0	0.034	NT
15729 MW-63	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	3.6J	1.8J	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-64	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-66	2/14/13	2,430	5,580	739	2,450	<250	<250	<250	21.7	NT
	11/13/13	1,050	2,680	261	1,080	4.9J	94.6	4.1J	4.4	NT
15729 WSW-1	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	NT
	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	7/29/11	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	1/21/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS	NS
15729 WSW-2	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	NT
	7/13/11	<1.0	<1.0	<1.0	<2.0	0.29J	<1.0	<1.0	<0.020	NT
	1/21/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	11/13/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 WSW-3	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.019	NT
	7/11/11	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	1/11/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS	NS
15729 WSW-4	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	7/11/11	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	1/11/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS	NS
15729 PS-1	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS	NS
15729 SW-1	11/19/10	<1.0	4.4	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	11/13/13	<1.0	33.5	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 CS-1	12/22/09	ND	ND	ND	ND	ND	ND	ND	NT	NT
	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	7/11/11	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	1/11/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	11/12/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 CS-2	12/22/09	ND	ND	ND	ND	ND	ND	ND	NT	NT
	7/11/11	<1.0	0.48J	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	1/11/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	11/12/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 Field Blank #1	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 Field Blank #2	1/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	11/13/13	<5.0	4.1J	<5.0	<10.0	<5.0	2.7J	<5.0	<0.020	NT
15729 Field Blank #3	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 Trip Blank #1	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	NT	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 Trip Blank #2	1/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 Trip Blank #3	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 Trip Blank #4	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT

Notes:

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4. NT = Not Tested
5. NL = Not Located
6. PROD= Free Phase Product detected
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TABLE 3
GROUNDWATER ANALYTICAL DATA (OXYGENATES)
H.W. DETWILER CO.
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
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Well Number	Sample Date	t-Amyl Alcohol (ug/l)	Tert-Amyl Methyl Ether (ug/l)	3,3-Dimethyl-1-Butanol (ug/l)	Tertiary Butyl Alcohol (ug/l)	tert-Butyl Formate (ug/l)	Diisopropyl Ether (ug/l)	Ethanol (ug/l)	Ethyl-tert-butyl Ether (ug/l)
15729 MW-1	7/13/11	Free Product - 0.88 Feet							
	1/21/13	Free Product - 0.98 Feet							
	11/13/13	Free Product - 0.44 Feet							
15729 MW-2D	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-3	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-4	7/13/11	**1,460**	<10.0	<100	<100	<50.0	**26.7**	<200	<10.0
	1/21/13	**3,890**	<50.0	<500	<500	<250	**63.4**	<1,000	<50.0
	11/13/13	**558**	<10.0	<100	<100	<50.0	**10.9**	<200	<10.0
15729 MW-5	1/21/13	**167**	<10.0	<100	<100	<50.0	**2.1J**	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-6	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-7	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-8	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-9	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-10	7/11/11	**1,960**	<10.0	<100	<100	<50.0	**15.3**	<200	<10.0
	1/11/13	**2,170**	<20.0	<200	<200	<100	**7.1J**	<400	<20.0
	11/12/13	**412**	<10.0	<100	<100	<50.0	**2.1J**	<200	<10.0
15729 MW-11	7/11/11	**128**	<10.0	<100	<100	<50.0	**2.6J**	**281**	<10.0
	1/14/13	**4,390**	<100	<1,000	<1,000	<500	**73.3**	<2,000	<100
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-12	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-13R	7/11/11	Free Product - 0.11 Feet							
	1/21/13	Free Product - 0.30 Feet							
	11/12/13	Free Product - 0.04 Feet							
15729 MW-14	7/11/11	**333**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	**1,270**	<25.0	<250	<250	<125	<12.5	<500	<25.0
	11/12/13	**333**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-15	7/11/11	Free Product - 0.30 Feet							
	1/21/13	Free Product - 3.27 Feet							
	11/12/13	Free Product - 2.76 Feet							
15729 MW-16D	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-17R	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-18R	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	**210**	<10.0	<100	**260**	<50.0	<5.0	<200	<10.0
15729 MW-19	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	**151J**	<10.0

Notes:

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TABLE 3
GROUNDWATER ANALYTICAL DATA (OXYGENATES)
H.W. DETWILER CO.
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
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Well Number	Sample Date	t-Amyl Alcohol (ug/l)	Tert-Amyl Methyl Ether (ug/l)	3,3-Dimethyl-1-Butanol (ug/l)	Tertiary Butyl Alcohol (ug/l)	tert-Butyl Formate (ug/l)	Diisopropyl Ether (ug/l)	Ethanol (ug/l)	Ethyl-tert-butyl Ether (ug/l)
15729 MW-20	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	NL	NL	NL	NL	NL	NL	NL	NL
	11/12/13	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-21	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-22	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-23	1/11/13	NL	NL	NL	NL	NL	NL	NL	NL
	11/12/13	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-24	7/11/11	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	1/21/13	**17,400**	<1,000	<10,000	<10,000	<5,000	**316J**	<20,000	<1,000
	11/13/13	**25,300**	**6.7J**	<100	**249**	<50.0	**159**	<200	<10.0
15729 MW-24 DUP	1/21/13	**16,700**	<1,000	<10,000	<10,000	<5,000	**318J**	<20,000	<1,000
	11/13/13	**19,300**	**6.1J**	<100	**333**	<50.0	**172**	<200	<10.0
15729 MW-25	7/11/11	**5,710**	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
	2/14/13	**3,420**	<200	<2,000	<2,000	<1,000	<100	<4,000	<200
	11/13/13	**165**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-26	7/11/11	**417**	<20.0	<200	<200	<100	<10.0	<400	<20.0
	1/14/13	**3,390**	<100	<1,000	<1,000	<500	<50.0	<2,000	<100
	11/12/13	**1,560**	<10.0	<100	<100	<50.0	**5.3**	<200	<10.0
15729 MW-27	7/11/11	**791**	<10.0	<100	<100	<50.0	**11.9**	<200	<10.0
	1/14/13	**487**	<10.0	<100	<100	<50.0	**3.4J**	**453**	<10.0
	11/12/13	**3,250**	**6.6J**	<100	**60.1J**	<50.0	**42.4**	<200	<10.0
15729 MW-28	1/21/13	Free Product - 1.33 Feet							
	11/13/13	Free Product - 1.18 Feet							
15729 MW-29	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-30	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	**1,350**	<10.0	<100	<100	<50.0	**1.8J**	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-31	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	**242**	<10.0	<100	<100	<50.0	**4.8J**	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-32	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
15729 MW-33	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	**101**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-34D	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-35i	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
15729 MW-36	7/11/11	**2,600**	<200	<2,000	<2,000	<1,000	**45.2J**	<4,000	<200
	1/15/13	Free Product - 0.04 Feet							
	11/13/13	Free Product - 0.78 Feet							
15729 MW-37	7/13/11	**7,390**	<250	<2,500	<2,500	<1,250	**87.9J**	<5,000	<250
	1/21/13	**12,000**	<250	<2,500	<2,500	<1,250	**125**	<5,000	<250
	11/13/13	**1,660**	<10.0	<100	<100	<50.0	**21.1**	<200	<10.0

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SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
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Well Number	Sample Date	t-Amyl Alcohol (ug/l)	Tert-Amyl Methyl Ether (ug/l)	3,3-Dimethyl-1-Butanol (ug/l)	Tertiary Butyl Alcohol (ug/l)	tert-Butyl Formate (ug/l)	Diisopropyl Ether (ug/l)	Ethanol (ug/l)	Ethyl-tert-butyl Ether (ug/l)
15729 MW-37 DUP	1/21/13	**11,000**	<250	<2,500	<2,500	<1,250	**129**	<5,000	<250
	11/13/13	**117**	<10.0	<100	<100	<50.0	**<5.0**	<200	<10.0
15729 MW-38	7/11/11	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	2/14/13	**6,740**	<500	**1,880**	<5,000	<5,000	<2,500	<10,000	<500
	11/13/13	**3,790**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-38 DUP	2/14/13	**5,360**	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
15729 MW-39	7/11/11	Free Product - 1.95 Feet							
	1/15/13	Free Product - 0.05 Feet							
	11/13/13	Free Product - 1.01 Feet							
15729 MW-40	7/11/11	Free Product - 1.92 Feet							
	1/21/13	Free Product - 1.79 Feet							
	11/13/13	Free Product - 1.56 Feet							
15729 MW-41	7/11/11	**13,400**	<1,000	<10,000	<10,000	<5,000	**179J**	<20,000	<1,000
	1/14/13	Free Product - 0.40 Feet							
	11/12/13	Free Product - 0.41 Feet							
15729 MW-42	7/11/11	**849**	<50.0	<500	<500	<250	<25.0	<1,000	<50.0
	1/14/13	**2,330J**	<250	<2,500	<2,500	<1,250	<125	<5,000	<250
	11/12/13	**407**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-43	7/11/11	Free Product - 1.66 Feet							
	1/14/13	Free Product - 2.43 Feet							
	11/12/13	Free Product - 3.32 Feet							
15729 MW-44	7/11/11	**8,400J**	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	2/14/13	<5,000	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
	11/13/13	**26,600**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-44 DUP	2/14/13	<5,000	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
15729 MW-45	7/11/11	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	1/15/13	Free Product - 0.02 Feet							
	11/13/13	Free Product - 1.87 Feet							
15729 MW-46	1/21/13	Free Product - 1.99 Feet							
	11/13/13	Free Product - 2.29 Feet							
15729 MW-47	2/14/13	**10,100**	<500	<5,000	<5,000	<2,500	**204J**	<10,000	<500
	11/13/13	**3,870**	<10.0	<100	<100	<50.0	**65.1**	<200	<10.0
15729 MW-48	1/21/13	**6,750**	**6.5J**	<100	**131**	<50.0	**102**	<200	<10.0
	11/13/13	**381**	<10.0	<100	<100	<50.0	**5.2**	<200	<10.0
15729 MW-49	1/21/13	Free Product - 2.10 Feet							
	11/13/13	Free Product - 2.24 Feet							
15729 MW-50	1/21/13	**2,680**	<10.0	<100	<100	<50.0	**23.4**	<200	<10.0
	11/13/13	**18,500**	<10.0	<100	<100	<50.0	**<5.0**	<200	<10.0
15729 MW-51	1/14/13	Free Product - 2.35 Feet							
	11/12/13	Free Product - 2.47 Feet							
15729 MW-52	1/14/13	**2,820**	<10.0	<100	<100	<50.0	**18.5**	<200	<10.0
	11/12/13	**165**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-53	1/14/13	**24,400**	**31.4**	<100	**422**	<50.0	**318**	<200	<10.0
	11/12/13	**3,670**	**5.1J**	<100	**70.6J**	<50.0	**50.9**	<200	<10.0
15729 MW-53 DUP	11/12/13	**2,400**	**3.7J**	<100	<100	<50.0	**33.0**	<200	<10.0
15729 MW-54	1/14/13	**78.9J**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-55	1/11/13	**10,400**	**9.1J**	<100	**192**	<50.0	**142**	<200	<10.0
	11/12/13	**223**	<10.0	<100	<100	<50.0	**2.8J**	<200	<10.0
15729 MW-56	1/11/13	**4,620**	<10.0	<100	**82.1J**	<50.0	**15.0**	<200	<10.0
	11/12/13	**4,970J**	**12.7**	<100	**112**	<50.0	**47.7**	<200	<10.0

Notes:

1. ug/l = micrograms per liter
2. ND = Not detected
3. NT = Not Tested
4. NL = Not Located
5. NS = Not Sampled
6. PROD= Free Phase Product detected
7. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

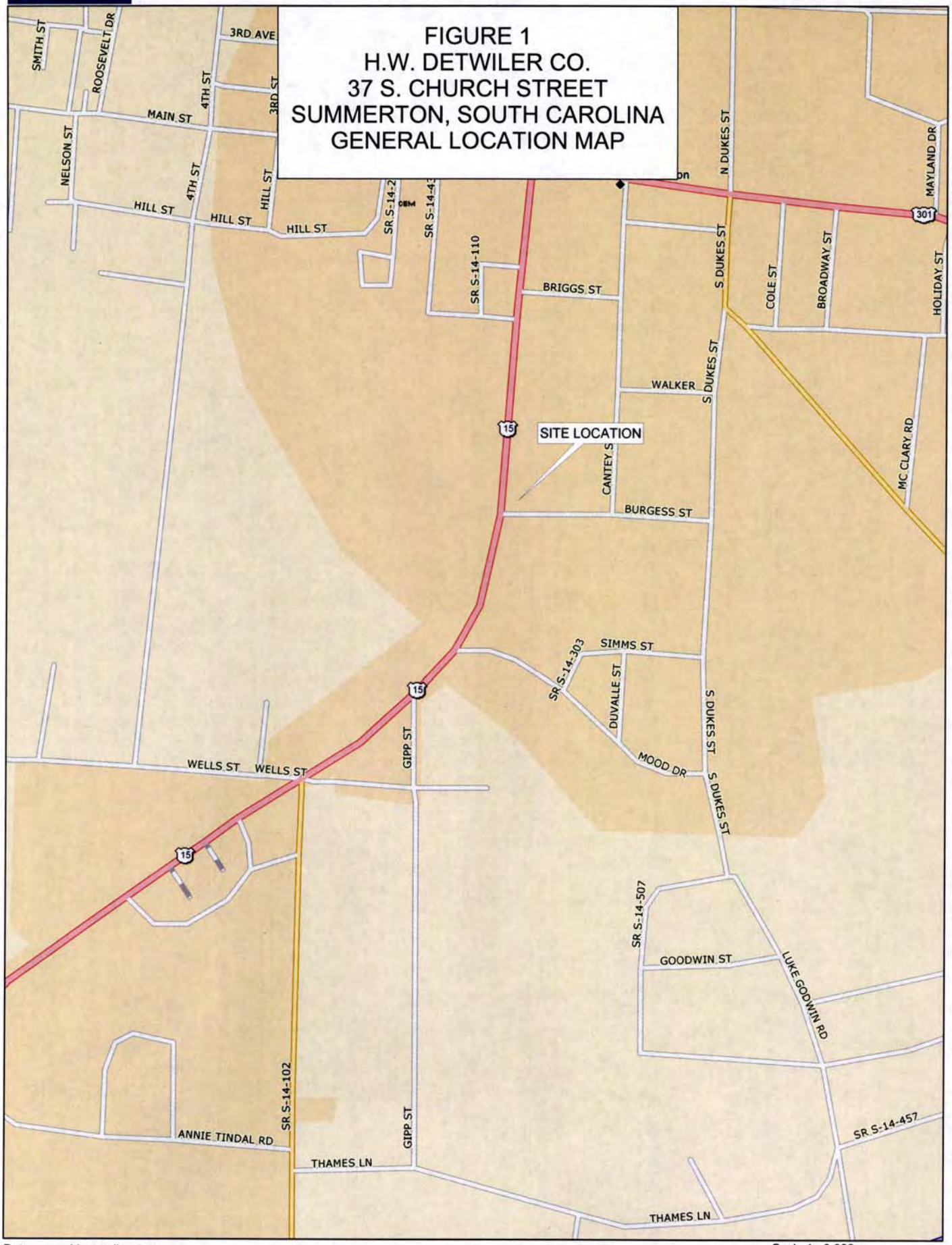
TABLE 3
GROUNDWATER ANALYTICAL DATA (OXYGENATES)
H.W. DETWILER CO.
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 4 OF 4

Well Number	Sample Date	t-Amyl Alcohol (ug/l)	Tert-Amyl Methyl Ether (ug/l)	3,3-Dimethyl-1-Butanol (ug/l)	Tertiary Butyl Alcohol (ug/l)	tert-Butyl Formate (ug/l)	Diisopropyl Ether (ug/l)	Ethanol (ug/l)	Ethyl-tert-butyl Ether (ug/l)
15729 MW-57	1/11/13	**3,970**	<10.0	<100	**151**	<50.0	**11.1**	<200	<10.0
	11/12/13	**2,190**	<10.0	<100	<100	<50.0	**7.0**	<200	<10.0
15729 MW-58	2/14/13	**592**	<20.0	<200	<200	<100	**4.6J**	<400	<20.0
	11/13/13	**144**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-59	1/21/13	**294**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	**973**	<10.0	<100	**548**	<50.0	<5.0	<200	<10.0
15729 MW-60	2/14/13	**4,080**	<200	<2,000	<2,000	<1,000	<100	<4,000	<200
	11/13/13	**2,830**	<100	<1,000	<1,000	<500	<50.0	<2,000	<100
15729 MW-61	2/14/13	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	11/13/13	**17,900**	**113**	<1,000	<1,000	<500	<50.0	<2,000	<100
15729 MW-61 DUP	11/13/13	**28,000**	**66.3**	<500	**386J**	<250	**99.6**	<1,000	<50.0
15729 MW-62	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-63	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	**87.3J**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-64	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-66	2/14/13	<5,000	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
	11/13/13	<5,000	<10.0	**47.7J**	<100	<50.0	<5.0	<200	<10.0
15729 WSW-1	7/29/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
15729 WSW-2	7/13/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 WSW-3	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
15729 WSW-4	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<10.0	<50.0	<1.0	<200	<10.0
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
15729 PS-1	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
15729 SW-1	11/13/13	<100	<10.0	<100	<100	<50.0	<1.0	**1,910**	<10.0
15729 CS-1	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 CS-2	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 Field Blank #1	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Field Blank #2	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Field Blank #3	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #1	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #2	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #3	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #4	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0

Notes:
1. ug/l = micrograms per liter
2. ND = Not detected
3. NT = Not Tested
4. NL = Not Located
5. NS = Not Sampled
6. PROD= Free Phase Product detected
7. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

FIGURES

FIGURE 1
H.W. DETWILER CO.
37 S. CHURCH STREET
SUMMERTON, SOUTH CAROLINA
GENERAL LOCATION MAP



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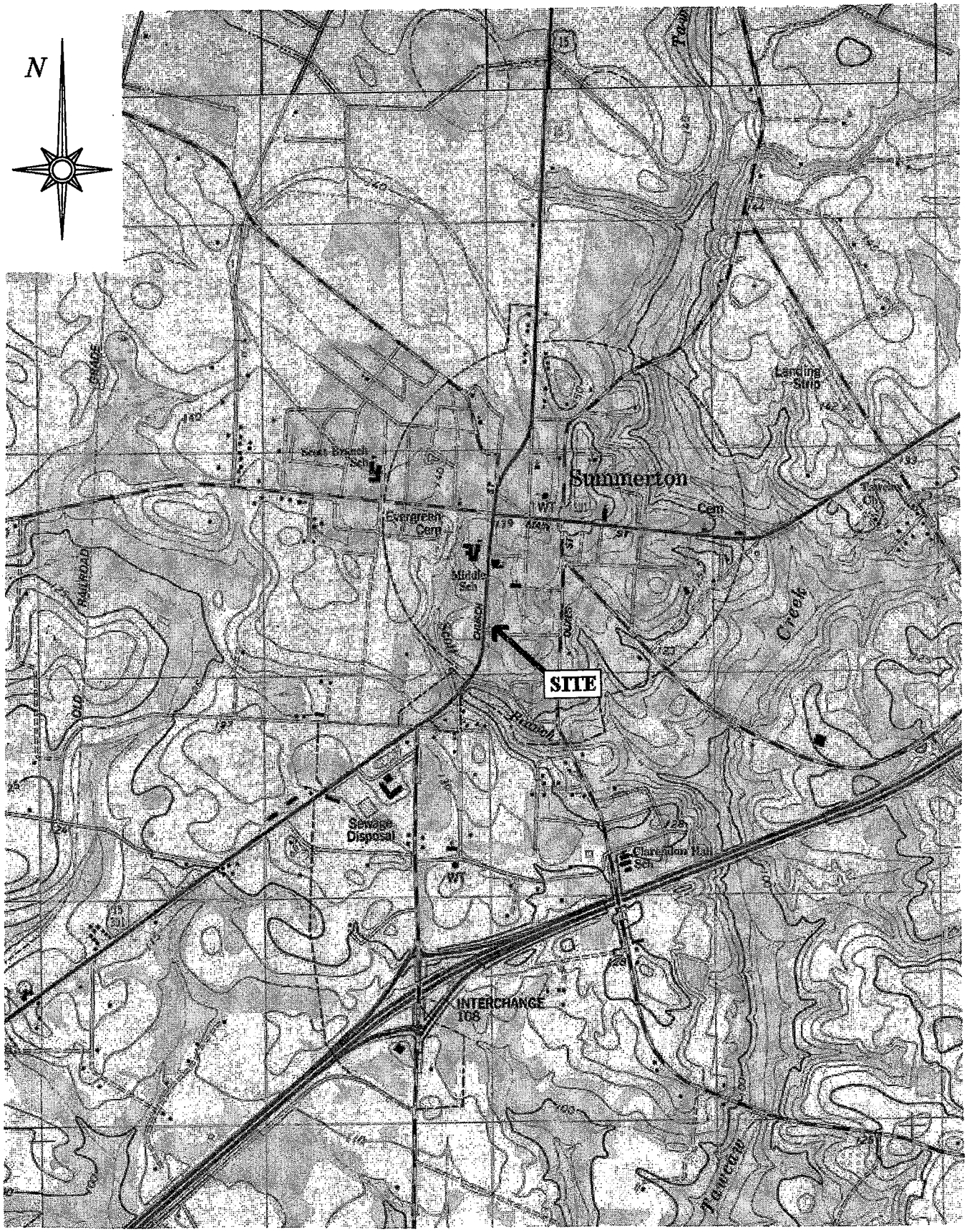
TN

MN (7.5°W)

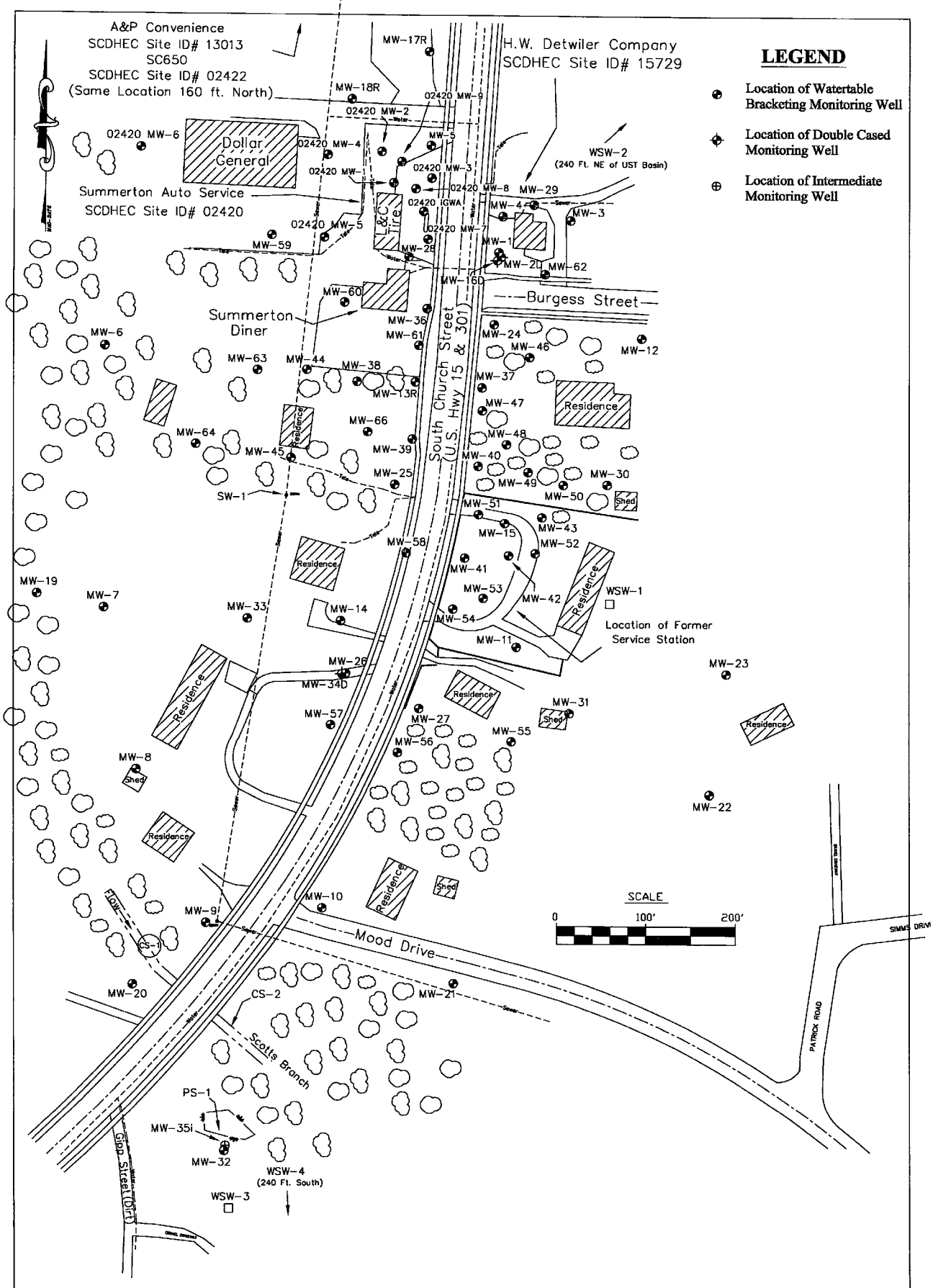
Scale 1 : 8,000

1" = 666.7 ft

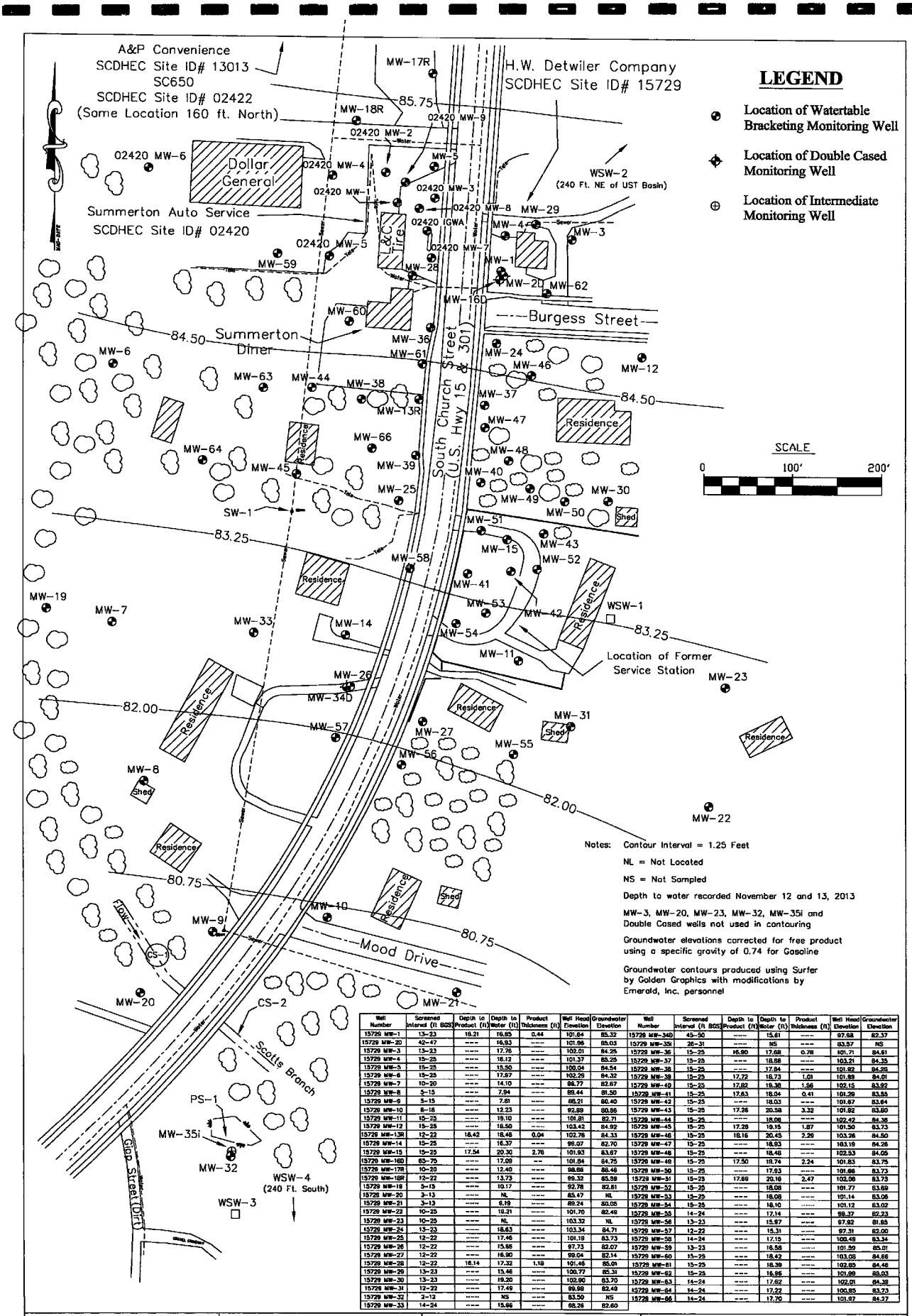
Data Zoom 14-6



H.W. Detwiler Company 37 South Church Street Summerton, SC SCDHEC Site ID# 15729	Figure 2 USGS Topographic Map 7.5 Minute Map "Summerton, SC" Quadrangle Scale 1 to 2,000	EMERALD, INC. Sumter, SC



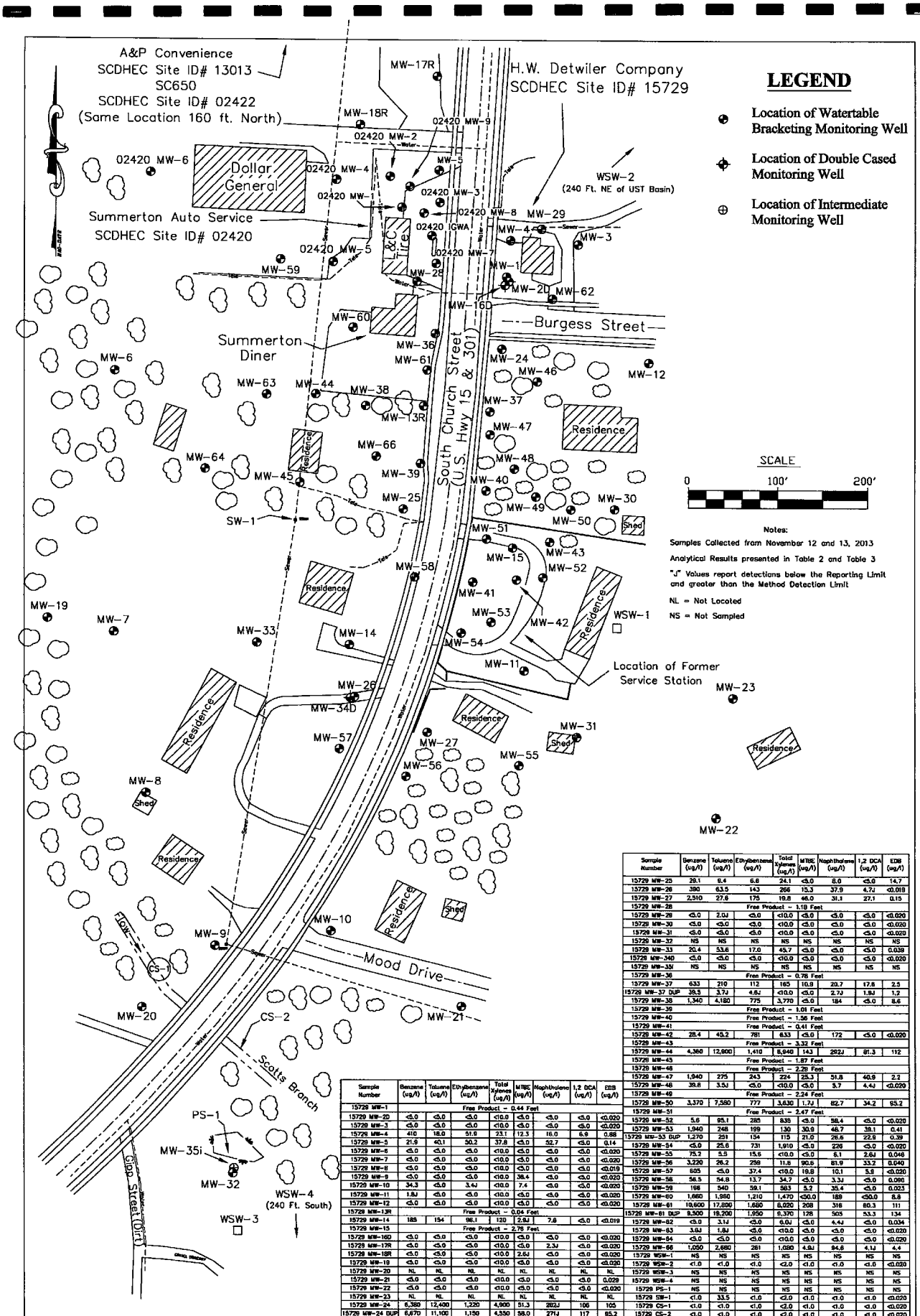
PROJECT:	SHEET TITLE:	DATE:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 SITE MAP	12/17/13	SUMTER, SOUTH CAROLINA



Well Number	Screened Interval (ft. BGS)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Well Head Elevation	Groundwater Elevation
15729 MW-1	13-23	16.21	16.65	0.44	101.84	85.32
15729 MW-20	42-47	----	16.93	----	101.96	85.03
15729 MW-3	13-23	----	17.76	----	102.01	84.25
15729 MW-4	15-25	----	16.12	----	101.37	85.25
15729 MW-5	15-25	----	15.50	----	100.04	84.54
15729 MW-6	15-25	----	17.67	----	102.29	84.32
15729 MW-7	10-20	----	14.10	----	96.77	82.67
15729 MW-8	5-15	----	7.94	----	89.44	81.50
15729 MW-9	5-15	----	7.81	----	88.21	80.40
15729 MW-10	8-18	----	12.23	----	92.89	80.66
15729 MW-11	15-25	----	19.10	----	101.81	82.71
15729 MW-12	15-25	----	18.50	----	103.42	84.92
15729 MW-13R	12-22	16.42	18.48	0.04	102.76	84.33
15729 MW-14	15-25	----	16.37	----	99.07	82.70
15729 MW-15	15-25	17.54	20.30	2.76	101.93	83.67
15729 MW-16D	65-75	----	17.09	--	101.84	84.75
15729 MW-17R	10-20	----	12.40	----	98.86	86.46
15729 MW-18R	12-22	----	13.73	----	99.32	85.59
15729 MW-19	3-13	----	10.17	----	92.78	82.61
15729 MW-20	3-13	----	NL	----	85.47	NL
15729 MW-21	3-13	----	6.19	----	89.24	80.05
15729 MW-22	10-25	----	19.21	----	101.70	82.48
15729 MW-23	10-25	----	NL	----	103.32	NL
15729 MW-24	13-23	----	18.63	----	103.34	84.71
15729 MW-25	12-22	----	17.46	----	101.18	83.73
15729 MW-26	12-22	----	15.66	----	97.73	82.07
15729 MW-27	12-22	----	16.90	----	99.04	82.14
15729 MW-28	12-22	16.14	17.32	1.18	101.46	85.01
15729 MW-29	13-23	----	15.46	----	100.77	85.31
15729 MW-30	13-23	----	19.20	----	102.90	83.70
15729 MW-31	12-22	----	17.49	----	99.98	82.49
15729 MW-32	2-12	----	NS	----	83.50	NS
15729 MW-33	14-24	----	15.66	----	98.26	82.60

Well Number	Screened Interval (ft. BGS)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Well Head Elevation	Groundwater Elevation
15729 MW-34D	45-50	----	15.61	----	97.68	82.37
15729 MW-35i	26-31	----	NS	----	83.57	NS
15729 MW-36	15-25	16.90	17.68	0.78	101.71	84.81
15729 MW-37	15-25	----	18.88	----	103.21	84.35
15729 MW-38	15-25	----	17.84	----	101.92	84.28
15729 MW-39	15-25	17.72	18.73	1.01	101.88	84.01
15729 MW-40	15-25	17.82	19.38	1.56	102.15	83.92
15729 MW-41	15-25	17.63	18.04	0.41	101.29	83.55
15729 MW-42	15-25	----	18.03	----	101.67	83.64
15729 MW-43	15-25	17.26	20.58	3.32	101.92	83.60
15729 MW-44	15-25	----	18.06	----	102.42	84.36
15729 MW-45	15-25	17.28	19.15	1.87	101.50	83.73
15729 MW-46	15-25	18.16	20.45	2.29	103.26	84.50
15729 MW-47	15-25	----	18.93	----	103.19	84.26
15729 MW-48	15-25	----	18.48	----	102.53	84.05
15729 MW-49	15-25	17.50	19.74	2.24	101.83	83.75
15729 MW-50	15-25	----	17.93	----	101.66	83.73
15729 MW-51	15-25	17.69	20.16	2.47	102.06	83.73
15729 MW-52	15-25	----	18.08	----	101.77	83.69
15729 MW-53	15-25	----	18.08	----	101.14	83.06
15729 MW-54	15-25	----	18.10	----	101.12	83.02
15729 MW-55	14-24	----	17.14	----	99.37	82.23
15729 MW-56	13-23	----	15.97	----	97.92	81.95
15729 MW-57	12-22	----	15.31	----	97.31	82.00
15729 MW-58	14-24	----	17.15	----	100.48	83.34
15729 MW-59	13-23	----	16.58	----	101.59	85.01
15729 MW-60	15-25	----	18.42	----	103.08	84.66
15729 MW-61	15-25	----	18.39	----	102.85	84.46
15729 MW-62	15-25	----	16.96	----	101.99	85.03
15729 MW-63	14-24	----	17.62	----	102.01	84.38
15729 MW-64	14-24	----	17.22	----	100.95	83.73
15729 MW-65	14-24	----	17.70	----	101.97	84.27

PROJECT:	SHEET TITLE:	DATE:	
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 4 Potentiometric Surface Map	12/17/13	EMERALD, INC. SUMTER, SOUTH CAROLINA



LEGEND

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased Monitoring Well
- Location of Intermediate Monitoring Well

Notes:

Samples Collected from November 12 and 13, 2013

Analytical Results presented in Table 2 and Table 3

"J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

NL = Not Located

NS = Not Sampled

Sample Number	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)
15729 MW-1	Free Product – 0.44 Feet							
15729 MW-20	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-3	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-4	410	18.0	51.9	23.1	12.3	16.0	6.9	0.88
15729 MW-5	21.9	40.1	30.2	37.8	<5.0	52.7	<5.0	0.14
15729 MW-6	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-7	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-8	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
15729 MW-9	<5.0	<5.0	<5.0	<10.0	38.4	<5.0	<5.0	<0.020
15729 MW-10	34.3	<5.0	3.4J	<10.0	7.4	<5.0	<5.0	<0.020
15729 MW-11	1.8J	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-12	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-13R	Free Product – 0.04 Feet							
15729 MW-14	185	154	98.1	120	2.8J	7.8	<5.0	<0.019
15729 MW-15	Free Product – 2.75 Feet							
15729 MW-16D	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-17R	<5.0	<5.0	<5.0	<10.0	<5.0	2.3J	<5.0	<0.020
15729 MW-18R	<5.0	<5.0	<5.0	<10.0	2.6J	<5.0	<5.0	<0.020
15729 MW-19	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-20	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-21	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.029
15729 MW-22	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-23	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-24	6,380	12,400	1,220	4,900	51.3	282J	106	105
15729 MW-24 DUP	6,670	11,100	1,150	4,350	58.0	271J	117	85.2

Sample Number	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)
15729 MW-25	29.1	8.4	6.8	24.1	<5.0	8.0	<5.0	14.7
15729 MW-26	390	63.5	143	266	15.3	37.9	4.7J	<0.019
15729 MW-27	2,510	27.9	175	19.8	46.0	31.1	27.1	0.15
15729 MW-28	Free Product – 1.18 Feet							
15729 MW-29	<5.0	2.0J	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-30	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-31	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-32	NS	NS	NS	NS	NS	NS	NS	NS
15729 MW-33	20.4	53.8	17.0	45.7	<5.0	<5.0	<5.0	0.039
15729 MW-34D	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-35i	NS	NS	NS	NS	NS	NS	NS	NS
15729 MW-36	Free Product – 0.78 Feet							
15729 MW-37	633	210	112	165	10.8	20.7	17.8	2.5
15729 MW-37 DUP	38.5	3.7J	4.6J	<10.0	<5.0	2.7J	1.8J	1.2
15729 MW-38	1,340	4,180	775	3,770	<5.0	184	<5.0	8.6
15729 MW-39	Free Product – 1.01 Feet							
15729 MW-40	Free Product – 1.56 Feet							
15729 MW-41	Free Product – 0.41 Feet							
15729 MW-42	28.4	45.2	781	6.33	<5.0	172	<5.0	<0.020
15729 MW-43	Free Product – 3.32 Feet							
15729 MW-44	4,360	12,900	1,410	8,940	143	282J	81.3	112
15729 MW-45	Free Product – 1.87 Feet							
15729 MW-46	Free Product – 2.29 Feet							
15729 MW-47	1,940	275	243	224	25.3	51.8	40.9	2.2
15729 MW-48	39.8	3.5J	<5.0	<10.0	<5.0	5.7	4.4J	<0.020
15729 MW-49	Free Product – 2.24 Feet							
15729 MW-50	3,370	7,580	777	3,630	1.7J	82.7	34.2	95.2
15729 MW-51	Free Product – 2.47 Feet							
15729 MW-52	5.6	95.1	285	835	<5.0	38.4	<5.0	<0.020
15729 MW-53	1,940	248	199	1.30	30.6	46.7	38.1	0.41
15729 MW-53 DUP	1,270	231	134	115	21.0	28.6	22.8	0.39
15729 MW-54	<5.0	25.6	731	1,910	<5.0	226	<5.0	<0.020
15729 MW-55	75.2	5.5	15.6	<10.0	<5.0	6.1	2.6J	0.048
15729 MW-56	3,220	26.2	298	11.8	90.6	81.9	33.2	0.040
15729 MW-57	605	<5.0	37.4	<10.0	19.8	10.1	5.9	<0.020
15729 MW-58	56.5	54.8	13.7	34.7	<5.0	3.3J	<5.0	0.090
15729 MW-59	198	340	59.1	583	5.2	35.4	<5.0	0.023
15729 MW-60	1,660	1,980	1,210	1,470	<50.0	189	<50.0	8.8
15729 MW-61	19,600	17,800	1,680	8,020	208	316	80.3	111
15729 MW-61 DUP	9,500	19,200	1,950	8,370	126	505	53.3	134
15729 MW-62	<5.0	3.1J	<5.0	6.0J	<5.0	4.4J	<5.0	0.034
15729 MW-63	3.6J	1.8J	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-64	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-66	1,050	2,680	281	1,080	4.9J	94.6	4.1J	4.4
15729 WSW-1	NS	NS	NS	NS	NS	NS	NS	NS
15729 WSW-2	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 WSW-3	NS	NS	NS	NS	NS	NS	NS	NS
15729 WSW-4	NS	NS	NS	NS	NS	NS	NS	NS
15729 PS-1	NS	NS	NS	NS	NS	NS	NS	NS
15729 SW-1	<1.0	33.5	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 CS-1	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 CS-2	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020

PROJECT:	SHEET TITLE:	DATE:	
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 5 Groundwater CoC Map	12/17/13	EMERALD, INC. SUMTER, SOUTH CAROLINA

APPENDIX A

PURGE LOGS

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-2D

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Road

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 42-47 Ft.

STATIC WATER LEVEL: 16.93 Ft.

WATER HEIGHT (Hw): 30.07 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 4.901 x 3 = 14.70 Gallons
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 15 Gallons

DATE: 11/13/13

EMERALD, INC. PERSONNEL: R. Robertson & S. Hutcheson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	040500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 28-47°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	21.4	7.21	114	33	Clear, No Petroleum Odor
	1st	21.2	6.45	117	40	Clear, No Petroleum Odor
	2nd	21.1	6.42	109	281	Clear, No Petroleum Odor
	3rd	21.0	6.50	109	294	Clear, No Petroleum Odor
						Within 10%
1330	Sampled					
						DO= 2.94 mg/l @21.4 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-16D

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Road

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 65-75 Ft.

STATIC WATER LEVEL: 17.09 Ft.

WATER HEIGHT (Hw): 57.91 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 9.439 x 3 = 28.32 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 29 Gallons

DATE: 11/12/13

EMERALD, INC. PERSONNEL: R. Robertson & S. Hutcheson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	040500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 34-72°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	20.7	7.17	179	142	Clear, No Petroleum Odor
	1st	20.6	7.30	180	26	Clear, No Petroleum Odor
	2nd	21.0	7.23	195	27	Clear, No Petroleum Odor
						Within 10%
1420	Sampled					
						DO= 0.76 mg/l @20.7 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-34D

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Road

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 11/12/13

SCREENED INTERVAL 45-50 Ft.

STATIC WATER LEVEL: 15.61 Ft.

WATER HEIGHT (Hw): 34.39 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 5.606 x 3 = 16.82 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: Dry at 18 Gallons

EMERALD, INC. PERSONNEL: R. Robertson & S. Hutcheson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	040500035919
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 34-72°F

TIME	WELL VOLUME	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
	Initial	23.3	6.51	118	>1,000	Cloudy, No Petroleum Odor
	1st	20.9	6.59	89	422	Slightly Cloudy, No Petroleum Odor
	2nd	20.8	7.05	180	626	Slightly Cloudy, No Petroleum Odor
	3rd	19.9	7.52	197	36	Clear, No Petroleum Odor
						Dry at 3 well volumes
1220	Sampled					
						DO= 3.30 mg/l @ 23.3 °C

APPENDIX B

ANALYTICAL DATA SHEETS

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November 25, 2013

Ms. Robbin Brown
Emerald, Inc.
2520 Tahoe Drive
Sumter, SC 29150

RE: Project: HW Detwiler 15729
Pace Project No.: 92179601

Dear Ms. Brown:
Enclosed are the analytical results for sample(s) received by the laboratory on November 14, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angela M. Baioni

Angela Baioni

angela.baioni@pacelabs.com
Project Manager

Enclosures

cc: Mr. Chad McClary, Emerald, Inc.

NELAP ACCREDITED LABORATORY

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CERTIFICATIONS

Project: HW Detwiler 15729
Pace Project No.: 92179601

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

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SAMPLE SUMMARY

Project: HW Detwiler 15729
Pace Project No.: 92179601

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92179601001	15729 MW-7	Water	11/12/13 16:15	11/14/13 15:55
92179601002	15729 MW-8	Water	11/12/13 11:10	11/14/13 15:55
92179601003	15729 MW-9	Water	11/12/13 10:40	11/14/13 15:55
92179601004	15729 MW-10	Water	11/12/13 11:25	11/14/13 15:55
92179601005	15729 MW-11	Water	11/12/13 15:00	11/14/13 15:55
92179601006	15729 MW-14	Water	11/12/13 15:45	11/14/13 15:55
92179601007	15729 MW-19	Water	11/12/13 16:25	11/14/13 15:55
92179601008	15729 MW-21	Water	11/12/13 11:45	11/14/13 15:55
92179601009	15729 MW-22	Water	11/12/13 12:00	11/14/13 15:55
92179601010	15729 MW-26	Water	11/12/13 13:00	11/14/13 15:55
92179601011	15729 MW-27	Water	11/12/13 14:00	11/14/13 15:55
92179601012	15729 MW-31	Water	11/12/13 13:50	11/14/13 15:55
92179601013	15729 MW-33	Water	11/12/13 16:00	11/14/13 15:55
92179601014	15729 MW-34D	Water	11/12/13 12:20	11/14/13 15:55
92179601015	15729 MW-42	Water	11/12/13 15:10	11/14/13 15:55
92179601016	15729 MW-52	Water	11/12/13 15:15	11/14/13 15:55
92179601017	15729 MW-53	Water	11/12/13 14:35	11/14/13 15:55
92179601018	15729 MW-53 DUP	Water	11/12/13 14:38	11/14/13 15:55
92179601019	15729 MW-54	Water	11/12/13 14:15	11/14/13 15:55
92179601020	15729 MW-55	Water	11/12/13 13:25	11/14/13 15:55
92179601021	15729 MW-56	Water	11/12/13 13:40	11/14/13 15:55
92179601022	15729 MW-57	Water	11/12/13 12:15	11/14/13 15:55
92179601023	15729 FIELD BLANK 1	Water	11/12/13 15:30	11/14/13 15:55
92179601024	15729 TRIP BLANK 1	Water	11/12/13 15:35	11/14/13 15:55
92179601025	15729 TRIP BLANK 2	Water	11/12/13 15:40	11/14/13 15:55
92179601026	15729 CS-1	Water	11/12/13 10:25	11/14/13 15:55
92179601027	15729 CS-2	Water	11/12/13 10:10	11/14/13 15:55

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SAMPLE ANALYTE COUNT

Project: HW Detwiler 15729
Pace Project No.: 92179601

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92179601001	**15729 MW-7**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601002	**15729 MW-8**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601003	**15729 MW-9**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601004	**15729 MW-10**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601005	**15729 MW-11**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601006	**15729 MW-14**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601007	**15729 MW-19**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601008	**15729 MW-21**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601009	**15729 MW-22**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601010	**15729 MW-26**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601011	**15729 MW-27**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601012	**15729 MW-31**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601013	**15729 MW-33**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601014	**15729 MW-34D**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601015	**15729 MW-42**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601016	**15729 MW-52**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601017	**15729 MW-53**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601018	**15729 MW-53 DUP**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601019	**15729 MW-54**	EPA 8011	EJK	2	PASI-C

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SAMPLE ANALYTE COUNT

Project: HW Detwiler 15729
Pace Project No.: 92179601

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260	CAM	20	PASI-C
92179601020	**15729 MW-55**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601021	**15729 MW-56**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601022	**15729 MW-57**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601023	**15729 FIELD BLANK 1**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601024	**15729 TRIP BLANK 1**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601025	**15729 TRIP BLANK 2**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179601026	**15729 CS-1**	EPA 8011	EJK	2	PASI-C
		EPA 8260	MCK	20	PASI-C
92179601027	**15729 CS-2**	EPA 8011	EJK	2	PASI-C
		EPA 8260	MCK	20	PASI-C

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179601

Sample: 15729 MW-7 **Lab ID: 92179601001** Collected: 11/12/13 16:15 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/18/13 14:06	11/19/13 02:02	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	110	%	60-140		1	11/18/13 14:06	11/19/13 02:02	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/18/13 21:11	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/18/13 21:11	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/18/13 21:11	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/18/13 21:11	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/18/13 21:11	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/18/13 21:11	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/18/13 21:11	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/18/13 21:11	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/18/13 21:11	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/18/13 21:11	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/18/13 21:11	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/18/13 21:11	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/18/13 21:11	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/18/13 21:11	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/18/13 21:11	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/18/13 21:11	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/18/13 21:11	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/18/13 21:11	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		11/18/13 21:11	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/18/13 21:11	2037-26-5	

Sample: 15729 MW-8 **Lab ID: 92179601002** Collected: 11/12/13 11:10 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	11/18/13 14:06	11/19/13 02:22	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	110	%	60-140		1	11/18/13 14:06	11/19/13 02:22	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/18/13 21:26	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/18/13 21:26	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/18/13 21:26	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/18/13 21:26	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/18/13 21:26	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/18/13 21:26	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/18/13 21:26	107-06-2	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179601

Sample: 15729 MW-8 **Lab ID: 92179601002** Collected: 11/12/13 11:10 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/18/13 21:26	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/18/13 21:26	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/18/13 21:26	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/18/13 21:26	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/18/13 21:26	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/18/13 21:26	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/18/13 21:26	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/18/13 21:26	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/18/13 21:26	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/18/13 21:26	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/18/13 21:26	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		11/18/13 21:26	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/18/13 21:26	2037-26-5	

Sample: 15729 MW-9 **Lab ID: 92179601003** Collected: 11/12/13 10:40 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/18/13 14:06	11/19/13 02:42	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	109	%	60-140		1	11/18/13 14:06	11/19/13 02:42	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/18/13 21:42	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/18/13 21:42	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/18/13 21:42	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/18/13 21:42	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/18/13 21:42	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/18/13 21:42	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/18/13 21:42	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/18/13 21:42	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/18/13 21:42	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/18/13 21:42	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/18/13 21:42	637-92-3	
Methyl-tert-butyl ether	**38.4**	ug/L	5.0	1.7	1		11/18/13 21:42	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/18/13 21:42	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/18/13 21:42	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/18/13 21:42	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/18/13 21:42	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/18/13 21:42	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/18/13 21:42	460-00-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179601

Sample: 15729 MW-9 **Lab ID: 92179601003** Collected: 11/12/13 10:40 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		11/18/13 21:42	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/18/13 21:42	2037-26-5	

Sample: 15729 MW-10 **Lab ID: 92179601004** Collected: 11/12/13 11:25 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/18/13 14:06	11/19/13 03:02	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	111	%	60-140		1	11/18/13 14:06	11/19/13 03:02	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**412**	ug/L	100	76.8	1		11/18/13 21:57	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/18/13 21:57	994-05-8	
Benzene	**34.3**	ug/L	5.0	1.7	1		11/18/13 21:57	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/18/13 21:57	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/18/13 21:57	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/18/13 21:57	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/18/13 21:57	107-06-2	
Diisopropyl ether	**2.1J**	ug/L	5.0	1.7	1		11/18/13 21:57	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/18/13 21:57	64-17-5	
Ethylbenzene	**3.4J**	ug/L	5.0	1.6	1		11/18/13 21:57	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/18/13 21:57	637-92-3	
Methyl-tert-butyl ether	**7.4**	ug/L	5.0	1.7	1		11/18/13 21:57	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/18/13 21:57	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/18/13 21:57	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/18/13 21:57	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/18/13 21:57	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/18/13 21:57	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		11/18/13 21:57	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		11/18/13 21:57	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/18/13 21:57	2037-26-5	

Sample: 15729 MW-11 **Lab ID: 92179601005** Collected: 11/12/13 15:00 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/18/13 14:06	11/19/13 03:22	106-93-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179601

Sample: 15729 MW-11 **Lab ID: 92179601005** Collected: 11/12/13 15:00 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
Surrogates									
1-Chloro-2-bromopropane (S)	110	%	60-140		1	11/18/13 14:06	11/19/13 03:22	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/18/13 22:13	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/18/13 22:13	994-05-8	
Benzene	**1.8J**	ug/L	5.0	1.7	1		11/18/13 22:13	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/18/13 22:13	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/18/13 22:13	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/18/13 22:13	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/18/13 22:13	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/18/13 22:13	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/18/13 22:13	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/18/13 22:13	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/18/13 22:13	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/18/13 22:13	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/18/13 22:13	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/18/13 22:13	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/18/13 22:13	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/18/13 22:13	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/18/13 22:13	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/18/13 22:13	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		11/18/13 22:13	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/18/13 22:13	2037-26-5	

Sample: 15729 MW-14 **Lab ID: 92179601006** Collected: 11/12/13 15:45 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	11/18/13 14:06	11/19/13 03:42	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	109	%	60-140		1	11/18/13 14:06	11/19/13 03:42	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**333**	ug/L	100	76.8	1		11/18/13 22:29	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/18/13 22:29	994-05-8	
Benzene	**185**	ug/L	5.0	1.7	1		11/18/13 22:29	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/18/13 22:29	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/18/13 22:29	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/18/13 22:29	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/18/13 22:29	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/18/13 22:29	108-20-3	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179601

Sample: 15729 MW-14 **Lab ID: 92179601006** Collected: 11/12/13 15:45 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Ethanol	ND	ug/L	200	138	1		11/18/13 22:29	64-17-5	
Ethylbenzene	**96.1**	ug/L	5.0	1.6	1		11/18/13 22:29	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/18/13 22:29	637-92-3	
Methyl-tert-butyl ether	**2.9J**	ug/L	5.0	1.7	1		11/18/13 22:29	1634-04-4	
Naphthalene	**7.8**	ug/L	5.0	2.0	1		11/18/13 22:29	91-20-3	
Toluene	**154**	ug/L	5.0	1.6	1		11/18/13 22:29	108-88-3	
Xylene (Total)	**120**	ug/L	10.0	2.7	1		11/18/13 22:29	1330-20-7	
m&p-Xylene	**69.0**	ug/L	10.0	3.1	1		11/18/13 22:29	179601-23-1	
o-Xylene	**50.9**	ug/L	5.0	1.6	1		11/18/13 22:29	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/18/13 22:29	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		11/18/13 22:29	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/18/13 22:29	2037-26-5	

Sample: 15729 MW-19 **Lab ID: 92179601007** Collected: 11/12/13 16:25 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/18/13 14:06	11/19/13 04:03	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	105	%	60-140		1	11/18/13 14:06	11/19/13 04:03	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/18/13 22:44	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/18/13 22:44	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/18/13 22:44	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/18/13 22:44	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/18/13 22:44	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/18/13 22:44	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/18/13 22:44	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/18/13 22:44	108-20-3	
Ethanol	**151J**	ug/L	200	138	1		11/18/13 22:44	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/18/13 22:44	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/18/13 22:44	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/18/13 22:44	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/18/13 22:44	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/18/13 22:44	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/18/13 22:44	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/18/13 22:44	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/18/13 22:44	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		11/18/13 22:44	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		11/18/13 22:44	17060-07-0	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179601

Sample: 15729 MW-19 **Lab ID: 92179601007** Collected: 11/12/13 16:25 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
Toluene-d8 (S)	101	%	70-130		1		11/18/13 22:44	2037-26-5	

Sample: 15729 MW-21 **Lab ID: 92179601008** Collected: 11/12/13 11:45 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.029**	ug/L	0.020	0.020	1	11/18/13 14:06	11/19/13 04:23	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	108	%	60-140		1	11/18/13 14:06	11/19/13 04:23	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/18/13 23:00	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/18/13 23:00	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/18/13 23:00	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/18/13 23:00	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/18/13 23:00	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/18/13 23:00	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/18/13 23:00	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/18/13 23:00	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/18/13 23:00	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/18/13 23:00	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/18/13 23:00	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/18/13 23:00	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/18/13 23:00	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/18/13 23:00	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/18/13 23:00	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/18/13 23:00	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/18/13 23:00	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/18/13 23:00	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		11/18/13 23:00	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/18/13 23:00	2037-26-5	

Sample: 15729 MW-22 **Lab ID: 92179601009** Collected: 11/12/13 12:00 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/18/13 14:06	11/19/13 04:43	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	108	%	60-140		1	11/18/13 14:06	11/19/13 04:43	301-79-56	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179601

Sample: 15729 MW-22 **Lab ID: 92179601009** Collected: 11/12/13 12:00 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/19/13 22:01	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/19/13 22:01	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/19/13 22:01	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/19/13 22:01	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/19/13 22:01	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/19/13 22:01	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/19/13 22:01	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/19/13 22:01	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/19/13 22:01	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/19/13 22:01	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/19/13 22:01	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/19/13 22:01	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/19/13 22:01	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/19/13 22:01	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/19/13 22:01	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/19/13 22:01	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/19/13 22:01	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/19/13 22:01	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		11/19/13 22:01	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/19/13 22:01	2037-26-5	

Sample: 15729 MW-26 **Lab ID: 92179601010** Collected: 11/12/13 13:00 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	11/18/13 14:06	11/19/13 05:03	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	113	%	60-140		1	11/18/13 14:06	11/19/13 05:03	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**1560**	ug/L	100	76.8	1		11/19/13 22:16	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/19/13 22:16	994-05-8	
Benzene	**390**	ug/L	50.0	17.0	10		11/20/13 16:39	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/19/13 22:16	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/19/13 22:16	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/19/13 22:16	762-75-4	
1,2-Dichloroethane	**4.7J**	ug/L	5.0	1.8	1		11/19/13 22:16	107-06-2	
Diisopropyl ether	**5.3**	ug/L	5.0	1.7	1		11/19/13 22:16	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/19/13 22:16	64-17-5	
Ethylbenzene	**143**	ug/L	50.0	16.0	10		11/20/13 16:39	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/19/13 22:16	637-92-3	
Methyl-tert-butyl ether	**15.3**	ug/L	5.0	1.7	1		11/19/13 22:16	1634-04-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179601

Sample: 15729 MW-26 **Lab ID: 92179601010** Collected: 11/12/13 13:00 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Naphthalene	**37.9**	ug/L	5.0	2.0	1		11/19/13 22:16	91-20-3	
Toluene	**63.5**	ug/L	5.0	1.6	1		11/19/13 22:16	108-88-3	
Xylene (Total)	**266**	ug/L	10.0	2.7	1		11/19/13 22:16	1330-20-7	
m&p-Xylene	**190**	ug/L	10.0	3.1	1		11/19/13 22:16	179601-23-1	
o-Xylene	**75.8**	ug/L	5.0	1.6	1		11/19/13 22:16	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/19/13 22:16	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		11/19/13 22:16	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/19/13 22:16	2037-26-5	

Sample: 15729 MW-27 **Lab ID: 92179601011** Collected: 11/12/13 14:00 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.15**	ug/L	0.020	0.020	1	11/18/13 14:06	11/19/13 05:23	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	121	%	60-140		1	11/18/13 14:06	11/19/13 05:23	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**3250**	ug/L	100	76.8	1		11/19/13 22:32	75-85-4	
tert-Amylmethyl ether	**6.6J**	ug/L	10.0	3.4	1		11/19/13 22:32	994-05-8	
Benzene	**2510**	ug/L	100	34.0	20		11/20/13 16:54	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/19/13 22:32	624-95-3	
tert-Butyl Alcohol	**60.1J**	ug/L	100	57.7	1		11/19/13 22:32	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/19/13 22:32	762-75-4	
1,2-Dichloroethane	**27.1**	ug/L	5.0	1.8	1		11/19/13 22:32	107-06-2	
Diisopropyl ether	**42.4**	ug/L	5.0	1.7	1		11/19/13 22:32	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/19/13 22:32	64-17-5	
Ethylbenzene	**175**	ug/L	5.0	1.6	1		11/19/13 22:32	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/19/13 22:32	637-92-3	
Methyl-tert-butyl ether	**46.0**	ug/L	5.0	1.7	1		11/19/13 22:32	1634-04-4	
Naphthalene	**31.1**	ug/L	5.0	2.0	1		11/19/13 22:32	91-20-3	
Toluene	**27.6**	ug/L	5.0	1.6	1		11/19/13 22:32	108-88-3	
Xylene (Total)	**19.8**	ug/L	10.0	2.7	1		11/19/13 22:32	1330-20-7	
m&p-Xylene	**19.8**	ug/L	10.0	3.1	1		11/19/13 22:32	179601-23-1	
o-Xylene	**2.1J**	ug/L	5.0	1.6	1		11/19/13 22:32	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/19/13 22:32	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		11/19/13 22:32	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/19/13 22:32	2037-26-5	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179601

Sample: 15729 MW-31 **Lab ID: 92179601012** Collected: 11/12/13 13:50 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/18/13 14:06	11/19/13 05:43	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	104	%	60-140		1	11/18/13 14:06	11/19/13 05:43	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/19/13 22:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/19/13 22:48	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/19/13 22:48	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/19/13 22:48	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/19/13 22:48	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/19/13 22:48	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/19/13 22:48	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/19/13 22:48	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/19/13 22:48	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/19/13 22:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/19/13 22:48	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/19/13 22:48	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/19/13 22:48	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/19/13 22:48	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/19/13 22:48	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/19/13 22:48	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/19/13 22:48	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/19/13 22:48	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		11/19/13 22:48	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/19/13 22:48	2037-26-5	

Sample: 15729 MW-33 **Lab ID: 92179601013** Collected: 11/12/13 16:00 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.039**	ug/L	0.020	0.020	1	11/18/13 14:23	11/19/13 07:23	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	102	%	60-140		1	11/18/13 14:23	11/19/13 07:23	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**101**	ug/L	100	76.8	1		11/19/13 23:03	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/19/13 23:03	994-05-8	
Benzene	**20.4**	ug/L	5.0	1.7	1		11/19/13 23:03	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/19/13 23:03	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/19/13 23:03	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/19/13 23:03	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/19/13 23:03	107-06-2	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179601

Sample: 15729 MW-33 **Lab ID: 92179601013** Collected: 11/12/13 16:00 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/19/13 23:03	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/19/13 23:03	64-17-5	
Ethylbenzene	**17.0**	ug/L	5.0	1.6	1		11/19/13 23:03	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/19/13 23:03	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/19/13 23:03	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/19/13 23:03	91-20-3	
Toluene	**53.6**	ug/L	5.0	1.6	1		11/19/13 23:03	108-88-3	
Xylene (Total)	**45.7**	ug/L	10.0	2.7	1		11/19/13 23:03	1330-20-7	
m&p-Xylene	**32.0**	ug/L	10.0	3.1	1		11/19/13 23:03	179601-23-1	
o-Xylene	**13.6**	ug/L	5.0	1.6	1		11/19/13 23:03	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/19/13 23:03	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		11/19/13 23:03	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/19/13 23:03	2037-26-5	

Sample: 15729 MW-34D **Lab ID: 92179601014** Collected: 11/12/13 12:20 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/18/13 14:23	11/19/13 07:43	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	104	%	60-140		1	11/18/13 14:23	11/19/13 07:43	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/19/13 23:19	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/19/13 23:19	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/19/13 23:19	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/19/13 23:19	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/19/13 23:19	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/19/13 23:19	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/19/13 23:19	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/19/13 23:19	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/19/13 23:19	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/19/13 23:19	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/19/13 23:19	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/19/13 23:19	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/19/13 23:19	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/19/13 23:19	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/19/13 23:19	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/19/13 23:19	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/19/13 23:19	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/19/13 23:19	460-00-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179601

Sample: 15729 MW-34D **Lab ID: 92179601014** Collected: 11/12/13 12:20 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		11/19/13 23:19	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/19/13 23:19	2037-26-5	

Sample: 15729 MW-42 **Lab ID: 92179601015** Collected: 11/12/13 15:10 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/18/13 14:23	11/19/13 08:03	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	114	%	60-140		1	11/18/13 14:23	11/19/13 08:03	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**407**	ug/L	100	76.8	1		11/19/13 23:34	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/19/13 23:34	994-05-8	
Benzene	**28.4**	ug/L	5.0	1.7	1		11/19/13 23:34	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/19/13 23:34	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/19/13 23:34	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/19/13 23:34	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/19/13 23:34	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/19/13 23:34	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/19/13 23:34	64-17-5	
Ethylbenzene	**781**	ug/L	50.0	16.0	10		11/20/13 17:10	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/19/13 23:34	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/19/13 23:34	1634-04-4	
Naphthalene	**172**	ug/L	5.0	2.0	1		11/19/13 23:34	91-20-3	
Toluene	**45.2**	ug/L	5.0	1.6	1		11/19/13 23:34	108-88-3	
Xylene (Total)	**633**	ug/L	100	27.0	10		11/20/13 17:10	1330-20-7	
m&p-Xylene	**538**	ug/L	100	31.0	10		11/20/13 17:10	179601-23-1	
o-Xylene	**95.0**	ug/L	5.0	1.6	1		11/19/13 23:34	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		11/19/13 23:34	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		11/19/13 23:34	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/19/13 23:34	2037-26-5	

Sample: 15729 MW-52 **Lab ID: 92179601016** Collected: 11/12/13 15:15 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/18/13 14:24	11/19/13 09:04	106-93-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179601

Sample: 15729 MW-52 **Lab ID: 92179601016** Collected: 11/12/13 15:15 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
Surrogates									
1-Chloro-2-bromopropane (S)	102	%	60-140		1	11/18/13 14:24	11/19/13 09:04	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**165**	ug/L	100	76.8	1		11/19/13 23:50	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/19/13 23:50	994-05-8	
Benzene	**5.6**	ug/L	5.0	1.7	1		11/19/13 23:50	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/19/13 23:50	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/19/13 23:50	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/19/13 23:50	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/19/13 23:50	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/19/13 23:50	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/19/13 23:50	64-17-5	
Ethylbenzene	**285**	ug/L	25.0	8.0	5		11/20/13 17:25	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/19/13 23:50	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/19/13 23:50	1634-04-4	
Naphthalene	**58.4**	ug/L	5.0	2.0	1		11/19/13 23:50	91-20-3	
Toluene	**95.1**	ug/L	5.0	1.6	1		11/19/13 23:50	108-88-3	
Xylene (Total)	**835**	ug/L	50.0	13.5	5		11/20/13 17:25	1330-20-7	
m&p-Xylene	**614**	ug/L	50.0	15.5	5		11/20/13 17:25	179601-23-1	
o-Xylene	**221**	ug/L	25.0	8.0	5		11/20/13 17:25	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/19/13 23:50	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		11/19/13 23:50	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/19/13 23:50	2037-26-5	

Sample: 15729 MW-53 **Lab ID: 92179601017** Collected: 11/12/13 14:35 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.41**	ug/L	0.020	0.020	1	11/18/13 14:24	11/19/13 09:44	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	107	%	60-140		1	11/18/13 14:24	11/19/13 09:44	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**3670**	ug/L	100	76.8	1		11/20/13 00:05	75-85-4	
tert-Amylmethyl ether	**5.1J**	ug/L	10.0	3.4	1		11/20/13 00:05	994-05-8	
Benzene	**1940**	ug/L	100	34.0	20		11/20/13 17:41	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 00:05	624-95-3	
tert-Butyl Alcohol	**70.6J**	ug/L	100	57.7	1		11/20/13 00:05	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 00:05	762-75-4	
1,2-Dichloroethane	**39.1**	ug/L	5.0	1.8	1		11/20/13 00:05	107-06-2	
Diisopropyl ether	**50.9**	ug/L	5.0	1.7	1		11/20/13 00:05	108-20-3	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179601

Sample: 15729 MW-53 **Lab ID: 92179601017** Collected: 11/12/13 14:35 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Ethanol	ND	ug/L	200	138	1		11/20/13 00:05	64-17-5	
Ethylbenzene	**199**	ug/L	100	32.0	20		11/20/13 17:41	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 00:05	637-92-3	
Methyl-tert-butyl ether	**30.9**	ug/L	5.0	1.7	1		11/20/13 00:05	1634-04-4	
Naphthalene	**48.7**	ug/L	5.0	2.0	1		11/20/13 00:05	91-20-3	
Toluene	**248**	ug/L	100	32.0	20		11/20/13 17:41	108-88-3	
Xylene (Total)	**130**	ug/L	10.0	2.7	1		11/20/13 00:05	1330-20-7	
m&p-Xylene	**107**	ug/L	10.0	3.1	1		11/20/13 00:05	179601-23-1	
o-Xylene	**22.9**	ug/L	5.0	1.6	1		11/20/13 00:05	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/20/13 00:05	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		11/20/13 00:05	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/20/13 00:05	2037-26-5	

Sample: 15729 MW-53 DUP **Lab ID: 92179601018** Collected: 11/12/13 14:38 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.39**	ug/L	0.021	0.021	1	11/18/13 14:24	11/19/13 10:05	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	121	%	60-140		1	11/18/13 14:24	11/19/13 10:05	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**2400**	ug/L	100	76.8	1		11/20/13 00:21	75-85-4	
tert-Amylmethyl ether	**3.7J**	ug/L	10.0	3.4	1		11/20/13 00:21	994-05-8	
Benzene	**1270**	ug/L	100	34.0	20		11/20/13 17:56	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 00:21	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 00:21	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 00:21	762-75-4	
1,2-Dichloroethane	**22.9**	ug/L	5.0	1.8	1		11/20/13 00:21	107-06-2	
Diisopropyl ether	**33.0**	ug/L	5.0	1.7	1		11/20/13 00:21	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 00:21	64-17-5	
Ethylbenzene	**154**	ug/L	5.0	1.6	1		11/20/13 00:21	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 00:21	637-92-3	
Methyl-tert-butyl ether	**21.0**	ug/L	5.0	1.7	1		11/20/13 00:21	1634-04-4	
Naphthalene	**26.6**	ug/L	5.0	2.0	1		11/20/13 00:21	91-20-3	
Toluene	**251**	ug/L	100	32.0	20		11/20/13 17:56	108-88-3	
Xylene (Total)	**115**	ug/L	10.0	2.7	1		11/20/13 00:21	1330-20-7	
m&p-Xylene	**92.6**	ug/L	10.0	3.1	1		11/20/13 00:21	179601-23-1	
o-Xylene	**22.1**	ug/L	5.0	1.6	1		11/20/13 00:21	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/20/13 00:21	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		11/20/13 00:21	17060-07-0	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179601

Sample: 15729 MW-53 DUP **Lab ID: 92179601018** Collected: 11/12/13 14:38 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
Toluene-d8 (S)	101	%	70-130		1		11/20/13 00:21	2037-26-5	

Sample: 15729 MW-54 **Lab ID: 92179601019** Collected: 11/12/13 14:15 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/18/13 14:24	11/19/13 10:25	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	89	%	60-140		1	11/18/13 14:24	11/19/13 10:25	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/20/13 02:25	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 02:25	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/20/13 02:25	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 02:25	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 02:25	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 02:25	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/20/13 02:25	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/20/13 02:25	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 02:25	64-17-5	
Ethylbenzene	**731**	ug/L	50.0	16.0	10		11/20/13 18:12	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 02:25	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/20/13 02:25	1634-04-4	
Naphthalene	**226**	ug/L	50.0	20.0	10		11/20/13 18:12	91-20-3	
Toluene	**25.6**	ug/L	5.0	1.6	1		11/20/13 02:25	108-88-3	
Xylene (Total)	**1910**	ug/L	100	27.0	10		11/20/13 18:12	1330-20-7	
m&p-Xylene	**1520**	ug/L	100	31.0	10		11/20/13 18:12	179601-23-1	
o-Xylene	**383**	ug/L	50.0	16.0	10		11/20/13 18:12	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		11/20/13 02:25	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		11/20/13 02:25	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/20/13 02:25	2037-26-5	

Sample: 15729 MW-55 **Lab ID: 92179601020** Collected: 11/12/13 13:25 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.046**	ug/L	0.020	0.020	1	11/18/13 14:24	11/19/13 10:45	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	107	%	60-140		1	11/18/13 14:24	11/19/13 10:45	301-79-56	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179601

Sample: 15729 MW-55 **Lab ID: 92179601020** Collected: 11/12/13 13:25 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**223**	ug/L	100	76.8	1		11/20/13 02:41	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 02:41	994-05-8	
Benzene	**75.2**	ug/L	5.0	1.7	1		11/20/13 02:41	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 02:41	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 02:41	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 02:41	762-75-4	
1,2-Dichloroethane	**2.6J**	ug/L	5.0	1.8	1		11/20/13 02:41	107-06-2	
Diisopropyl ether	**2.8J**	ug/L	5.0	1.7	1		11/20/13 02:41	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 02:41	64-17-5	
Ethylbenzene	**15.6**	ug/L	5.0	1.6	1		11/20/13 02:41	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 02:41	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/20/13 02:41	1634-04-4	
Naphthalene	**6.1**	ug/L	5.0	2.0	1		11/20/13 02:41	91-20-3	
Toluene	**5.5**	ug/L	5.0	1.6	1		11/20/13 02:41	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/20/13 02:41	1330-20-7	
m&p-Xylene	**3.4J**	ug/L	10.0	3.1	1		11/20/13 02:41	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/20/13 02:41	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/20/13 02:41	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		11/20/13 02:41	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/20/13 02:41	2037-26-5	

Sample: 15729 MW-56 **Lab ID: 92179601021** Collected: 11/12/13 13:40 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.040**	ug/L	0.020	0.020	1	11/18/13 14:24	11/19/13 11:06	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	113	%	60-140		1	11/18/13 14:24	11/19/13 11:06	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**4970J**	ug/L	5000	3840	50		11/20/13 18:27	75-85-4	
tert-Amylmethyl ether	**12.7**	ug/L	10.0	3.4	1		11/20/13 02:57	994-05-8	
Benzene	**3220**	ug/L	250	85.0	50		11/20/13 18:27	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 02:57	624-95-3	
tert-Butyl Alcohol	**112**	ug/L	100	57.7	1		11/20/13 02:57	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 02:57	762-75-4	
1,2-Dichloroethane	**33.2**	ug/L	5.0	1.8	1		11/20/13 02:57	107-06-2	
Diisopropyl ether	**47.7**	ug/L	5.0	1.7	1		11/20/13 02:57	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 02:57	64-17-5	
Ethylbenzene	**259**	ug/L	250	80.0	50		11/20/13 18:27	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 02:57	637-92-3	
Methyl-tert-butyl ether	**90.6**	ug/L	5.0	1.7	1		11/20/13 02:57	1634-04-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179601

Sample: 15729 MW-56 **Lab ID: 92179601021** Collected: 11/12/13 13:40 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Naphthalene	**81.9**	ug/L	5.0	2.0	1		11/20/13 02:57	91-20-3	
Toluene	**26.2**	ug/L	5.0	1.6	1		11/20/13 02:57	108-88-3	
Xylene (Total)	**11.6**	ug/L	10.0	2.7	1		11/20/13 02:57	1330-20-7	
m&p-Xylene	**11.6**	ug/L	10.0	3.1	1		11/20/13 02:57	179601-23-1	
o-Xylene	**3.0J**	ug/L	5.0	1.6	1		11/20/13 02:57	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/20/13 02:57	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		11/20/13 02:57	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		11/20/13 02:57	2037-26-5	

Sample: 15729 MW-57 **Lab ID: 92179601022** Collected: 11/12/13 12:15 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/18/13 14:24	11/19/13 11:26	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	104	%	60-140		1	11/18/13 14:24	11/19/13 11:26	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**2190**	ug/L	100	76.8	1		11/20/13 03:12	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 03:12	994-05-8	
Benzene	**605**	ug/L	50.0	17.0	10		11/20/13 18:43	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 03:12	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 03:12	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 03:12	762-75-4	
1,2-Dichloroethane	**5.9**	ug/L	5.0	1.8	1		11/20/13 03:12	107-06-2	
Diisopropyl ether	**7.0**	ug/L	5.0	1.7	1		11/20/13 03:12	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 03:12	64-17-5	
Ethylbenzene	**37.4**	ug/L	5.0	1.6	1		11/20/13 03:12	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 03:12	637-92-3	
Methyl-tert-butyl ether	**19.8**	ug/L	5.0	1.7	1		11/20/13 03:12	1634-04-4	
Naphthalene	**10.1**	ug/L	5.0	2.0	1		11/20/13 03:12	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/20/13 03:12	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/20/13 03:12	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/20/13 03:12	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/20/13 03:12	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/20/13 03:12	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		11/20/13 03:12	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/20/13 03:12	2037-26-5	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179601

Sample: 15729 FIELD BLANK 1 **Lab ID: 92179601023** Collected: 11/12/13 15:30 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/18/13 14:24	11/19/13 11:46	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	105	%	60-140		1	11/18/13 14:24	11/19/13 11:46	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/20/13 03:28	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 03:28	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/20/13 03:28	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 03:28	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 03:28	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 03:28	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/20/13 03:28	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/20/13 03:28	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 03:28	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/20/13 03:28	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 03:28	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/20/13 03:28	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/20/13 03:28	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/20/13 03:28	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/20/13 03:28	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/20/13 03:28	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/20/13 03:28	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/20/13 03:28	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		11/20/13 03:28	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/20/13 03:28	2037-26-5	

Sample: 15729 TRIP BLANK 1 **Lab ID: 92179601024** Collected: 11/12/13 15:35 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/18/13 14:24	11/19/13 12:07	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	102	%	60-140		1	11/18/13 14:24	11/19/13 12:07	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/20/13 03:43	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 03:43	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/20/13 03:43	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 03:43	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 03:43	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 03:43	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/20/13 03:43	107-06-2	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179601

Sample: 15729 TRIP BLANK 1 **Lab ID: 92179601024** Collected: 11/12/13 15:35 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/20/13 03:43	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 03:43	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/20/13 03:43	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 03:43	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/20/13 03:43	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/20/13 03:43	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/20/13 03:43	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/20/13 03:43	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/20/13 03:43	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/20/13 03:43	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/20/13 03:43	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		11/20/13 03:43	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/20/13 03:43	2037-26-5	

Sample: 15729 TRIP BLANK 2 **Lab ID: 92179601025** Collected: 11/12/13 15:40 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/18/13 14:25	11/19/13 12:27	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	106	%	60-140		1	11/18/13 14:25	11/19/13 12:27	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/20/13 03:59	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 03:59	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/20/13 03:59	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 03:59	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 03:59	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 03:59	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/20/13 03:59	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/20/13 03:59	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 03:59	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/20/13 03:59	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 03:59	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/20/13 03:59	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/20/13 03:59	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/20/13 03:59	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/20/13 03:59	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/20/13 03:59	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/20/13 03:59	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/20/13 03:59	460-00-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179601

Sample: 15729 TRIP BLANK 2 **Lab ID: 92179601025** Collected: 11/12/13 15:40 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		11/20/13 03:59	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/20/13 03:59	2037-26-5	

Sample: 15729 CS-1 **Lab ID: 92179601026** Collected: 11/12/13 10:25 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/18/13 14:25	11/19/13 12:48	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	107	%	60-140		1	11/18/13 14:25	11/19/13 12:48	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		11/21/13 22:22	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		11/21/13 22:22	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		11/21/13 22:22	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		11/21/13 22:22	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		11/21/13 22:22	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		11/21/13 22:22	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		11/21/13 22:22	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		11/21/13 22:22	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		11/21/13 22:22	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/21/13 22:22	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		11/21/13 22:22	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		11/21/13 22:22	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		11/21/13 22:22	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		11/21/13 22:22	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		11/21/13 22:22	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		11/21/13 22:22	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		11/21/13 22:22	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		11/21/13 22:22	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		11/21/13 22:22	17060-07-0	
Toluene-d8 (S)	95	%	70-130		1		11/21/13 22:22	2037-26-5	

Sample: 15729 CS-2 **Lab ID: 92179601027** Collected: 11/12/13 10:10 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/18/13 14:25	11/19/13 13:08	106-93-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179601

Sample: 15729 CS-2 **Lab ID: 92179601027** Collected: 11/12/13 10:10 Received: 11/14/13 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
Surrogates									
1-Chloro-2-bromopropane (S)	95	%	60-140		1	11/18/13 14:25	11/19/13 13:08	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		11/21/13 22:38	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		11/21/13 22:38	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		11/21/13 22:38	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		11/21/13 22:38	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		11/21/13 22:38	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		11/21/13 22:38	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		11/21/13 22:38	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		11/21/13 22:38	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		11/21/13 22:38	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/21/13 22:38	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		11/21/13 22:38	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		11/21/13 22:38	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		11/21/13 22:38	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		11/21/13 22:38	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		11/21/13 22:38	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		11/21/13 22:38	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		11/21/13 22:38	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		11/21/13 22:38	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		11/21/13 22:38	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		11/21/13 22:38	2037-26-5	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179601

QC Batch: MSV/24993 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 92179601026, 92179601027

METHOD BLANK: 1091716 Matrix: Water
Associated Lab Samples: 92179601026, 92179601027

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	11/21/13 14:21	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	11/21/13 14:21	
Benzene	ug/L	ND	1.0	11/21/13 14:21	
Diisopropyl ether	ug/L	ND	1.0	11/21/13 14:21	
Ethanol	ug/L	ND	200	11/21/13 14:21	
Ethyl-tert-butyl ether	ug/L	ND	10.0	11/21/13 14:21	
Ethylbenzene	ug/L	ND	1.0	11/21/13 14:21	
m&p-Xylene	ug/L	ND	2.0	11/21/13 14:21	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/21/13 14:21	
Naphthalene	ug/L	ND	1.0	11/21/13 14:21	
o-Xylene	ug/L	ND	1.0	11/21/13 14:21	
tert-Amyl Alcohol	ug/L	ND	100	11/21/13 14:21	
tert-Amylmethyl ether	ug/L	ND	10.0	11/21/13 14:21	
tert-Butyl Alcohol	ug/L	ND	100	11/21/13 14:21	
tert-Butyl Formate	ug/L	ND	50.0	11/21/13 14:21	
Toluene	ug/L	ND	1.0	11/21/13 14:21	
Xylene (Total)	ug/L	ND	2.0	11/21/13 14:21	
1,2-Dichloroethane-d4 (S)	%	93	70-130	11/21/13 14:21	
4-Bromofluorobenzene (S)	%	107	70-130	11/21/13 14:21	
Toluene-d8 (S)	%	96	70-130	11/21/13 14:21	

LABORATORY CONTROL SAMPLE: 1091717

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	43.6	87	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	864	86	70-130	
Benzene	ug/L	50	51.0	102	70-130	
Diisopropyl ether	ug/L	50	50.2	100	70-130	
Ethanol	ug/L	2000	1470	74	70-130	
Ethyl-tert-butyl ether	ug/L	100	90.4	90	70-130	
Ethylbenzene	ug/L	50	49.3	99	70-130	
m&p-Xylene	ug/L	100	102	102	70-130	
Methyl-tert-butyl ether	ug/L	50	51.6	103	70-130	
Naphthalene	ug/L	50	53.4	107	70-130	
o-Xylene	ug/L	50	54.5	109	70-130	
tert-Amyl Alcohol	ug/L	1000	821	82	70-130	
tert-Amylmethyl ether	ug/L	100	106	106	70-130	
tert-Butyl Alcohol	ug/L	500	365	73	70-130	
tert-Butyl Formate	ug/L	400	354	88	70-130	
Toluene	ug/L	50	51.1	102	70-130	
Xylene (Total)	ug/L	150	157	104	70-130	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179601

LABORATORY CONTROL SAMPLE: 1091717

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%			95	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1091718 1091719

Parameter	Units	92179771034 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	54.2	49.8	108	100	70-130	9	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	1070	958	107	96	70-130	11	30	
Benzene	ug/L	ND	50	50	66.9	62.1	134	124	70-130	7	30	M1
Diisopropyl ether	ug/L	ND	50	50	62.3	57.7	125	115	70-130	8	30	
Ethanol	ug/L	ND	2000	2000	1690	1420	84	71	70-130	17	30	
Ethyl-tert-butyl ether	ug/L	ND	100	100	114	105	114	105	70-130	8	30	
Ethylbenzene	ug/L	ND	50	50	62.9	59.2	126	118	70-130	6	30	
m&p-Xylene	ug/L	ND	100	100	130	122	130	122	70-130	6	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	64.2	58.4	128	117	70-130	9	30	
Naphthalene	ug/L	ND	50	50	66.9	59.5	134	119	70-130	12	30	M1
o-Xylene	ug/L	ND	50	50	70.9	66.6	142	133	70-130	6	30	M1
tert-Amyl Alcohol	ug/L	ND	1000	1000	973	878	97	88	70-130	10	30	
tert-Amylmethyl ether	ug/L	ND	100	100	132	122	132	122	70-130	8	30	M1
tert-Butyl Alcohol	ug/L	ND	500	500	634	574	127	115	70-130	10	30	
tert-Butyl Formate	ug/L	ND	400	400	42.5J	40.7J	11	10	70-130		30	M1
Toluene	ug/L	ND	50	50	66.3	61.3	133	123	70-130	8	30	M1
1,2-Dichloroethane-d4 (S)	%						92	93	70-130			
4-Bromofluorobenzene (S)	%						101	104	70-130			
Toluene-d8 (S)	%						102	102	70-130			

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179601

QC Batch: MSV/24942 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92179601001, 92179601002, 92179601003, 92179601004, 92179601005, 92179601006, 92179601007, 92179601008

METHOD BLANK: 1087995 Matrix: Water
Associated Lab Samples: 92179601001, 92179601002, 92179601003, 92179601004, 92179601005, 92179601006, 92179601007, 92179601008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	11/18/13 17:49	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	11/18/13 17:49	
Benzene	ug/L	ND	5.0	11/18/13 17:49	
Diisopropyl ether	ug/L	ND	5.0	11/18/13 17:49	
Ethanol	ug/L	ND	200	11/18/13 17:49	
Ethyl-tert-butyl ether	ug/L	ND	10.0	11/18/13 17:49	
Ethylbenzene	ug/L	ND	5.0	11/18/13 17:49	
m&p-Xylene	ug/L	ND	10.0	11/18/13 17:49	
Methyl-tert-butyl ether	ug/L	ND	5.0	11/18/13 17:49	
Naphthalene	ug/L	ND	5.0	11/18/13 17:49	
o-Xylene	ug/L	ND	5.0	11/18/13 17:49	
tert-Amyl Alcohol	ug/L	ND	100	11/18/13 17:49	
tert-Amylmethyl ether	ug/L	ND	10.0	11/18/13 17:49	
tert-Butyl Alcohol	ug/L	ND	100	11/18/13 17:49	
tert-Butyl Formate	ug/L	ND	50.0	11/18/13 17:49	
Toluene	ug/L	ND	5.0	11/18/13 17:49	
Xylene (Total)	ug/L	ND	10.0	11/18/13 17:49	
1,2-Dichloroethane-d4 (S)	%	101	70-130	11/18/13 17:49	
4-Bromofluorobenzene (S)	%	98	70-130	11/18/13 17:49	
Toluene-d8 (S)	%	101	70-130	11/18/13 17:49	

LABORATORY CONTROL SAMPLE: 1087996

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	49.8	100	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1110	111	70-130	
Benzene	ug/L	50	50.1	100	70-130	
Diisopropyl ether	ug/L	50	51.3	103	70-130	
Ethanol	ug/L	2000	1990	99	70-130	
Ethyl-tert-butyl ether	ug/L	100	92.8	93	70-130	
Ethylbenzene	ug/L	50	48.0	96	70-130	
m&p-Xylene	ug/L	100	100	100	70-130	
Methyl-tert-butyl ether	ug/L	50	53.4	107	70-130	
Naphthalene	ug/L	50	44.2	88	70-130	
o-Xylene	ug/L	50	51.0	102	70-130	
tert-Amyl Alcohol	ug/L	1000	1040	104	70-130	
tert-Amylmethyl ether	ug/L	100	103	103	70-130	
tert-Butyl Alcohol	ug/L	500	588	118	70-130	
tert-Butyl Formate	ug/L	400	412	103	70-130	
Toluene	ug/L	50	49.0	98	70-130	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179601

LABORATORY CONTROL SAMPLE: 1087996

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	151	101	70-130	
1,2-Dichloroethane-d4 (S)	%			100	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1089054 1089055

Parameter	Units	92179601008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	45.9	51.6	91	103	70-130	12	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	890	973	89	97	70-130	9	30	
Benzene	ug/L	ND	50	50	49.0	55.0	98	110	70-130	12	30	
Diisopropyl ether	ug/L	ND	50	50	47.7	52.7	95	105	70-130	10	30	
Ethanol	ug/L	ND	2000	2000	1590	1920	79	96	70-130	19	30	
Ethyl-tert-butyl ether	ug/L	ND	100	100	85.1	94.3	85	94	70-130	10	30	
Ethylbenzene	ug/L	ND	50	50	46.7	52.6	93	105	70-130	12	30	
m&p-Xylene	ug/L	ND	100	100	96.4	109	96	109	70-130	13	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	48.6	53.5	97	107	70-130	10	30	
Naphthalene	ug/L	ND	50	50	41.2	44.7	82	89	70-130	8	30	
o-Xylene	ug/L	ND	50	50	48.6	55.9	97	112	70-130	14	30	
tert-Amyl Alcohol	ug/L	ND	1000	1000	905	1000	91	100	70-130	10	30	
tert-Amylmethyl ether	ug/L	ND	100	100	98.3	109	98	109	70-130	11	30	
tert-Butyl Alcohol	ug/L	ND	500	500	535	600	107	120	70-130	12	30	
tert-Butyl Formate	ug/L	ND	400	400	179	154	45	39	70-130	15	30	P5
Toluene	ug/L	ND	50	50	47.4	54.1	95	108	70-130	13	30	
1,2-Dichloroethane-d4 (S)	%						96	96	70-130			
4-Bromofluorobenzene (S)	%						100	102	70-130			
Toluene-d8 (S)	%						100	100	70-130			

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179601

QC Batch: MSV/24970 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92179601009, 92179601010, 92179601011, 92179601012, 92179601013, 92179601014, 92179601015, 92179601016, 92179601017, 92179601018

METHOD BLANK: 1089628 Matrix: Water
Associated Lab Samples: 92179601009, 92179601010, 92179601011, 92179601012, 92179601013, 92179601014, 92179601015, 92179601016, 92179601017, 92179601018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	11/19/13 21:45	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	11/19/13 21:45	
Benzene	ug/L	ND	5.0	11/19/13 21:45	
Diisopropyl ether	ug/L	ND	5.0	11/19/13 21:45	
Ethanol	ug/L	ND	200	11/19/13 21:45	
Ethyl-tert-butyl ether	ug/L	ND	10.0	11/19/13 21:45	
Ethylbenzene	ug/L	ND	5.0	11/19/13 21:45	
m&p-Xylene	ug/L	ND	10.0	11/19/13 21:45	
Methyl-tert-butyl ether	ug/L	ND	5.0	11/19/13 21:45	
Naphthalene	ug/L	ND	5.0	11/19/13 21:45	
o-Xylene	ug/L	ND	5.0	11/19/13 21:45	
tert-Amyl Alcohol	ug/L	ND	100	11/19/13 21:45	
tert-Amylmethyl ether	ug/L	ND	10.0	11/19/13 21:45	
tert-Butyl Alcohol	ug/L	ND	100	11/19/13 21:45	
tert-Butyl Formate	ug/L	ND	50.0	11/19/13 21:45	
Toluene	ug/L	ND	5.0	11/19/13 21:45	
Xylene (Total)	ug/L	ND	10.0	11/19/13 21:45	
1,2-Dichloroethane-d4 (S)	%	98	70-130	11/19/13 21:45	
4-Bromofluorobenzene (S)	%	100	70-130	11/19/13 21:45	
Toluene-d8 (S)	%	101	70-130	11/19/13 21:45	

LABORATORY CONTROL SAMPLE: 1089629

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	49.6	99	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1130	113	70-130	
Benzene	ug/L	50	50.8	102	70-130	
Diisopropyl ether	ug/L	50	50.2	100	70-130	
Ethanol	ug/L	2000	1790	89	70-130	
Ethyl-tert-butyl ether	ug/L	100	91.4	91	70-130	
Ethylbenzene	ug/L	50	48.6	97	70-130	
m&p-Xylene	ug/L	100	101	101	70-130	
Methyl-tert-butyl ether	ug/L	50	52.3	105	70-130	
Naphthalene	ug/L	50	46.5	93	70-130	
o-Xylene	ug/L	50	52.5	105	70-130	
tert-Amyl Alcohol	ug/L	1000	1040	104	70-130	
tert-Amylmethyl ether	ug/L	100	106	106	70-130	
tert-Butyl Alcohol	ug/L	500	586	117	70-130	
tert-Butyl Formate	ug/L	400	401	100	70-130	
Toluene	ug/L	50	49.7	99	70-130	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179601

LABORATORY CONTROL SAMPLE: 1089629

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	153	102	70-130	
1,2-Dichloroethane-d4 (S)	%			96	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Toluene-d8 (S)	%			101	70-130	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179601

QC Batch: MSV/24971 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92179601019, 92179601020, 92179601021, 92179601022, 92179601023, 92179601024, 92179601025

METHOD BLANK: 1089709 Matrix: Water
Associated Lab Samples: 92179601019, 92179601020, 92179601021, 92179601022, 92179601023, 92179601024, 92179601025

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	11/20/13 01:54	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	11/20/13 01:54	
Benzene	ug/L	ND	5.0	11/20/13 01:54	
Diisopropyl ether	ug/L	ND	5.0	11/20/13 01:54	
Ethanol	ug/L	ND	200	11/20/13 01:54	
Ethyl-tert-butyl ether	ug/L	ND	10.0	11/20/13 01:54	
Ethylbenzene	ug/L	ND	5.0	11/20/13 01:54	
m&p-Xylene	ug/L	ND	10.0	11/20/13 01:54	
Methyl-tert-butyl ether	ug/L	ND	5.0	11/20/13 01:54	
Naphthalene	ug/L	ND	5.0	11/20/13 01:54	
o-Xylene	ug/L	ND	5.0	11/20/13 01:54	
tert-Amyl Alcohol	ug/L	ND	100	11/20/13 01:54	
tert-Amylmethyl ether	ug/L	ND	10.0	11/20/13 01:54	
tert-Butyl Alcohol	ug/L	ND	100	11/20/13 01:54	
tert-Butyl Formate	ug/L	ND	50.0	11/20/13 01:54	
Toluene	ug/L	ND	5.0	11/20/13 01:54	
Xylene (Total)	ug/L	ND	10.0	11/20/13 01:54	
1,2-Dichloroethane-d4 (S)	%	98	70-130	11/20/13 01:54	
4-Bromofluorobenzene (S)	%	99	70-130	11/20/13 01:54	
Toluene-d8 (S)	%	100	70-130	11/20/13 01:54	

LABORATORY CONTROL SAMPLE: 1089710

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	52.3	105	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1230	123	70-130	
Benzene	ug/L	50	55.5	111	70-130	
Diisopropyl ether	ug/L	50	53.0	106	70-130	
Ethanol	ug/L	2000	2050	103	70-130	
Ethyl-tert-butyl ether	ug/L	100	97.6	98	70-130	
Ethylbenzene	ug/L	50	53.1	106	70-130	
m&p-Xylene	ug/L	100	111	111	70-130	
Methyl-tert-butyl ether	ug/L	50	56.2	112	70-130	
Naphthalene	ug/L	50	50.8	102	70-130	
o-Xylene	ug/L	50	56.3	113	70-130	
tert-Amyl Alcohol	ug/L	1000	1120	112	70-130	
tert-Amylmethyl ether	ug/L	100	115	115	70-130	
tert-Butyl Alcohol	ug/L	500	567	113	70-130	
tert-Butyl Formate	ug/L	400	437	109	70-130	
Toluene	ug/L	50	53.5	107	70-130	
Xylene (Total)	ug/L	150	167	111	70-130	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179601

LABORATORY CONTROL SAMPLE: 1089710

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%			97	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1090152 1090153

Parameter	Units	92179641021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	51.1	53.2	102	106	70-130	4	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	1130	1230	113	123	70-130	8	30	
Benzene	ug/L	ND	50	50	56.1	59.2	112	118	70-130	5	30	
Diisopropyl ether	ug/L	ND	50	50	52.4	54.3	105	109	70-130	4	30	
Ethanol	ug/L	ND	2000	2000	1920	1850	96	92	70-130	4	30	
Ethyl-tert-butyl ether	ug/L	ND	100	100	94.9	99.6	95	100	70-130	5	30	
Ethylbenzene	ug/L	ND	50	50	52.4	55.2	104	110	70-130	5	30	
m&p-Xylene	ug/L	ND	100	100	109	116	109	116	70-130	6	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	55.6	57.1	111	114	70-130	3	30	
Naphthalene	ug/L	ND	50	50	46.3	47.2	93	94	70-130	2	30	
o-Xylene	ug/L	ND	50	50	55.6	58.5	111	117	70-130	5	30	
tert-Amyl Alcohol	ug/L	ND	1000	1000	1020	1080	102	108	70-130	6	30	
tert-Amylmethyl ether	ug/L	ND	100	100	111	115	111	115	70-130	3	30	
tert-Butyl Alcohol	ug/L	ND	500	500	580	606	116	121	70-130	4	30	
tert-Butyl Formate	ug/L	ND	400	400	215	157	54	39	70-130	31	30	P5
Toluene	ug/L	ND	50	50	53.6	56.7	107	113	70-130	6	30	
1,2-Dichloroethane-d4 (S)	%						96	94	70-130			
4-Bromofluorobenzene (S)	%						101	101	70-130			
Toluene-d8 (S)	%						101	101	70-130			

REPORT OF LABORATORY ANALYSIS

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Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179601

QC Batch: OEXT/24794 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92179601001, 92179601002, 92179601003, 92179601004, 92179601005, 92179601006, 92179601007, 92179601008, 92179601009, 92179601010, 92179601011, 92179601012

METHOD BLANK: 1088573 Matrix: Water
Associated Lab Samples: 92179601001, 92179601002, 92179601003, 92179601004, 92179601005, 92179601006, 92179601007, 92179601008, 92179601009, 92179601010, 92179601011, 92179601012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	11/18/13 21:18	
1-Chloro-2-bromopropane (S)	%	108	60-140	11/18/13 21:18	

LABORATORY CONTROL SAMPLE & LCSD: 1088574 1088575

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.32	0.31	112	108	60-140	3	20	
1-Chloro-2-bromopropane (S)	%				108	106	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1088576 1088577

Parameter	Units	92179395006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.28	0.29	100	106	60-140	6	20	
1-Chloro-2-bromopropane (S)	%						109	110	60-140			

SAMPLE DUPLICATE: 1088578

Parameter	Units	92179395007 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	108	109	2		

REPORT OF LABORATORY ANALYSIS

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179601

QC Batch: OEXT/24795 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92179601013, 92179601014, 92179601015, 92179601016, 92179601017, 92179601018, 92179601019, 92179601020, 92179601021, 92179601022, 92179601023, 92179601024, 92179601025, 92179601026, 92179601027

METHOD BLANK: 1088605 Matrix: Water
Associated Lab Samples: 92179601013, 92179601014, 92179601015, 92179601016, 92179601017, 92179601018, 92179601019, 92179601020, 92179601021, 92179601022, 92179601023, 92179601024, 92179601025, 92179601026, 92179601027

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	11/19/13 06:23	
1-Chloro-2-bromopropane (S)	%	104	60-140	11/19/13 06:23	

LABORATORY CONTROL SAMPLE & LCSD: 1088606 1088607

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.29	0.32	104	110	60-140	7	20	
1-Chloro-2-bromopropane (S)	%				106	106	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1088608 1088609

Parameter	Units	92179601015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.31	0.31	110	110	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						113	114	60-140			

SAMPLE DUPLICATE: 1088610

Parameter	Units	92179601016 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	102	106	4		

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: HW Detwiler 15729
Pace Project No.: 92179601

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine(8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

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TNI - The NELAC Institute.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

P5 The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HW Detwiler 15729
Pace Project No.: 92179601

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92179601001	15729 MW-7	EPA 8011	OEXT/24794	EPA 8011	GCSV/16024
92179601002	15729 MW-8	EPA 8011	OEXT/24794	EPA 8011	GCSV/16024
92179601003	15729 MW-9	EPA 8011	OEXT/24794	EPA 8011	GCSV/16024
92179601004	15729 MW-10	EPA 8011	OEXT/24794	EPA 8011	GCSV/16024
92179601005	15729 MW-11	EPA 8011	OEXT/24794	EPA 8011	GCSV/16024
92179601006	15729 MW-14	EPA 8011	OEXT/24794	EPA 8011	GCSV/16024
92179601007	15729 MW-19	EPA 8011	OEXT/24794	EPA 8011	GCSV/16024
92179601008	15729 MW-21	EPA 8011	OEXT/24794	EPA 8011	GCSV/16024
92179601009	15729 MW-22	EPA 8011	OEXT/24794	EPA 8011	GCSV/16024
92179601010	15729 MW-26	EPA 8011	OEXT/24794	EPA 8011	GCSV/16024
92179601011	15729 MW-27	EPA 8011	OEXT/24794	EPA 8011	GCSV/16024
92179601012	15729 MW-31	EPA 8011	OEXT/24794	EPA 8011	GCSV/16024
92179601013	15729 MW-33	EPA 8011	OEXT/24795	EPA 8011	GCSV/16025
92179601014	15729 MW-34D	EPA 8011	OEXT/24795	EPA 8011	GCSV/16025
92179601015	15729 MW-42	EPA 8011	OEXT/24795	EPA 8011	GCSV/16025
92179601016	15729 MW-52	EPA 8011	OEXT/24795	EPA 8011	GCSV/16025
92179601017	15729 MW-53	EPA 8011	OEXT/24795	EPA 8011	GCSV/16025
92179601018	15729 MW-53 DUP	EPA 8011	OEXT/24795	EPA 8011	GCSV/16025
92179601019	15729 MW-54	EPA 8011	OEXT/24795	EPA 8011	GCSV/16025
92179601020	15729 MW-55	EPA 8011	OEXT/24795	EPA 8011	GCSV/16025
92179601021	15729 MW-56	EPA 8011	OEXT/24795	EPA 8011	GCSV/16025
92179601022	15729 MW-57	EPA 8011	OEXT/24795	EPA 8011	GCSV/16025
92179601023	15729 FIELD BLANK 1	EPA 8011	OEXT/24795	EPA 8011	GCSV/16025
92179601024	15729 TRIP BLANK 1	EPA 8011	OEXT/24795	EPA 8011	GCSV/16025
92179601025	15729 TRIP BLANK 2	EPA 8011	OEXT/24795	EPA 8011	GCSV/16025
92179601026	15729 CS-1	EPA 8011	OEXT/24795	EPA 8011	GCSV/16025
92179601027	15729 CS-2	EPA 8011	OEXT/24795	EPA 8011	GCSV/16025
92179601026	15729 CS-1	EPA 8260	MSV/24993		
92179601027	15729 CS-2	EPA 8260	MSV/24993		
92179601001	15729 MW-7	EPA 8260	MSV/24942		
92179601002	15729 MW-8	EPA 8260	MSV/24942		
92179601003	15729 MW-9	EPA 8260	MSV/24942		
92179601004	15729 MW-10	EPA 8260	MSV/24942		
92179601005	15729 MW-11	EPA 8260	MSV/24942		
92179601006	15729 MW-14	EPA 8260	MSV/24942		
92179601007	15729 MW-19	EPA 8260	MSV/24942		
92179601008	15729 MW-21	EPA 8260	MSV/24942		
92179601009	15729 MW-22	EPA 8260	MSV/24970		
92179601010	15729 MW-26	EPA 8260	MSV/24970		
92179601011	15729 MW-27	EPA 8260	MSV/24970		
92179601012	15729 MW-31	EPA 8260	MSV/24970		
92179601013	15729 MW-33	EPA 8260	MSV/24970		
92179601014	15729 MW-34D	EPA 8260	MSV/24970		
92179601015	15729 MW-42	EPA 8260	MSV/24970		
92179601016	15729 MW-52	EPA 8260	MSV/24970		
92179601017	15729 MW-53	EPA 8260	MSV/24970		
92179601018	15729 MW-53 DUP	EPA 8260	MSV/24970		

REPORT OF LABORATORY ANALYSIS

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(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HW Detwiler 15729
Pace Project No.: 92179601

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92179601019	**15729 MW-54**	EPA 8260	MSV/24971		
92179601020	**15729 MW-55**	EPA 8260	MSV/24971		
92179601021	**15729 MW-56**	EPA 8260	MSV/24971		
92179601022	**15729 MW-57**	EPA 8260	MSV/24971		
92179601023	**15729 FIELD BLANK 1**	EPA 8260	MSV/24971		
92179601024	**15729 TRIP BLANK 1**	EPA 8260	MSV/24971		
92179601025	**15729 TRIP BLANK 2**	EPA 8260	MSV/24971		

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Pace Analytical	Sample Condition Upon Receipt (SCUR)	Page 1 of 2
	Document Number: F-CHR-CS-03-rev.11	Issuing Authority: Pace Huntersville Quality Office

Client Name: Emerald Inc

Where Received: ☑ Huntersville ☐ Asheville ☐ Eden ☐ Raleigh

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals Intact: ☐ yes ☐ no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1102 T1301 **Type of Ice:** Wet Blue None ☐ Samples on ice, cooling process has begun

Temp Correction Factor **T1102**: No Correction **T1301**: No Correction

Corrected Cooler Temp.: 22 C **Biological Tissue is Frozen:** Yes No N/A

Date and Initials of person examining contents: CO 11/14/13

Temp should be above freezing to 6°C **Comments:**

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:_____		
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☑Yes ☐No ☐N/A	16.
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted:_____ Date/Time:_____

Comments/ Resolution:_____

SCURF Review: AMB Date: 11-14-13

SRF Review: JDB Date: 11/14/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

WO#: 92179601

92179601

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2 COOLERS

Page: 1 of 3

1732629

Section A Required Client Information:

Company:	Emerald INC.
Address:	2520 Tahoe Dr. Sumter, SC 29150
Email To:	
Phone:	(803) 469-5454
Fax:	
Requested Due Date/TAT:	standard

Section B Required Project Information:

Report To:	Ronny Lowder
Copy To:	
Purchase Order No.:	
Project Name:	H.W. Detwiler
Project Number:	15729

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	A. Baioni
Pace Profile #:	3876-15

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Btex, N, M	1,2 DCA 8260B	Oxy's	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	15729 MW-7	WT	G			11/12/13	1615		6				6						X	X	X	X		001
2	" " MW-8						1110																	002
3	" " MW-9						1040																	003
4	" " MW-10						1125																	004
5	" " MW-11						1500																	005
6	" " MW-14						1545																	006
7	" " MW-19						1625																	007
8	" " MW-21						1145																	008
9	" " MW-22						1200																	009
10	" " MW-26						1300																	010
11	" " MW-27						1400																	011
12	" " MW-31						1350																	012

92179601

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Robbie Robertson	11/13/13	0730	[signature]	11-13-13	1700				
	Beaver			G Moody-Pace	11-14-13	14:00				
	G Moody	11-14-13	15:55	Tack Koehler Pace	11/14/13	1555	2.2	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robbie Robertson

SIGNATURE of SAMPLER: Robbie Robertson

DATE Signed (MM/DD/YY): 11/13/13

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

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1732630

Section A Required Client Information:

Company:	Emerald Inc.
Address:	2520 Tahoe Dr. Sumter, SC 29150
Email To:	
Phone: (803) 469-5454	Fax:
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Kenny Lowder
Copy To:	
Purchase Order No.:	
Project Name:	H.W. Detwiler
Project Number:	15729

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	A. Baioni
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	BTEX/MTBE (8260B)	1,2 DCA (8260B)	Oxy's (8260B)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	15729 MW-33	WT	G			11/12/13	1600		6				6						X	X	X	X		92179601
2	" " MW-34D						1220																		013
3	" " MW-42						1510																		014
4	" " MW-52						1515																		015
5	" " MW-53						1435																		016
6	" " MW-53 Dup						1438																		017
7	" " MW-54						1415																		018
8	" " MW-55						1325																		019
9	" " MW-56						1340																		020
10	" " MW-57						1215																		021
11	" " CS-1						1025																		022
12	" " CS-2						1010																		use low detection (Y)
																									use low detection (Y)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Robbie Robertson	11/13/13	0730		11-13-13	1700				
	Beaver			D Moody - Pace	11-14-13	1100				
	D Moody	11-14-13	15:55	Leah Koehler (Pace)	11/14/13	1555	2.2	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robbie Robertson

SIGNATURE of SAMPLER: Robbie Robertson DATE Signed (MM/DD/YY): 11/13/13

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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Page: 3 of 3

1732631

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Emerald Inc.	Report To: Ronny Lowder	Attention:
Address: 2520 Tahoe Dr. Sumter, SC 29150	Copy To:	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: (803) 469-5454 Fax:	Project Name: H.W. Detwiler	Pace Project Manager: A. Baioni
Requested Due Date/TAT: Standard	Project Number: 15729	Pace Profile #:

REGULATORY AGENCY

- [ ] NPDES
- [ ] GROUND WATER
- [ ] DRINKING WATER
- [x] UST
- [ ] RCRA
- [ ] OTHER _____

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Btex, N/M	1,2 DCA (8260B)	Oxy's	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92179601
1	15729 Field Blank #1	WT	G			11/12/13	1530		6				6						X	X	X	X		023
2	" " Trip Blank #1	↓	↓			↓	1535		2				2						↓	↓	↓	↓		024
3	" " Trip Blank #2	↓	↓			↓	1540		2				2						↓	↓	↓	↓		025
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Robbie Robertson	11/13/13	0730	[signature]	11-13-13	1200				
	Beaver			G Mandy - Pace	11-14-13	14:00				
	G Mandy	11-14-13	15:55	Zack Koehler / Pace	11/14/13	1655	2.2	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robbie Robertson

SIGNATURE of SAMPLER: Robbie Robertson

DATE Signed (MM/DD/YY): 11/13/13

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

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December 02, 2013

Ms. Robbin Brown
Emerald, Inc.
2520 Tahoe Drive
Sumter, SC 29150

RE: Project: HW Detwiler 15729
Pace Project No.: 92179771

Dear Ms. Brown:
Enclosed are the analytical results for sample(s) received by the laboratory on November 15, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angela M. Baioni

Angela Baioni

angela.baioni@pacelabs.com
Project Manager

Enclosures

cc: Mr. Chad McClary, Emerald, Inc.

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CERTIFICATIONS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: HW Detwiler 15729
Pace Project No.: 92179771

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92179771001	15729 MW-2D	Water	11/13/13 13:30	11/15/13 15:30
92179771002	15729 MW-3	Water	11/13/13 14:55	11/15/13 15:30
92179771003	15729 MW-4	Water	11/13/13 13:40	11/15/13 15:30
92179771004	15729 MW-5	Water	11/13/13 15:15	11/15/13 15:30
92179771005	15729 MW-6	Water	11/13/13 10:30	11/15/13 15:30
92179771006	15729 MW-12	Water	11/13/13 12:50	11/15/13 15:30
92179771007	15729 MW-17R	Water	11/13/13 15:25	11/15/13 15:30
92179771008	15729 MW-18R	Water	11/13/13 15:40	11/15/13 15:30
92179771009	15729 MW-24	Water	11/13/13 12:30	11/15/13 15:30
92179771010	15729 MW-24 DUP	Water	11/13/13 12:34	11/15/13 15:30
92179771011	15729 MW-25	Water	11/13/13 09:30	11/15/13 15:30
92179771012	15729 MW-29	Water	11/13/13 14:30	11/15/13 15:30
92179771013	15729 MW-30	Water	11/13/13 11:55	11/15/13 15:30
92179771014	15729 MW-37	Water	11/13/13 12:05	11/15/13 15:30
92179771015	15729 MW-37 DUP	Water	11/13/13 12:08	11/15/13 15:30
92179771016	15729 MW-38	Water	11/13/13 10:00	11/15/13 15:30
92179771017	15729 MW-44	Water	11/13/13 10:10	11/15/13 15:30
92179771018	15729 MW-47	Water	11/13/13 12:00	11/15/13 15:30
92179771019	15729 MW-48	Water	11/13/13 11:40	11/15/13 15:30
92179771020	15729 MW-50	Water	11/13/13 11:45	11/15/13 15:30
92179771021	15729 MW-58	Water	11/13/13 09:00	11/15/13 15:30
92179771022	15729 MW-59	Water	11/13/13 15:45	11/15/13 15:30
92179771023	15729 MW-60	Water	11/13/13 11:15	11/15/13 15:30
92179771024	15729 MW-61	Water	11/13/13 10:50	11/15/13 15:30
92179771025	15729 MW-61 DUP	Water	11/13/13 10:54	11/15/13 15:30
92179771026	15729 MW-62	Water	11/13/13 12:50	11/15/13 15:30
92179771027	15729 MW-63	Water	11/13/13 16:15	11/15/13 15:30
92179771028	15729 MW-64	Water	11/13/13 10:25	11/15/13 15:30
92179771029	15729 MW-66	Water	11/13/13 09:45	11/15/13 15:30
92179771030	15729 FIELD BLANK #2	Water	11/13/13 16:20	11/15/13 15:30
92179771031	15729 TRIP BLANK #3	Water	11/13/13 16:25	11/15/13 15:30
92179771032	15729 TRIP BLANK #4	Water	11/13/13 16:28	11/15/13 15:30
92179771033	15729 MW-16D	Water	11/13/13 14:20	11/15/13 15:30
92179771034	15729 WSW-2	Water	11/13/13 09:35	11/15/13 15:30
92179771035	15729 SW-1	Water	11/13/13 09:00	11/15/13 15:30

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SAMPLE ANALYTE COUNT

Project: HW Detwiler 15729
Pace Project No.: 92179771

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92179771001	15729 MW-2D	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771002	15729 MW-3	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771003	15729 MW-4	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771004	15729 MW-5	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771005	15729 MW-6	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771006	15729 MW-12	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771007	15729 MW-17R	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771008	15729 MW-18R	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771009	15729 MW-24	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771010	15729 MW-24 DUP	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771011	15729 MW-25	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771012	15729 MW-29	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771013	15729 MW-30	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771014	15729 MW-37	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771015	15729 MW-37 DUP	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771016	15729 MW-38	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771017	15729 MW-44	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771018	15729 MW-47	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771019	15729 MW-48	EPA 8011	EJK	2	PASI-C

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SAMPLE ANALYTE COUNT

Project: HW Detwiler 15729
Pace Project No.: 92179771

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260	CAM	20	PASI-C
92179771020	15729 MW-50	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771021	15729 MW-58	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771022	15729 MW-59	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771023	15729 MW-60	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771024	15729 MW-61	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771025	15729 MW-61 DUP	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771026	15729 MW-62	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771027	15729 MW-63	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771028	15729 MW-64	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771029	15729 MW-66	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771030	15729 FIELD BLANK #2	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771031	15729 TRIP BLANK #3	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771032	15729 TRIP BLANK #4	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771033	15729 MW-16D	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAM	20	PASI-C
92179771034	15729 WSW-2	EPA 8011	EJK	2	PASI-C
		EPA 8260	MCK	20	PASI-C
92179771035	15729 SW-1	EPA 8011	EJK	2	PASI-C
		EPA 8260	MCK	20	PASI-C

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-2D **Lab ID: 92179771001** Collected: 11/13/13 13:30 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/21/13 11:13	11/21/13 18:45	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	108	%	60-140		1	11/21/13 11:13	11/21/13 18:45	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/20/13 07:22	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 07:22	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/20/13 07:22	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 07:22	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 07:22	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 07:22	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/20/13 07:22	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/20/13 07:22	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 07:22	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/20/13 07:22	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 07:22	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/20/13 07:22	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/20/13 07:22	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/20/13 07:22	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/20/13 07:22	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/20/13 07:22	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/20/13 07:22	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/20/13 07:22	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		11/20/13 07:22	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		11/20/13 07:22	2037-26-5	

Sample: 15729 MW-3 **Lab ID: 92179771002** Collected: 11/13/13 14:55 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/21/13 11:13	11/21/13 19:05	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	107	%	60-140		1	11/21/13 11:13	11/21/13 19:05	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/20/13 07:38	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 07:38	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/20/13 07:38	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 07:38	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 07:38	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 07:38	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/20/13 07:38	107-06-2	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-3 **Lab ID: 92179771002** Collected: 11/13/13 14:55 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/20/13 07:38	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 07:38	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/20/13 07:38	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 07:38	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/20/13 07:38	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/20/13 07:38	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/20/13 07:38	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/20/13 07:38	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/20/13 07:38	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/20/13 07:38	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		11/20/13 07:38	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		11/20/13 07:38	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/20/13 07:38	2037-26-5	

Sample: 15729 MW-4 **Lab ID: 92179771003** Collected: 11/13/13 13:40 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.88**	ug/L	0.019	0.019	1	11/21/13 11:13	11/21/13 19:25	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	102	%	60-140		1	11/21/13 11:13	11/21/13 19:25	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**558**	ug/L	100	76.8	1		11/20/13 07:53	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 07:53	994-05-8	
Benzene	**410**	ug/L	25.0	8.5	5		11/20/13 19:45	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 07:53	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 07:53	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 07:53	762-75-4	
1,2-Dichloroethane	**6.9**	ug/L	5.0	1.8	1		11/20/13 07:53	107-06-2	
Diisopropyl ether	**10.9**	ug/L	5.0	1.7	1		11/20/13 07:53	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 07:53	64-17-5	
Ethylbenzene	**51.9**	ug/L	5.0	1.6	1		11/20/13 07:53	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 07:53	637-92-3	
Methyl-tert-butyl ether	**12.3**	ug/L	5.0	1.7	1		11/20/13 07:53	1634-04-4	
Naphthalene	**16.0**	ug/L	5.0	2.0	1		11/20/13 07:53	91-20-3	
Toluene	**18.0**	ug/L	5.0	1.6	1		11/20/13 07:53	108-88-3	
Xylene (Total)	**23.1**	ug/L	10.0	2.7	1		11/20/13 07:53	1330-20-7	
m&p-Xylene	**23.1**	ug/L	10.0	3.1	1		11/20/13 07:53	179601-23-1	
o-Xylene	**3.6J**	ug/L	5.0	1.6	1		11/20/13 07:53	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		11/20/13 07:53	460-00-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-4 **Lab ID: 92179771003** Collected: 11/13/13 13:40 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		11/20/13 07:53	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/20/13 07:53	2037-26-5	

Sample: 15729 MW-5 **Lab ID: 92179771004** Collected: 11/13/13 15:15 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.14**	ug/L	0.020	0.020	1	11/21/13 11:13	11/21/13 19:46	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	114	%	60-140		1	11/21/13 11:13	11/21/13 19:46	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/20/13 08:09	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 08:09	994-05-8	
Benzene	**21.9**	ug/L	5.0	1.7	1		11/20/13 08:09	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 08:09	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 08:09	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 08:09	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/20/13 08:09	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/20/13 08:09	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 08:09	64-17-5	
Ethylbenzene	**50.2**	ug/L	5.0	1.6	1		11/20/13 08:09	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 08:09	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/20/13 08:09	1634-04-4	
Naphthalene	**52.7**	ug/L	5.0	2.0	1		11/20/13 08:09	91-20-3	
Toluene	**40.1**	ug/L	5.0	1.6	1		11/20/13 08:09	108-88-3	
Xylene (Total)	**37.8**	ug/L	10.0	2.7	1		11/20/13 08:09	1330-20-7	
m&p-Xylene	**25.1**	ug/L	10.0	3.1	1		11/20/13 08:09	179601-23-1	
o-Xylene	**12.8**	ug/L	5.0	1.6	1		11/20/13 08:09	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/20/13 08:09	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		11/20/13 08:09	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		11/20/13 08:09	2037-26-5	

Sample: 15729 MW-6 **Lab ID: 92179771005** Collected: 11/13/13 10:30 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/21/13 11:14	11/21/13 20:06	106-93-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-6 **Lab ID: 92179771005** Collected: 11/13/13 10:30 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
Surrogates									
1-Chloro-2-bromopropane (S)	107	%	60-140		1	11/21/13 11:14	11/21/13 20:06	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/20/13 08:24	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 08:24	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/20/13 08:24	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 08:24	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 08:24	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 08:24	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/20/13 08:24	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/20/13 08:24	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 08:24	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/20/13 08:24	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 08:24	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/20/13 08:24	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/20/13 08:24	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/20/13 08:24	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/20/13 08:24	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/20/13 08:24	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/20/13 08:24	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/20/13 08:24	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		11/20/13 08:24	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/20/13 08:24	2037-26-5	

Sample: 15729 MW-12 **Lab ID: 92179771006** Collected: 11/13/13 12:50 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/21/13 11:14	11/21/13 20:27	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	108	%	60-140		1	11/21/13 11:14	11/21/13 20:27	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/20/13 08:40	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 08:40	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/20/13 08:40	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 08:40	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 08:40	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 08:40	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/20/13 08:40	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/20/13 08:40	108-20-3	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-12 **Lab ID: 92179771006** Collected: 11/13/13 12:50 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Ethanol	ND	ug/L	200	138	1		11/20/13 08:40	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/20/13 08:40	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 08:40	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/20/13 08:40	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/20/13 08:40	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/20/13 08:40	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/20/13 08:40	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/20/13 08:40	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/20/13 08:40	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/20/13 08:40	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		11/20/13 08:40	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/20/13 08:40	2037-26-5	

Sample: 15729 MW-17R **Lab ID: 92179771007** Collected: 11/13/13 15:25 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/21/13 11:14	11/21/13 20:47	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	107	%	60-140		1	11/21/13 11:14	11/21/13 20:47	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/20/13 08:56	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 08:56	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/20/13 08:56	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 08:56	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 08:56	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 08:56	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/20/13 08:56	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/20/13 08:56	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 08:56	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/20/13 08:56	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 08:56	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/20/13 08:56	1634-04-4	
Naphthalene	**2.3J**	ug/L	5.0	2.0	1		11/20/13 08:56	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/20/13 08:56	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/20/13 08:56	1330-20-7	
m&p-Xylene	**4.9J**	ug/L	10.0	3.1	1		11/20/13 08:56	179601-23-1	
o-Xylene	**2.3J**	ug/L	5.0	1.6	1		11/20/13 08:56	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/20/13 08:56	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		11/20/13 08:56	17060-07-0	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-17R **Lab ID: 92179771007** Collected: 11/13/13 15:25 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
Toluene-d8 (S)	101	%	70-130		1		11/20/13 08:56	2037-26-5	

Sample: 15729 MW-18R **Lab ID: 92179771008** Collected: 11/13/13 15:40 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/21/13 11:14	11/21/13 21:07	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	107	%	60-140		1	11/21/13 11:14	11/21/13 21:07	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**210**	ug/L	100	76.8	1		11/20/13 09:11	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 09:11	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/20/13 09:11	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 09:11	624-95-3	
tert-Butyl Alcohol	**260**	ug/L	100	57.7	1		11/20/13 09:11	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 09:11	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/20/13 09:11	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/20/13 09:11	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 09:11	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/20/13 09:11	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 09:11	637-92-3	
Methyl-tert-butyl ether	**2.6J**	ug/L	5.0	1.7	1		11/20/13 09:11	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/20/13 09:11	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/20/13 09:11	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/20/13 09:11	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/20/13 09:11	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/20/13 09:11	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/20/13 09:11	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		1		11/20/13 09:11	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/20/13 09:11	2037-26-5	

Sample: 15729 MW-24 **Lab ID: 92179771009** Collected: 11/13/13 12:30 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**105**	ug/L	4.0	4.0	200	11/21/13 11:14	11/23/13 18:52	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		200	11/21/13 11:14	11/23/13 18:52	301-79-56	S4

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-24 **Lab ID: 92179771009** Collected: 11/13/13 12:30 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**25300**	ug/L	10000	7680	100		11/20/13 20:01	75-85-4	
tert-Amylmethyl ether	**6.7J**	ug/L	10.0	3.4	1		11/20/13 09:27	994-05-8	
Benzene	**6380**	ug/L	500	170	100		11/20/13 20:01	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 09:27	624-95-3	
tert-Butyl Alcohol	**249**	ug/L	100	57.7	1		11/20/13 09:27	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 09:27	762-75-4	
1,2-Dichloroethane	**106**	ug/L	5.0	1.8	1		11/20/13 09:27	107-06-2	
Diisopropyl ether	**159**	ug/L	5.0	1.7	1		11/20/13 09:27	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 09:27	64-17-5	
Ethylbenzene	**1220**	ug/L	500	160	100		11/20/13 20:01	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 09:27	637-92-3	
Methyl-tert-butyl ether	**51.3**	ug/L	5.0	1.7	1		11/20/13 09:27	1634-04-4	
Naphthalene	**282J**	ug/L	500	200	100		11/20/13 20:01	91-20-3	
Toluene	**12400**	ug/L	500	160	100		11/20/13 20:01	108-88-3	
Xylene (Total)	**4900**	ug/L	1000	270	100		11/20/13 20:01	1330-20-7	
m&p-Xylene	**2780**	ug/L	1000	310	100		11/20/13 20:01	179601-23-1	
o-Xylene	**2120**	ug/L	500	160	100		11/20/13 20:01	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		11/20/13 09:27	460-00-4	
1,2-Dichloroethane-d4 (S)	116	%	70-130		1		11/20/13 09:27	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		11/20/13 09:27	2037-26-5	

Sample: 15729 MW-24 DUP **Lab ID: 92179771010** Collected: 11/13/13 12:34 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**95.2**	ug/L	3.9	3.9	200	11/21/13 11:14	11/23/13 19:13	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		200	11/21/13 11:14	11/23/13 19:13	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**19300**	ug/L	10000	7680	100		11/20/13 20:16	75-85-4	
tert-Amylmethyl ether	**6.1J**	ug/L	10.0	3.4	1		11/20/13 09:43	994-05-8	
Benzene	**6670**	ug/L	500	170	100		11/20/13 20:16	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 09:43	624-95-3	
tert-Butyl Alcohol	**333**	ug/L	100	57.7	1		11/20/13 09:43	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 09:43	762-75-4	
1,2-Dichloroethane	**117**	ug/L	5.0	1.8	1		11/20/13 09:43	107-06-2	
Diisopropyl ether	**172**	ug/L	5.0	1.7	1		11/20/13 09:43	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 09:43	64-17-5	
Ethylbenzene	**1150**	ug/L	500	160	100		11/20/13 20:16	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 09:43	637-92-3	
Methyl-tert-butyl ether	**58.0**	ug/L	5.0	1.7	1		11/20/13 09:43	1634-04-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-24 DUP **Lab ID: 92179771010** Collected: 11/13/13 12:34 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Naphthalene	**271J**	ug/L	500	200	100		11/20/13 20:16	91-20-3	
Toluene	**11100**	ug/L	500	160	100		11/20/13 20:16	108-88-3	
Xylene (Total)	**4550**	ug/L	1000	270	100		11/20/13 20:16	1330-20-7	
m&p-Xylene	**2810**	ug/L	1000	310	100		11/20/13 20:16	179601-23-1	
o-Xylene	**1730**	ug/L	500	160	100		11/20/13 20:16	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/20/13 09:43	460-00-4	
1,2-Dichloroethane-d4 (S)	120	%	70-130		1		11/20/13 09:43	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		11/20/13 09:43	2037-26-5	

Sample: 15729 MW-25 **Lab ID: 92179771011** Collected: 11/13/13 09:30 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**14.7**	ug/L	4.0	4.0	200	11/21/13 11:14	11/23/13 19:34	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		200	11/21/13 11:14	11/23/13 19:34	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**165**	ug/L	100	76.8	1		11/20/13 09:58	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 09:58	994-05-8	
Benzene	**29.1**	ug/L	5.0	1.7	1		11/20/13 09:58	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 09:58	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 09:58	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 09:58	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/20/13 09:58	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/20/13 09:58	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 09:58	64-17-5	
Ethylbenzene	**6.6**	ug/L	5.0	1.6	1		11/20/13 09:58	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 09:58	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/20/13 09:58	1634-04-4	
Naphthalene	**8.0**	ug/L	5.0	2.0	1		11/20/13 09:58	91-20-3	
Toluene	**9.4**	ug/L	5.0	1.6	1		11/20/13 09:58	108-88-3	
Xylene (Total)	**24.1**	ug/L	10.0	2.7	1		11/20/13 09:58	1330-20-7	
m&p-Xylene	**16.3**	ug/L	10.0	3.1	1		11/20/13 09:58	179601-23-1	
o-Xylene	**7.9**	ug/L	5.0	1.6	1		11/20/13 09:58	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		11/20/13 09:58	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		11/20/13 09:58	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/20/13 09:58	2037-26-5	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-29 **Lab ID: 92179771012** Collected: 11/13/13 14:30 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/21/13 11:15	11/21/13 22:29	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	99	%	60-140		1	11/21/13 11:15	11/21/13 22:29	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/20/13 10:14	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 10:14	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/20/13 10:14	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 10:14	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 10:14	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 10:14	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/20/13 10:14	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/20/13 10:14	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 10:14	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/20/13 10:14	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 10:14	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/20/13 10:14	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/20/13 10:14	91-20-3	
Toluene	**2.0J**	ug/L	5.0	1.6	1		11/20/13 10:14	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/20/13 10:14	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/20/13 10:14	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/20/13 10:14	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/20/13 10:14	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		11/20/13 10:14	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/20/13 10:14	2037-26-5	

Sample: 15729 MW-30 **Lab ID: 92179771013** Collected: 11/13/13 11:55 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/21/13 11:15	11/21/13 22:49	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	11/21/13 11:15	11/21/13 22:49	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/20/13 10:29	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 10:29	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/20/13 10:29	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 10:29	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 10:29	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 10:29	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/20/13 10:29	107-06-2	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-30 **Lab ID: 92179771013** Collected: 11/13/13 11:55 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/20/13 10:29	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 10:29	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/20/13 10:29	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 10:29	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/20/13 10:29	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/20/13 10:29	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/20/13 10:29	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/20/13 10:29	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/20/13 10:29	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/20/13 10:29	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/20/13 10:29	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		11/20/13 10:29	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/20/13 10:29	2037-26-5	

Sample: 15729 MW-37 **Lab ID: 92179771014** Collected: 11/13/13 12:05 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**2.5**	ug/L	0.099	0.099	5	11/21/13 11:15	11/23/13 19:54	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		5	11/21/13 11:15	11/23/13 19:54	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**1660**	ug/L	100	76.8	1		11/20/13 10:45	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 10:45	994-05-8	
Benzene	**633**	ug/L	50.0	17.0	10		11/20/13 20:32	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 10:45	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 10:45	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 10:45	762-75-4	
1,2-Dichloroethane	**17.6**	ug/L	5.0	1.8	1		11/20/13 10:45	107-06-2	
Diisopropyl ether	**21.1**	ug/L	5.0	1.7	1		11/20/13 10:45	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 10:45	64-17-5	
Ethylbenzene	**112**	ug/L	5.0	1.6	1		11/20/13 10:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 10:45	637-92-3	
Methyl-tert-butyl ether	**10.9**	ug/L	5.0	1.7	1		11/20/13 10:45	1634-04-4	
Naphthalene	**20.7**	ug/L	5.0	2.0	1		11/20/13 10:45	91-20-3	
Toluene	**210**	ug/L	50.0	16.0	10		11/20/13 20:32	108-88-3	
Xylene (Total)	**165**	ug/L	10.0	2.7	1		11/20/13 10:45	1330-20-7	
m&p-Xylene	**118**	ug/L	10.0	3.1	1		11/20/13 10:45	179601-23-1	
o-Xylene	**46.2**	ug/L	5.0	1.6	1		11/20/13 10:45	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		11/20/13 10:45	460-00-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-37 **Lab ID: 92179771014** Collected: 11/13/13 12:05 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		11/20/13 10:45	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/20/13 10:45	2037-26-5	

Sample: 15729 MW-37 DUP **Lab ID: 92179771015** Collected: 11/13/13 12:08 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**1.2**	ug/L	0.039	0.039	2	11/21/13 11:15	11/23/13 20:15	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	118	%	60-140		2	11/21/13 11:15	11/23/13 20:15	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**117**	ug/L	100	76.8	1		11/20/13 11:01	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 11:01	994-05-8	
Benzene	**39.5**	ug/L	5.0	1.7	1		11/20/13 11:01	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 11:01	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 11:01	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 11:01	762-75-4	
1,2-Dichloroethane	**1.9J**	ug/L	5.0	1.8	1		11/20/13 11:01	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/20/13 11:01	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 11:01	64-17-5	
Ethylbenzene	**4.6J**	ug/L	5.0	1.6	1		11/20/13 11:01	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 11:01	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/20/13 11:01	1634-04-4	
Naphthalene	**2.7J**	ug/L	5.0	2.0	1		11/20/13 11:01	91-20-3	
Toluene	**3.7J**	ug/L	5.0	1.6	1		11/20/13 11:01	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/20/13 11:01	1330-20-7	
m&p-Xylene	**3.4J**	ug/L	10.0	3.1	1		11/20/13 11:01	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/20/13 11:01	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		11/20/13 11:01	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		11/20/13 11:01	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/20/13 11:01	2037-26-5	

Sample: 15729 MW-38 **Lab ID: 92179771016** Collected: 11/13/13 10:00 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**8.6**	ug/L	0.20	0.20	10	11/21/13 11:15	11/23/13 20:35	106-93-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-38 **Lab ID: 92179771016** Collected: 11/13/13 10:00 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		10	11/21/13 11:15	11/23/13 20:35	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**3790**	ug/L	100	76.8	1		11/20/13 11:16	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 11:16	994-05-8	
Benzene	**1340**	ug/L	250	85.0	50		11/20/13 20:47	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 11:16	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 11:16	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 11:16	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/20/13 11:16	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/20/13 11:16	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 11:16	64-17-5	
Ethylbenzene	**775**	ug/L	250	80.0	50		11/20/13 20:47	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 11:16	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/20/13 11:16	1634-04-4	
Naphthalene	**184**	ug/L	5.0	2.0	1		11/20/13 11:16	91-20-3	
Toluene	**4180**	ug/L	250	80.0	50		11/20/13 20:47	108-88-3	
Xylene (Total)	**3770**	ug/L	500	135	50		11/20/13 20:47	1330-20-7	
m&p-Xylene	**2300**	ug/L	500	155	50		11/20/13 20:47	179601-23-1	
o-Xylene	**1470**	ug/L	250	80.0	50		11/20/13 20:47	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/20/13 11:16	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		11/20/13 11:16	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/20/13 11:16	2037-26-5	

Sample: 15729 MW-44 **Lab ID: 92179771017** Collected: 11/13/13 10:10 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**112**	ug/L	4.0	4.0	200	11/21/13 11:15	11/23/13 20:55	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		200	11/21/13 11:15	11/23/13 20:55	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**26600**	ug/L	10000	7680	100		11/20/13 21:03	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 11:32	994-05-8	
Benzene	**4360**	ug/L	500	170	100		11/20/13 21:03	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 11:32	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 11:32	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 11:32	762-75-4	
1,2-Dichloroethane	**81.3**	ug/L	5.0	1.8	1		11/20/13 11:32	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/20/13 11:32	108-20-3	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-44 **Lab ID: 92179771017** Collected: 11/13/13 10:10 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Ethanol	ND	ug/L	200	138	1		11/20/13 11:32	64-17-5	
Ethylbenzene	**1410**	ug/L	500	160	100		11/20/13 21:03	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 11:32	637-92-3	
Methyl-tert-butyl ether	**143**	ug/L	5.0	1.7	1		11/20/13 11:32	1634-04-4	
Naphthalene	**292J**	ug/L	500	200	100		11/20/13 21:03	91-20-3	
Toluene	**12900**	ug/L	500	160	100		11/20/13 21:03	108-88-3	
Xylene (Total)	**6940**	ug/L	1000	270	100		11/20/13 21:03	1330-20-7	
m&p-Xylene	**4380**	ug/L	1000	310	100		11/20/13 21:03	179601-23-1	
o-Xylene	**2560**	ug/L	500	160	100		11/20/13 21:03	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/20/13 11:32	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	70-130		1		11/20/13 11:32	17060-07-0	
Toluene-d8 (S)	95	%	70-130		1		11/20/13 11:32	2037-26-5	

Sample: 15729 MW-47 **Lab ID: 92179771018** Collected: 11/13/13 12:00 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**2.2**	ug/L	0.10	0.10	5	11/21/13 11:35	11/23/13 21:16	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		5	11/21/13 11:35	11/23/13 21:16	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**3870**	ug/L	100	76.8	1		11/20/13 11:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/20/13 11:48	994-05-8	
Benzene	**1940**	ug/L	100	34.0	20		11/20/13 21:18	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/20/13 11:48	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/20/13 11:48	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/20/13 11:48	762-75-4	
1,2-Dichloroethane	**40.9**	ug/L	5.0	1.8	1		11/20/13 11:48	107-06-2	
Diisopropyl ether	**65.1**	ug/L	5.0	1.7	1		11/20/13 11:48	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/20/13 11:48	64-17-5	
Ethylbenzene	**243**	ug/L	100	32.0	20		11/20/13 21:18	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/20/13 11:48	637-92-3	
Methyl-tert-butyl ether	**25.3**	ug/L	5.0	1.7	1		11/20/13 11:48	1634-04-4	
Naphthalene	**51.8**	ug/L	5.0	2.0	1		11/20/13 11:48	91-20-3	
Toluene	**275**	ug/L	100	32.0	20		11/20/13 21:18	108-88-3	
Xylene (Total)	**224**	ug/L	10.0	2.7	1		11/20/13 11:48	1330-20-7	
m&p-Xylene	**206**	ug/L	10.0	3.1	1		11/20/13 11:48	179601-23-1	
o-Xylene	**18.1**	ug/L	5.0	1.6	1		11/20/13 11:48	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/20/13 11:48	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		11/20/13 11:48	17060-07-0	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-47 **Lab ID: 92179771018** Collected: 11/13/13 12:00 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
Toluene-d8 (S)	102	%	70-130		1		11/20/13 11:48	2037-26-5	

Sample: 15729 MW-48 **Lab ID: 92179771019** Collected: 11/13/13 11:40 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/21/13 11:35	11/22/13 02:12	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	105	%	60-140		1	11/21/13 11:35	11/22/13 02:12	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**381**	ug/L	100	76.8	1		11/21/13 11:19	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/21/13 11:19	994-05-8	
Benzene	**39.8**	ug/L	5.0	1.7	1		11/21/13 11:19	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/21/13 11:19	624-95-3	L3
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/21/13 11:19	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/21/13 11:19	762-75-4	
1,2-Dichloroethane	**4.4J**	ug/L	5.0	1.8	1		11/21/13 11:19	107-06-2	
Diisopropyl ether	**5.2**	ug/L	5.0	1.7	1		11/21/13 11:19	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/21/13 11:19	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/21/13 11:19	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/21/13 11:19	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/21/13 11:19	1634-04-4	
Naphthalene	**5.7**	ug/L	5.0	2.0	1		11/21/13 11:19	91-20-3	
Toluene	**3.5J**	ug/L	5.0	1.6	1		11/21/13 11:19	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/21/13 11:19	1330-20-7	
m&p-Xylene	**3.7J**	ug/L	10.0	3.1	1		11/21/13 11:19	179601-23-1	
o-Xylene	**1.9J**	ug/L	5.0	1.6	1		11/21/13 11:19	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/21/13 11:19	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		1		11/21/13 11:19	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/21/13 11:19	2037-26-5	

Sample: 15729 MW-50 **Lab ID: 92179771020** Collected: 11/13/13 11:45 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**95.2**	ug/L	4.0	4.0	200	11/21/13 11:35	11/23/13 21:36	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		200	11/21/13 11:35	11/23/13 21:36	301-79-56	S4

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-50 **Lab ID: 92179771020** Collected: 11/13/13 11:45 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**18500**	ug/L	10000	7680	100		11/22/13 00:22	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/21/13 11:35	994-05-8	
Benzene	**3370**	ug/L	500	170	100		11/22/13 00:22	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/21/13 11:35	624-95-3	L3
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/21/13 11:35	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/21/13 11:35	762-75-4	
1,2-Dichloroethane	**34.2**	ug/L	5.0	1.8	1		11/21/13 11:35	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/21/13 11:35	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/21/13 11:35	64-17-5	
Ethylbenzene	**777**	ug/L	500	160	100		11/22/13 00:22	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/21/13 11:35	637-92-3	
Methyl-tert-butyl ether	**1.7J**	ug/L	5.0	1.7	1		11/21/13 11:35	1634-04-4	
Naphthalene	**82.7**	ug/L	5.0	2.0	1		11/21/13 11:35	91-20-3	
Toluene	**7580**	ug/L	500	160	100		11/22/13 00:22	108-88-3	
Xylene (Total)	**3630**	ug/L	1000	270	100		11/22/13 00:22	1330-20-7	
m&p-Xylene	**2370**	ug/L	1000	310	100		11/22/13 00:22	179601-23-1	
o-Xylene	**1260**	ug/L	500	160	100		11/22/13 00:22	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		11/21/13 11:35	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		11/21/13 11:35	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/21/13 11:35	2037-26-5	

Sample: 15729 MW-58 **Lab ID: 92179771021** Collected: 11/13/13 09:00 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.090**	ug/L	0.020	0.020	1	11/21/13 11:35	11/22/13 02:53	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	106	%	60-140		1	11/21/13 11:35	11/22/13 02:53	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**144**	ug/L	100	76.8	1		11/21/13 11:50	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/21/13 11:50	994-05-8	
Benzene	**56.5**	ug/L	5.0	1.7	1		11/21/13 11:50	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/21/13 11:50	624-95-3	L3
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/21/13 11:50	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/21/13 11:50	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/21/13 11:50	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/21/13 11:50	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/21/13 11:50	64-17-5	
Ethylbenzene	**13.7**	ug/L	5.0	1.6	1		11/21/13 11:50	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/21/13 11:50	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/21/13 11:50	1634-04-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-58 **Lab ID: 92179771021** Collected: 11/13/13 09:00 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Naphthalene	**3.3J**	ug/L	5.0	2.0	1		11/21/13 11:50	91-20-3	
Toluene	**54.8**	ug/L	5.0	1.6	1		11/21/13 11:50	108-88-3	
Xylene (Total)	**34.7**	ug/L	10.0	2.7	1		11/21/13 11:50	1330-20-7	
m&p-Xylene	**19.6**	ug/L	10.0	3.1	1		11/21/13 11:50	179601-23-1	
o-Xylene	**15.1**	ug/L	5.0	1.6	1		11/21/13 11:50	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		11/21/13 11:50	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		1		11/21/13 11:50	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/21/13 11:50	2037-26-5	

Sample: 15729 MW-59 **Lab ID: 92179771022** Collected: 11/13/13 15:45 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.023**	ug/L	0.020	0.020	1	11/21/13 11:35	11/22/13 03:13	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	113	%	60-140		1	11/21/13 11:35	11/22/13 03:13	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**973**	ug/L	100	76.8	1		11/21/13 12:06	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/21/13 12:06	994-05-8	
Benzene	**196**	ug/L	5.0	1.7	1		11/21/13 12:06	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/21/13 12:06	624-95-3	L3
tert-Butyl Alcohol	**548**	ug/L	100	57.7	1		11/21/13 12:06	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/21/13 12:06	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/21/13 12:06	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/21/13 12:06	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/21/13 12:06	64-17-5	
Ethylbenzene	**59.1**	ug/L	5.0	1.6	1		11/21/13 12:06	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/21/13 12:06	637-92-3	
Methyl-tert-butyl ether	**5.2**	ug/L	5.0	1.7	1		11/21/13 12:06	1634-04-4	
Naphthalene	**35.4**	ug/L	5.0	2.0	1		11/21/13 12:06	91-20-3	
Toluene	**540**	ug/L	25.0	8.0	5		11/22/13 00:37	108-88-3	
Xylene (Total)	**563**	ug/L	50.0	13.5	5		11/22/13 00:37	1330-20-7	
m&p-Xylene	**330**	ug/L	10.0	3.1	1		11/21/13 12:06	179601-23-1	
o-Xylene	**233**	ug/L	25.0	8.0	5		11/22/13 00:37	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/21/13 12:06	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		11/21/13 12:06	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		11/21/13 12:06	2037-26-5	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-60 **Lab ID: 92179771023** Collected: 11/13/13 11:15 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**8.8**	ug/L	0.40	0.40	20	11/21/13 11:35	11/23/13 21:56	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		20	11/21/13 11:35	11/23/13 21:56	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**2830**	ug/L	1000	768	10		11/21/13 12:22	75-85-4	
tert-Amylmethyl ether	ND	ug/L	100	34.0	10		11/21/13 12:22	994-05-8	
Benzene	**1680**	ug/L	50.0	17.0	10		11/21/13 12:22	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	321	10		11/21/13 12:22	624-95-3	L3
tert-Butyl Alcohol	ND	ug/L	1000	577	10		11/21/13 12:22	75-65-0	
tert-Butyl Formate	ND	ug/L	500	73.0	10		11/21/13 12:22	762-75-4	
1,2-Dichloroethane	ND	ug/L	50.0	18.0	10		11/21/13 12:22	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	17.0	10		11/21/13 12:22	108-20-3	
Ethanol	ND	ug/L	2000	1380	10		11/21/13 12:22	64-17-5	
Ethylbenzene	**1210**	ug/L	50.0	16.0	10		11/21/13 12:22	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	36.0	10		11/21/13 12:22	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	50.0	17.0	10		11/21/13 12:22	1634-04-4	
Naphthalene	**189**	ug/L	50.0	20.0	10		11/21/13 12:22	91-20-3	
Toluene	**1960**	ug/L	50.0	16.0	10		11/21/13 12:22	108-88-3	
Xylene (Total)	**1470**	ug/L	100	27.0	10		11/21/13 12:22	1330-20-7	
m&p-Xylene	**1100**	ug/L	100	31.0	10		11/21/13 12:22	179601-23-1	
o-Xylene	**365**	ug/L	50.0	16.0	10		11/21/13 12:22	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		10		11/21/13 12:22	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		10		11/21/13 12:22	17060-07-0	
Toluene-d8 (S)	101	%	70-130		10		11/21/13 12:22	2037-26-5	

Sample: 15729 MW-61 **Lab ID: 92179771024** Collected: 11/13/13 10:50 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**111**	ug/L	4.0	4.0	200	11/21/13 11:36	11/23/13 22:17	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		200	11/21/13 11:36	11/23/13 22:17	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**17900**	ug/L	1000	768	10		11/21/13 12:37	75-85-4	
tert-Amylmethyl ether	**113**	ug/L	100	34.0	10		11/21/13 12:37	994-05-8	
Benzene	**10600**	ug/L	1000	340	200		11/22/13 00:53	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	321	10		11/21/13 12:37	624-95-3	L3
tert-Butyl Alcohol	ND	ug/L	1000	577	10		11/21/13 12:37	75-65-0	
tert-Butyl Formate	ND	ug/L	500	73.0	10		11/21/13 12:37	762-75-4	
1,2-Dichloroethane	**60.3**	ug/L	50.0	18.0	10		11/21/13 12:37	107-06-2	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-61 **Lab ID: 92179771024** Collected: 11/13/13 10:50 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Diisopropyl ether	ND	ug/L	50.0	17.0	10		11/21/13 12:37	108-20-3	
Ethanol	ND	ug/L	2000	1380	10		11/21/13 12:37	64-17-5	
Ethylbenzene	**1680**	ug/L	50.0	16.0	10		11/21/13 12:37	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	36.0	10		11/21/13 12:37	637-92-3	
Methyl-tert-butyl ether	**208**	ug/L	50.0	17.0	10		11/21/13 12:37	1634-04-4	
Naphthalene	**316**	ug/L	50.0	20.0	10		11/21/13 12:37	91-20-3	
Toluene	**17800**	ug/L	1000	320	200		11/22/13 00:53	108-88-3	
Xylene (Total)	**8020**	ug/L	2000	540	200		11/22/13 00:53	1330-20-7	
m&p-Xylene	**5260**	ug/L	2000	620	200		11/22/13 00:53	179601-23-1	
o-Xylene	**2760**	ug/L	1000	320	200		11/22/13 00:53	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		10		11/21/13 12:37	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		10		11/21/13 12:37	17060-07-0	
Toluene-d8 (S)	102	%	70-130		10		11/21/13 12:37	2037-26-5	

Sample: 15729 MW-61 DUP **Lab ID: 92179771025** Collected: 11/13/13 10:54 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**134**	ug/L	3.9	3.9	200	11/21/13 11:36	11/23/13 22:37	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		200	11/21/13 11:36	11/23/13 22:37	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**28000**	ug/L	20000	15400	200		11/22/13 01:08	75-85-4	
tert-Amylmethyl ether	**66.3**	ug/L	50.0	17.0	5		11/21/13 12:53	994-05-8	
Benzene	**9500**	ug/L	1000	340	200		11/22/13 01:08	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	500	160	5		11/21/13 12:53	624-95-3	L3
tert-Butyl Alcohol	**386J**	ug/L	500	288	5		11/21/13 12:53	75-65-0	
tert-Butyl Formate	ND	ug/L	250	36.5	5		11/21/13 12:53	762-75-4	
1,2-Dichloroethane	**53.3**	ug/L	25.0	9.0	5		11/21/13 12:53	107-06-2	
Diisopropyl ether	**99.6**	ug/L	25.0	8.5	5		11/21/13 12:53	108-20-3	
Ethanol	ND	ug/L	1000	689	5		11/21/13 12:53	64-17-5	
Ethylbenzene	**1950**	ug/L	1000	320	200		11/22/13 01:08	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	50.0	18.0	5		11/21/13 12:53	637-92-3	
Methyl-tert-butyl ether	**128**	ug/L	25.0	8.5	5		11/21/13 12:53	1634-04-4	
Naphthalene	**505**	ug/L	25.0	10.0	5		11/21/13 12:53	91-20-3	
Toluene	**19200**	ug/L	1000	320	200		11/22/13 01:08	108-88-3	
Xylene (Total)	**9370**	ug/L	2000	540	200		11/22/13 01:08	1330-20-7	
m&p-Xylene	**6260**	ug/L	2000	620	200		11/22/13 01:08	179601-23-1	
o-Xylene	**3110**	ug/L	1000	320	200		11/22/13 01:08	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		5		11/21/13 12:53	460-00-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-61 DUP **Lab ID: 92179771025** Collected: 11/13/13 10:54 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
1,2-Dichloroethane-d4 (S)	106	%	70-130		5		11/21/13 12:53	17060-07-0	
Toluene-d8 (S)	101	%	70-130		5		11/21/13 12:53	2037-26-5	

Sample: 15729 MW-62 **Lab ID: 92179771026** Collected: 11/13/13 12:50 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.034**	ug/L	0.020	0.020	1	11/21/13 11:36	11/22/13 04:34	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	105	%	60-140		1	11/21/13 11:36	11/22/13 04:34	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/21/13 13:08	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/21/13 13:08	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/21/13 13:08	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/21/13 13:08	624-95-3	L3
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/21/13 13:08	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/21/13 13:08	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/21/13 13:08	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/21/13 13:08	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/21/13 13:08	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/21/13 13:08	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/21/13 13:08	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/21/13 13:08	1634-04-4	
Naphthalene	**4.4J**	ug/L	5.0	2.0	1		11/21/13 13:08	91-20-3	
Toluene	**3.1J**	ug/L	5.0	1.6	1		11/21/13 13:08	108-88-3	
Xylene (Total)	**6.0J**	ug/L	10.0	2.7	1		11/21/13 13:08	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/21/13 13:08	179601-23-1	
o-Xylene	**6.0**	ug/L	5.0	1.6	1		11/21/13 13:08	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/21/13 13:08	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		1		11/21/13 13:08	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/21/13 13:08	2037-26-5	

Sample: 15729 MW-63 **Lab ID: 92179771027** Collected: 11/13/13 16:15 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/21/13 11:36	11/22/13 05:34	106-93-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-63 **Lab ID: 92179771027** Collected: 11/13/13 16:15 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
Surrogates									
1-Chloro-2-bromopropane (S)	106	%	60-140		1	11/21/13 11:36	11/22/13 05:34	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**87.3J**	ug/L	100	76.8	1		11/21/13 13:24	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/21/13 13:24	994-05-8	
Benzene	**3.6J**	ug/L	5.0	1.7	1		11/21/13 13:24	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/21/13 13:24	624-95-3	L3
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/21/13 13:24	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/21/13 13:24	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/21/13 13:24	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/21/13 13:24	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/21/13 13:24	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/21/13 13:24	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/21/13 13:24	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/21/13 13:24	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/21/13 13:24	91-20-3	
Toluene	**1.8J**	ug/L	5.0	1.6	1		11/21/13 13:24	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/21/13 13:24	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/21/13 13:24	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/21/13 13:24	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/21/13 13:24	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		1		11/21/13 13:24	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/21/13 13:24	2037-26-5	

Sample: 15729 MW-64 **Lab ID: 92179771028** Collected: 11/13/13 10:25 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/21/13 11:36	11/22/13 06:15	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	102	%	60-140		1	11/21/13 11:36	11/22/13 06:15	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/21/13 13:40	75-85-4	M1,R1
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/21/13 13:40	994-05-8	M1,R1
Benzene	ND	ug/L	5.0	1.7	1		11/21/13 13:40	71-43-2	M1,R1
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/21/13 13:40	624-95-3	L3,M0, R1
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/21/13 13:40	75-65-0	M1,R1
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/21/13 13:40	762-75-4	M1,R1
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/21/13 13:40	107-06-2	M1,R1
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/21/13 13:40	108-20-3	M1,R1

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-64 **Lab ID: 92179771028** Collected: 11/13/13 10:25 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Ethanol	ND	ug/L	200	138	1		11/21/13 13:40	64-17-5	M1,R1
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/21/13 13:40	100-41-4	M1,R1
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/21/13 13:40	637-92-3	M1,R1
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/21/13 13:40	1634-04-4	M1,R1
Naphthalene	ND	ug/L	5.0	2.0	1		11/21/13 13:40	91-20-3	M1,R1
Toluene	ND	ug/L	5.0	1.6	1		11/21/13 13:40	108-88-3	M1,R1
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/21/13 13:40	1330-20-7	MS,RS
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/21/13 13:40	179601-23-1	M1,R1
o-Xylene	ND	ug/L	5.0	1.6	1		11/21/13 13:40	95-47-6	M1,R1
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/21/13 13:40	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		1		11/21/13 13:40	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/21/13 13:40	2037-26-5	

Sample: 15729 MW-66 **Lab ID: 92179771029** Collected: 11/13/13 09:45 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**4.4**	ug/L	0.20	0.20	10	11/21/13 11:36	11/23/13 22:57	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		10	11/21/13 11:36	11/23/13 22:57	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	5000	3840	50		11/22/13 01:24	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/21/13 13:55	994-05-8	
Benzene	**1050**	ug/L	250	85.0	50		11/22/13 01:24	71-43-2	
3,3-Dimethyl-1-Butanol	**47.7J**	ug/L	100	32.1	1		11/21/13 13:55	624-95-3	L1
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/21/13 13:55	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/21/13 13:55	762-75-4	
1,2-Dichloroethane	**4.1J**	ug/L	5.0	1.8	1		11/21/13 13:55	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/21/13 13:55	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/21/13 13:55	64-17-5	
Ethylbenzene	**261**	ug/L	250	80.0	50		11/22/13 01:24	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/21/13 13:55	637-92-3	
Methyl-tert-butyl ether	**4.9J**	ug/L	5.0	1.7	1		11/21/13 13:55	1634-04-4	
Naphthalene	**94.6**	ug/L	5.0	2.0	1		11/21/13 13:55	91-20-3	
Toluene	**2680**	ug/L	250	80.0	50		11/22/13 01:24	108-88-3	
Xylene (Total)	**1080**	ug/L	500	135	50		11/22/13 01:24	1330-20-7	
m&p-Xylene	**690**	ug/L	500	155	50		11/22/13 01:24	179601-23-1	
o-Xylene	**386**	ug/L	250	80.0	50		11/22/13 01:24	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/21/13 13:55	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		11/21/13 13:55	17060-07-0	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 MW-66 **Lab ID: 92179771029** Collected: 11/13/13 09:45 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
Toluene-d8 (S)	101	%	70-130		1		11/21/13 13:55	2037-26-5	

Sample: 15729 FIELD BLANK #2 **Lab ID: 92179771030** Collected: 11/13/13 16:20 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/21/13 11:37	11/22/13 06:55	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	104	%	60-140		1	11/21/13 11:37	11/22/13 06:55	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/21/13 14:11	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/21/13 14:11	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/21/13 14:11	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/21/13 14:11	624-95-3	L3
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/21/13 14:11	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/21/13 14:11	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/21/13 14:11	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/21/13 14:11	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/21/13 14:11	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/21/13 14:11	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/21/13 14:11	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/21/13 14:11	1634-04-4	
Naphthalene	**2.7J**	ug/L	5.0	2.0	1		11/21/13 14:11	91-20-3	
Toluene	**4.1J**	ug/L	5.0	1.6	1		11/21/13 14:11	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/21/13 14:11	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/21/13 14:11	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/21/13 14:11	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		11/21/13 14:11	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		1		11/21/13 14:11	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		11/21/13 14:11	2037-26-5	

Sample: 15729 TRIP BLANK #3 **Lab ID: 92179771031** Collected: 11/13/13 16:25 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/21/13 11:37	11/22/13 07:15	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	102	%	60-140		1	11/21/13 11:37	11/22/13 07:15	301-79-56	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 TRIP BLANK #3 **Lab ID: 92179771031** Collected: 11/13/13 16:25 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/22/13 05:17	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/22/13 05:17	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/22/13 05:17	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/22/13 05:17	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/22/13 05:17	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/22/13 05:17	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/22/13 05:17	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/22/13 05:17	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/22/13 05:17	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/22/13 05:17	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/22/13 05:17	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/22/13 05:17	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/22/13 05:17	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/22/13 05:17	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/22/13 05:17	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/22/13 05:17	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/22/13 05:17	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/22/13 05:17	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		1		11/22/13 05:17	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/22/13 05:17	2037-26-5	

Sample: 15729 TRIP BLANK #4 **Lab ID: 92179771032** Collected: 11/13/13 16:28 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/21/13 11:37	11/22/13 07:35	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	99	%	60-140		1	11/21/13 11:37	11/22/13 07:35	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/22/13 05:33	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/22/13 05:33	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/22/13 05:33	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/22/13 05:33	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/22/13 05:33	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/22/13 05:33	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/22/13 05:33	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/22/13 05:33	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/22/13 05:33	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/22/13 05:33	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/22/13 05:33	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/22/13 05:33	1634-04-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 TRIP BLANK #4 **Lab ID: 92179771032** Collected: 11/13/13 16:28 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Naphthalene	ND	ug/L	5.0	2.0	1		11/22/13 05:33	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/22/13 05:33	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/22/13 05:33	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/22/13 05:33	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/22/13 05:33	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/22/13 05:33	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		1		11/22/13 05:33	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/22/13 05:33	2037-26-5	

Sample: 15729 MW-16D **Lab ID: 92179771033** Collected: 11/13/13 14:20 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/21/13 11:37	11/22/13 07:55	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	99	%	60-140		1	11/21/13 11:37	11/22/13 07:55	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		11/22/13 05:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		11/22/13 05:48	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		11/22/13 05:48	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		11/22/13 05:48	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		11/22/13 05:48	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		11/22/13 05:48	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		11/22/13 05:48	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		11/22/13 05:48	108-20-3	
Ethanol	ND	ug/L	200	138	1		11/22/13 05:48	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		11/22/13 05:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		11/22/13 05:48	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		11/22/13 05:48	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		11/22/13 05:48	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		11/22/13 05:48	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/22/13 05:48	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		11/22/13 05:48	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		11/22/13 05:48	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/22/13 05:48	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		1		11/22/13 05:48	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/22/13 05:48	2037-26-5	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 WSW-2 **Lab ID: 92179771034** Collected: 11/13/13 09:35 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/21/13 11:37	11/22/13 08:15	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	107	%	60-140		1	11/21/13 11:37	11/22/13 08:15	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		11/22/13 00:15	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		11/22/13 00:15	994-05-8	M1
Benzene	ND	ug/L	1.0	0.25	1		11/22/13 00:15	71-43-2	M1
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		11/22/13 00:15	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		11/22/13 00:15	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		11/22/13 00:15	762-75-4	M1
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		11/22/13 00:15	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		11/22/13 00:15	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		11/22/13 00:15	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/22/13 00:15	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		11/22/13 00:15	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		11/22/13 00:15	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		11/22/13 00:15	91-20-3	M1
Toluene	ND	ug/L	1.0	0.26	1		11/22/13 00:15	108-88-3	M1
Xylene (Total)	ND	ug/L	2.0	0.66	1		11/22/13 00:15	1330-20-7	MS
m&p-Xylene	ND	ug/L	2.0	0.66	1		11/22/13 00:15	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		11/22/13 00:15	95-47-6	M1
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		11/22/13 00:15	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		11/22/13 00:15	17060-07-0	
Toluene-d8 (S)	96	%	70-130		1		11/22/13 00:15	2037-26-5	

Sample: 15729 SW-1 **Lab ID: 92179771035** Collected: 11/13/13 09:00 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/21/13 11:37	11/22/13 08:36	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	108	%	60-140		1	11/21/13 11:37	11/22/13 08:36	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		11/25/13 17:45	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		11/25/13 17:45	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		11/25/13 17:45	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		11/25/13 17:45	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		11/25/13 17:45	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		11/25/13 17:45	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		11/25/13 17:45	107-06-2	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92179771

Sample: 15729 SW-1 **Lab ID: 92179771035** Collected: 11/13/13 09:00 Received: 11/15/13 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260								
Diisopropyl ether	ND	ug/L	1.0	0.12	1		11/25/13 17:45	108-20-3	
Ethanol	**1910**	ug/L	200	33.0	1		11/25/13 17:45	64-17-5	L1
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/25/13 17:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		11/25/13 17:45	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		11/25/13 17:45	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		11/25/13 17:45	91-20-3	
Toluene	**33.5**	ug/L	1.0	0.26	1		11/25/13 17:45	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		11/25/13 17:45	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		11/25/13 17:45	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		11/25/13 17:45	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		11/25/13 17:45	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		11/25/13 17:45	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		11/25/13 17:45	2037-26-5	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179771

QC Batch: MSV/24993
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 92179771034

METHOD BLANK: 1091716
Matrix: Water
Associated Lab Samples: 92179771034

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	11/21/13 14:21	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	11/21/13 14:21	
Benzene	ug/L	ND	1.0	11/21/13 14:21	
Diisopropyl ether	ug/L	ND	1.0	11/21/13 14:21	
Ethanol	ug/L	ND	200	11/21/13 14:21	
Ethyl-tert-butyl ether	ug/L	ND	10.0	11/21/13 14:21	
Ethylbenzene	ug/L	ND	1.0	11/21/13 14:21	
m&p-Xylene	ug/L	ND	2.0	11/21/13 14:21	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/21/13 14:21	
Naphthalene	ug/L	ND	1.0	11/21/13 14:21	
o-Xylene	ug/L	ND	1.0	11/21/13 14:21	
tert-Amyl Alcohol	ug/L	ND	100	11/21/13 14:21	
tert-Amylmethyl ether	ug/L	ND	10.0	11/21/13 14:21	
tert-Butyl Alcohol	ug/L	ND	100	11/21/13 14:21	
tert-Butyl Formate	ug/L	ND	50.0	11/21/13 14:21	
Toluene	ug/L	ND	1.0	11/21/13 14:21	
Xylene (Total)	ug/L	ND	2.0	11/21/13 14:21	
1,2-Dichloroethane-d4 (S)	%	93	70-130	11/21/13 14:21	
4-Bromofluorobenzene (S)	%	107	70-130	11/21/13 14:21	
Toluene-d8 (S)	%	96	70-130	11/21/13 14:21	

LABORATORY CONTROL SAMPLE: 1091717

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	43.6	87	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	864	86	70-130	
Benzene	ug/L	50	51.0	102	70-130	
Diisopropyl ether	ug/L	50	50.2	100	70-130	
Ethanol	ug/L	2000	1470	74	70-130	
Ethyl-tert-butyl ether	ug/L	100	90.4	90	70-130	
Ethylbenzene	ug/L	50	49.3	99	70-130	
m&p-Xylene	ug/L	100	102	102	70-130	
Methyl-tert-butyl ether	ug/L	50	51.6	103	70-130	
Naphthalene	ug/L	50	53.4	107	70-130	
o-Xylene	ug/L	50	54.5	109	70-130	
tert-Amyl Alcohol	ug/L	1000	821	82	70-130	
tert-Amylmethyl ether	ug/L	100	106	106	70-130	
tert-Butyl Alcohol	ug/L	500	365	73	70-130	
tert-Butyl Formate	ug/L	400	354	88	70-130	
Toluene	ug/L	50	51.1	102	70-130	
Xylene (Total)	ug/L	150	157	104	70-130	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179771

LABORATORY CONTROL SAMPLE: 1091717

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%			95	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1091718 1091719

Parameter	Units	92179771034 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	54.2	49.8	108	100	70-130	9	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	1070	958	107	96	70-130	11	30	
Benzene	ug/L	ND	50	50	66.9	62.1	134	124	70-130	7	30	M1
Diisopropyl ether	ug/L	ND	50	50	62.3	57.7	125	115	70-130	8	30	
Ethanol	ug/L	ND	2000	2000	1690	1420	84	71	70-130	17	30	
Ethyl-tert-butyl ether	ug/L	ND	100	100	114	105	114	105	70-130	8	30	
Ethylbenzene	ug/L	ND	50	50	62.9	59.2	126	118	70-130	6	30	
m&p-Xylene	ug/L	ND	100	100	130	122	130	122	70-130	6	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	64.2	58.4	128	117	70-130	9	30	
Naphthalene	ug/L	ND	50	50	66.9	59.5	134	119	70-130	12	30	M1
o-Xylene	ug/L	ND	50	50	70.9	66.6	142	133	70-130	6	30	M1
tert-Amyl Alcohol	ug/L	ND	1000	1000	973	878	97	88	70-130	10	30	
tert-Amylmethyl ether	ug/L	ND	100	100	132	122	132	122	70-130	8	30	M1
tert-Butyl Alcohol	ug/L	ND	500	500	634	574	127	115	70-130	10	30	
tert-Butyl Formate	ug/L	ND	400	400	42.5J	40.7J	11	10	70-130		30	M1
Toluene	ug/L	ND	50	50	66.3	61.3	133	123	70-130	8	30	M1
1,2-Dichloroethane-d4 (S)	%						92	93	70-130			
4-Bromofluorobenzene (S)	%						101	104	70-130			
Toluene-d8 (S)	%						102	102	70-130			

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179771

QC Batch: MSV/25009
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 92179771035

METHOD BLANK: 1092924
Matrix: Water
Associated Lab Samples: 92179771035

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	11/25/13 14:16	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	11/25/13 14:16	
Benzene	ug/L	ND	1.0	11/25/13 14:16	
Diisopropyl ether	ug/L	ND	1.0	11/25/13 14:16	
Ethanol	ug/L	117J	200	11/25/13 14:16	
Ethyl-tert-butyl ether	ug/L	ND	10.0	11/25/13 14:16	
Ethylbenzene	ug/L	ND	1.0	11/25/13 14:16	
m&p-Xylene	ug/L	ND	2.0	11/25/13 14:16	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/25/13 14:16	
Naphthalene	ug/L	ND	1.0	11/25/13 14:16	
o-Xylene	ug/L	ND	1.0	11/25/13 14:16	
tert-Amyl Alcohol	ug/L	ND	100	11/25/13 14:16	
tert-Amylmethyl ether	ug/L	ND	10.0	11/25/13 14:16	
tert-Butyl Alcohol	ug/L	23.9J	100	11/25/13 14:16	
tert-Butyl Formate	ug/L	ND	50.0	11/25/13 14:16	
Toluene	ug/L	ND	1.0	11/25/13 14:16	
Xylene (Total)	ug/L	ND	2.0	11/25/13 14:16	
1,2-Dichloroethane-d4 (S)	%	101	70-130	11/25/13 14:16	
4-Bromofluorobenzene (S)	%	103	70-130	11/25/13 14:16	
Toluene-d8 (S)	%	97	70-130	11/25/13 14:16	

LABORATORY CONTROL SAMPLE: 1092925

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	47.5	95	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1040	104	70-130	
Benzene	ug/L	50	54.1	108	70-130	
Diisopropyl ether	ug/L	50	53.5	107	70-130	
Ethanol	ug/L	2000	2680	134	70-130	L0
Ethyl-tert-butyl ether	ug/L	100	93.7	94	70-130	
Ethylbenzene	ug/L	50	47.6	95	70-130	
m&p-Xylene	ug/L	100	95.6	96	70-130	
Methyl-tert-butyl ether	ug/L	50	53.1	106	70-130	
Naphthalene	ug/L	50	48.7	97	70-130	
o-Xylene	ug/L	50	47.0	94	70-130	
tert-Amyl Alcohol	ug/L	1000	1020	102	70-130	
tert-Amylmethyl ether	ug/L	100	107	107	70-130	
tert-Butyl Alcohol	ug/L	500	549	110	70-130	
tert-Butyl Formate	ug/L	400	388	97	70-130	
Toluene	ug/L	50	49.6	99	70-130	
Xylene (Total)	ug/L	150	143	95	70-130	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179771

LABORATORY CONTROL SAMPLE: 1092925

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%			100	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			102	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1094253 1094254

Parameter	Units	92179772004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	53.1	53.1	106	106	70-130	0	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	1230	1200	123	120	70-130	2	30	
Benzene	ug/L	3.0	50	50	60.5	60.6	115	115	70-130	0	30	
Diisopropyl ether	ug/L	ND	50	50	50.6	50.1	101	100	70-130	1	30	
Ethanol	ug/L	ND	2000	2000	1810	1750	91	88	70-130	3	30	
Ethyl-tert-butyl ether	ug/L	ND	100	100	97.5	96.9	97	97	70-130	1	30	
Ethylbenzene	ug/L	5.5	50	50	59.9	59.3	109	108	70-130	1	30	
m&p-Xylene	ug/L	13.5	100	100	126	123	112	110	70-130	2	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	58.3	57.7	117	115	70-130	1	30	
Naphthalene	ug/L	ND	50	50	49.8	48.5	100	97	70-130	3	30	
o-Xylene	ug/L	5.4	50	50	61.1	60.1	112	109	70-130	2	30	
tert-Amyl Alcohol	ug/L	ND	1000	1000	1130	1120	112	110	70-130	2	30	
tert-Amylmethyl ether	ug/L	ND	100	100	118	118	118	118	70-130	0	30	
tert-Butyl Alcohol	ug/L	ND	500	500	614	645	123	129	70-130	5	30	
tert-Butyl Formate	ug/L	ND	400	400	130	104	33	26	70-130	22	30	M1
Toluene	ug/L	7.2	50	50	63.7	62.5	113	110	70-130	2	30	
1,2-Dichloroethane-d4 (S)	%						96	97	70-130			
4-Bromofluorobenzene (S)	%						103	102	70-130			
Toluene-d8 (S)	%						100	101	70-130			

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179771

QC Batch: MSV/24972 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92179771001, 92179771002, 92179771003, 92179771004, 92179771005, 92179771006, 92179771007, 92179771008, 92179771009, 92179771010, 92179771011, 92179771012, 92179771013, 92179771014, 92179771015, 92179771016, 92179771017, 92179771018

METHOD BLANK: 1089731 Matrix: Water
Associated Lab Samples: 92179771001, 92179771002, 92179771003, 92179771004, 92179771005, 92179771006, 92179771007, 92179771008, 92179771009, 92179771010, 92179771011, 92179771012, 92179771013, 92179771014, 92179771015, 92179771016, 92179771017, 92179771018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	11/20/13 02:10	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	11/20/13 02:10	
Benzene	ug/L	ND	5.0	11/20/13 02:10	
Diisopropyl ether	ug/L	ND	5.0	11/20/13 02:10	
Ethanol	ug/L	ND	200	11/20/13 02:10	
Ethyl-tert-butyl ether	ug/L	ND	10.0	11/20/13 02:10	
Ethylbenzene	ug/L	ND	5.0	11/20/13 02:10	
m&p-Xylene	ug/L	ND	10.0	11/20/13 02:10	
Methyl-tert-butyl ether	ug/L	ND	5.0	11/20/13 02:10	
Naphthalene	ug/L	ND	5.0	11/20/13 02:10	
o-Xylene	ug/L	ND	5.0	11/20/13 02:10	
tert-Amyl Alcohol	ug/L	ND	100	11/20/13 02:10	
tert-Amylmethyl ether	ug/L	ND	10.0	11/20/13 02:10	
tert-Butyl Alcohol	ug/L	ND	100	11/20/13 02:10	
tert-Butyl Formate	ug/L	ND	50.0	11/20/13 02:10	
Toluene	ug/L	ND	5.0	11/20/13 02:10	
Xylene (Total)	ug/L	ND	10.0	11/20/13 02:10	
1,2-Dichloroethane-d4 (S)	%	98	70-130	11/20/13 02:10	
4-Bromofluorobenzene (S)	%	99	70-130	11/20/13 02:10	
Toluene-d8 (S)	%	100	70-130	11/20/13 02:10	

LABORATORY CONTROL SAMPLE: 1089732

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	51.0	102	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1190	119	70-130	
Benzene	ug/L	50	52.5	105	70-130	
Diisopropyl ether	ug/L	50	51.2	102	70-130	
Ethanol	ug/L	2000	2010	100	70-130	
Ethyl-tert-butyl ether	ug/L	100	94.9	95	70-130	
Ethylbenzene	ug/L	50	50.5	101	70-130	
m&p-Xylene	ug/L	100	104	104	70-130	
Methyl-tert-butyl ether	ug/L	50	55.1	110	70-130	
Naphthalene	ug/L	50	49.3	99	70-130	
o-Xylene	ug/L	50	54.1	108	70-130	
tert-Amyl Alcohol	ug/L	1000	1120	112	70-130	
tert-Amylmethyl ether	ug/L	100	111	111	70-130	
tert-Butyl Alcohol	ug/L	500	561	112	70-130	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179771

LABORATORY CONTROL SAMPLE: 1089732

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Formate	ug/L	400	424	106	70-130	
Toluene	ug/L	50	50.8	102	70-130	
Xylene (Total)	ug/L	150	158	106	70-130	
1,2-Dichloroethane-d4 (S)	%			97	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1090391 1090392

Parameter	Units	92179771002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	53.2	51.5	106	103	70-130	3	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	1050	1100	105	110	70-130	4	30	
Benzene	ug/L	ND	50	50	59.1	58.2	118	116	70-130	1	30	
Diisopropyl ether	ug/L	ND	50	50	54.0	53.0	108	106	70-130	2	30	
Ethanol	ug/L	ND	2000	2000	1890	1920	95	96	70-130	1	30	
Ethyl-tert-butyl ether	ug/L	ND	100	100	98.2	96.6	98	97	70-130	2	30	
Ethylbenzene	ug/L	ND	50	50	55.8	53.8	111	107	70-130	4	30	
m&p-Xylene	ug/L	ND	100	100	115	112	115	112	70-130	2	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	56.9	56.2	114	112	70-130	1	30	
Naphthalene	ug/L	ND	50	50	45.6	47.1	91	94	70-130	3	30	
o-Xylene	ug/L	ND	50	50	58.1	56.9	116	114	70-130	2	30	
tert-Amyl Alcohol	ug/L	ND	1000	1000	1020	1030	102	103	70-130	1	30	
tert-Amylmethyl ether	ug/L	ND	100	100	113	113	113	113	70-130	0	30	
tert-Butyl Alcohol	ug/L	ND	500	500	587	604	117	121	70-130	3	30	
tert-Butyl Formate	ug/L	ND	400	400	150	103	37	26	70-130	37	30	P5
Toluene	ug/L	ND	50	50	56.5	55.7	113	111	70-130	2	30	
1,2-Dichloroethane-d4 (S)	%						95	95	70-130			
4-Bromofluorobenzene (S)	%						102	100	70-130			
Toluene-d8 (S)	%						101	102	70-130			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179771

QC Batch: MSV/24979 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92179771019, 92179771020, 92179771021, 92179771022, 92179771023, 92179771024, 92179771025, 92179771026, 92179771027, 92179771028, 92179771029, 92179771030

METHOD BLANK: 1090722 Matrix: Water
Associated Lab Samples: 92179771019, 92179771020, 92179771021, 92179771022, 92179771023, 92179771024, 92179771025, 92179771026, 92179771027, 92179771028, 92179771029, 92179771030

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	11/21/13 03:47	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	11/21/13 03:47	
Benzene	ug/L	ND	5.0	11/21/13 03:47	
Diisopropyl ether	ug/L	ND	5.0	11/21/13 03:47	
Ethanol	ug/L	ND	200	11/21/13 03:47	
Ethyl-tert-butyl ether	ug/L	ND	10.0	11/21/13 03:47	
Ethylbenzene	ug/L	ND	5.0	11/21/13 03:47	
m&p-Xylene	ug/L	ND	10.0	11/21/13 03:47	
Methyl-tert-butyl ether	ug/L	ND	5.0	11/21/13 03:47	
Naphthalene	ug/L	ND	5.0	11/21/13 03:47	
o-Xylene	ug/L	ND	5.0	11/21/13 03:47	
tert-Amyl Alcohol	ug/L	ND	100	11/21/13 03:47	
tert-Amylmethyl ether	ug/L	ND	10.0	11/21/13 03:47	
tert-Butyl Alcohol	ug/L	ND	100	11/21/13 03:47	
tert-Butyl Formate	ug/L	ND	50.0	11/21/13 03:47	
Toluene	ug/L	ND	5.0	11/21/13 03:47	
Xylene (Total)	ug/L	ND	10.0	11/21/13 03:47	
1,2-Dichloroethane-d4 (S)	%	96	70-130	11/21/13 03:47	
4-Bromofluorobenzene (S)	%	99	70-130	11/21/13 03:47	
Toluene-d8 (S)	%	100	70-130	11/21/13 03:47	

LABORATORY CONTROL SAMPLE: 1090723

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	50.7	101	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1320	132	70-130	L0
Benzene	ug/L	50	54.3	109	70-130	
Diisopropyl ether	ug/L	50	50.8	102	70-130	
Ethanol	ug/L	2000	2170	109	70-130	
Ethyl-tert-butyl ether	ug/L	100	96.6	97	70-130	
Ethylbenzene	ug/L	50	50.6	101	70-130	
m&p-Xylene	ug/L	100	107	107	70-130	
Methyl-tert-butyl ether	ug/L	50	57.6	115	70-130	
Naphthalene	ug/L	50	51.2	102	70-130	
o-Xylene	ug/L	50	54.3	109	70-130	
tert-Amyl Alcohol	ug/L	1000	1160	116	70-130	
tert-Amylmethyl ether	ug/L	100	114	114	70-130	
tert-Butyl Alcohol	ug/L	500	559	112	70-130	
tert-Butyl Formate	ug/L	400	436	109	70-130	
Toluene	ug/L	50	53.3	107	70-130	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179771

LABORATORY CONTROL SAMPLE: 1090723

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	161	107	70-130	
1,2-Dichloroethane-d4 (S)	%			96	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Toluene-d8 (S)	%			102	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1091994 1091995

Parameter	Units	92179771028 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	54.7	30.0	109	60	70-130	58	30	M1,R1
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	1180	627	118	63	70-130	61	30	M0,R1
Benzene	ug/L	ND	50	50	62.4	34.7	125	69	70-130	57	30	M1,R1
Diisopropyl ether	ug/L	ND	50	50	55.3	30.6	111	61	70-130	58	30	M1,R1
Ethanol	ug/L	ND	2000	2000	1790	997	90	50	70-130	57	30	M1,R1
Ethyl-tert-butyl ether	ug/L	ND	100	100	104	57.2	104	57	70-130	58	30	M1,R1
Ethylbenzene	ug/L	ND	50	50	55.8	32.1	111	64	70-130	54	30	M1,R1
m&p-Xylene	ug/L	ND	100	100	115	66.7	113	65	70-130	53	30	M1,R1
Methyl-tert-butyl ether	ug/L	ND	50	50	61.1	33.4	122	67	70-130	59	30	M1,R1
Naphthalene	ug/L	ND	50	50	47.5	28.1	94	55	70-130	51	30	M1,R1
o-Xylene	ug/L	ND	50	50	59.3	34.1	117	67	70-130	54	30	M1,R1
tert-Amyl Alcohol	ug/L	ND	1000	1000	1090	609	109	61	70-130	56	30	M1,R1
tert-Amylmethyl ether	ug/L	ND	100	100	122	66.5	122	67	70-130	59	30	M1,R1
tert-Butyl Alcohol	ug/L	ND	500	500	595	337	119	67	70-130	55	30	M1,R1
tert-Butyl Formate	ug/L	ND	400	400	364	176	91	44	70-130	69	30	M1,R1
Toluene	ug/L	ND	50	50	58.6	33.1	114	63	70-130	56	30	M1,R1
1,2-Dichloroethane-d4 (S)	%						93	95	70-130			
4-Bromofluorobenzene (S)	%						99	99	70-130			
Toluene-d8 (S)	%						101	101	70-130			

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179771

QC Batch: MSV/24998 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92179771031, 92179771032, 92179771033

METHOD BLANK: 1092059 Matrix: Water
Associated Lab Samples: 92179771031, 92179771032, 92179771033

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	11/22/13 05:02	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	11/22/13 05:02	
Benzene	ug/L	ND	5.0	11/22/13 05:02	
Diisopropyl ether	ug/L	ND	5.0	11/22/13 05:02	
Ethanol	ug/L	ND	200	11/22/13 05:02	
Ethyl-tert-butyl ether	ug/L	ND	10.0	11/22/13 05:02	
Ethylbenzene	ug/L	ND	5.0	11/22/13 05:02	
m&p-Xylene	ug/L	ND	10.0	11/22/13 05:02	
Methyl-tert-butyl ether	ug/L	ND	5.0	11/22/13 05:02	
Naphthalene	ug/L	ND	5.0	11/22/13 05:02	
o-Xylene	ug/L	ND	5.0	11/22/13 05:02	
tert-Amyl Alcohol	ug/L	ND	100	11/22/13 05:02	
tert-Amylmethyl ether	ug/L	ND	10.0	11/22/13 05:02	
tert-Butyl Alcohol	ug/L	ND	100	11/22/13 05:02	
tert-Butyl Formate	ug/L	ND	50.0	11/22/13 05:02	
Toluene	ug/L	ND	5.0	11/22/13 05:02	
Xylene (Total)	ug/L	ND	10.0	11/22/13 05:02	
1,2-Dichloroethane-d4 (S)	%	96	70-130	11/22/13 05:02	
4-Bromofluorobenzene (S)	%	101	70-130	11/22/13 05:02	
Toluene-d8 (S)	%	102	70-130	11/22/13 05:02	

LABORATORY CONTROL SAMPLE: 1092060

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	49.7	99	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1230	123	70-130	
Benzene	ug/L	50	55.3	111	70-130	
Diisopropyl ether	ug/L	50	48.5	97	70-130	
Ethanol	ug/L	2000	1800	90	70-130	
Ethyl-tert-butyl ether	ug/L	100	94.5	95	70-130	
Ethylbenzene	ug/L	50	51.1	102	70-130	
m&p-Xylene	ug/L	100	107	107	70-130	
Methyl-tert-butyl ether	ug/L	50	56.6	113	70-130	
Naphthalene	ug/L	50	48.6	97	70-130	
o-Xylene	ug/L	50	54.7	109	70-130	
tert-Amyl Alcohol	ug/L	1000	1090	109	70-130	
tert-Amylmethyl ether	ug/L	100	113	113	70-130	
tert-Butyl Alcohol	ug/L	500	553	111	70-130	
tert-Butyl Formate	ug/L	400	420	105	70-130	
Toluene	ug/L	50	52.5	105	70-130	
Xylene (Total)	ug/L	150	161	108	70-130	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179771

LABORATORY CONTROL SAMPLE: 1092060

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%			93	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			101	70-130	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179771

QC Batch: OEXT/24839 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92179771001, 92179771002, 92179771003, 92179771004, 92179771005, 92179771006, 92179771007, 92179771008, 92179771009, 92179771010, 92179771011, 92179771012, 92179771013, 92179771014, 92179771015, 92179771016, 92179771017

METHOD BLANK: 1091017 Matrix: Water
Associated Lab Samples: 92179771001, 92179771002, 92179771003, 92179771004, 92179771005, 92179771006, 92179771007, 92179771008, 92179771009, 92179771010, 92179771011, 92179771012, 92179771013, 92179771014, 92179771015, 92179771016, 92179771017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	11/21/13 15:41	
1-Chloro-2-bromopropane (S)	%	104	60-140	11/21/13 15:41	

LABORATORY CONTROL SAMPLE & LCSD: 1091018 1091019

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.29	0.29	100	100	60-140	1	20	
1-Chloro-2-bromopropane (S)	%				104	105	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1091020 1091021

Parameter	Units	92179793034 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.29	0.28	102	100	60-140	2	20	
1-Chloro-2-bromopropane (S)	%						107	85	60-140			

SAMPLE DUPLICATE: 1091022

Parameter	Units	92179793035 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	105	110	5		

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92179771

QC Batch: OEXT/24840 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92179771018, 92179771019, 92179771020, 92179771021, 92179771022, 92179771023, 92179771024, 92179771025, 92179771026, 92179771027, 92179771028, 92179771029, 92179771030, 92179771031, 92179771032, 92179771033, 92179771034, 92179771035

METHOD BLANK: 1091030 Matrix: Water
Associated Lab Samples: 92179771018, 92179771019, 92179771020, 92179771021, 92179771022, 92179771023, 92179771024, 92179771025, 92179771026, 92179771027, 92179771028, 92179771029, 92179771030, 92179771031, 92179771032, 92179771033, 92179771034, 92179771035

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.021	11/22/13 00:51	
1-Chloro-2-bromopropane (S)	%	105	60-140	11/22/13 00:51	

LABORATORY CONTROL SAMPLE & LCSD: 1091031 1091032

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.29	0.30	102	106	60-140	2	20	
1-Chloro-2-bromopropane (S)	%				104	104	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1091033 1091034

Parameter	Units	92179771026 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	0.034	.28	.28	0.27	0.26	84	82	60-140	2	20	
1-Chloro-2-bromopropane (S)	%						98	98	60-140			

SAMPLE DUPLICATE: 1091035

Parameter	Units	92179771027 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	106	103	5		

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QUALIFIERS

Project: HW Detwiler 15729
Pace Project No.: 92179771

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine(8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

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TNI - The NELAC Institute.

LABORATORIES

PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
MS	Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.
R1	RPD value was outside control limits.
RS	The RPD value in one of the constituent analytes was outside the control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HW Detwiler 15729
Pace Project No.: 92179771

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92179771001	**15729 MW-2D**	EPA 8011	OEXT/24839	EPA 8011	GCSV/16056
92179771002	**15729 MW-3**	EPA 8011	OEXT/24839	EPA 8011	GCSV/16056
92179771003	**15729 MW-4**	EPA 8011	OEXT/24839	EPA 8011	GCSV/16056
92179771004	**15729 MW-5**	EPA 8011	OEXT/24839	EPA 8011	GCSV/16056
92179771005	**15729 MW-6**	EPA 8011	OEXT/24839	EPA 8011	GCSV/16056
92179771006	**15729 MW-12**	EPA 8011	OEXT/24839	EPA 8011	GCSV/16056
92179771007	**15729 MW-17R**	EPA 8011	OEXT/24839	EPA 8011	GCSV/16056
92179771008	**15729 MW-18R**	EPA 8011	OEXT/24839	EPA 8011	GCSV/16056
92179771009	**15729 MW-24**	EPA 8011	OEXT/24839	EPA 8011	GCSV/16056
92179771010	**15729 MW-24 DUP**	EPA 8011	OEXT/24839	EPA 8011	GCSV/16056
92179771011	**15729 MW-25**	EPA 8011	OEXT/24839	EPA 8011	GCSV/16056
92179771012	**15729 MW-29**	EPA 8011	OEXT/24839	EPA 8011	GCSV/16056
92179771013	**15729 MW-30**	EPA 8011	OEXT/24839	EPA 8011	GCSV/16056
92179771014	**15729 MW-37**	EPA 8011	OEXT/24839	EPA 8011	GCSV/16056
92179771015	**15729 MW-37 DUP**	EPA 8011	OEXT/24839	EPA 8011	GCSV/16056
92179771016	**15729 MW-38**	EPA 8011	OEXT/24839	EPA 8011	GCSV/16056
92179771017	**15729 MW-44**	EPA 8011	OEXT/24839	EPA 8011	GCSV/16056
92179771018	**15729 MW-47**	EPA 8011	OEXT/24840	EPA 8011	GCSV/16057
92179771019	**15729 MW-48**	EPA 8011	OEXT/24840	EPA 8011	GCSV/16057
92179771020	**15729 MW-50**	EPA 8011	OEXT/24840	EPA 8011	GCSV/16057
92179771021	**15729 MW-58**	EPA 8011	OEXT/24840	EPA 8011	GCSV/16057
92179771022	**15729 MW-59**	EPA 8011	OEXT/24840	EPA 8011	GCSV/16057
92179771023	**15729 MW-60**	EPA 8011	OEXT/24840	EPA 8011	GCSV/16057
92179771024	**15729 MW-61**	EPA 8011	OEXT/24840	EPA 8011	GCSV/16057
92179771025	**15729 MW-61 DUP**	EPA 8011	OEXT/24840	EPA 8011	GCSV/16057
92179771026	**15729 MW-62**	EPA 8011	OEXT/24840	EPA 8011	GCSV/16057
92179771027	**15729 MW-63**	EPA 8011	OEXT/24840	EPA 8011	GCSV/16057
92179771028	**15729 MW-64**	EPA 8011	OEXT/24840	EPA 8011	GCSV/16057
92179771029	**15729 MW-66**	EPA 8011	OEXT/24840	EPA 8011	GCSV/16057
92179771030	**15729 FIELD BLANK #2**	EPA 8011	OEXT/24840	EPA 8011	GCSV/16057
92179771031	**15729 TRIP BLANK #3**	EPA 8011	OEXT/24840	EPA 8011	GCSV/16057
92179771032	**15729 TRIP BLANK #4**	EPA 8011	OEXT/24840	EPA 8011	GCSV/16057
92179771033	**15729 MW-16D**	EPA 8011	OEXT/24840	EPA 8011	GCSV/16057
92179771034	**15729 WSW-2**	EPA 8011	OEXT/24840	EPA 8011	GCSV/16057
92179771035	**15729 SW-1**	EPA 8011	OEXT/24840	EPA 8011	GCSV/16057
92179771034	**15729 WSW-2**	EPA 8260	MSV/24993		
92179771035	**15729 SW-1**	EPA 8260	MSV/25009		
92179771001	**15729 MW-2D**	EPA 8260	MSV/24972		
92179771002	**15729 MW-3**	EPA 8260	MSV/24972		
92179771003	**15729 MW-4**	EPA 8260	MSV/24972		
92179771004	**15729 MW-5**	EPA 8260	MSV/24972		
92179771005	**15729 MW-6**	EPA 8260	MSV/24972		
92179771006	**15729 MW-12**	EPA 8260	MSV/24972		
92179771007	**15729 MW-17R**	EPA 8260	MSV/24972		
92179771008	**15729 MW-18R**	EPA 8260	MSV/24972		
92179771009	**15729 MW-24**	EPA 8260	MSV/24972		
92179771010	**15729 MW-24 DUP**	EPA 8260	MSV/24972		

REPORT OF LABORATORY ANALYSIS

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www.pacelabs.com

Pace Analytical Services, Inc.
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Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HW Detwiler 15729
Pace Project No.: 92179771

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92179771011	**15729 MW-25**	EPA 8260	MSV/24972		
92179771012	**15729 MW-29**	EPA 8260	MSV/24972		
92179771013	**15729 MW-30**	EPA 8260	MSV/24972		
92179771014	**15729 MW-37**	EPA 8260	MSV/24972		
92179771015	**15729 MW-37 DUP**	EPA 8260	MSV/24972		
92179771016	**15729 MW-38**	EPA 8260	MSV/24972		
92179771017	**15729 MW-44**	EPA 8260	MSV/24972		
92179771018	**15729 MW-47**	EPA 8260	MSV/24972		
92179771019	**15729 MW-48**	EPA 8260	MSV/24979		
92179771020	**15729 MW-50**	EPA 8260	MSV/24979		
92179771021	**15729 MW-58**	EPA 8260	MSV/24979		
92179771022	**15729 MW-59**	EPA 8260	MSV/24979		
92179771023	**15729 MW-60**	EPA 8260	MSV/24979		
92179771024	**15729 MW-61**	EPA 8260	MSV/24979		
92179771025	**15729 MW-61 DUP**	EPA 8260	MSV/24979		
92179771026	**15729 MW-62**	EPA 8260	MSV/24979		
92179771027	**15729 MW-63**	EPA 8260	MSV/24979		
92179771028	**15729 MW-64**	EPA 8260	MSV/24979		
92179771029	**15729 MW-66**	EPA 8260	MSV/24979		
92179771030	**15729 FIELD BLANK #2**	EPA 8260	MSV/24979		
92179771031	**15729 TRIP BLANK #3**	EPA 8260	MSV/24998		
92179771032	**15729 TRIP BLANK #4**	EPA 8260	MSV/24998		
92179771033	**15729 MW-16D**	EPA 8260	MSV/24998		

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Pace Analytical	Sample Condition Upon Receipt (SCUR)	Page 1 of 2
	Document Number: F-CHR-CS-03-rev.11	Issuing Authority: Pace Huntersville Quality Office

Client Name: Emerald Inc.

Where Received: ☑ Huntersville ☐ Asheville ☐ Eden ☐ Raleigh

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1102 T1301 **Type of Ice:** Wet Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor **T1102**: No Correction **T1301**: No Correction

Corrected Cooler Temp.: 1.3 C **Biological Tissue Is Frozen:** Yes No N/A

Temp should be above freezing to 6°C

Optional
Proj. Due Date:
Proj. Name:

Date and Initials of person examining contents: DD 11/15/13

				Comments:
Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12. Received extra EDPs, 8260 vials (3 of each)
-Includes date/time/ID/Analysis Matrix:_____				Sample ID is MW16D 11/13/13 1420
All containers needing preservation have been checked.	☐Yes	☐No	☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes	☐No		
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	15.
Trip Blank Present:	☑Yes	☐No	☑N/A	16. DD 11/15/13
Trip Blank Custody Seals Present	☑Yes	☐No	☐N/A	
Pace Trip Blank Lot # (if purchased):_____				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted:_____ Date/Time:_____

Comments/ Resolution:_____

SCURF Review: AMB **Date:** 11-15-13

SRF Review: TMO **Date:** 11-15-13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

WO#: 92179771

92179771

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 3

1698751

Section A Required Client Information:

Company: Emerald Inc.
Address: 2520 Tahoe Dr. Sumter, SC 29150
Email To:
Phone: (803) 469-5454 Fax:
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: Ronny Lowder
Copy To:
Purchase Order No.:
Project Name: H.W. Detwiler
Project Number: 15729

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: A. Baioni
Pace Profile #: 3876-15

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Btex, N, M	1,2 DCA (8260B)	Oxy's	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92179771
1	15729 MW-2D	WT	G			11/13/13	1330		6				6						X	X	X	X		001
2	" " MW-3						1455																	002
3	" " MW-4						1340																	003
4	" " MW-5						1515																	004
5	" " MW-6						1030																	005
6	" " MW-12						1250																	006
7	" " MW-17R						1525																	007
8	" " MW-18R						1540																	008
9	" " MW-24						1230																	009
10	" " MW-24 Dup						1234																	010
11	" " MW-25						0930																	011
12	" " MW-29						1430																	012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Robbie Robertson	11/14/13	0730	[signature]	11-14-13	1700				
		11/15/13	1320	[signature] / Pace	11/15/13	1320				
	[signature] / Pace	11/15	1530	Zack Koehler / Pace	11/15/13	1630	2.3	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robbie Robertson

SIGNATURE of SAMPLER: Robbie Robertson

DATE Signed (MM/DD/YY): 11/14/13

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of 3

1698752

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Emerald Inc.	Report To: Ronny Lowder	Attention:
Address: 2520 Tahoe Dr. Sumter, SC 29150	Copy To:	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: (803) 469-5454 Fax:	Project Name: H.W. Detwiler	Pace Project Manager: A. Baioni
Requested Due Date/TAT: Standard	Project Number: 15729	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Btex, N, M	1,2 DCA 8260 B	Oxy's	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92179771
1	15729 MW-30	WT	G			11/13/13	1155		6				6						X	X	X	X		013
2	" " MW-37						1205																	014
3	" " MW-37 Dup						1208																	015
4	" " MW-38						1000																	016
5	" " MW-44						1010																	017
6	" " MW-47						1200																	018
7	" " MW-48						1140																	019
8	" " MW-50						1145																	020
9	" " MW-58						0900																	021
10	" " MW-59						1545																	022
11	" " MW-60						1115																	023
12	" " MW-61						1050																	024

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Robbie Robertson	11/14/13	0730	[signature]	11-14-13	1700				
	[signature]	11/15/13	1320	[signature]	11/15/13	1320				
	[signature]	11/15	1530	Zack Koehler / Pace	11/15/13	1530	2.3	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robbie Robertson

SIGNATURE of SAMPLER: Robbie Robertson

DATE Signed (MM/DD/YY): 11/14/13

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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Page: 3 of 3

1698753

Section A Required Client Information:

Company:	Emerald Inc.
Address:	2520 Tahoe Dr. Sumter, SC 29150
Email To:	
Phone: (803)469-5454	Fax:
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Ronny Lowder
Copy To:	
Purchase Order No.:	
Project Name:	H.W. Detwiler
Project Number:	15729

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	A.BAioni
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Btex, MTBE (8260B)	1,2 DCA (8260B)	Oxys (8260B)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	15729 MW-61 Dup	WT	G			11/13/13	1054		6				6						X	X	X	X		025
2	" " MW-62						1250																	026
3	" " MW-63						1615																	027
4	" " MW-64						1025																	028
5	" " MW-66						0945																	029
6	" " WSW-2						0935																	use low detection 034
7	" " SW-1						0900		↓				↓											use low detection 035
8	" " Field Blank #2						1620		6				6											030
9	" " Trip Blank #3						1625		2				2						↓	↓	↓	↓		031
10	" " Trip Blank #4	↓	↓			↓	1628		2				2						X	X	X	X		032
11																								033
12																								

92179771

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Robbie Robertson	11/14/13	0730		11-14-13	1700				
		11/15	0320		11-15-13	0320				
		11/15	1520	Zack Kobler/Pace	11/16/13	1630	2.3	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robbie Robertson

SIGNATURE of SAMPLER: Robbie Robertson DATE Signed (MM/DD/YY): 11/14/13

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

APPENDIX C

DISPOSAL MANIFESTS

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

December 17, 2013

Mr. Shane S. Shull, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, SC 29201-1708

RE: Purge Water Treatment
HW Detwiler Company
37 South Church Street
Summerton, South Carolina
UST Permit #15729
Clarendon County

Dear Mr. Shull:

Emerald, Inc. is providing this letter to certify the on-site treatment of purge water at the subject site. This purge water was treated in compliance with the conditions set forth in "Proposed Conditions for use of Portable Activated Carbon Units for the Treatment of Small Volumes of Petroleum Hydrocarbon Contaminated Groundwater".

Applicability:

Groundwater to be treated is generated from well development and sampling.

Conditions:

1. The purge and development water is mixed prior to treatment by the activated carbon unit.
2. Free product was not detected in the purge water.
3. Groundwater analytical results from monitoring wells indicate average concentrations of hydrocarbons to be less than 5,000 parts per billion (ppb) Benzene and less than 20,000 ppb total BTEX.
4. The carbon filter material will be replaced after 5,000 gallons of treatment.

5. A record of usage will be maintained by the Contractor.
6. The manufacturer's recommendations have been adhered to.
7. Any SCDHEC recommendations and any conditions set forth by SCDHEC will be adhered to.

Purge waters were treated on-site by Emerald, Inc. personnel using a treatment drum loaded with approximately 50 pounds of activated carbon. This carbon will be loaded to a maximum amount of 3 pounds of total organic carbon or 5,000 gallons of development/purge water, whichever occurs first. Cumulative organic compounds absorbed by the activated carbon is tracked to ensure the capacity of the carbon is not exceeded.

Origin of Water	Treatment Date	Amount
Purge Water	11/12/13	29 Gallons
Purge Water	11/13/13	33 Gallons

If you have any additional questions please contact Emerald, Inc. at your convenience. Emerald, Inc. can be reached at 803-469-5454.

Yours very truly,
EMERALD, INC.

William C. McClary, P.G.
Project Geologist

APPENDIX D

RLS SURVEY

MONITOR WELLS SURVEYED 10-24-13		
WELL	TOL ELEV.	TOC ELEV.
MW-1 AP	98.68	98.39
MW-1R AP	98.61	98.43
MW-2 AP	98.84	98.57
MW-2D AP	98.81	98.55
MW-3 AP	98.65	97.95
MW-3R AP	98.07	97.91
MW-4 AP	98.60	98.32
MW-5 AP	98.15	97.66
MW-5R AP	98.43	98.24
MW-6 AP	98.56	97.93
MW-6R AP	98.89	98.57
MW-7 AP	98.17	97.86
MW-7R AP	98.56	98.30
MW-8 AP	99.07	98.88
MW-9 AP	97.23	97.04
MW-10 AP	98.29	97.88
MW-11 AP	98.92	98.60
MW-12 AP	99.53	99.26
MW-13 AP	98.68	98.29
MW-14 AP	98.44	98.08
MW-15 AP	98.58	98.21
*MW-17R AP	99.48	98.86

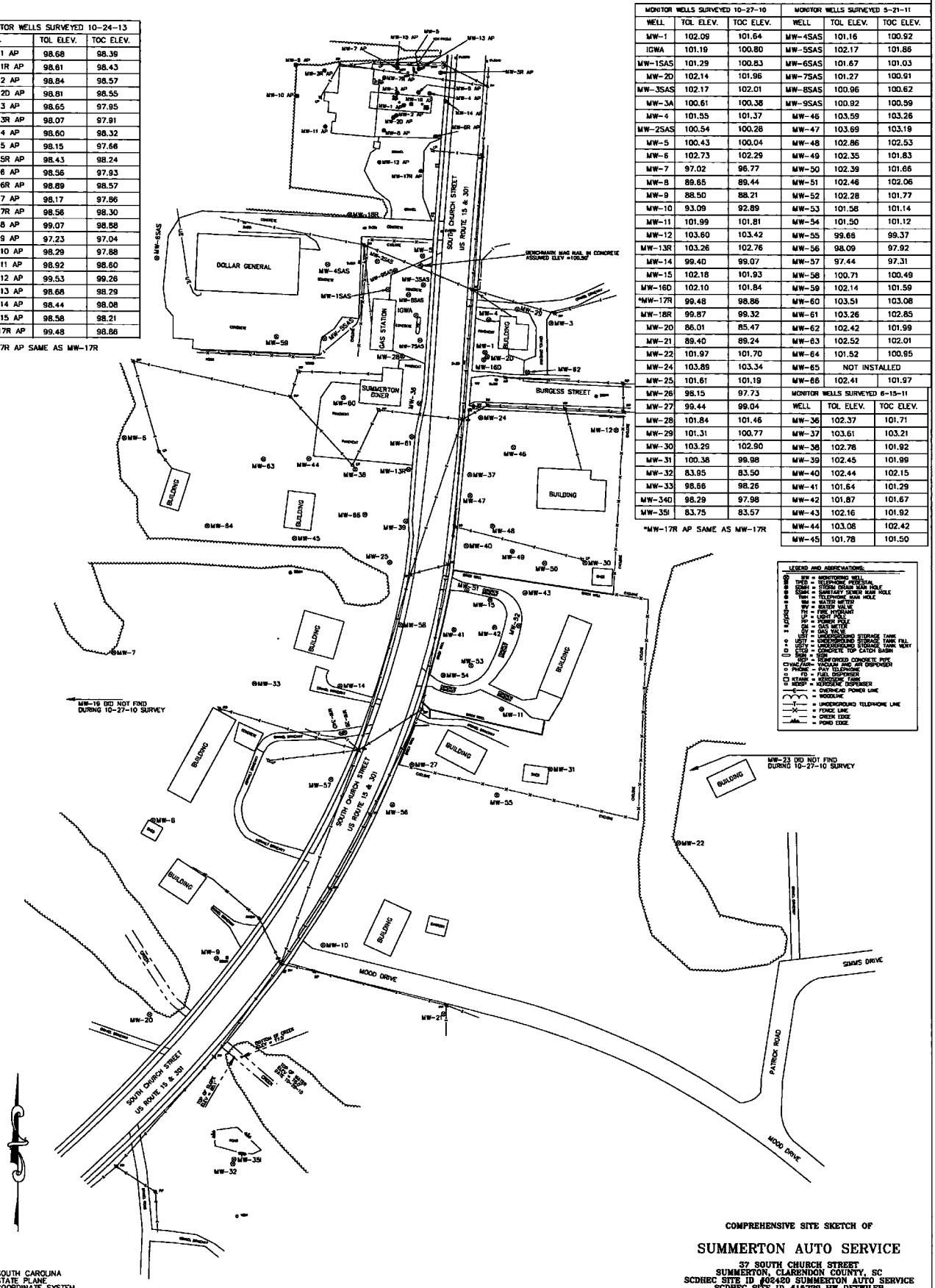
*MW-17R AP SAME AS MW-17R

MONITOR WELLS SURVEYED 10-27-10		
WELL	TOL ELEV.	TOC ELEV.
MW-1	102.09	101.64
IGWA	101.19	100.80
MW-1SAS	101.29	100.83
MW-2D	102.14	101.96
MW-3SAS	102.17	102.01
MW-3A	100.61	100.38
MW-4	101.55	101.37
MW-2SAS	100.54	100.28
MW-5	100.43	100.04
MW-6	102.73	102.29
MW-7	97.02	96.77
MW-8	89.65	89.44
MW-9	88.50	88.21
MW-10	93.09	92.89
MW-11	101.99	101.81
MW-12	103.60	103.42
MW-13R	103.26	102.76
MW-14	99.40	99.07
MW-15	102.18	101.93
MW-16D	102.10	101.84
*MW-17R	99.48	98.86
MW-18R	99.87	99.32
MW-20	86.01	85.47
MW-21	89.40	89.24
MW-22	101.97	101.70
MW-24	103.89	103.34
MW-25	101.61	101.19
MW-26	98.15	97.73
MW-27	99.44	99.04
MW-28	101.84	101.46
MW-29	101.31	100.77
MW-30	103.29	102.90
MW-31	100.38	99.98
MW-32	83.95	83.50
MW-33	98.66	98.26
MW-34D	98.29	97.98
MW-35I	83.75	83.57

*MW-17R AP SAME AS MW-17R

MONITOR WELLS SURVEYED 5-21-11		
WELL	TOL ELEV.	TOC ELEV.
MW-4SAS	101.16	100.92
MW-5SAS	102.17	101.86
MW-6SAS	101.67	101.03
MW-7SAS	101.27	100.91
MW-8SAS	100.96	100.62
MW-9SAS	100.92	100.59
MW-45	103.59	103.26
MW-47	103.69	103.19
MW-48	102.86	102.53
MW-49	102.35	101.83
MW-50	102.39	101.66
MW-51	102.46	102.06
MW-52	102.28	101.77
MW-53	101.58	101.14
MW-54	101.50	101.12
MW-55	99.66	99.37
MW-56	98.09	97.92
MW-57	97.44	97.31
MW-58	100.71	100.49
MW-59	102.14	101.59
MW-60	103.51	103.08
MW-61	103.26	102.85
MW-62	102.42	101.99
MW-63	102.52	102.01
MW-64	101.52	100.95
MW-65	NOT INSTALLED	
MW-66	102.41	101.97

MONITOR WELLS SURVEYED 6-15-11		
WELL	TOL ELEV.	TOC ELEV.
MW-36	102.37	101.71
MW-37	103.61	103.21
MW-38	102.78	101.92
MW-39	102.45	101.99
MW-40	102.44	102.15
MW-41	101.64	101.29
MW-42	101.87	101.67
MW-43	102.16	101.92
MW-44	103.08	102.42
MW-45	101.78	101.50



SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM

GRID NORTH

NAD83

GRAPHIC SCALE 1"=50'

0 50 100 150

THIS PARCEL MAY BE SUBJECT TO EASEMENT AND/OR RIGHT-OF-WAYS NOT SHOWN. FOR DETAILS, CONSULTING OF TITLE SEARCH.

SOUTH CAROLINA REGISTERED SURVEYOR No. 14811 JAY S. JOSHI

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION

COMPREHENSIVE SITE SKETCH OF

SUMMERTON AUTO SERVICE

37 SOUTH CHURCH STREET
SUMMERTON, CLARENDON COUNTY, SC
SCDHEC SITE ID #02420 SUMMERTON AUTO SERVICE
SCDHEC SITE ID #15729 HW DETWILER
SCDHEC SITE ID # 13013 A&P CONVENIENCE STORE
PREPARED FOR
EMERALD

JAY S. JOSHI PLS # 14811
PO BOX 66604, COLUMBIA, SC. 29260 803-776-0060
DATE: NOVEMBER 20, 2013 JOB #111013P
SUB OF JOBS #061511R, #1027100, #1024130, #0521130

APPENDIX E

SURROUNDING PROPERTY OWNER NOTIFICATIONS

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

December 17, 2013

Daulton & Kathy Dubose
24 South Cantey Street
Summerton, SC 29148

Surrounding the:
HW Detwiler Company
37 South Church Street
Summerton, SC
SCDHEC Site ID #15729

Daulton & Kathy Dubose,

Enclosed is an abbreviated copy of the Report of Groundwater Sampling prepared by Emerald, Inc. to obtain current groundwater quality data for the HW Detwiler Company site, as requested by the South Carolina Department of Health and Environmental Control. This report details the work conducted by Emerald, Inc. at the subject site, including analytical results for samples collected from the water supply well on your property at South Cantey Street, Summerton, SC.

We appreciate your cooperation throughout this assessment. If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454 or SCDHEC at 803-898-0589.

Sincerely,

William C. McClary, P.G.
Project Manager

Attachments
Abbreviated Report of Groundwater Sampling for HW Detwiler Company

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

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www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

December 17, 2013

Charlie and Jean Johnson
One Savannah Square #30
Savannah, GA 31406

Surrounding the:
HW Detwiler Company
37 South Church Street
Summerton, SC
SCDHEC Site ID #15729

Charlie and Jean Johnson,

Enclosed is an abbreviated copy of the Report of Groundwater Sampling prepared by Emerald, Inc. to obtain current groundwater quality data for the HW Detwiler Company site, as requested by the South Carolina Department of Health and Environmental Control. This report details the work conducted by Emerald, Inc. at the subject site, including analytical results for samples collected surrounding the water supply well on your property at 35 South Church Street, Summerton, SC.

We appreciate your cooperation throughout this assessment. If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454 or SCDHEC at 803-898-0589.

Sincerely,

William C. McClary, P.G.
Project Manager

Attachments
Abbreviated Report of Groundwater Sampling for HW Detwiler Company

Emerald, Inc.

CONSULTING AND ENGINEERING
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TELEPHONE (803) 469-5454
FAX (803) 469-5465

December 17, 2013

David Van Wynsberghe
1021 Gipp Street
Summerton, SC 29148

Surrounding the:
HW Detwiler Company
37 South Church Street
Summerton, SC
SCDHEC Site ID #15729

Mr. Van Wynsberghe,

Enclosed is an abbreviated copy of the Report of Groundwater Sampling prepared by Emerald, Inc. to obtain current groundwater quality data for the HW Detwiler Company site, as requested by the South Carolina Department of Health and Environmental Control. This report details the work conducted by Emerald, Inc. at the subject site, including analytical results for samples collected surrounding the water supply well on your property at 1021 Gipp Street, Summerton, SC.

We appreciate your cooperation throughout this assessment. If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454 or SCDHEC at 803-898-0589.

Sincerely,

William C. McClary, P.G.
Project Manager

Attachments
Abbreviated Report of Groundwater Sampling for HW Detwiler Company

APPENDIX F

QAPP CONTRACTOR CHECKLIST

South Carolina
Underground Storage Tank Program

HW Detwiler Company
SCDHEC ID #15729
December 17, 2013

Contractor Checklist

For each report submitted to the UST Management Division, the contractor will be required to verify that all data elements for the required scope of work have been provided. For items not required for the scope of work, the N/A box should be checked. For items required and not completed or provided, the No box should be checked and a thorough description of the reason must be provided.

Item #	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?	X		
3	Is name, address, & phone number of current property owner provided?	X		
4	Is the DHEC Certified UST Site Rehabilitation contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed boring/monitoring wells provided?			X
6	Is the name, address, telephone number, and certification number of the certified laboratory(ies) performing analytical analyses provided?	X		
7	Has the facility history been summarized?	X		
8	Has the regional geology and hydrogeology been described?			X
9	Are the receptor survey results provided as required?			X
10	Has current use of the site and adjacent land been described?	X		
11	Has the site-specific geology and hydrogeology been described?			X
12	Has the primary soil type been described?			X
13	Have field screening results been described?			X
14	Has a description of the soil sample collection and preservation been detailed?			X
15	Has the field screening methodology and procedure been detailed?			X
16	Has the monitoring well installation and development dates been provided?			X
17	Has the method of well development been detailed?			X
18	Has justification been provided for the locations of the monitoring wells?			X
19	Have the monitoring wells been labeled in accordance with the UST QAPP guidelines?	X		
20	Has the groundwater sampling methodology been detailed?	X		
21	Have the groundwater sampling dates and groundwater measurements been provided?	X		
22	Has the purging methodology been detailed?	X		
23	Has the volume of water purged from each well provided along with measurements to verify that purging is complete? (Appendix A)	X		
24	If free-product is present, has the thickness been provided?	X		
25	Does the report include a brief discussion of the assessment done and the results?	X		
26	Does the report include a brief discussion of the aquifer evaluation and results?			X
27	Does the report include a brief discussion of the fate & transport models used?			X

Item #	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			X
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			X
30	Have the SSTLs for each compund and pathway been calculated? (Tier 2 Risk Evaluation)			X
31	Have recommendations for further action been provided and explained?	X		
32	Has the soil analytical data for the site been provided in tabular format?			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 1)	X		
34	Has the current and historical laboratory data been provided in tabular format? (Table 2 & 3)	X		
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			X
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			X
37	Has the topographic map been provided with all required elements? (Figure 2)	X		
38	Has the site base map been provided with all required elements? (Figure 3)	X		
39	Have the CoC site maps been provided? (Figure 5)	X		
40	Has the site potentiometric map been provided? (Figure 4)	X		
41	Have the geologic cross-sections been provided?			X
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			X
43	Has the site survey been provided and include all necessary elements? (Appendix D)	X		
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	X		
45	Is the laboratory performing the analyses properly certified?	X		
46	Has the tax map been included with all necessary elements?			X
47	Have the soil boring/field screening logs been provided?			X
48	Have the well completion logs and SCDHEC Form 1903 been provided?			X
49	Have the aquifer evaluation forms, data, graphs, equation, etc. been provided?			X
50	Have the disposal manifests been provided? (Appendix C)	X		
51	Has a copy of the local zoning regulations been provided?			X
52	Has all fate and transport modeling been provided?			X
53	Have copies of all access agreements obtained by the contractor been provided?			X
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided? (Appendix F)	X		

Emerald, Inc.

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SERVICES IN ENVIRONMENTAL AFFAIRS

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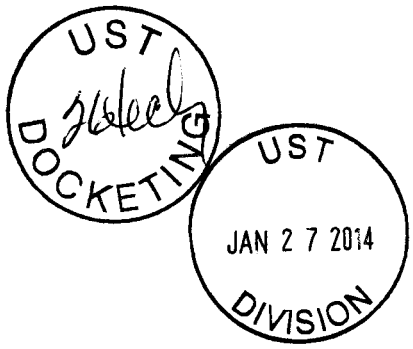
TELEPHONE (803) 469-5454
FAX (803) 469-5465

January 23, 2014

Mr. Shane Shull, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, SC 29201



QAPP Contractor Addendum
H.W. Detwiler Company
37 South Church Street
Summerton, South Carolina
Clarendon County
UST Permit #15729

Mr. Shull,

Please find the attached Site Specific Work Plan, figures, and proposed costs for the limited groundwater sampling event at the subject site. If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454.

Sincerely,

William C. McClary, P.G.
Project Manager

Attachments
Appendix A - Site Specific Work Plan
Appendix B - Figures
Appendix C - Assessment Plan and Cost Agreement

Appendix A

Site Specific Work Plan

D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health and Environmental Control

Site-Specific Work Plan for Approved ACQAP
Underground Storage Tank Management Division

To: Shane S. Shull, Hydrogeologist (SCDHEC Project Manager)

From: William C. McClary, P.G. (Contractor Project Manager)

Contractor: Emerald, Inc. **UST Contractor Certification Number:** 67

Facility Name: H.W. Detwiler **UST Permit #:** 15729

Facility Address: 37 South Church Street, Summerton, SC 29148

Responsible Party: Mr. Harold Detwiler Jr., H.W. Detwiler Company **Phone:** N/A

Responsible Party Address: 31 South Church Street, Summerton, SC 29148

Property Owner (if different): Helen D. Todd

Property Owner Address: 710 Knotty Pine Road, Charleston, SC 29412

Current Use of Property: Office Building

Scope of Work (Please check all that apply)

- ☐ IGWA
- ☐ Tier I
- ☐ Tier II
- ☐ Monitoring Well Installation
- ■ Groundwater Sampling
- ☐ Other:
- ☐ GAC

Analyses (Please check all that apply)

Groundwater/Surface Water:

- ■ BTEXNMDCA (8260B)
- ■ Oxygenates (8260B)
- ■ EDB (8011)
- ☐ PAH (8270D)
- ☐ Lead
- ☐ 8 RCRA Metals
- ☐ TPH
- ☐ pH
- ☐ BOD
- ☐ Nitrate
- ☐ Sulfate
- ☐ Other:
- ☐ Methane
- ☐ Ethanol
- ☐ Dissolved Iron

Soil:

- ☐ BTEXN
- ☐ PAH
- ☐ 8 RCRA Metals
- ☐ Oil & Grease (9071)
- ☐ TPH-DRO (3550B/8015B)
- ☐ TPH-GRO (5030B/8015B)
- ☐ Grain Size
- ☐ TOC

Air:

- ☐ BTEXN

Sample Collection (Estimate the number of samples of each matrix that are expected to be collected.)

	Soil	2	Water Supply Wells		Air	1	Field Blank
2	Monitoring Wells	1	Surface Water	1	Duplicate	1	Trip Blank

Field Screen Methodology

Estimate number and total completed depth for each point, and include their propose locations on the attached map.

# of shallow points proposed: _____ Estimated Footage: _____ feet per point

# of deep points proposed: _____ Estimated Footage: _____ feet per point

Field Screening Methodology: _____

Permanent Monitoring Wells

Estimate number and total completed depth for each well, and include their propose locations on the attached map.

# of shallow wells: _____ Estimated Footage: _____ feet per point

# of deep wells: _____ Estimated Footage: _____ feet per point

# of recovery wells: _____ Estimated Footage: _____ feet per point

Monitoring Well development method(consistent with SOP): _____

Comments, if warranted: _____

UST Permit #: 15729 **Facility Name:** H.W. Detwiler

Implementation Schedule (Number of calendar days from approval)

Field Work Start-Up: 2/3/2014 Field Work Completion: 2/3/2014

Report Submittal: 2/12/2014 # of Copies Provided to Property Owners: 1

Aquifer Characterization

Pump Test: ☐ Slug Test: ☐ (Check one and provide explanation below for choice)

Investigation Derived Waste Disposal

Soil: _____ Tons Purge Water: 50 Gallons

Drilling Fluids: _____ Gallons Free Phase Product: _____ Gallons

Additional Details For This Scope of Work

For example, list wells to be sampled, wells to be abandoned/repaired, well pads/bolts/caps to replace, details of AFVR event, etc.

As requested by SCDHEC, Emerald, Inc. will collect samples from 2 monitoring wells (MW-32 and MW-35i) at the subject site. In addition, two active water supply wells (WSW-3 and WSW-4) and one surface water (PS-1) previously identified at the subject site are proposed to be sampled during this event. These samples are being collected to provide current groundwater quality data for the site.

Compliance With Annual Contractor Assurance Plan (ACQAP)

Yes Laboratory as indicated in ACQAP (Yes/No) If no, indicate laboratory information below.

Name of Laboratory: _____

SCDHEC Certification number: _____

Name of Laboratory Director: _____

N/A Well Driller as indicated in ACQAP (Yes/No) If no, indicate driller information below.

Name of Well Driller: _____

SCLLR Certification number: _____

_____ Other Variations from ACQAP. Please describe below.

Attachments

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:

North Arrow	Proposed monitoring well locations
Location of property lines	Legend with facility name and address, UST permit number, and bar scale
Location of buildings	Streets or highways (indicate names and numbers)
Previous soil sampling locations	Location of all present and former ASTs and USTs
Previous monitoring well locations	Location of all potential receptors
Proposed soil boring locations	

3. Assessment Componant Cost Agreement, SCDHEC Form D-3664

Appendix B

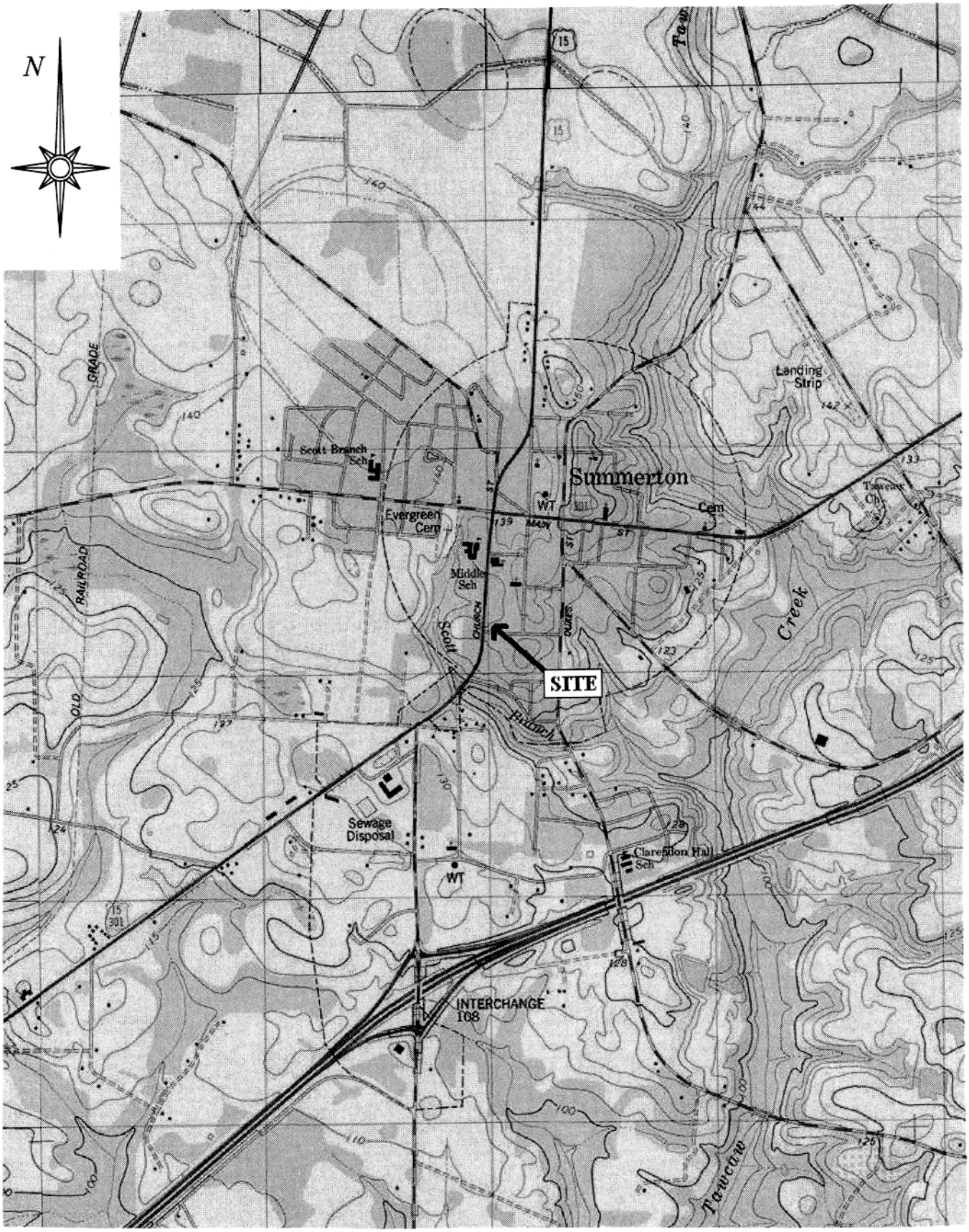
Figures

FIGURE 1
H.W. DETWILER CO.
37 S. CHURCH STREET
SUMMERTON, SOUTH CAROLINA
GENERAL LOCATION MAP

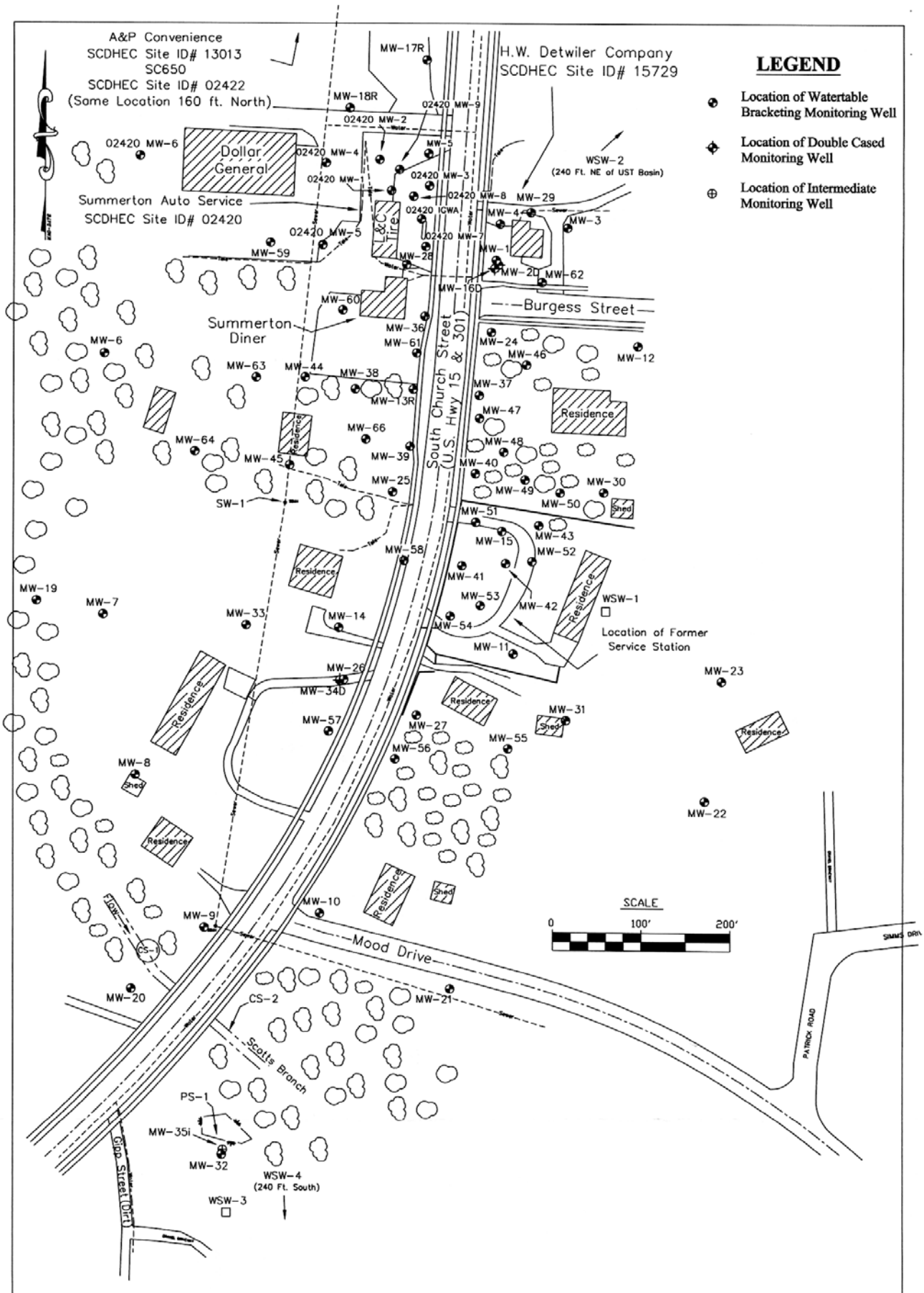
Data use subject to license.
© 2007 DeLorme. Street Atlas USA® 2008.
www.delorme.com

TN
MN (7.5°W)

Scale 1 : 8,000
1" = 666.7 ft
Data Zoom 14-6



H.W. Detwiler Company 37 South Church Street Summerton, SC SCDHEC Site ID# 15729	Figure 2 USGS Topographic Map 7.5 Minute Map 'Summerton, SC' Quadrangle Scale 1 to 2,000	EMERALD, INC. Sumter, SC



PROJECT:	SHEET TITLE:	DATE:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 SITE MAP	1/23/14	SUMTER, SOUTH CAROLINA

Appendix C

Assessment Plan and Proposed Cost Agreement

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

ASSESSMENT COMPONENT INVOICE

SOUTH CAROLINA

Department of Health and Environmental Control (DHEC)

Underground Storage Tank Program

ASSESSMENT COMPONENT INVOICE

UST PERMIT # 15729 COUNTY Clarendon

FACILITY NAME H.W. Detwiler Company

STREET ADDRESS 37 South Church Street, Summerton, SC

INVOICE # **PO #** **COST AGREEMENT #**

For work performed during (specify time period) to

I certify, under penalty of law, that I have personally examined and am familiar with the information submitted in this and all attached documents; and that based on my inquiry of those individuals responsible obtaining this information, and any other information I may be aware of, I believe that the submitted information is true, accurate, and complete. I further agree, in accordance with any DHEC demand letter, to promptly repay any overpayment received.

Please fill out **BOTH the Contractor and Responsible Party Sections (original signatures). Also indicate the Payee by placing a check in the box next to the Contractor or Responsible Party.**

Payee

[X] CONTRACTOR

Ronny Lowder			57-0910049
Name (Type or Print)			Federal Tax ID or Social Security Number
Emerald, Inc.			803-469-5454
Company			Telephone Number
PO Box 3050	Sumter	SC	29151
Address	City	State	Zip Code

Signature (please use non-black ink) Title Date Signed

Payee

[ ] OWNER OR OPERATOR/RESPONSIBLE PARTY **Please attach copies of Cancelled Checks (front &back)**

Harold W. Detwiler Jr.			
Name (type or Print)			Federal Tax ID or Social Security Number
Company			Telephone Number
31 South Church Street	Summerton	SC	29148
Address	City	State	Zip Code

Signature (please use non-black ink) Title Date Signed

If payment is to be sent to an address other than above, please indicate below:

Name of Individual or Company (please print) Federal Tax ID or Social Security Number

Address (please print) City State Zip Code

INVOICE AMOUNT:	$2,400.20
LESS SUBMITTED/PAID WELL DRILLING COSTS:	
AMOUNT REQUESTED:	$2,400.20

SCDHEC USE ONLY

$

Amount Requested is for Assessment activities as Defined in the SCDHEC Letter.

INVOICE **INVOICE** **INVOICE** **INVOICE**

DHEC 3664 (rev 05/01)

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

ASSESSMENT COMPONENT INVOICE

SOUTH CAROLINA

Department of Health and Environmental Control

Underground Storage Tank Management Division

State Underground Petroleum Environmental Response Bank Account

Facility Name: H.W. Detwiler Company

UST Permit #: 15729 **Cost Agreement #:**

ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL
1. Plan*					
A1. Site-Specific Work Plan	1	x	$150.00		$150.00
B1. Tax Map		x	$70.00		$0.00
C1. Tier II or Comp. Plan /QAPP Appendix B		x	$250.00		$0.00
2. A1. Receptor Survey *		x	$551.00		$0.00
3. Survey (500 x 500 feet)					
A1. Comprehensive Survey		x	$1,040.00		$0.00
B. Subsurface Geophysical Survey					
1B. < 10 meters below grade		x	$1,300.00		$0.00
2B. > 10 meters below grade		x	$2,310.00		$0.00
C. Geophysical UST or Drum Survey		x	$910.00		$0.00
4. Mob/Demob (Each)					
A1. Equipment		x	$1,020.00		$0.00
B1. Personnel	1	x	$423.00		$423.00
C1. Adverse Terrain Vehicle to install wells		x	$500.00		$0.00
5. A1. Soil Borings (hand auger)* (Feet)		feet x	$5.00		$0.00
6. Soil Borings (requiring equipment, push technology, etc.)*					
or Field Screening (including water sample, soil sample, soil gas sample, etc.)*					
A1. Standard		feet x	$7.40		$0.00
C1. Fractured Rock		feet x	$20.20		$0.00
7. A1. Soil Leachability Model (Each)		each x	$60.00		$0.00
8. Abandonment* (per foot)					
A1. 2" diameter or less		feet x	$3.10		$0.00
B1. Greater than 2" to 6" diameter		feet x	$4.50		$0.00
C1. Dug/Bored well (up to 6 foot diameter)		feet x	$15.00		$0.00
9. Well Installation* (per foot)					
A1. Water Table (hand augered)		feet x	$10.60		$0.00
B1. Water Table (drill rig)		feet x	$38.00		$0.00
C1. Telescoping/ Pit Cased		feet x	$31.80		$0.00
D1. Rock Drilling		feet x	$26.80		$0.00
E1. 2" Rock Coring		feet x	$30.90		$0.00
G1. Multi-sampling ports/screens		feet x	$33.40		$0.00
H1. Recovery Well (4 inch diameter)		feet x	$30.00		$0.00
I1. Pre-packed screen (1.25 inch diameter)		feet x	$15.00		$0.00
J1. Rotosonic (2 inch diameter)		feet x	$44.00		$0.00
K. Re-develop existing well		feet x	$11.00		$0.00
10. Sample Collection / Gauge Depth to Water or Product (Each)					
A. Groundwater (Purge)	2	wells x	$60.00		$120.00
B1. Air or Vapors		receptor x	$12.00		$0.00
C1. Water Supply	3	receptor x	$22.00		$66.00
D1. Groundwater (No Purge or Duplicate)	1	receptor x	$28.00		$28.00
E1. Gauge Well Only		per well x	$7.00		$0.00
F1. Sample Below Product		per well x	$12.00		$0.00
G1. Passive Diffusion Bag		each x	$26.00		$0.00
H1. Field Blank	1	each x	$24.60		$24.60
11. Laboratory Analyses-Groundwater (Each Sample)					
A2. BTEXNM+ Oxyg's+ 1,2-DCA + Eth (8260B)	8	samples x	$122.00		$976.00
AA1. Filtered Lead		samples x	$13.80		$0.00
B2. 8260B RUSH (All of item A2)		samples x	$153.60		$0.00
C2. Trimethyl, Butyl, and Isopropyl Benzenes		samples x	$36.40		$0.00
D1. PAHs		samples x	$60.60		$0.00
E1. Lead		samples x	$16.00		$0.00
F1. EDB by 8011	7	samples x	$45.20		$316.40
FF1. EDB by 8011 Rush		samples x	$68.20		$0.00
G1. 8 RCRA Metals		samples x	$63.40		$0.00
H1. TPH (9070)		samples x	$41.00		$0.00
I1. pH		samples x	$5.20		$0.00
J1. BOD		samples x	$20.00		$0.00
PP. Ethanol		samples x	$14.80		$0.00

11. Analyses-Soil (Each Sample)					
Q1. BTEX + Naphth.		samples x	$64.00		$0.00
R1. PAHs		samples x	$64.04		$0.00
S1. 8 RCRA Metals		samples x	$56.40		$0.00
U1. TPH-DRO (3550C/8015C)		samples x	$40.00		$0.00
V1. TPH- GRO (5035B/8015C)		samples x	$35.96		$0.00
W1. Grain size/hydrometer		samples x	$104.00		$0.00
X1. Total Organic Carbon		samples x	$30.60		$0.00
11. Analyses-Air (Each Sample)					
Y1. BTEX + Naphthalene		samples x	$216.00		$0.00
11. Analyses-Free Phase Product (Each Sample)					
Z1. Hydrocarbon Fuel Identification		samples x	$357.00		$0.00
12. Aquifer Characterization*					
A1. Pumping Test		hours x	$23.00		$0.00
B1. Slug Test*		tests x	$191.00		$0.00
C1. Fractured Rock		tests x	$100.00		$0.00
13. Free Product Recovery Rate Test* (Each)		tests x	$38.00		$0.00
14. Fate/Transport Modeling					
A1. Mathematical Model		each x	$100.00		$0.00
B1. Computer Model		each x	$100.00		$0.00
15. Risk Evaluation					
A. Tier I Risk Evaluation		x	$300.00		$0.00
B1. Tier II Risk Evaluation		x	$100.00		$0.00
16. A1. Subsequent Survey*		x	$260.00		$0.00
17. Disposal* (gallons or tons)					
AA. Wastewater	50	gallons x	$0.56		$28.00
BB. Free Product		gallons x	$0.50		$0.00
C1. Soil Treatment/Disposal		tons x	$60.00		$0.00
D1. Drilling fluids		gallons x	$0.42		$0.00
18. Miscellaneous (attach receipts)					
		x			$0.00
		x			$0.00
		x			$0.00
19. Report Prep & Project Coordination	10%	x	$2,182.00		$218.20
20. Tier I Assessment (Use DHEC 3665 form)		x			$0.00
21. IGWA (Use DHEC 3666 form)		x			$0.00
22. Corrective Action (Use DHEC 3667 form)		x			$0.00
23. Aggressive Fluid & Vapor Recovery (AFVR)					
A1. 8-hour Event*		per event x	$1,375.00		$0.00
A2. 24-hour Event*		per event x	$3,515.00		$0.00
A3. 48-hour Event*		per event x	$6,265.00		$0.00
A4. 96-hour Event*		per event x	$12,567.50		$0.00
C1. Off-gas Treatment 8-hour		per event x	$122.50		$0.00
C2. Off-gas Treatment 24-hour		per event x	$241.50		$0.00
C3. Off-gas Treatment 48-hour		per event x	$327.00		$0.00
C4. Off-gas Treatment 96-hour		per event x	$780.00		$0.00
D1. AFVR Site Reconnaissance		each x	$203.25		$0.00
E1. Additional Hook-ups		each x	$25.75		$0.00
F. AFVR Effluent Disposal		gallon x	$0.30		$0.00
G. AFVR Mobilization/Demobilization		each x	$391.50		$0.00
24. Granulated Activated Carbon (GAC) filter system installation & service:					
A1. New GAC System Installation*		each x	$1,900.00		$0.00
BB. Refurbished GAC System Installation*		each x	$900.00		$0.00
C1. Filter replacement/removal*		each x	$350.00		$0.00
DD. GAC System removal, cleaning, & refurbishment*		each x	$275.00		$0.00
E1. GAC System housing		each x	$250.00		$0.00
F. In-line particulate filter		each x	$150.00		$0.00
G1. Additional piping & fittings		feet x	$1.50		$0.00
25. Well Repair					
A1. Additional Copies of the Report Delivered	1	each x	$50.00		$50.00
B1. Repair 2x2 MW pad		each x	$50.00		$0.00
C1. Repair 4x4 MW pad		each x	$88.00		$0.00
D1. Repair well vault		each x	$118.00		$0.00
F1. Replace well cover bolts		each x	$2.60		$0.00
G. Replace locking well cap & lock		each x	$15.00		$0.00
H1. Replace/Repair stick-up		each x	$134.00		$0.00
I1. Convert Flush-mount to Stick-up		each x	$150.00		$0.00
J1. Convert Stick-up to Flush-mount		each x	$130.00		$0.00
K1. Replace missing/illegible well ID plate		each x	$12.00		$0.00
TOTAL					$2,400.20

*The appropriate mobilization cost can be added to complete these tasks, as necessary

D H E C

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Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

MR HAROLD W DETWILER JR
31 SOUTH CHURCH STREET
SUMMERTON SC 29148-0769

FEB 0 4 2014

Re: **Groundwater Sampling Directive**
HW Detwiler Company
37 South Church St., Summerton, SC 29148
UST Permit 15729; CA No. 47471
Release Reported June 22, 1993 (UST Permit 15729)
Site Specific Work Plan (SSWP) Received January 27, 2014
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Management Division (Division) of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced SSWP submitted on your behalf by Emerald, Inc. In order to evaluate current conditions on these sites, sampling of the monitoring wells is necessary. All work should be conducted in accordance with the UST Quality Assurance Program Plan (QAPP) Revision 2.0 and must be conducted in compliance with all applicable regulations. A copy of the Agency's Quality Assurance Program Plan, Rev. 2.0, for the UST Management Division is available at http://www.scdhec.gov/environment/lwm/usthome/Qapp.htm.

Groundwater sampling is currently scheduled for Tuesday, January 4, 2014. Cost agreement number 47471 has been approved for the amount shown on the enclosed cost agreement form. Costs have been approved for sampling of MW-32, MW-35i, WSW-3, WSW-4 and PS-1. Samples should be analyzed for BTEX, Naphthalene, Oxygenates, 1,2 DCA, Ethanol, MTBE and EDB. Analyses should be in accordance with Appendix E of the QAPP Rev. 2.0 and to include duplicate samples, field and trip blanks.

The Monitoring Report and invoices are due within 60 days from the date of this letter. The report submitted at the completion of these activities should include the required information outlined in the QAPP. Please note that all applicable South Carolina certification requirements apply to the services and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

Emerald, Inc., can submit an invoice for direct payment from State Underground Petroleum Environmental Response Bank (SUPERB) Account for pre-approved costs. By law, the SUPERB Account cannot compensate any costs that are not pre-approved. Please note that applicable South Carolina certification requirements regarding the services and report preparation must be satisfied. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

Please note that Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the Agency is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be pre-approved by the Agency for the cost to be paid. The Agency reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, the Agency reserves the right to question and/or reject costs if deemed unreasonable and the right to audit project records at any time during the project or after completion of work.

Please note, if unnecessary dilutions are completed resulting in reporting limits of individual Chemicals of Concern (CoC) in excess of Risk-Based Screening Levels (RBSLs), the data cannot be used. In those cases, the Division may deny payment for any non-detect analysis where the reporting limit exceeds the RBSL. The UST Management Division encourages the use of 'J' values as necessary so the appropriate action can be determined for a release.

The Agency grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. The transport and disposal must be conducted in accordance with the QAPP. If the CoC concentrations based on laboratory analysis are below RBSLs, please contact the project manager for approval to dispose of soil and/or groundwater on site. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

On all correspondence regarding this site, please reference UST Permit number 15729 and CA 47471. If you have any questions regarding this correspondence, please contact me by telephone at (803) 898-0607, by fax at (803) 898-0673, or by e-mail at ShullSS@dhec.sc.gov.

Sincerely,

Shane S. Shull, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement

cc: Emerald, Inc., P.O. Box 3050, Sumter, SC 29151-3050 (w/enc)
Technical File (w/enc)

Approved Cost Agreement 47471

Facility: 15729 H W DETWILER CO
SHULLSS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
01 PLAN						
		A1	SITE SPECIFIC WORK PLAN	1.0000	150.00	150.00
04 MOB/DEMOB						
		B1	PERSONNEL	1.0000	423.00	423.00
10 SAMPLE COLLECTION						
		A1	GROUNDWATER (PURGE)	2.0000	60.00	120.00
		C1	WATER SUPPLY	3.0000	22.00	66.00
		D1	GROUNDWATER NO PURGE/DUPLICATE	1.0000	28.00	28.00
		H1	FIELD BLANK	1.0000	24.60	24.60
11 ANALYSES	GW GROUNDWATER					
		A2	BTEXNM+OXYGS+1,2-DCA+ETH-8260B	8.0000	122.00	976.00
		F1	EDB BY 8011	7.0000	45.20	316.40
17 DISPOSAL						
		AA	WASTEWATER	50.0000	0.56	28.00
19 RPT/PROJECT MNGT & COORDINATIO						
		PERC	REPORT PREPARATION	0.1000	2,182.00	218.20
25 WELL REPAIR						
		A1	ADDITIONAL COPIES OF REPORT	1.0000	50.00	50.00
				Total Amount		2,400.20

D H E C
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Site-Specific Work Plan for Approved ACQAP
Underground Storage Tank Management Division

To: Shane S. Shull (SCDHEC Project Manager)
From: Shane S. Shull (Contractor Project Manager)
Contractor: SCDHEC - UST Division UST Contractor Certification Number: UCC-0116

Facility Name: H W Detwiler Co. UST Permit #: 15729
Facility Address: 37 S. Church Street
Responsible Party: Harold W. Detwiler Phone: (803)485-3192
RP Address: 31 S. Church Street, Summerton, SC 29148-0769
Property Owner (if different):
Property Owner Address: RP
Current Use of Property: Retail

Scope of Work (Please check all that apply)

☐ IGWA ☐ Tier II ☐ Groundwater Sampling ☐ GAC
☐ Tier I ☐ Monitoring Well Installation ☑ Other Creek Sampling

Analyses (Please check all that apply)

Groundwater/Surface Water:

☑ BTEXNMDCA (8260B) ☐ Lead ☐ BOD ☐ Methane
☑ Oxygenates (8260B) ☐ 8 RCRA Metals ☐ Nitrate ☐ Ethanol
☑ EDB (8011) ☐ TPH ☐ Sulfate ☐ Dissolved Iron
☐ PAH (8270D) ☐ pH ☐ Other

Soil:

☐ BTEXN ☐ 8 RCRA Metals ☐ TPH-DRO (3550B/8015B) ☐ Grain Size
☐ PAH ☐ Oil & Grease (9071) ☐ TPH-GRO (5030B/8015B) ☐ TOC

Air:

☐ BTEXN

Sample Collection (Estimate the number of samples of each matrix that are expected to be collected.)

____ Soil ____ Water Supply Wells ____ Air 1 Field Blank
____ Monitoring Wells 3 Surface Water 1 Duplicate 1 Trip Blank

Field Screening Methodology

Estimate number and total completed depth for each point, and include their proposed locations on the attached map.

# of shallow points proposed: ____ Estimated Footage: ____ feet per point
# of deep points proposed: ____ Estimated Footage: ____ feet per point
Field Screening Methodology:

Permanent Monitoring Wells

Estimate number and total completed depth for each well, and include their proposed locations on the attached map.

# of shallow wells: ____ Estimated Footage: ____ feet per point
# of deep wells: ____ Estimated Footage: ____ feet per point
# of recovery wells: ____ Estimated Footage: ____ feet per point
Monitoring Well development method (consistent with SOP):
Comments, if warranted:

UST DOCKETING 28 Feb

UST Permit #: 15729 Facility Name: H W Detwiler Co.

Implementation Schedule (Number of calendar days from approval)
Field Work Start-Up: 7 Field Work Completion: 7
Report Submittal: ~20 # of Copies Provided to Property Owners: 1

Aquifer Characterization
Pump Test: ☐ Slug Test: ☐ (Check one and provide explanation below for choice)

Investigation Derived Waste Disposal
Soil: _____ Tons Purge Water: _____ Gallons
Drilling Fluids: _____ Gallons Free-Phase Product: _____ Gallons

Additional Details For This Scope of Work
For example, list wells to be sampled, wells to be abandoned/repaired, well pads/bolts/caps to replace, details of AFVR event, etc.
3 surface water samples will be collected by SCDHEC personnel from map locations CS-2, CS-3 and a new location SE of CS-3.

Shealy CA # 47601

Compliance With Annual Contractor Quality Assurance Plan (ACQAP)
____ Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.
Name of Laboratory: _____
SCDHEC Certification Number: _____
Name of Laboratory Director: _____

____ Well Driller as indicated in ACQAO? (Yes/No) If no, indicate driller information below.
Name of Well Driller: _____
SCLLR Certification Number: _____

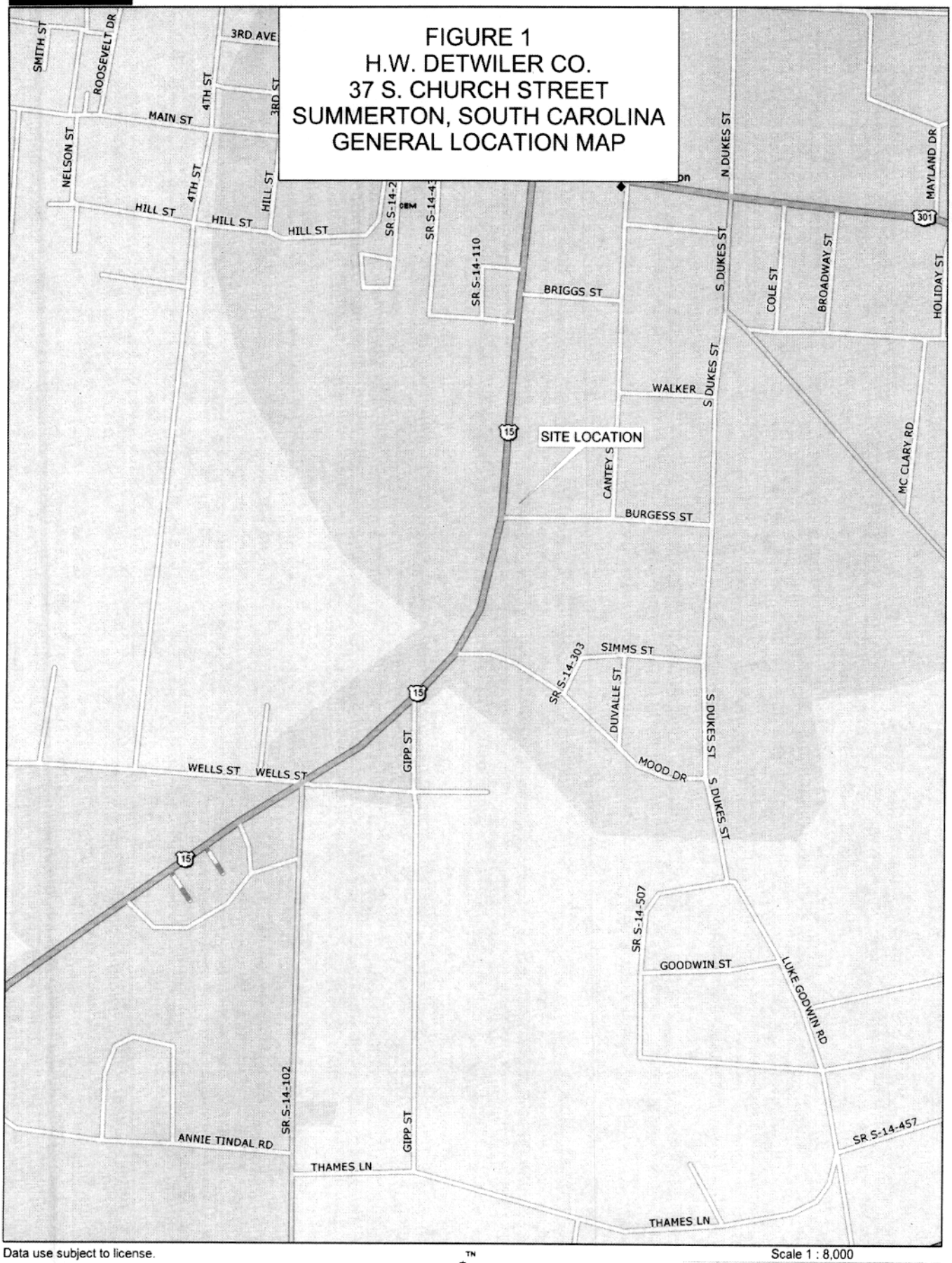
____ Other variations from ACQAP. Please describe below.

Attachments
1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:
   - North Arrow
   - Location of property lines
   - Location of buildings
   - Previous soil sampling locations
   - Previous monitoring well locations
   - Proposed soil boring locations
   - Proposed monitoring well locations
   - Legend with facility name and address, UST permit number, and bar scale
   - Streets or highways (indicate names and numbers)
   - Location of all present and former ASTs and USTs
   - Location of all potential receptors
3. Assessment Component Cost Agreement, SCDHEC Form D-3664

DeLORME

Street Atlas USA® 2008

FIGURE 1
H.W. DETWILER CO.
37 S. CHURCH STREET
SUMMERTON, SOUTH CAROLINA
GENERAL LOCATION MAP



Data use subject to license.

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www.delorme.com

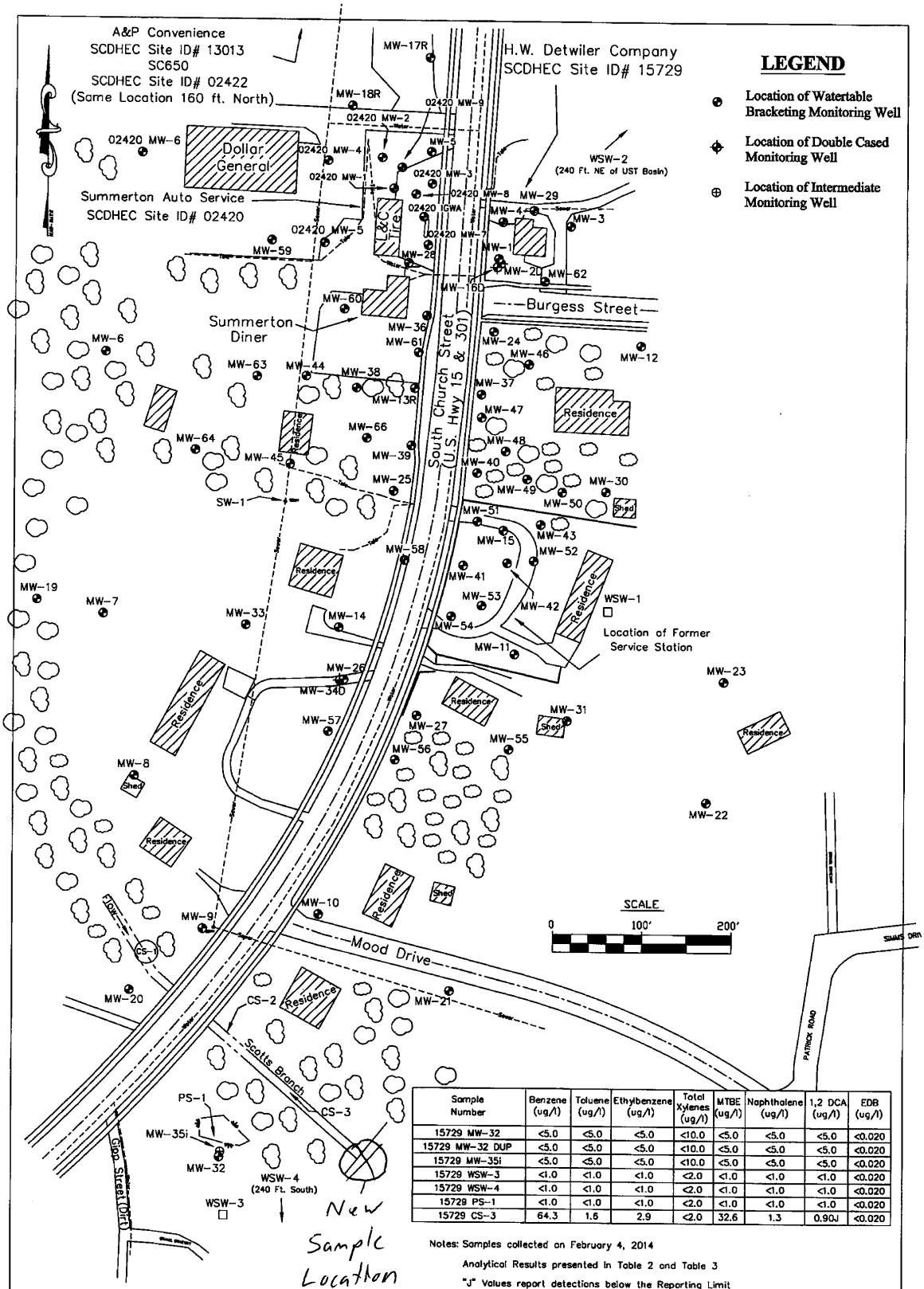
TN

MN (7.5°W)

Scale 1 : 8,000

1" = 666.7 ft

Data Zoom 14-6



Sample Number	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)
15729 MW-32	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-32 DUP	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-35i	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 WSW-3	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 WSW-4	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 PS-1	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 CS-3	64.3	1.6	2.9	<2.0	32.6	1.3	0.90J	<0.020

Notes: Samples collected on February 4, 2014

Analytical Results presented in Table 2 and Table 3

"J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

PROJECT:	SHEET TITLE:	DATE:	
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 4 GROUNDWATER CoC MAP	2/20/14	EMERALD, INC. SUMTER, SOUTH CAROLINA

D H E C

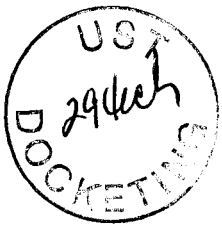
PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

KELLY MABERRY
SHEALY ENVIRONMENTAL
106 VANTAGE POINT DR
WEST COLUMBIA SC 29172

MAR 0 3 2014



Re: Laboratory Analyses Approval
Bid # IFB-5400003038-06/02/11-EMW; PO#4600107190

Dear Ms. Maberry:

Under the terms and conditions of the referenced bid package, analytical sampling has been approved for the referenced facility. The facility has been assigned an individual Cost Agreement (CA) number as listed below. Please reference the CA number and Purchase Order #4600107190 on the appropriate invoice submitted for payment against the facility.

UST Permit #	Facility	Analyses-Groundwater	CA #
15729	H W Detwiler Co	6-BTEXMN, DCA, Oxygenates, & EDB	47601

If you have any questions or need further assistance, please contact me at (803) 898-0631 or thomadl@dhec.sc.gov.

Sincerely,

Debra L. Thoma

Debra L. Thoma, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land & Waste Management

Enc: Approved Cost Agreement

cc: Technical File

Approved Cost Agreement 47601

Facility: 15729 H W DETWILER CO

SHULLSS

PO Number:

Task / Description	Categories	Item Description	Qty / Pct	Unit Price	Amount
11 ANALYSES					
	GW GROUNDWATER	A1 BTEXNM+OXYGS+1,2-DCA+ETH-8260B	6.0000	35.00	210.00
		B RUSH BTEX+NAPTH+MTBE	1.0000	310.00	310.00
		F EDB	5.0000	20.00	100.00
			Total Amount		620.00

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

UST DOCKET 3tech

HAROLD W DETWILER JR
HW DETWILER CO
PO BOX 769
SUMMERTON SC 29706-9061

AUG 31 2010

Re: Aggressive Fluid Vapor Recovery and Assessment Directive
H W Detwiler Co., 37 S. Church St., Summerton, SC
UST Permit # 15729; CA #39530; MWA UMW-23790
Release reported June 22, 1993
Monitoring Report July 15, 2010
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (SCDHEC) recognizes your commitment to continue work at this site using your own contractor.

Assessment activities at the site should begin immediately upon receipt of this letter. Monitoring wells should be installed in the locations as indicated on the enclosed map. The required monitoring well approval is enclosed. Please contact the Division prior to well installation for concurrence regarding the final well locations. A site map with proposed well locations is enclosed. The assessment should be conducted in accordance with the Tier II Assessment guidance document and must be conducted in compliance with all applicable regulations. All shallow wells are to be installed with screen intervals that bracket the water table. Assessment activities should include an Aggressive Fluid/Vapor Recovery (AFVR) event to remove free phase product from MW-1.

Approximately one month after completion of the AFVR event, a comprehensive groundwater sampling event should be completed to obtain current data. Samples from all monitoring wells associated with the release and all water supply wells located within 1000' should be collected and analyzed for BTEX, naphthalene, 1,2-DCA, MtBE by EPA method 8260B, and EDB by EPA Method 8011. Monitoring well MW-15 should be sampled for filtered and unfiltered lead. The groundwater samples should be analyzed in accordance with *Analytical Methodology* dated August 24, 2005. A copy of this publication is available on line at http://www.scdhec.gov/eqc/lwm/ forms/analmetpdf. Purging will not be required for monitoring wells where the water table is bracketed by the screen.

The assessment report and invoice are due within ninety (90) days from the date of this letter. Please have your contractor submit the sampling results to the Department in an assessment report containing the following:

- A narrative portion documenting current site conditions and noting the names of field personnel, date, time, ambient air temperature, and general weather conditions during the sampling event. The report shall also contain well purging data, pH, specific conductivity, dissolved oxygen, water temperature, PID readings (where applicable) and turbidity comments.
- Boring logs and well logs (DHEC form 1903) signed by a well driller licensed in the state of South Carolina for each new temporary or permanent monitoring well **in accordance with the South Carolina Well Standards, R.61-71**. 1903 forms are required for field screening borings (whether direct push or drilled) where a sample is extracted for analysis.

- A CoC map based on current groundwater laboratory analytical data. The groundwater data should be
- adjacent to the relevant monitoring well location.
- Groundwater elevations, depth to groundwater, measurable free product thickness (where applicable), total well depth and screened interval for all monitoring wells associated with the site, unless otherwise directed by the Division, shall be presented in tabular form. Historical groundwater laboratory analytical data and depth to groundwater , and product if applicable, for this and all previous monitoring events for all monitoring wells shall be presented in tabular format.
- A groundwater elevation contour map of the site based on current groundwater potentiometric data. A second contour map will be necessary if three or more deep wells are installed.
- Manifests for any contaminated soil and/or groundwater removed from the site for treatment and/or disposal.
- Signature and seal by a professional geologist or engineer registered in the State of South Carolina.
- The DHEC site rehabilitation contractor certification number must be included with the signatures as part of the report.

Applicable South Carolina certification requirements apply to the laboratory services, well installation, and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

Also, note that Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the Department is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated costs must be pre-approved by the Department for the costs to be paid. The SCDHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, SCDHEC reserves the right to question and/or reject costs if deemed unreasonable and to audit project records at any time during the project or after completion of work.

The Department grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. IDW should not be stored on-site longer than ninety (90) days. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the report. If the COC concentrations, based on laboratory analysis, are below Risk Based Screening Levels (RBSLs), please contact the project manager for approval to dispose of soil and/or groundwater on site. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

On all correspondence concerning this site, please reference UST Permit # 15729. If there are any questions concerning this project, please contact me at (803) 896-6395. I can also be reached by email at johnsoms@dhec.sc.gov or by fax at (803) 896-6245.

Sincerely,

Minda Johnson, Hydrogeologist
Assessment Section, UST Management Division
Bureau of Land and Waste Management

enc: Site Map
Approved Cost Agreement

cc: Emerald, Inc., 214 W Liberty St., Sumter, SC 29150 (w/CA)
Technical file (w/CA)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

Monitoring Well Approval

Approval is hereby granted to: **Harold W. Detwiler, Jr.**
Facility: **H. W. Detwiler Co.**
37 S. Church Street
Summerton, SC
UST Permit Number: **15729**
County: **Clarendon**

This approval is for the installation of thirteen shallow and 1 telescoping permanent groundwater monitoring wells. The monitoring wells are to be installed in the approved locations. Monitoring wells are to be installed following the South Carolina Well Standards, R.61-71, and the applicable guidance documents. **Notification should be provided to the Project Manager two business days prior to installation.**

Please note that R.61-71 requires the following:

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.
2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.
3. A Water Well Record Form or other form provided or approved by the Department shall be completed and submitted to the Department within 30 days after well completion or abandonment unless another schedule has been approved by the Department. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f
4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Department within 30 days of receipt of laboratory results unless another schedule has been approved by the Department as required by R.61-71.H.1.d.
5. If any of the information provided to the Department changes, notification to Minda Johnson the project manager (tel: (803) 896-6395 or e-mail: johnsoms@scdhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.
6. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.
7. Departmental approval is required prior to abandonment of all monitoring wells as required by R.61-71.H.1.a.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and R.61-71 of the South Carolina Well Standards and Regulations, dated April 26, 2002. A copy of this approval should be on the site during well installation.

Date of Issuance: August 19, 2010 **Approval #:UMW-23790**

Minda Johnson, Hydrogeologist
Assessment Section
UST Management Division
Bureau of Land and Waste Management

Approved Cost Agreement 39530

Facility: 15729 H W DETWILER CO
JOHNSOMS
PO Number:

Task / Description	Categories	Item Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB					
		A EQUIPMENT	2.0000	575.00	1,150.00
		B PERSONNEL	4.0000	290.00	1,160.00
09 WELL INSTALLATION					
		B WATER TABLE (DRILLED)	245.0000	38.00	9,310.00
		C TELESCOPING	50.0000	58.00	2,900.00
10 SAMPLE COLLECTION					
		A GROUND WATER	16.0000	55.00	880.00
		C WATER SUPPLY	2.0000	25.00	50.00
		D GROUNDWATER NO-PURGE	17.0000	35.00	595.00
11 ANALYSES					
	GW GROUNDWATER	A BTEX+NAPTH+MTBE	35.0000	100.00	3,500.00
		AA FILTERED LEAD	1.0000	46.00	46.00
		BB 1,2-DCA	35.0000	10.75	376.25
		E LEAD	35.0000	20.00	700.00
		F EDB	35.0000	55.00	1,925.00
16 SUBSEQUENT SURVEY					
		SUBSEQUENT SURVEY	1.0000	260.00	260.00
17 DISPOSAL					
		A1 WASTEWATER - PURGING/SAMPLING	11.0000	90.00	990.00
		A2 WASTEWATER - PUMPING TEST	1,000.0000	0.60	600.00
		C SOIL (TREATMENT/DISPOSAL)	10.0000	50.00	500.00
19 RPT/PROJECT MNGT & COORDINATIO					
		PCT PERCENT	0.1500	27,942.25	4,191.34
23 EFR					
		A 8 HOUR EVENT	1.0000	3,000.00	3,000.00
			Total Amount		32,133.59

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

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UST
MAR 0 6 2014
PROGRAM

March 3, 2014

UST
30 tech
DOCKETING

Shane S. Shull, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management
SCDHEC
2600 Bull Street
Columbia, S.C. 29201

Re: H.W. Detwiler Co., 37 S. Church St., Summerton, SC 29148
UST Permit #15729; CA #47471
Release Reported June 22, 1993
Report of Limited Groundwater Sampling (February 25, 2014)
Clarendon County

Dear Mr. Shull:

On behalf of Mr. Harold Detwiler, Emerald, Inc. is providing you with one copy of the completed Report of Limited Groundwater Sampling for the Detwiler site. As the report states, we collected samples from two monitoring wells, two water supply wells and two surface water bodies. One surface water sample (CS-3) had detectable concentrations of chemicals of concern. We have made recommendations to address this and other site issues in Section 3.0 of the report.

If you have any questions regarding the report and its findings, please contact either Chad McClary or myself at (803) 469-5454.

Yours very truly,
Emerald, Inc.

Ronny L. Lowder
President

RLL/jrb

Enclosure

cc: Mr. Harold W. Detwiler, Jr.

Emerald, Inc.

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REPORT OF LIMITED GROUNDWATER SAMPLING
HW DETWILER COMPANY
37 SOUTH CHURCH STREET
SUMMERTON, SOUTH CAROLINA
UST PERMIT #15729
COST AGREEMENT #47471

Prepared For:

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

Prepared By:

Emerald, Inc.
UST Site Rehabilitation Contractor #67
P.O. Box 3050
2520 Tahoe Drive
Sumter, South Carolina 29151

February 25, 2014

Signature Page

This document entitled "Report of Limited Groundwater Sampling", has been prepared for the South Carolina Department of Health and Environmental Control to describe investigative activities initiated at the HW Detwiler Company site located in Summerton, South Carolina. It has been prepared under the direct supervision of William C. McClary, P.G. in accordance with the UST Quality Assurance Division Plan and approved Site Specific Work Plan dated January 23, 2014. All questions or comments concerning this report should be directed to Ronny L. Lowder or William C. McClary, P.G., Emerald, Inc., at 803-469-5454.

Emerald, Inc.

Ronny L. Lowder
President

Emerald, Inc.

William C. McClary, P.G.
South Carolina Registration #2386

Report of Limited Groundwater Sampling
HW Detwiler Company
37 South Church Street
Summerton, South Carolina

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C) Disposal Manifests
D) Surrounding Property Owner Notifications
E) QAPP Contractor's Checklist

1.0 Introduction

The HW Detwiler Company (UST Permit #15729) site is located at 37 South Church Street in Summerton, Clarendon County, SC. Figure 1 contains a general location map showing surrounding roadways, and Figure 2 contains a topographic map for the area. The subject site is currently used as an office building. According to Clarendon County tax records, the site is currently owned by Helen D. Todd (710 Knotty Pine Road, Charleston, SC 29412). Formerly, the site was used by a construction company which stored gasoline in two underground storage tanks (USTs) for its fleet of vehicles. The two USTs, 1,000 gallons each, were permanently closed by removal in June 1993 by G&K Tank Services. A release of petroleum product was reported to SCDHEC in June 1993 and confirmed in July 1993. The responsible party for this release is Harold W. Detwiler Jr. (31 South Church Street, Summerton, SC 29148).

The Detwiler site is located within an area of mixed use. Commercial activities including a restaurant, a former gasoline service station (Summerton Auto Service SCDHEC Site ID #02420) and a convenience store currently maintaining USTs (A&P Convenience SCDHEC Site ID #13013 and SC650 SCDHEC Site ID #02422) are located west and northwest of the subject site respectively. The areas north, east and south of the subject site are used for residential purposes. According to local sources, a former gasoline station was located approximately 300 feet south of the HW Detwiler site (along the eastern side of S. Church Street) in the 1940s and 1950s. This area of the former station is near MW-15 as seen in Figure 3.

A site assessment was conducted by Duncan Environmental Associates, Inc. at the time of closure and a release notification was sent to SCDHEC on June 22, 1993. This assessment indicated soil contamination above the reporting limits for BTEX and TPH compounds.

In July 2000, an Initial Ground Water Assessment (IGWA) was conducted by Emerald, Inc. at the subject site. This assessment included the installation of one groundwater monitoring well. Gauging of this well indicated the presence of free product adjacent to the former UST

basin. In April 2002 Emerald, Inc. submitted a Tier II assessment report for the subject site. This assessment included field screening, the installation of fourteen additional monitoring wells, aquifer testing, and monitoring well sampling. Groundwater sampling indicated the groundwater contaminant plume was not fully defined. In April 2003, Emerald, Inc submitted a Tier II Assessment Report (Addendum 01). This assessment included field screening, monitoring well installation, monitoring well sampling and surface water sampling. This assessment was conducted to better define the horizontal and vertical extent of the contaminant plume. In February 2010, at the request of SCDHEC, Emerald, Inc. conducted a comprehensive groundwater sampling event to provide current groundwater quality data for the subject site. During this sampling event, four monitoring wells were not located and possibly destroyed. In August 2010, SCDHEC requested Aggressive Fluid Vapor Recovery Event (AFVR), additional monitoring well installation and monitoring well sampling at the subject site.

In June 2012, Emerald, Inc. submitted a Report of Monitoring Well Installation documenting the installation of twenty additional shallow monitoring wells at the subject site to better define the free product plume. In February 2013, Emerald, Inc. submitted the Report of Groundwater Sampling for the subject site.

In December 2013, Emerald, Inc. submitted a Report of Groundwater Sampling for the subject site. In January 2014, surrounding property owner David Van Wynsberghe granted Emerald, Inc. access to sample the monitoring wells, water supply wells and surface waters on his property in order to obtain current groundwater quality data. In February 2014, at the request of SCDHEC, Emerald, Inc. conducted a limited groundwater sampling event under the approved Site Specific Work Plan dated January 23, 2014. This report documents the findings of this event at the site.

2.0 Site Activities

Emerald, Inc. personnel conducted this limited groundwater sampling event at the HW Detwiler Company to provide current groundwater quality data. Field activities required to generate site-specific information for the site are described in detail within this section. Figure 3 contains a site map for the site presenting well locations, relevant structures and utilities.

2.1 Static Water Level Measurement

Prior to well purging, sample collection or gauging of each monitoring well located at the subject site, water levels were taken to the nearest 0.01 foot using a graduated electronic indicator. Free phase petroleum product was not detected during this sampling event. Measurements were taken from the surveyed top of the well casing so they could be referenced to a common datum. Water levels and groundwater elevations are summarized in Table 1. Due to the number of wells sampled during this event, a potentiometric surface map was not produced.

2.2 Groundwater Sampling

On February 4, 2014, groundwater samples were collected from 2 monitoring wells (MW-32 and MW-35i) at the subject site. In addition to these groundwater samples, one duplicate sample (MW-32), one Field Blank and one Trip Blank were also collected. One trip blank was included in each cooler shipped to the laboratory. Each sample collected at the site was documented as to the cooler in which it was placed and a dedicated trip blank was included in each cooler for quality control purposes.

Pre-existing wells that bracketed the watertable and had been sampled in the last year were not purged prior to sample collection. Pre-existing wells not bracketing the watertable were purged by hand bailing until five well volumes were removed from the well, the pH, conductivity, temperature and turbidity readings were within 10% or dryness, whichever occurred first (see Well Purge Logs in Appendix A). Field equipment was properly calibrated as

described in the ACQAP prior to obtaining readings at the site. Following well purging or gauging, a groundwater sample was collected from each well using a new disposable PVC bailer. Each groundwater sample was poured directly from the bailer into appropriate laboratory supplied containers for analysis. Downhole sampling equipment was properly decontaminated between each sampling location. A total of 35 gallons of purge water was treated on-site using an activated carbon drum. (See Appendix C for a copy of the disposal manifest).

Samples were immediately packed in crushed ice in the field ice chest and shipped to Pace Analytical, Inc. of Huntersville, NC (SC Certification #99006001) for laboratory analysis. Each sample was analyzed for BTEX, Naphthalene, MTBE, 1-2 DCA, 8 Oxygenates (EPA Method 8260B) and EDB (EPA Method 8011). Analytical results for the groundwater samples are presented on Tables 2 and 3 with the laboratory reports in Appendix B.

2.3 Water Supply Well Sampling

On February 4, 2014, samples were collected from two nearby water supply wells. WSW-3 and WSW-4 are located at 1021 Gipp Street (David Van Wynsberghe, Rt. 1 Box 521, Summerton, SC). WSW-3 is a water supply well supplying water to the residence and was sampled at the well pump. WSW-4 is an irrigation well located at the rear of 1021 Gipp Street. WSW-4 does not currently have a well pump and was sampled by lowering a bailer into the well to collect a sample. Water supply well locations are presented on Figure 3.

Samples were collected after allowing the well pump to run for approximately 10 minutes or until the well pump turned on. Water supply well samples were packed in crushed ice in the field ice chest and shipped to Pace Analytical Services, Inc. of Huntersville, NC (SC Certification #99006001) for laboratory analysis. Each water supply well sample was documented as to the cooler in which it was placed and a dedicated trip blank was included in the cooler for quality control purposes. These samples were analyzed for BTEX, Naphthalene, MTBE, 1-2 DCA, 8 Oxygenates (EPA Method 8260B) and EDB (EPA Method 8011). Analytical results for these

water supply well samples are presented on Tables 2 and 3 with the laboratory reports found in Appendix B.

2.4 Surface Water Sampling

On February 4, 2014, two surface water samples (PS-1 and CS-3) were collected at the subject site. PS-1 was collected from a small pond located at 1021 Gipp Street (David Van Wynsberghe, Rt. 1 Box 521, Summerton, SC). This sample was collected from a man made pond located south of Scotts Branch. CS-3 was collected along the northern bank of Scotts Branch, east of the bridge. CS-3 was collected by lowering laboratory supplied containers into the surface water body to collect a sample. Surface water sampling locations are presented on Figure 3.

Surface water samples were packed in crushed ice in the field ice chest and shipped to Pace Analytical Services, Inc. of Huntersville, NC (SC Certification #99006001) for laboratory analysis. These samples were documented as to the cooler in which it was placed and a dedicated trip blank was included in the cooler for quality control purposes. These samples were analyzed for BTEX, Naphthalene, MTBE, 1-2 DCA, 8 Oxygenates (EPA Method 8260B) and EDB (EPA Method 8011). Analytical results for these surface water samples are presented on Tables 2 and 3 with the laboratory reports found in Appendix B.

2.5 Analytical Results

Tables 2 and 3 summarize the groundwater analytical results at the subject site, and Appendix B contains a copy of the laboratory reports. Laboratory analytical results from MW-32, MW-35i, PS-1, WSW-3 and WSW-4 indicate no detections of concentrations of chemicals of concern (CoC) above the risk based screening levels. Laboratory analytical results from sample CS-3 indicate concentrations of CoCs at levels above detection limits. Figure 4 presents a Groundwater CoC Map for the site.

3.0 Results, Conclusions, and Recommendations

During this assessment, samples were collected from two monitoring wells, two water supply wells and two surface water bodies associated with the HW Detwiler Company site. Free phase petroleum product was not detected during this sampling event. Analytical results from groundwater samples indicate concentrations of CoCs associated with the site have generally remained constant or increased since the last sampling event. Data collected during the previous comprehensive sampling event indicates that the direction of groundwater flow in the shallow aquifer is to the south. Samples from CS-3 indicate detectable concentrations of chemicals of concern in this surface water body. Resampling of this surface water body should take place to ensure that surface runoff was not the source of the chemicals of concern detected in the creek.

Given the above findings during this Report of Groundwater Sampling at the site, Emerald, Inc. recommends 1) confirmation sampling of the creek and additional investigation to determine the pathway of contaminants from the former UST site to surface water CS-3, 2) A series of long duration AFVR events to remove free product detected at the site and 3) Periodic sampling should be conducted to monitor the contaminant plume and monitor impact to nearby receptors.

TABLES

TABLE 1
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 1 OF 4

Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Turbidity (ntu)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
15729 MW-1	3/10/02	PROD	PROD	PROD	13-23	19.44	21.22	1.78	101.64	81.74
	4/12/03	PROD	PROD	PROD		11.40	15.09	3.69	101.64	89.28
	11/11/04	PROD	PROD	PROD		16.88	17.78	0.90	101.64	84.53
	12/21/09	PROD	PROD	PROD		16.34	16.85	0.51	101.64	85.17
	9/8/10	PROD	PROD	PROD		16.73	17.29	0.56	101.64	84.76
	11/19/10	PROD	PROD	PROD		17.25	18.13	0.88	101.64	84.16
	7/13/11	PROD	PROD	PROD		17.23	18.11	0.88	101.64	84.18
	1/21/13	PROD	PROD	PROD		17.00	17.98	0.98	101.64	84.39
	11/13/13	PROD	PROD	PROD		16.21	16.65	0.44	101.64	85.32
15729 MW-2D	3/10/02	--	--	--	42-47	--	18.29	--	101.96	83.67
	4/12/03	--	--	--		--	14.80	--	101.96	87.16
	12/21/09	--	--	--		--	16.68	--	101.96	85.28
	11/22/10	3.51	24.3	--		--	17.96	--	101.96	84.00
	7/13/11	4.76	25.8	--		--	18.23	--	101.96	83.73
	1/21/13	2.32	18.4	59		--	17.50	--	101.96	84.46
	11/13/13	2.94	21.4	33		--	16.93	--	101.96	85.03
15729 MW-3	3/10/02	--	--	--	13-23	--	18.09	--	102.01	83.92
	4/2/03	--	--	--		--	13.45	--	102.01	88.56
	12/21/09	--	--	--		--	16.53	--	102.01	85.48
	11/22/10	--	--	--		--	17.75	--	102.01	84.26
	7/13/11	5.09	23.6	--		--	17.71	--	102.01	84.30
	1/21/13	2.44	16.9	148		--	17.45	--	102.01	84.56
	11/13/13	2.27	17.5	13		--	17.76	--	102.01	84.25
15729 MW-4	3/10/02	--	--	--	15-25	--	17.39	--	101.37	83.98
	4/2/03	--	--	--		--	11.98	--	101.37	89.39
	12/21/09	--	--	--		--	15.95	--	101.37	85.42
	11/22/10	--	--	--		--	17.02	--	101.37	84.35
	7/13/11	4.63	23.7	--		--	16.99	--	101.37	84.38
	1/21/13	1.15	18.8	50		--	16.74	--	101.37	84.63
	11/13/13	1.78	20.4	16		--	16.12	--	101.37	85.25
15729 MW-5	3/10/02	--	--	--	15-25	--	15.52	--	100.04	84.52
	4/2/03	--	--	--		--	14.34	--	100.04	85.70
	12/21/09	--	--	--		--	14.13	--	100.04	85.91
	11/22/10	--	--	--		--	15.25	--	100.04	84.79
	1/21/13	1.45	21.5	27		--	14.87	--	100.04	85.17
	11/13/13	1.02	20.3	10		--	15.50	--	100.04	84.54
15729 MW-6	3/10/02	--	--	--	15-25	--	18.56	--	102.29	83.73
	4/2/03	--	--	--		--	15.70	--	102.29	86.59
	12/22/09	--	--	--		--	17.74	--	102.29	84.55
	11/22/10	--	--	--		--	18.51	--	102.29	83.78
	7/11/11	3.81	26.6	--		--	18.42	--	102.29	83.87
	1/15/13	1.55	21.3	320		--	18.21	--	102.29	84.08
	2/14/13	1.31	16.9	30.5		--	17.98	--	102.29	84.31
	11/13/13	1.97	16.6	211		--	17.97	--	102.29	84.32
15729 MW-7	3/10/02	--	--	--	10-20	--	14.55	--	96.77	82.22
	4/12/03	--	--	--		--	12.09	--	96.77	84.68
	12/22/09	--	--	--		--	13.85	--	96.77	82.92
	11/19/10	--	--	--		--	14.57	--	96.77	82.20
	7/11/11	1.60	25.3	--		--	14.80	--	96.77	81.97
	1/15/13	3.98	18.8	7		--	14.38	--	96.77	82.39
	2/14/13	3.92	17.2	32.7		--	13.83	--	96.77	82.94
	11/12/13	4.86	19.1	27			14.10	--	96.77	82.67
15729 MW-8	3/10/02	--	--	--	5-15	--	8.35	--	89.44	81.09
	4/12/03	--	--	--		--	3.10	--	89.44	86.34
	12/22/09	--	--	--		--	3.70	--	89.44	85.74
	11/19/10	--	--	--		--	8.36	--	89.44	81.08
	7/11/11	2.71	24.7	--		--	5.72	--	89.44	83.72
	1/11/13	6.21	18.0	348		--	5.50	--	89.44	83.94
	11/12/13	4.60	21.2	31		--	7.94	--	89.44	81.50
15729 MW-9	3/10/02	--	--	--	5-15	--	8.21	--	88.21	80.00
	4/12/03	--	--	--		--	5.40	--	88.21	82.81
	12/22/09	--	--	--		--	7.37	--	88.21	80.84
	11/19/10	--	--	--		--	8.14	--	88.21	80.07
	7/11/11	1.45	25.2	--		--	8.22	--	88.21	79.99
	1/11/13	3.82	19.0	>1,000		--	8.00	--	88.21	80.21
	11/12/13	2.85	21.2	53		--	7.81	--	88.21	80.40
15729 MW-10	3/10/02	--	--	--	8-18	--	12.81	--	92.89	80.08
	4/12/03	--	--	--		--	10.02	--	92.89	82.87
	12/22/09	--	--	--		--	11.88	--	92.89	81.01
	11/19/10	--	--	--		--	12.75	--	92.89	80.14
	7/11/11	5.39	25.3	--		--	12.82	--	92.89	80.07
	1/11/13	2.79	21.9	284		--	12.56	--	92.89	80.33
	11/12/13	1.30	21.3	15		--	12.23	--	92.89	80.66
15729 MW-11	3/10/02	--	--	--	15-25	--	20.61	--	101.81	81.20
	4/12/03	--	--	--		--	13.66	--	101.81	88.15
	12/21/09	--	--	--		--	19.46	--	101.81	82.35
	11/19/10	--	--	--		--	20.36	--	101.81	81.45
	7/11/11	3.00	26.3	--		--	20.26	--	101.81	81.55
	1/14/13	2.01	22.4	7		--	20.20	--	101.81	81.61
	11/12/13	3.88	20.2	54		--	19.10	--	101.81	82.71

Notes:

1. ug/l = micrograms per liter
2. mg/l = milligrams per liter
3. NT = Not Tested
4. NL = Not Located
5. PROD = Free Phase Product Detected
6. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline

TABLE 1
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
PAGE 2 OF 4

Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Turbidity (ntu)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
15729 MW-12	3/10/02	--	--	--	15-25	--	20.29	--	103.42	83.13
	4/2/03	--	--	--		--	13.52	--	103.42	89.90
	12/21/09	--	--	--		--	18.57	--	103.42	84.85
	11/22/10	--	--	--		--	19.75	--	103.42	83.67
	7/13/11	4.13	24.1	--		--	19.70	--	103.42	83.72
	1/21/13	3.71	19.8	221		--	19.50	--	103.42	83.92
	11/13/13	4.21	18.6	12		--	18.50	--	103.42	84.92
15729 MW-13	3/10/02	PROD	PROD	PROD	15-25	19.10	20.38	1.28	102.69	83.26
	4/2/03	PROD	PROD	PROD		14.45	14.93	0.48	102.69	88.12
	11/11/04	PROD	PROD	PROD		18.40	19.10	0.70	102.69	84.11
	12/22/09	NL	NL	NL		NL	NL	NL	102.69	NL
15729 MW-13R	11/19/10	PROD	PROD	PROD	12-22	18.88	20.11	1.23	102.76	83.56
	7/11/11	PROD	PROD	PROD		19.08	19.19	0.11	102.76	83.65
	1/15/13	PROD	PROD	PROD		18.85	19.15	0.30	102.76	83.83
	11/12/13	PROD	PROD	PROD		18.42	18.46	0.04	102.76	84.33
15729 MW-14	3/10/02	--	--	--	15-25	--	17.33	--	99.07	81.74
	4/12/03	--	--	--		--	12.39	--	99.07	86.68
	12/22/09	--	--	--		--	16.40	--	99.07	82.67
	11/19/10	--	--	--		--	17.20	--	99.07	81.87
	7/11/11	1.90	26.0	--		--	12.19	--	99.07	86.88
	1/14/13	1.50	20.4	5		--	17.00	--	99.07	82.07
	11/12/13	3.92	19.8	111		--	16.37	--	99.07	82.70
15729 MW-15	3/10/02	--	--	--	15-25	--	19.75	--	101.93	82.18
	4/12/03	--	--	--		--	12.94	--	101.93	88.99
	12/21/09	--	--	--		--	18.61	--	101.93	83.32
	11/19/10	PROD	PROD	PROD		19.36	19.57	0.21	101.93	82.52
	7/11/11	PROD	PROD	PROD		19.26	19.56	0.30	101.93	82.59
	1/14/13	PROD	PROD	PROD		18.72	21.99	3.27	101.93	82.36
	11/12/13	PROD	PROD	PROD		17.54	20.30	2.76	101.93	83.67
15729 MW-16D	4/2/03	--	--	--	65-75	--	12.10	--	101.84	89.74
	12/21/09	--	--	--		--	16.93	--	101.84	84.91
	11/22/10	4.21	24.4	--		--	18.18	--	101.84	83.66
	7/13/11	4.45	27.4	--		--	18.31	--	101.84	83.53
	1/21/13	1.18	16.3	21		--	17.90	--	101.84	83.94
	11/12/13	0.76	20.7	142		--	17.09	--	101.84	84.75
15729 MW-17	4/2/03	--	--	--	8-18	--	9.50	--	98.81	89.31
	12/22/09	NL	NL	NL		NL	NL	NL	98.81	NL
15729 MW-17R	11/22/10	4.03	22.5	--	10-20	--	13.40	--	98.86	85.46
	1/21/13	1.21	21.8	12		--	12.97	--	98.86	85.89
	11/13/13	1.44	21.2	43		--	12.40	--	98.86	86.46
15729 MW-18	4/2/03	--	--	--	13-23	--	13.45	--	100.86	87.41
	12/22/09	NL	NL	NL		NL	NL	NL	100.86	NL
15729 MW-18R	11/22/10	4.18	20.5	--	12-22	--	14.38	--	99.32	84.94
	1/21/13	0.85	20.6	72		--	14.35	--	99.32	84.97
	11/13/13	1.38	18.6	317		--	13.73	--	99.32	85.59
15729 MW-19	4/12/03	--	--	--	5-15	--	7.60	--	92.78	85.18
	12/22/09	--	--	--		--	9.90	--	92.78	82.88
	11/19/10	--	--	--		--	10.58	--	92.78	82.20
	7/11/11	4.60	27.1	--		--	10.61	--	92.78	82.17
	1/15/13	1.30	17.9	121		--	10.38	--	92.78	82.40
	2/14/13	2.21	16.1	99		--	9.66	--	92.78	83.12
	11/12/13	1.80	18.5	47		--	10.17	--	92.78	82.61
15729 MW-20	4/12/03	--	--	--	3-13	--	3.52	--	85.47	81.95
	12/22/09	--	--	--		--	4.89	--	85.47	80.58
	11/19/10	--	--	--		--	5.47	--	85.47	80.00
	7/11/11	1.70	26.3	--		--	5.57	--	85.47	79.90
	1/11/13	NL	NL	NL		NL	NL	NL	85.47	NL
	11/12/13	NL	NL	NL		NL	NL	NL	85.47	NL
15729 MW-21	4/12/03	--	--		3-13	--	5.05	--	89.24	84.19
	12/22/09	--	--			--	8.67	--	89.24	80.57
	11/19/10	--	--			--	9.90	--	89.24	79.34
	7/11/11	5.80	26.1			--	10.00	--	89.24	79.24
	1/11/13	1.33	21.7	533		--	9.60	--	89.24	79.64
	11/12/13	1.85	21.5	24		--	9.19	--	89.24	80.05
15729 MW-22	4/12/03	--	--	--	10-25	--	11.96	--	101.70	89.74
	12/22/09	--	--	--		--	19.87	--	101.70	81.83
	11/19/10	--	--	--		--	20.77	--	101.70	80.93
	7/11/11	4.83	26.7	--		--	20.70	--	101.70	81.00
	1/14/13	2.28	20.2	63		--	20.73	--	101.70	80.97
	11/12/13	1.06	19.7	25		--	19.21	--	101.70	82.49
15729 MW-23	4/12/03	--	--	--	10-25	--	13.87	--	103.32	89.45
	12/22/09	NL	NL	NL		NL	NL	NL	103.32	NL
	1/11/13	NL	NL	NL		NL	NL	NL	103.32	NL
	11/12/13	NL	NL	NL		NL	NL	NL	103.32	NL

Notes:

1. ug/l = micrograms per liter
2. mg/l = milligrams per liter
3. NT = Not Tested
4. NL = Not Located
5. PROD = Free Phase Product Detected
6. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline

TABLE 1
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
PAGE 3 OF 4

Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Turbidity (ntu)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
15729 MW-24	11/22/10	4.40	21.4	--	13-23	--	19.48	--	103.34	83.86
	7/11/11	3.33	26.1	--		--	19.39	--	103.34	83.95
	1/21/13	1.06	20.6	29		--	19.21	--	103.34	84.13
	11/13/13	1.44	17.9	16		--	18.63	--	103.34	84.71
15729 MW-25	11/22/10	4.01	21.6	--	12-22	--	18.26	--	101.19	82.93
	7/11/11	1.91	27.0	--		--	18.19	--	101.19	83.00
	1/15/13	0.74	20.5	19		--	18.02	--	101.19	83.17
	2/14/13	1.96	18.1	47		--	17.85	--	101.19	83.34
	11/13/13	1.79	17.6	11		--	17.46	--	101.19	83.73
15729 MW-26	11/19/10	6.41	19.4	--	12-22	--	16.49	--	97.73	81.24
	7/11/11	3.03	26.1	--		--	16.50	--	97.73	81.23
	1/14/13	3.82	20.6	9		--	16.30	--	97.73	81.43
	11/12/13	4.31	22.3	45		--	15.66	--	97.73	82.07
15729 MW-27	11/19/10	5.40	21.0	--	12-22	--	17.89	--	99.04	81.15
	7/11/11	2.80	27.3	--		--	17.85	--	99.04	81.19
	1/14/13	1.02	21.6	97		--	17.68	--	99.04	81.36
	11/12/13	4.14	21.2	69		--	16.90	--	99.04	82.14
15729 MW-28	11/22/10	3.51	24.7	--	12-22	--	17.33	--	101.46	84.13
	1/21/13	PROD	PROD	PROD		16.65	17.98	1.33	101.46	84.46
	11/13/13	PROD	PROD	PROD		16.14	17.32	1.18	101.46	85.01
15729 MW-29	11/22/10	4.39	20.7	--	13-23	--	16.39	--	100.77	84.38
	7/13/11	4.11	23.8	--		--	16.36	--	100.77	84.41
	1/21/13	1.55	20.7	30		--	16.12	--	100.77	84.65
	11/13/13	1.53	19.7	13		--	15.46	--	100.77	85.31
15729 MW-30	11/22/10	5.83	20.3	--	13-23	--	20.49	--	102.90	82.41
	7/11/11	4.41	26.9	--		--	20.24	--	102.90	82.66
	1/21/13	1.45	17.9	57		--	20.23	--	102.90	82.67
	11/13/13	2.63	16.9	7		--	19.20	--	102.90	83.70
15729 MW-31	11/19/10	6.20	20.9	--	12-22	--	18.80	--	99.98	81.18
	7/11/11	3.03	27.1	--		--	18.71	--	99.98	81.27
	1/14/13	2.31	21.3	5		--	18.65	--	99.98	81.33
	11/12/13	4.49	20.5	586		--	17.49	--	99.98	82.49
15729 MW-32	11/19/10	6.89	20.5	--	2-12	--	4.24	--	83.50	79.26
	7/11/11	1.05	24.2	--		--	4.49	--	83.50	79.01
	1/11/13	1.97	16.7	185		--	4.15	--	83.50	79.35
	11/12/13	NS	NS	NS		NS	NS	NS	83.50	NS
	2/4/14	3.89	13.1	148.5		--	3.58	--	83.50	79.92
15729 MW-33	11/19/10	5.70	21.5	--	14-24	--	16.31	--	98.26	81.95
	7/11/11	2.10	24.9	--		--	16.35	--	98.26	81.91
	1/14/13	1.41	19.5	58		--	16.12	--	98.26	82.14
	11/12/13	1.50	20.0	30		--	15.66	--	98.26	82.60
15729 MW-34D	11/19/10	4.11	21.2	--	45-50	--	16.68	--	97.98	81.30
	7/11/11	0.04	26.4	--		--	16.73	--	97.98	81.25
	1/14/13	1.71	20.7	34		--	16.50	--	97.98	81.48
	11/12/13	3.30	23.3	>1,000		--	15.61	--	97.98	82.37
15729 MW-35i	11/19/10	6.44	21.4	--	26-31	--	4.07	--	83.57	79.50
	7/11/11	1.50	25.0	--		--	4.31	--	83.57	79.26
	1/11/13	6.37	18.0	22		--	4.02	--	83.57	79.55
	11/12/13	NS	NS	NS		NS	NS	NS	83.57	NS
	2/4/14	5.90	16.3	31.25		--	3.62	--	83.57	79.95
15729 MW-36	7/11/11	3.40	27.6	--	15-25	--	17.74	--	101.71	83.97
	1/15/13	PROD	PROD	PROD		17.32	17.36	0.04	101.71	84.38
	11/13/13	PROD	PROD	PROD		16.90	17.68	0.78	101.71	84.61
15729 MW-37	7/13/11	4.96	27.1	--	15-25	--	19.68	--	103.21	83.53
	1/21/13	1.47	18.9	103		--	19.50	--	103.21	83.71
	11/13/13	1.42	18.1	34		--	18.86	--	103.21	84.35
15729 MW-38	7/11/11	3.99	26.7	--	15-25	--	18.20	--	101.92	83.72
	1/15/13	0.85	23.8	42		--	18.12	--	101.92	83.80
	2/14/13	0.98	19.5	23		--	17.86	--	101.92	84.06
	11/13/13	0.94	17.3	36		--	17.64	--	101.92	84.28
15729 MW-39	7/11/11	PROD	PROD	PROD	15-25	18.15	20.10	1.95	101.99	83.33
	1/15/13	PROD	PROD	PROD		18.23	18.28	0.05	101.99	83.75
	11/13/13	PROD	PROD	PROD		17.72	18.73	1.01	101.99	84.01
15729 MW-40	7/11/11	PROD	PROD	PROD	15-25	18.45	20.37	1.92	102.15	83.20
	1/21/13	PROD	PROD	PROD		18.41	20.20	1.79	102.15	83.27
	11/13/13	PROD	PROD	PROD		17.82	19.38	1.56	102.15	83.92
15729 MW-41	7/11/11	1.03	26.1	Sheen	15-25	Sheen	18.73	Sheen	101.29	82.56
	1/14/13	PROD	PROD	PROD		18.60	19.00	0.40	101.29	82.59
	11/12/13	PROD	PROD	PROD		17.63	18.04	0.41	101.29	83.55

Notes:

1. ug/l = micrograms per liter
2. mg/l = milligrams per liter
3. NT = Not Tested
4. NL = Not Located
5. PROD = Free Phase Product Detected
6. DRY = Well went dry during
7. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline
8. NS = Not Sampled, MW-32 & MW-35i samples not collected due to property owner's refusal for access

TABLE 1
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
PAGE 4 OF 4

Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Turbidity (ntu)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
15729 MW-42	7/11/11	0.50	26.9	--	15-25	--	19.11	--	101.67	82.56
	1/14/13	0.63	22.1	4		--	19.08	--	101.67	82.59
	11/12/13	NR	20.6	43		--	18.03	--	101.67	83.64
15729 MW-43	7/11/11	PROD	PROD	PROD	15-25	18.88	20.54	1.66	101.92	82.61
	1/14/13	PROD	PROD	PROD		18.68	21.11	2.43	101.92	82.61
	11/12/13	PROD	PROD	PROD		17.26	20.58	3.32	101.92	83.80
15729 MW-44	7/11/11	4.14	27.0	--	15-25	--	18.70	--	102.42	83.72
	1/15/13	1.11	22.6	38		--	18.48	--	102.42	83.94
	2/14/13	0.95	20.1	72.2		--	18.34	--	102.42	84.08
	11/13/13	0.61	19.9	18		--	18.06	--	102.42	84.36
15729 MW-45	7/11/11	4.44	27.3	--	15-25	--	18.33	--	101.50	83.17
	1/15/13	PROD	PROD	PROD		17.50	17.52	0.02	101.50	83.99
	11/13/13	PROD	PROD	PROD		17.28	19.15	1.87	101.50	83.73
15729 MW-46	1/21/13	PROD	PROD	PROD	15-25	18.90	20.89	1.99	103.26	83.84
	11/13/13	PROD	PROD	PROD		18.16	20.45	2.29	103.26	84.50
15729 MW-47	1/15/13	1.19	23.4	371	15-25	--	19.60	--	103.19	83.59
	2/14/13	1.19	20.3	45.3		--	20.81	--	103.19	82.38
	11/13/13	1.32	18.2	23		--	18.93	--	103.19	84.26
15729 MW-48	1/21/13	1.87	18.5	41	15-25	--	19.14	--	102.53	83.39
	11/13/13	3.16	17.6	12		--	18.48	--	102.53	84.05
15729 MW-49	1/21/13	PROD	PROD	PROD	15-25	18.40	20.50	2.10	101.83	82.88
	11/13/13	PROD	PROD	PROD		17.50	19.74	2.24	101.83	83.75
15729 MW-50	1/21/13	1.31	17.5	133	15-25	--	18.87	--	101.66	82.79
	11/13/13	1.56	14.3	10		--	17.93	--	101.66	83.73
15729 MW-51	1/14/13	PROD	PROD	PROD	15-25	18.75	21.10	2.35	102.06	82.70
	11/12/13	PROD	PROD	PROD		17.69	20.16	2.47	102.06	83.73
15729 MW-52	1/14/13	0.58	22.7	3	15-25	--	19.25	--	101.77	82.52
	11/12/13	0.79	20.7	17		--	18.08	--	101.77	83.69
15729 MW-53	1/14/13	0.71	22.2	47	15-25	--	19.17	--	101.14	81.97
	11/12/13	0.90	21.1	351		--	18.08	--	101.14	83.06
15729 MW-54	1/14/13	0.72	23.4	4	15-25	--	19.07	--	101.12	82.05
	11/12/13	0.98	21.5	11		--	18.10	--	101.12	83.02
15729 MW-55	1/11/13	0.87	20.2	500	14-24	--	18.10	--	99.37	81.27
	11/12/13	2.86	20.8	18		--	17.14	--	99.37	82.23
15729 MW-56	1/11/13	0.60	21.5	>1,000	13-23	--	16.65	--	97.92	81.27
	11/12/13	1.26	21.1	27		--	15.97	--	97.92	81.95
15729 MW-57	1/11/13	0.11	21.4	>1,000	12-22	--	15.80	--	97.31	81.51
	11/12/13	1.21	22.2	10		--	15.31	--	97.31	82.00
15729 MW-58	1/15/13	1.83	21.4	15	14-24	--	17.72	--	100.49	82.77
	2/14/13	2.48	19.5	28.6		--	17.42	--	100.49	83.07
	11/13/13	3.34	19.1	11		--	17.15	--	100.49	83.34
15729 MW-59	1/21/13	1.14	20.4	16	13-23	--	16.92	--	101.59	84.67
	11/13/13	0.78	21.9	125		--	16.58	--	101.59	85.01
15729 MW-60	1/15/13	0.77	22.6	21	15-25	--	18.82	--	103.08	84.26
	2/14/13	1.01	20.0	22.1		--	18.76	--	103.08	84.32
	11/13/13	1.16	17.6	15		--	18.42	--	103.08	84.66
15729 MW-61	1/15/13	0.67	23.4	41	15-25	--	18.90	--	102.85	83.95
	2/14/13	0.66	20.8	14.6		--	18.84	--	102.85	84.01
	11/13/13	1.41	19.0	40		--	18.39	--	102.85	84.46
15729 MW-62	1/21/13	3.03	16.8	55	15-25	--	17.74	--	101.99	84.25
	11/13/13	2.35	20.2	10		--	16.96	--	101.99	85.03
15729 MW-63	1/15/13	0.91	22.5	27	14-24	--	18.01	--	102.01	84.00
	2/14/13	1.19	18.8	99.9		--	17.91	--	102.01	84.10
	11/13/13	0.76	17.7	45		--	17.62	--	102.01	84.39
15729 MW-64	1/15/13	4.12	22.4	86	14-24	--	17.49	--	100.95	83.46
	2/14/13	3.65	17.6	48		--	17.22	--	100.95	83.73
	11/13/13	4.90	15.5	20		--	17.22	--	100.95	83.73
15729 MW-66	1/15/13	2.48	23.3	113	14-24	--	18.42	--	101.97	83.55
	2/14/13	2.58	18.3	10.6		--	0.00	--	101.97	101.97
	11/13/13	1.64	17.2	10		--	17.70	--	101.97	84.27

Notes:

1. ug/l = micrograms per liter
2. mg/l = milligrams per liter
3. NT = Not Tested
4. NL = Not Located
5. PROD = Free Phase Product Detected
6. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline
7. NR = Not Recorded, Dissolved Oxygen not obtained due to meter malfunction at time of reading

TABLE 2
GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 1 OF 5

Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-1	4/2/03	Free Product - 3.69 Feet								
	12/21/09	Free Product - 0.51 Feet								
	7/13/11	Free Product - 0.88 Feet								
	1/21/13	Free Product - 0.98 Feet								
	11/13/13	Free Product - 0.44 Feet								
15729 MW-2D	4/12/03	**22.6**	**19.8**	**28.3**	**47.9**	ND	**9.90**	NT	**0.15**	NT
	12/21/09	ND	**0.470**	**1.90**	**2.41**	**0.660**	**1.07**	ND	ND	**8.20**
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-3	4/2/03	ND	**1.0**	ND	ND	ND	ND	NT	ND	NT
	12/21/09	ND	ND	ND	ND	ND	**0.610**	ND	ND	**3.20**
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-4	7/13/01	**2,860**	**1,330**	**581**	**1,490**	**198**	**146**	NT	**13.6**	NT
	12/21/09	**114**	**5.91**	**22.4**	**5.97**	**2.98**	**9.72**	ND	**0.1709**	**13.6**
	11/22/10	**169**	**3.5J**	**3.5J**	<10.0	**4.9J**	**6.7**	**5.5**	**0.13**	<5.0
	7/13/11	**688**	**184**	**129**	**283**	**26.1**	**52.6**	**18.2**	**4.8**	NT
	1/21/13	**1,050**	**610**	**218**	**521**	**52.1**	**77.3**	**25.0**	**9.7**	NT
	11/13/13	**410**	**18.0**	**51.9**	**23.1**	**12.3**	**16.0**	**6.9**	**0.88**	NT
15729 MW-5	4/2/03	**1,650**	**3,000**	**372**	**1,640**	**246**	**94.7**	NT	**22.0**	NT
	12/21/09	**2,610**	**5,820**	**735**	**3,370**	**64.6**	**156**	ND	**34.78**	**84.5**
	11/22/10	**63.9**	**154**	**22.1**	**107**	<5.0	**6.3**	<5.0	**0.91**	<5.0
	1/21/13	**209**	**815**	**135**	**530**	**2.3J**	**24.4**	**1.9J**	**1.3**	NT
	11/13/13	**21.9**	**40.1**	**50.2**	**37.8**	<5.0	**52.7**	<5.0	**0.14**	NT
15729 MW-6	4/2/03	ND	**2.0**	ND	**2.2**	**6.8**	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	**2.61**	ND	ND	ND	**33.3**
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-7	4/12/03	ND	ND	ND	ND	**15.3**	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	**3.10**	ND	ND	ND	**31.2**
	11/19/10	<5.0	<5.0	<5.0	<10.0	**3.1J**	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-8	4/12/03	ND	ND	ND	ND	**3.3**	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	**21.4**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019	NT
15729 MW-9	4/12/03	**1.4**	ND	ND	ND	**181**	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	**6.86**	ND	ND	ND	**136**
	11/19/10	<5.0	<5.0	<5.0	<10.0	**6.5**	<5.0	<5.0	<0.020	**17.9**
	7/11/11	<5.0	<5.0	<5.0	<10.0	**1.9J**	<5.0	<5.0	<0.020	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	**38.4**	<5.0	<5.0	<0.020	NT
15729 MW-10	4/12/03	**2,000**	**34.4**	**169**	**25.0**	**38.6**	**22.6**	NT	ND	NT
	12/22/09	**1,250**	**20.3**	**44.8**	**15.0**	**58.1**	**12.0**	ND	**0.1719**	**43.6**
	11/19/10	**42.3**	<5.0	**3.8J**	<10.0	**38.3**	<5.0	**13.6**	<0.020	<5.0
	7/11/11	**777**	**5.0**	**14.7**	**8.3J**	**54.4**	**6.3**	**12.0**	<0.020	NT
	1/11/13	**208**	<10.0	**15.6**	<20.0	**38.1**	<10.0	**5.9J**	<0.020	NT
	11/12/13	**34.3**	<5.0	**3.4J**	<10.0	**7.4**	<5.0	<5.0	<0.020	NT
15729 MW-11	4/12/03	**1,100**	**4.2**	**11.2**	**3.2**	ND	**8.80**	NT	**0.23**	NT
	12/21/09	**181**	**32.3**	**20.2**	**6.90**	**1.28**	**8.65**	ND	ND	**34.1**
	11/19/10	**63.6**	<5.0	**1.1J**	<10.0	**2.3J**	**4.0J**	<5.0	<0.020	<5.0
	7/11/11	**72.9**	**20.6**	**8.9**	**18.7**	<5.0	**4.3J**	**2.7J**	<0.020	NT
	1/14/13	**1,470**	**23.9J**	**49.1J**	<100	**28.3J**	**36.5J**	<50.0	**0.082**	NT
	11/12/13	**1.8J**	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-12	4/2/03	ND	**1.3**	ND	**1.5**	ND	ND	NT	ND	NT
	12/21/09	ND	**0.530**	ND	ND	ND	**1.54**	ND	ND	**17.6**
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT

Notes:

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6. PROD= Free Phase Product detected
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TABLE 2
GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 2 OF 5

Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-13	4/2/03	Free Product - 0.48 Feet								
	12/21/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-13R	11/19/10	Free Product - 1.23 Feet								
	7/11/11	Free Product - 0.11 Feet								
	1/15/13	Free Product - 0.30 Feet								
	11/12/13	Free Product - 0.04 Feet								
15729 MW-14	4/12/03	**1,190**	**501**	**390**	**344**	**2,110**	**41.3**	NT	**0.12**	NT
	12/22/09	**1,250**	**20.3**	**44.8**	**15.0**	**58.1**	**12.0**	ND	**0.1719**	**43.6**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	**323**	**593**	**78.7**	**216**	**4.5J**	**4.9J**	<5.0	<0.020	NT
	1/14/13	**421**	**431**	**200**	**497**	**10.5J**	**33.3**	<12.5	**0.024**	NT
	11/12/13	**185**	**154**	**96.1**	**120**	**2.9J**	**7.8**	<5.0	<0.019	NT
15729 MW-15	4/12/03	**7,160**	**15,300**	**1,850**	**8,350**	ND	**282**	NT	**152**	NT
	12/21/09	**6,690**	**18,000**	**3,700**	**13,700**	**5.66**	**844**	ND	**46.78**	**244**
	11/19/10	Free Product - 0.21 Feet								
	7/11/11	Free Product - 0.30 Feet								
	1/14/13	Free Product - 3.27 Feet								
	11/12/13	Free Product - 2.76 Feet								
15729 MW-16D	4/2/03	**4.4**	**16.9**	**5.2**	**19.6**	ND	ND	NT	ND	NT
	12/21/09	**0.870**	**1.37**	**2.00**	**4.48**	ND	**0.890**	ND	ND	**4.00**
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	**1.7J**	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-17	4/2/03	**200**	**700**	ND	**720**	ND	ND	NT	**0.04**	NT
	12/21/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-17R	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	**2.3J**	<5.0	<0.020	NT
15729 MW-18	4/2/03	**6.5**	**426**	**327**	**978**	**70.8**	**49.0**	NT	ND	NT
	12/21/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-18R	11/22/10	<5.0	<5.0	<5.0	<10.0	**4.1J**	<5.0	<5.0	<0.019	<5.0
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	**2.6J**	<5.0	<5.0	<0.020	NT
15729 MW-19	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	**2.35**	ND	ND	ND	**210**
	11/19/10	<5.0	<5.0	<5.0	<10.0	**3.9J**	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-20	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	NT	ND	**214**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	**7.5**
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/11/13	NL	NL	NL	NL	NL	NL	NL	NL	NL
	11/12/13	NL	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-21	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	**63.0**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	**0.028**	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	**0.023**	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	**0.029**	NT
15729 MW-22	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	**49.1**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-23	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
	11/19/10	NL	NL	NL	NL	NL	NL	NL	NL	NL
	1/11/13	NL	NL	NL	NL	NL	NL	NL	NL	NL
	11/12/13	NL	NL	NL	NL	NL	NL	NL	NL	NL

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H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 3 OF 5

Well Number	Sample Date	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)	MTBE (µg/l)	Naphthalene (µg/l)	1,2 DCA (µg/l)	EDB (µg/l)	Total Lead (µg/l)
15729 MW-24	11/22/10	6,830	17,300	2,320	10,400	<500	397J	<500	87.8	65.4
	7/11/11	4,940	10,200	1,080	6,800	<500	226J	<500	146	NT
	1/21/13	6,410	6,130	778	3,160	233J	254J	<500	58.4	NT
	11/13/13	6,380	12,400	1,220	4,900	51.3	282J	106	105	NT
15729 MW-24 DUP	1/21/13	6,880	6,620	882	3,470	233J	269J	<500	63.2	NT
	11/13/13	6,670	11,100	1,150	4,550	58.0	271J	117	95.2	NT
15729 MW-25	11/22/10	4,060	5,550	471J	1,720	266J	<500	<500	54.9	17.0
	7/11/11	4,440	7,500	890	2,740	103J	142J	<250	30.9	NT
	2/14/13	2,810	5,150	783	2,260	<100	131	<100	3.5	NT
	11/13/13	29.1	9.4	6.6	24.1	<5.0	8.0	<5.0	14.7	NT
15729 MW-26	11/19/10	211	10.7	15.2	17.7	11.8	4.4J	1.7J	<0.020	<5.0
	7/11/11	257	72.7	81.3	103	7.1J	11.3	<10.0	<0.020	NT
	1/14/13	1,080	324	235	505	23.7J	46.1J	<50.0	<0.021	NT
	11/12/13	390	63.5	143	266	15.3	37.9	4.7J	<0.019	NT
15729 MW-27	11/19/10	177	2.2J	8.4	<10.0	9.1	<5.0	4.3J	<0.020	<5.0
	7/11/11	461	3.8J	11.8	23.4	12.3	8.7	9.1	0.040	NT
	1/14/13	178	<5.0	9.8	4.5J	6.9	<5.0	<5.0	<0.021	NT
	11/12/13	2,510	27.6	175	19.8	46.0	31.1	27.1	0.15	NT
15729 MW-28	11/22/10	3,410	5,070	698	3,250	164J	173J	<250	22.8	52.1
	1/21/13	Free Product - 1.33 Feet								
	11/13/13	Free Product - 1.18 Feet								
15729 MW-29	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	3.8J	<5.0	<5.0	<10.0	<5.0	3.3J	<5.0	<0.020	NT
	11/13/13	<5.0	2.0J	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-30	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	298	1.6J	<5.0	5.2J	<5.0	43.9	3.1J	0.29	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-31	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.18	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.080	NT
	1/14/13	135	<5.0	<5.0	<10.0	<5.0	3.1J	<5.0	0.058	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-32	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-32 DUP	2/4/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-33	11/19/10	144	714	152	419	<50.0	<50.0	<50.0	0.20	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	20.4	53.6	17.0	45.7	<5.0	<5.0	<5.0	0.039	NT
15729 MW-34D	11/19/10	<5.0	<5.0	<5.0	<10.0	4.1J	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	2.0J	<5.0	<5.0	<0.020	NT
	1/14/13	<5.0	<5.0	<5.0	<10.0	1.9J	<5.0	<5.0	<0.021	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-35i	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-36	7/11/11	2,130	2,790	527	2,180	95.1J	126	<100	14.1	NT
	1/15/13	Free Product - 0.04 Feet								
	11/13/13	Free Product - 0.78 Feet								
15729 MW-37	7/13/11	2,760	1,580	409	808	<125	86.4J	75.5J	14.5	NT
	1/21/13	2,810	220	244	224J	80.2J	134	81.6J	5.0	NT
	11/13/13	633	210	112	165	10.9	20.7	17.6	2.5	NT
15729 MW-37 DUP	1/21/13	2,980	238	257	229J	79.0J	139	84.0J	5.1	NT
	11/13/13	39.5	3.7J	4.6J	<10.0	<5.0	2.7J	1.9J	1.2	NT
15729 MW-38	7/11/11	2,790	16,700	2,590	12,300	<500	349J	<500	20.7	NT
	2/14/13	1,880	6,340	948	5,770	<250	274	<250	15.7	NT
	11/13/13	1,340	4,180	775	3,770	<5.0	184	<5.0	8.6	NT

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TABLE 2
GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 4 OF 5

Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-38 DUP	2/14/13	2,250	6,180	1,220	6,020	<250	234J	<250	18.0	NT
15729 MW-39	7/11/11	Free Product - 1.95 Feet								
	1/15/13	Free Product - 0.05 Feet								
	11/13/13	Free Product - 1.01 Feet								
15729 MW-40	7/11/11	Free Product - 1.92 Feet								
	1/21/13	Free Product - 1.79 Feet								
	11/13/13	Free Product - 1.56 Feet								
15729 MW-41	7/11/11	7,090	9,700	1,680	3,970	<500	434J	<500	21.8	NT
	1/14/13	Free Product - 0.40 Feet								
	11/12/13	Free Product - 0.41 Feet								
15729 MW-42	7/11/11	337	613	462	865	<25.0	93.8	<25.0	1.1	NT
	1/14/13	1,250	2,210	523	792	<125	96.0J	<125	6.5	NT
	11/12/13	28.4	45.2	781	633	<5.0	172	<5.0	<0.020	NT
15729 MW-43	7/11/11	Free Product - 1.66 Feet								
	1/14/13	Free Product - 2.43 Feet								
	11/12/13	Free Product - 3.32 Feet								
15729 MW-44	7/11/11	4,040	11,800	1,690	7,260	<500	245J	<500	107	NT
	2/14/13	996	3,960	598	3,510	<250	195J	<250	21.7	NT
	11/13/13	4,360	12,900	1,410	6,940	143	292J	81.3	112	NT
15729 MW-44 DUP	2/14/13	1,060	4,170	661	3,770	<250	221J	<250	23.3	NT
15729 MW-45	7/11/11	2,000	11,000	1,960	7,570	<500	<500	<500	13.6	NT
	1/15/13	Free Product - 0.02 Feet								
	11/13/13	Free Product - 1.87 Feet								
15729 MW-46	1/21/13	Free Product - 1.99 Feet								
	11/13/13	Free Product - 2.29 Feet								
15729 MW-47	2/14/13	5,710	1,180	622	574	198J	108J	120J	4.1	NT
	11/13/13	1,940	275	243	224	25.3	51.8	40.9	2.2	NT
15729 MW-48	1/21/13	1,080	14.9	28.0	10.7	37.4	88.3	85.0	0.17	NT
	11/13/13	39.8	3.5J	<5.0	<10.0	<5.0	5.7	4.4J	<0.020	NT
15729 MW-49	1/21/13	Free Product - 2.10 Feet								
	11/13/13	Free Product - 2.24 Feet								
15729 MW-50	1/21/13	960	1,300	183	799	1.8J	86.3	30.3	10.9	NT
	11/13/13	3,370	7,580	777	3,630	1.7J	82.7	34.2	95.2	NT
15729 MW-51	1/14/13	Free Product - 2.35 Feet								
	11/12/13	Free Product - 2.47 Feet								
15729 MW-52	1/14/13	1,070	162	832	644	1.9J	142	<5.0	0.092	NT
	11/12/13	5.6	95.1	285	835	<5.0	58.4	<5.0	<0.020	NT
15729 MW-53	1/14/13	9,410	5,350	1,290	1,610	196	182	<5.0	4.3	NT
	11/12/13	1,940	248	199	130	30.9	48.7	39.1	0.41	NT
15729 MW-53 DUP	11/12/13	1,270	251	154	115	21.0	26.6	22.9	0.39	NT
15729 MW-54	1/14/13	<5.0	3.8J	236	343	<5.0	88.4	<5.0	<0.021	NT
	11/12/13	<5.0	25.6	731	1,910	<5.0	226	<5.0	<0.020	NT
15729 MW-55	1/11/13	524	74.6	24.0	39.0	89.4	38.0	94.2	0.052	NT
	11/12/13	75.2	5.5	15.6	<10.0	<5.0	6.1	2.6J	0.046	NT
15729 MW-56	1/11/13	2,100	299	198	273	38.3	42.9	10.3	<0.020	NT
	11/12/13	3,220	26.2	259	11.6	90.6	81.9	33.2	0.040	NT
15729 MW-57	1/11/13	944	93.8	327	317	37.2	54.3	9.5	<0.020	NT
	11/12/13	605	<5.0	37.4	<10.0	19.8	10.1	5.9	<0.020	NT
15729 MW-58	2/14/13	282	5.7J	30.4	11.9J	10.7	8.1J	<10.0	<0.019	NT
	11/13/13	56.5	54.8	13.7	34.7	<5.0	3.3J	<5.0	0.090	NT
15729 MW-59	1/21/13	15.1	489	190	553	<5.0	69.3	<5.0	<0.020	NT
	11/13/13	196	540	59.1	563	5.2	35.4	<5.0	0.023	NT

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H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 5 OF 5

Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-60	2/14/13	**1,760**	**2,730**	**1,220**	**1,640**	<100	**205**	<100	**14.4**	NT
	11/13/13	**1,680**	**1,960**	**1,210**	**1,470**	<50.0	**189**	<50.0	**8.8**	NT
15729 MW-61	2/14/13	**4,490**	**10,900**	**1,370**	**6,090**	<500	**205J**	<500	**34.0**	NT
	11/13/13	**10,600**	**17,800**	**1,680**	**8,020**	**208**	**316**	**60.3**	**111**	NT
15729 MW-61 DUP	11/13/13	**9,500**	**19,200**	**1,950**	**9,370**	**128**	**505**	**53.3**	**134**	NT
15729 MW-62	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	**3.1J**	<5.0	**6.0J**	<5.0	**4.4J**	<5.0	**0.034**	NT
15729 MW-63	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	**3.6J**	**1.8J**	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-64	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-66	2/14/13	**2,430**	**5,580**	**739**	**2,450**	<250	<250	<250	**21.7**	NT
	11/13/13	**1,050**	**2,680**	**261**	**1,080**	**4.9J**	**94.6**	**4.1J**	**4.4**	NT
15729 WSW-1	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	NT
	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	7/29/11	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	1/21/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS	NS
15729 WSW-2	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	NT
	7/13/11	<1.0	<1.0	<1.0	<2.0	**0.29J**	<1.0	<1.0	<0.020	NT
	1/21/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	11/13/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 WSW-3	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.019	NT
	7/11/11	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	1/11/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 WSW-4	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	7/11/11	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	1/11/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 PS-1	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 SW-1	11/19/10	<1.0	**4.4**	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	11/13/13	<1.0	**33.5**	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 CS-1	12/22/09	ND	ND	ND	ND	ND	ND	ND	NT	NT
	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	7/11/11	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	1/11/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	11/12/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 CS-2	12/22/09	ND	ND	ND	ND	ND	ND	ND	NT	NT
	7/11/11	<1.0	**0.48J**	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	1/11/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	11/12/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 CS-3	2/4/14	**64.3**	**1.6**	**2.9**	<2.0	**32.6**	**1.3**	**0.90J**	<0.020	NT
15729 Field Blank #1	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/4/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 Field Blank #2	1/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	11/13/13	<5.0	**4.1J**	<5.0	<10.0	<5.0	**2.7J**	<5.0	<0.020	NT
15729 Field Blank #3	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 Trip Blank #1	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	NT	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/4/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	NT	NT
15729 Trip Blank #2	1/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 Trip Blank #3	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 Trip Blank #4	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT

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GROUNDWATER ANALYTICAL DATA (OXYGENATES)
H.W. DETWILER CO.
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 1 OF 4

Well Number	Sample Date	t-Amyl Alcohol (ug/l)	Tert-Amyl Methyl Ether (ug/l)	3,3-Dimethyl-1-Butanol (ug/l)	Tertiary Butyl Alcohol (ug/l)	tert-Butyl Formate (ug/l)	Diisopropyl Ether (ug/l)	Ethanol (ug/l)	Ethyl-tert-butyl Ether (ug/l)
15729 MW-1	7/13/11	Free Product - 0.88 Feet							
	1/21/13	Free Product - 0.98 Feet							
	11/13/13	Free Product - 0.44 Feet							
15729 MW-2D	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-3	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-4	7/13/11	**1,460**	<10.0	<100	<100	<50.0	**26.7**	<200	<10.0
	1/21/13	**3,890**	<50.0	<500	<500	<250	**63.4**	<1,000	<50.0
	11/13/13	**558**	<10.0	<100	<100	<50.0	**10.9**	<200	<10.0
15729 MW-5	1/21/13	**167**	<10.0	<100	<100	<50.0	**2.1J**	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-6	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-7	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-8	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-9	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-10	7/11/11	**1,960**	<10.0	<100	<100	<50.0	**15.3**	<200	<10.0
	1/11/13	**2,170**	<20.0	<200	<200	<100	**7.1J**	<400	<20.0
	11/12/13	**412**	<10.0	<100	<100	<50.0	**2.1J**	<200	<10.0
15729 MW-11	7/11/11	**128**	<10.0	<100	<100	<50.0	**2.6J**	**281**	<10.0
	1/14/13	**4,390**	<100	<1,000	<1,000	<500	**73.3**	<2,000	<100
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-12	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-13R	7/11/11	Free Product - 0.11 Feet							
	1/21/13	Free Product - 0.30 Feet							
	11/12/13	Free Product - 0.04 Feet							
15729 MW-14	7/11/11	**333**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	**1,270**	<25.0	<250	<250	<125	<12.5	<500	<25.0
	11/12/13	**333**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-15	7/11/11	Free Product - 0.30 Feet							
	1/21/13	Free Product - 3.27 Feet							
	11/12/13	Free Product - 2.76 Feet							
15729 MW-16D	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-17R	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-18R	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	**210**	<10.0	<100	**260**	<50.0	<5.0	<200	<10.0
15729 MW-19	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	**151J**	<10.0
15729 MW-20	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	NL	NL	NL	NL	NL	NL	NL	NL
	11/12/13	NL	NL	NL	NL	NL	NL	NL	NL

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SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 2 OF 4

Well Number	Sample Date	t-Amyl Alcohol (ug/l)	Tert-Amyl Methyl Ether (ug/l)	3,3-Dimethyl-1-Butanol (ug/l)	Tertiary Butyl Alcohol (ug/l)	tert-Butyl Formate (ug/l)	Diisopropyl Ether (ug/l)	Ethanol (ug/l)	Ethyl-tert-butyl Ether (ug/l)
15729 MW-21	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-22	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-23	1/11/13	NL	NL	NL	NL	NL	NL	NL	NL
	11/12/13	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-24	7/11/11	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	1/21/13	**17,400**	<1,000	<10,000	<10,000	<5,000	**316J**	<20,000	<1,000
	11/13/13	**25,300**	**6.7J**	<100	**249**	<50.0	**159**	<200	<10.0
15729 MW-24 DUP	1/21/13	**16,700**	<1,000	<10,000	<10,000	<5,000	**318J**	<20,000	<1,000
	11/13/13	**19,300**	**6.1J**	<100	**333**	<50.0	**172**	<200	<10.0
15729 MW-25	7/11/11	**5,710**	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
	2/14/13	**3,420**	<200	<2,000	<2,000	<1,000	<100	<4,000	<200
	11/13/13	**165**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-26	7/11/11	**417**	<20.0	<200	<200	<100	<10.0	<400	<20.0
	1/14/13	**3,390**	<100	<1,000	<1,000	<500	<50.0	<2,000	<100
	11/12/13	**1,560**	<10.0	<100	<100	<50.0	**5.3**	<200	<10.0
15729 MW-27	7/11/11	**791**	<10.0	<100	<100	<50.0	**11.9**	<200	<10.0
	1/14/13	**487**	<10.0	<100	<100	<50.0	**3.4J**	**453**	<10.0
	11/12/13	**3,250**	**6.6J**	<100	**60.1J**	<50.0	**42.4**	<200	<10.0
15729 MW-28	1/21/13	Free Product - 1.33 Feet							
	11/13/13	Free Product - 1.18 Feet							
15729 MW-29	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-30	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	**1,350**	<10.0	<100	<100	<50.0	**1.8J**	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-31	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	**242**	<10.0	<100	<100	<50.0	**4.8J**	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-32	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-32 DUP	2/4/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-33	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	**101**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-34D	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-35i	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-36	7/11/11	**2,600**	<200	<2,000	<2,000	<1,000	**45.2J**	<4,000	<200
	1/15/13	Free Product - 0.04 Feet							
	11/13/13	Free Product - 0.78 Feet							
15729 MW-37	7/13/11	**7,390**	<250	<2,500	<2,500	<1,250	**87.9J**	<5,000	<250
	1/21/13	**12,000**	<250	<2,500	<2,500	<1,250	**125**	<5,000	<250
	11/13/13	**1,660**	<10.0	<100	<100	<50.0	**21.1**	<200	<10.0
15729 MW-37 DUP	1/21/13	**11,000**	<250	<2,500	<2,500	<1,250	**129**	<5,000	<250
	11/13/13	**117**	<10.0	<100	<100	<50.0	**<5.0**	<200	<10.0

Notes:

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4. NL = Not Located
5. NS = Not Sampled
6. PROD= Free Phase Product detected
7. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

TABLE 3
GROUNDWATER ANALYTICAL DATA (OXYGENATES)
H.W. DETWILER CO.
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 3 OF 4

Well Number	Sample Date	t-Amyl Alcohol (ug/l)	Tert-Amyl Methyl Ether (ug/l)	3,3-Dimethyl-1-Butanol (ug/l)	Tertiary Butyl Alcohol (ug/l)	tert-Butyl Formate (ug/l)	Diisopropyl Ether (ug/l)	Ethanol (ug/l)	Ethyl-tert-butyl Ether (ug/l)
15729 MW-38	7/11/11	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	2/14/13	**6,740**	<500	**1,880**	<5,000	<5,000	<2,500	<10,000	<500
	11/13/13	**3,790**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-38 DUP	2/14/13	**5,360**	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
15729 MW-39	7/11/11	Free Product - 1.95 Feet							
	1/15/13	Free Product - 0.05 Feet							
	11/13/13	Free Product - 1.01 Feet							
15729 MW-40	7/11/11								
	1/21/13	Free Product - 1.92 Feet							
	11/13/13	Free Product - 1.79 Feet							
		Free Product - 1.56 Feet							
15729 MW-41	7/11/11	**13,400**	<1,000	<10,000	<10,000	<5,000	**179J**	<20,000	<1,000
	1/14/13	Free Product - 0.40 Feet							
	11/12/13	Free Product - 0.41 Feet							
15729 MW-42	7/11/11	**849**	<50.0	<500	<500	<250	<25.0	<1,000	<50.0
	1/14/13	**2,330J**	<250	<2,500	<2,500	<1,250	<125	<5,000	<250
	11/12/13	**407**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-43	7/11/11	Free Product - 1.66 Feet							
	1/14/13	Free Product - 2.43 Feet							
	11/12/13	Free Product - 3.32 Feet							
15729 MW-44	7/11/11	**8,400J**	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	2/14/13	<5,000	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
	11/13/13	**26,600**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-44 DUP	2/14/13	<5,000	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
15729 MW-45	7/11/11	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	1/15/13	Free Product - 0.02 Feet							
	11/13/13	Free Product - 1.87 Feet							
15729 MW-46	1/21/13								
	11/13/13	Free Product - 1.99 Feet							
		Free Product - 2.29 Feet							
15729 MW-47	2/14/13	**10,100**	<500	<5,000	<5,000	<2,500	**204J**	<10,000	<500
	11/13/13	**3,870**	<10.0	<100	<100	<50.0	**65.1**	<200	<10.0
15729 MW-48	1/21/13	**6,750**	**6.5J**	<100	**131**	<50.0	**102**	<200	<10.0
	11/13/13	**381**	<10.0	<100	<100	<50.0	**5.2**	<200	<10.0
15729 MW-49	1/21/13	Free Product - 2.10 Feet							
	11/13/13	Free Product - 2.24 Feet							
15729 MW-50	1/21/13	**2,680**	<10.0	<100	<100	<50.0	**23.4**	<200	<10.0
	11/13/13	**18,500**	<10.0	<100	<100	<50.0	**<5.0**	<200	<10.0
15729 MW-51	1/14/13	Free Product - 2.35 Feet							
	11/12/13	Free Product - 2.47 Feet							
15729 MW-52	1/14/13	**2,820**	<10.0	<100	<100	<50.0	**18.5**	<200	<10.0
	11/12/13	**165**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-53	1/14/13	**24,400**	**31.4**	<100	**422**	<50.0	**318**	<200	<10.0
	11/12/13	**3,670**	**5.1J**	<100	**70.6J**	<50.0	**50.9**	<200	<10.0
15729 MW-53 DUP	11/12/13	**2,400**	**3.7J**	<100	<100	<50.0	**33.0**	<200	<10.0
15729 MW-54	1/14/13	**78.9J**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-55	1/11/13	**10,400**	**9.1J**	<100	**192**	<50.0	**142**	<200	<10.0
	11/12/13	**223**	<10.0	<100	<100	<50.0	**2.8J**	<200	<10.0
15729 MW-56	1/11/13	**4,620**	<10.0	<100	**82.1J**	<50.0	**15.0**	<200	<10.0
	11/12/13	**4,970J**	**12.7**	<100	**112**	<50.0	**47.7**	<200	<10.0
15729 MW-57	1/11/13	**3,970**	<10.0	<100	**151**	<50.0	**11.1**	<200	<10.0
	11/12/13	**2,190**	<10.0	<100	<100	<50.0	**7.0**	<200	<10.0

Notes:

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7. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

TABLE 3
GROUNDWATER ANALYTICAL DATA (OXYGENATES)
H.W. DETWILER CO.
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 4 OF 4

Well Number	Sample Date	t-Amyl Alcohol (ug/l)	Tert-Amyl Methyl Ether (ug/l)	3,3-Dimethyl-1-Butanol (ug/l)	Tertiary Butyl Alcohol (ug/l)	tert-Butyl Formate (ug/l)	Diisopropyl Ether (ug/l)	Ethanol (ug/l)	Ethyl-tert-butyl Ether (ug/l)
15729 MW-58	2/14/13	**592**	<20.0	<200	<200	<100	**4.6J**	<400	<20.0
	11/13/13	**144**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-59	1/21/13	**294**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	**973**	<10.0	<100	**548**	<50.0	<5.0	<200	<10.0
15729 MW-60	2/14/13	**4,080**	<200	<2,000	<2,000	<1,000	<100	<4,000	<200
	11/13/13	**2,830**	<100	<1,000	<1,000	<500	<50.0	<2,000	<100
15729 MW-61	2/14/13	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	11/13/13	**17,900**	**113**	<1,000	<1,000	<500	<50.0	<2,000	<100
15729 MW-61 DUP	11/13/13	**28,000**	**66.3**	<500	**386J**	<250	**99.6**	<1,000	<50.0
15729 MW-62	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-63	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	**87.3J**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-64	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-66	2/14/13	<5,000	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
	11/13/13	<5,000	<10.0	**47.7J**	<100	<50.0	<5.0	<200	<10.0
15729 WSW-1	7/29/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
15729 WSW-2	7/13/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 WSW-3	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 WSW-4	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<10.0	<50.0	<1.0	<200	<10.0
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<100	<10.0	<100	<10.0	<50.0	<1.0	<200	<10.0
15729 PS-1	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<100	<10.0	<100	<10.0	<50.0	<1.0	<200	<10.0
15729 SW-1	11/13/13	<100	<10.0	<100	<100	<50.0	<1.0	**1,910**	<10.0
15729 CS-1	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 CS-2	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 CS-3	2/4/14	**1,950**	**1.2J**	<100	**50.9J**	<50.0	**8.1**	<200	**0.19J**
15729 Field Blank #1	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/4/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Field Blank #2	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Field Blank #3	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #1	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/4/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #2	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #3	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #4	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0

Notes:

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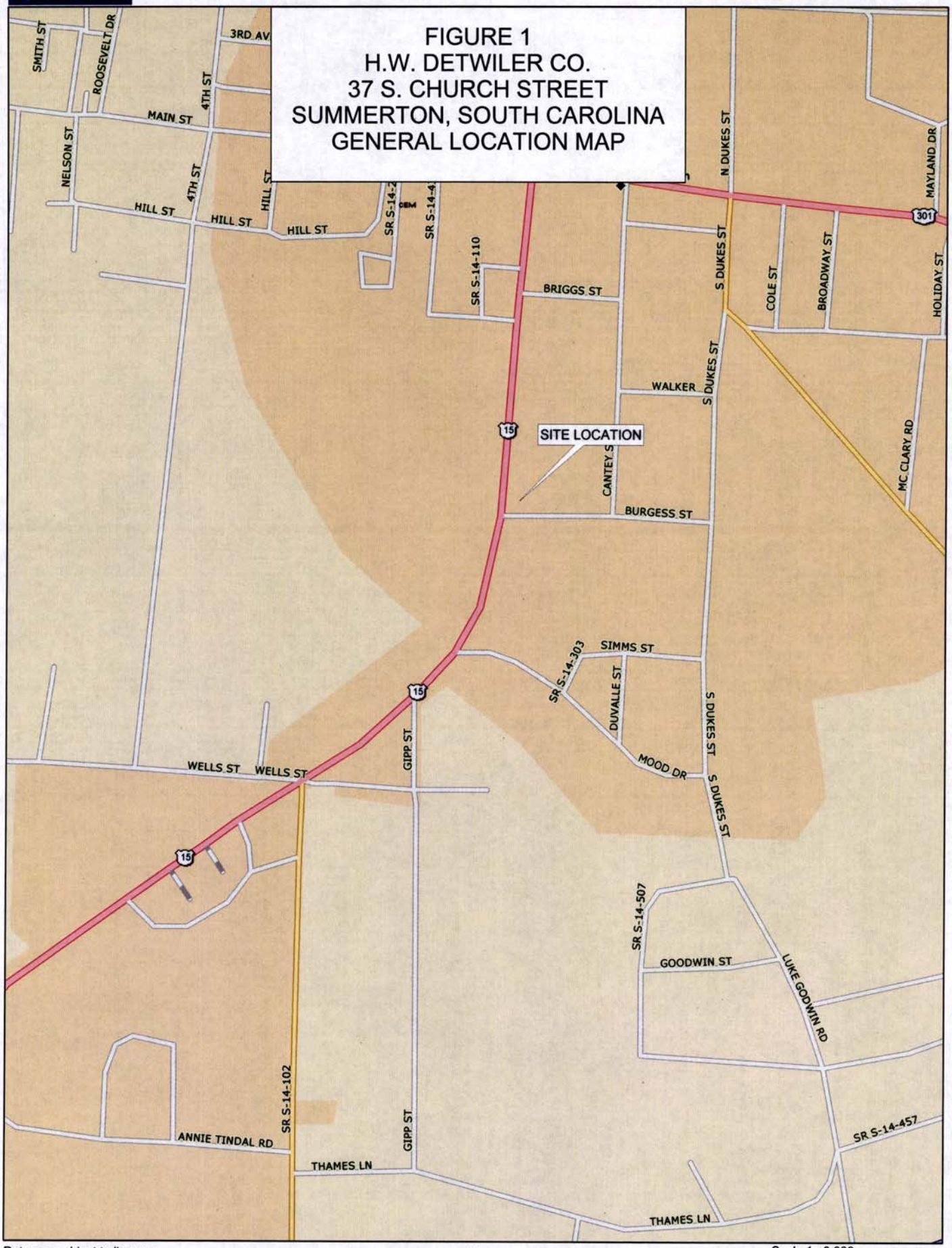
7. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

FIGURES

FIGURE 1
H.W. DETWILER CO.
37 S. CHURCH STREET
SUMMERTON, SOUTH CAROLINA
GENERAL LOCATION MAP



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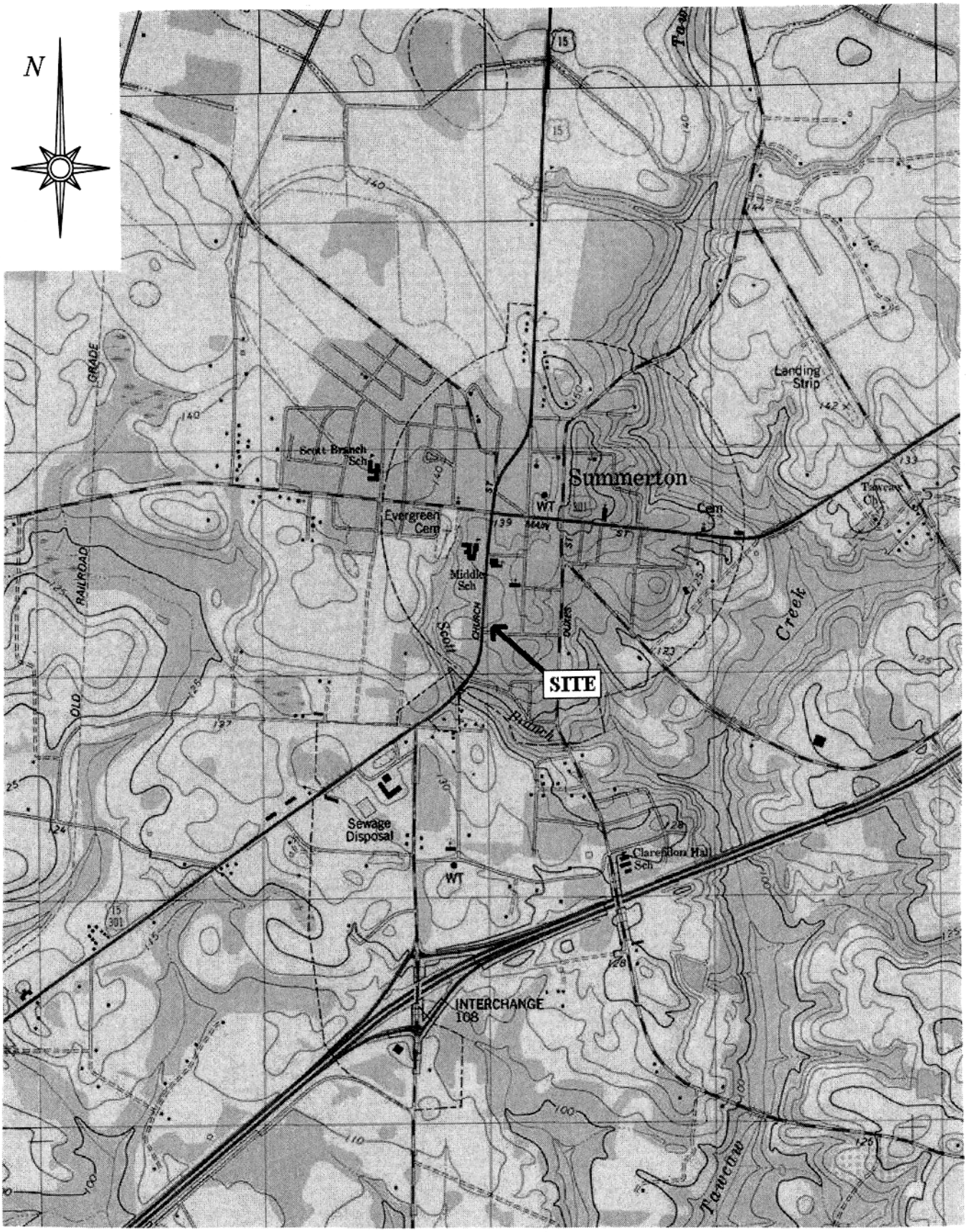
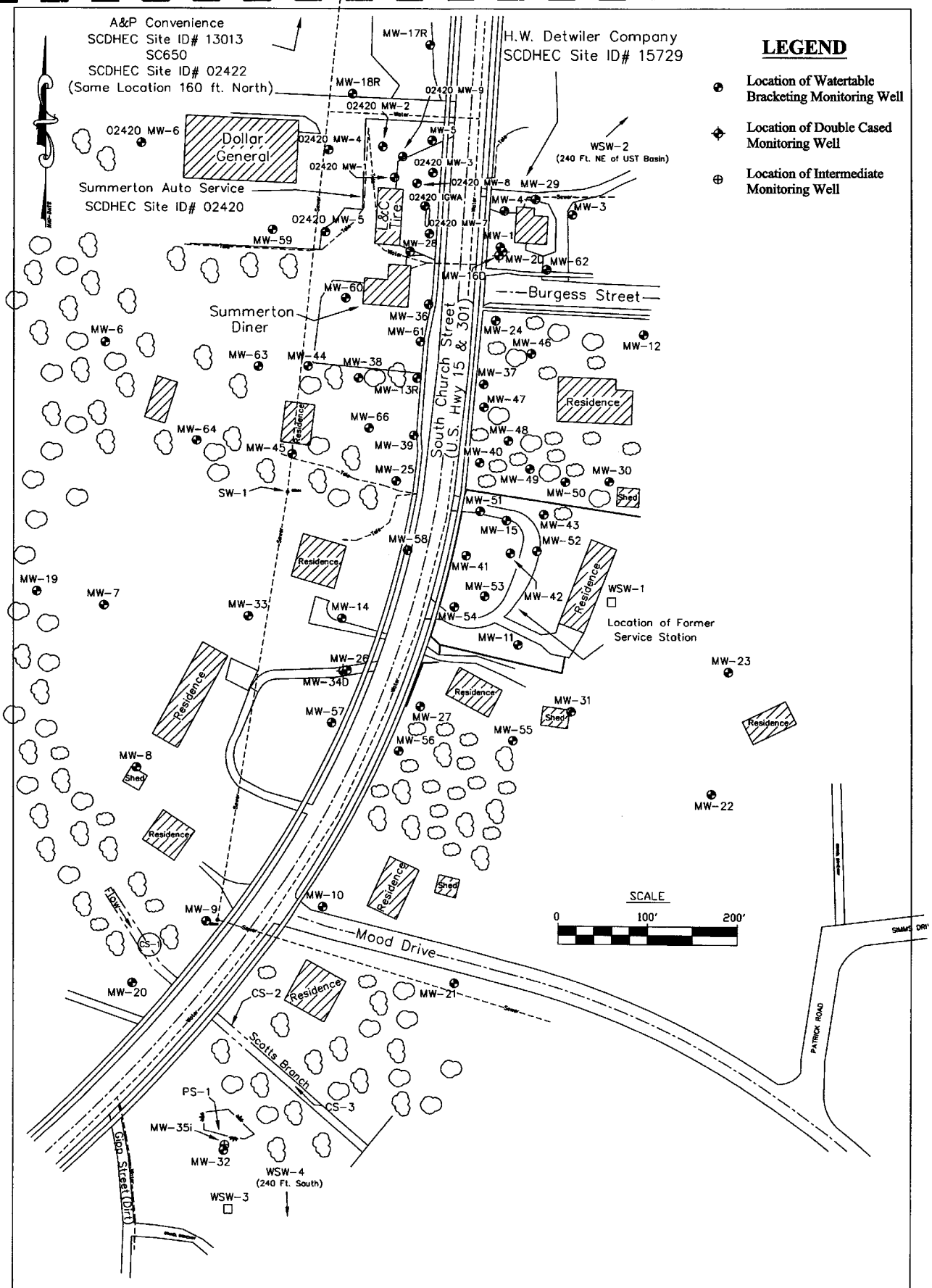
TN
MN (7.5°W)

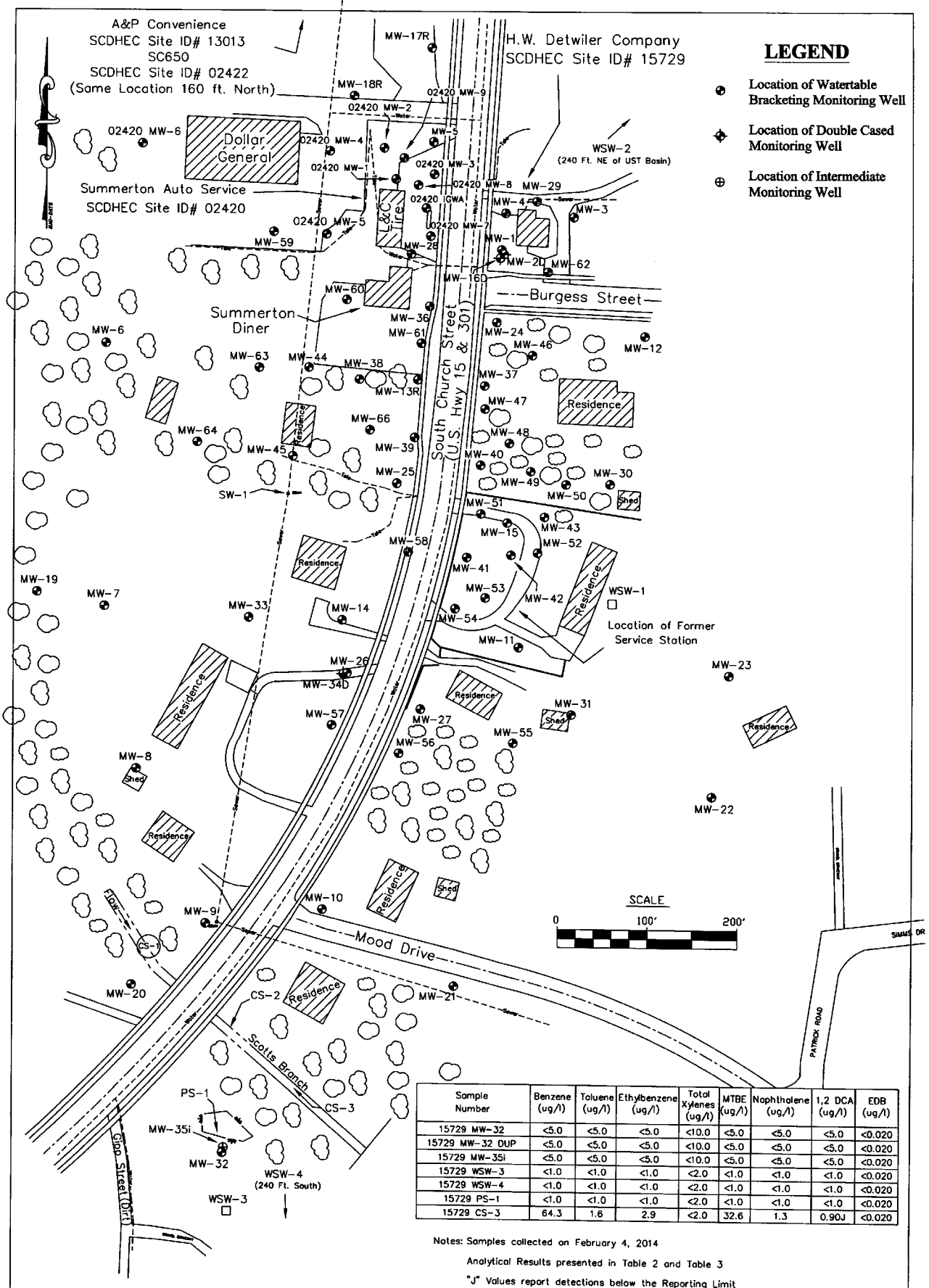
Scale 1 : 8,000
0 200 400 600 800 1000 ft
0 60 120 180 240 300 m
1" = 666.7 ft
Data Zoom 14-6



H.W. Detwiler Company 37 South Church Street Summerton, SC SCDHEC Site ID# 15729	Figure 2 USGS Topographic Map 7.5 Minute Map "Summerton, SC" Quadrangle Scale 1 to 2,000	EMERALD, INC. Sumter, SC



PROJECT:	SHEET TITLE:	DATE:	
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 SITE MAP	2/25/14	EMERALD, INC. SUMTER, SOUTH CAROLINA



Sample Number	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)
15729 MW-32	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-32 DUP	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-35i	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 WSW-3	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 WSW-4	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 PS-1	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 CS-3	64.3	1.6	2.9	<2.0	32.6	1.3	0.90J	<0.020

Notes: Samples collected on February 4, 2014

Analytical Results presented in Table 2 and Table 3

"J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

PROJECT:	SHEET TITLE:	DATE:	
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 4 Groundwater CoC Map	2/20/14	EMERALD, INC. SUMTER, SOUTH CAROLINA

APPENDIX A

PURGE LOGS

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-32

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Road

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 2-12 Ft.

STATIC WATER LEVEL: 3.58 Ft.

WATER HEIGHT (Hw): 8.42 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.372 x 5 = 6.86 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 11 Gallons

DATE: 2/4/14

EMERALD, INC. PERSONNEL: C. McClary

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 41-48°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	3.89	13.1	3.92	154.4	148.5	Slightly Cloudy, No Petroleum Odor
1st	4.31	13.9	3.97	68.4	>1,100	Cloudy, No Petroleum Odor
2nd	3.83	13.8	4.30	63.1	>1,100	Cloudy, No Petroleum Odor
3rd	3.94	13.6	4.58	63.9	>1,100	Cloudy, No Petroleum Odor
4th	4.61	13.9	4.55	63.9	>1,100	Cloudy, No Petroleum Odor
5th	4.28	13.2	4.66	63.9	>1,100	Cloudy, No Petroleum Odor
Sample collected at 1230						
Duplicate sample collected at 1231						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-35i

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Road

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 26-31 Ft.

STATIC WATER LEVEL: 3.62 Ft.

WATER HEIGHT (Hw): 27.38 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 4.463 x 5 = 22.31 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: Dry at 24 Gallons

DATE: 2/4/14

EMERALD, INC. PERSONNEL: C. McClary

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 41-48°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	5.90	16.3	4.94	57.9	31.3	Clear, No Petroleum Odor
1st	5.98	17.0	5.08	N/A	>1,100	Cloudy, No Petroleum Odor
After Recharge	6.53	17.2	5.78	56.3	>1,100	Cloudy, No Petroleum Odor
						Well dry at 24 gallons
Sample collected at 1300						

APPENDIX B

ANALYTICAL DATA SHEETS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

February 11, 2014

Ms. Robbin Brown
Emerald, Inc.
2520 Tahoe Drive
Sumter, SC 29150

RE: Project: HW Detwiler
Pace Project No.: 92188820

Dear Ms. Brown:
Enclosed are the analytical results for sample(s) received by the laboratory on February 05, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angela M. Baioni

Angela Baioni
angela.baioni@pacelabs.com
Project Manager

Enclosures

cc: Nicole Christopher, Emerald, Inc.
Mr. Chad McClary, Emerald, Inc.

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: HW Detwiler
Pace Project No.: 92188820

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

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SAMPLE SUMMARY

Project: HW Detwiler
Pace Project No.: 92188820

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92188820001	15729 MW-32	Water	02/04/14 12:30	02/05/14 17:00
92188820002	15729 MW-32 Dup	Water	02/04/14 12:31	02/05/14 17:00
92188820003	15729 MW-35i	Water	02/04/14 13:00	02/05/14 17:00
92188820004	15729 Field Blank	Water	02/04/14 13:10	02/05/14 17:00
92188820005	15729 Trip Blank	Water	02/05/14 00:00	02/05/14 17:00
92188820006	15729 WSW-3	Water	02/05/14 10:25	02/05/14 17:00
92188820007	15729 WSW-4	Water	02/05/14 10:45	02/05/14 17:00
92188820008	15729 PS-1	Water	02/05/14 13:20	02/05/14 17:00
92188820009	15729 CS-3	Water	02/05/14 13:30	02/05/14 17:00

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SAMPLE ANALYTE COUNT

Project: HW Detwiler
Pace Project No.: 92188820

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92188820001	**15729 MW-32**	EPA 8011	EJK	2	PASI-C
		EPA 8260	MCK	20	PASI-C
92188820002	**15729 MW-32 Dup**	EPA 8011	EJK	2	PASI-C
		EPA 8260	MCK	20	PASI-C
92188820003	**15729 MW-35i**	EPA 8011	EJK	2	PASI-C
		EPA 8260	MCK	20	PASI-C
92188820004	**15729 Field Blank**	EPA 8011	EJK	2	PASI-C
		EPA 8260	MCK	20	PASI-C
92188820005	**15729 Trip Blank**	EPA 8260	MCK	20	PASI-C
92188820006	**15729 WSW-3**	EPA 8011	EJK	2	PASI-C
		EPA 8260	MCK	20	PASI-C
92188820007	**15729 WSW-4**	EPA 8011	EJK	2	PASI-C
		EPA 8260	MCK	20	PASI-C
92188820008	**15729 PS-1**	EPA 8011	EJK	2	PASI-C
		EPA 8260	MCK	20	PASI-C
92188820009	**15729 CS-3**	EPA 8011	EJK	2	PASI-C
		EPA 8260	MCK	20	PASI-C

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ANALYTICAL RESULTS

Project: HW Detwiler
Pace Project No.: 92188820

Sample: 15729 MW-32 **Lab ID: 92188820001** Collected: 02/04/14 12:30 Received: 02/05/14 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/06/14 11:45	02/06/14 13:45	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	113	%	60-140		1	02/06/14 11:45	02/06/14 13:45	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		02/10/14 22:23	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		02/10/14 22:23	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		02/10/14 22:23	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		02/10/14 22:23	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		02/10/14 22:23	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		02/10/14 22:23	762-75-4	L2
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		02/10/14 22:23	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		02/10/14 22:23	108-20-3	
Ethanol	ND	ug/L	200	138	1		02/10/14 22:23	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		02/10/14 22:23	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		02/10/14 22:23	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		02/10/14 22:23	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		02/10/14 22:23	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		02/10/14 22:23	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/10/14 22:23	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		02/10/14 22:23	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		02/10/14 22:23	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		1		02/10/14 22:23	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		1		02/10/14 22:23	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		02/10/14 22:23	2037-26-5	

Sample: 15729 MW-32 Dup **Lab ID: 92188820002** Collected: 02/04/14 12:31 Received: 02/05/14 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/06/14 11:45	02/06/14 14:06	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	110	%	60-140		1	02/06/14 11:45	02/06/14 14:06	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		02/10/14 22:39	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		02/10/14 22:39	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		02/10/14 22:39	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		02/10/14 22:39	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		02/10/14 22:39	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		02/10/14 22:39	762-75-4	L2
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		02/10/14 22:39	107-06-2	

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ANALYTICAL RESULTS

Project: HW Detwiler
Pace Project No.: 92188820

Sample: 15729 MW-32 Dup **Lab ID: 92188820002** Collected: 02/04/14 12:31 Received: 02/05/14 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Diisopropyl ether	ND	ug/L	5.0	1.7	1		02/10/14 22:39	108-20-3	
Ethanol	ND	ug/L	200	138	1		02/10/14 22:39	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		02/10/14 22:39	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		02/10/14 22:39	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		02/10/14 22:39	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		02/10/14 22:39	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		02/10/14 22:39	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/10/14 22:39	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		02/10/14 22:39	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		02/10/14 22:39	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		02/10/14 22:39	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		02/10/14 22:39	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		02/10/14 22:39	2037-26-5	

Sample: 15729 MW-35i **Lab ID: 92188820003** Collected: 02/04/14 13:00 Received: 02/05/14 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/06/14 11:45	02/06/14 14:26	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	88	%	60-140		1	02/06/14 11:45	02/06/14 14:26	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		02/10/14 22:55	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		02/10/14 22:55	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		02/10/14 22:55	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		02/10/14 22:55	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		02/10/14 22:55	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		02/10/14 22:55	762-75-4	L2
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		02/10/14 22:55	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		02/10/14 22:55	108-20-3	
Ethanol	ND	ug/L	200	138	1		02/10/14 22:55	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		02/10/14 22:55	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		02/10/14 22:55	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		02/10/14 22:55	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		02/10/14 22:55	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		02/10/14 22:55	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/10/14 22:55	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		02/10/14 22:55	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		02/10/14 22:55	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		02/10/14 22:55	460-00-4	

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ANALYTICAL RESULTS

Project: HW Detwiler
Pace Project No.: 92188820

Sample: 15729 MW-35i **Lab ID: 92188820003** Collected: 02/04/14 13:00 Received: 02/05/14 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	70-130		1		02/10/14 22:55	17060-07-0	
Toluene-d8 (S)	96	%	70-130		1		02/10/14 22:55	2037-26-5	

Sample: 15729 Field Blank **Lab ID: 92188820004** Collected: 02/04/14 13:10 Received: 02/05/14 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/06/14 11:46	02/06/14 14:47	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	110	%	60-140		1	02/06/14 11:46	02/06/14 14:47	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		02/08/14 02:35	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		02/08/14 02:35	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		02/08/14 02:35	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		02/08/14 02:35	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		02/08/14 02:35	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		02/08/14 02:35	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		02/08/14 02:35	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		02/08/14 02:35	108-20-3	
Ethanol	ND	ug/L	200	138	1		02/08/14 02:35	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		02/08/14 02:35	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		02/08/14 02:35	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		02/08/14 02:35	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		02/08/14 02:35	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		02/08/14 02:35	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/08/14 02:35	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		02/08/14 02:35	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		02/08/14 02:35	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		02/08/14 02:35	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		02/08/14 02:35	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		02/08/14 02:35	2037-26-5	

Sample: 15729 Trip Blank **Lab ID: 92188820005** Collected: 02/05/14 00:00 Received: 02/05/14 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		02/08/14 03:37	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		02/08/14 03:37	994-05-8	

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(704)875-9092

ANALYTICAL RESULTS

Project: HW Detwiler
Pace Project No.: 92188820

Sample: 15729 Trip Blank **Lab ID: 92188820005** Collected: 02/05/14 00:00 Received: 02/05/14 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.7	1		02/08/14 03:37	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		02/08/14 03:37	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		02/08/14 03:37	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		02/08/14 03:37	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		02/08/14 03:37	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		02/08/14 03:37	108-20-3	
Ethanol	ND	ug/L	200	138	1		02/08/14 03:37	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		02/08/14 03:37	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		02/08/14 03:37	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		02/08/14 03:37	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		02/08/14 03:37	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		02/08/14 03:37	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/08/14 03:37	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		02/08/14 03:37	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		02/08/14 03:37	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		02/08/14 03:37	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		02/08/14 03:37	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		02/08/14 03:37	2037-26-5	

Sample: 15729 WSW-3 **Lab ID: 92188820006** Collected: 02/05/14 10:25 Received: 02/05/14 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/06/14 11:46	02/06/14 15:08	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	110	%	60-140		1	02/06/14 11:46	02/06/14 15:08	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		02/07/14 22:57	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		02/07/14 22:57	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		02/07/14 22:57	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		02/07/14 22:57	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		02/07/14 22:57	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		02/07/14 22:57	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		02/07/14 22:57	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		02/07/14 22:57	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		02/07/14 22:57	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/07/14 22:57	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		02/07/14 22:57	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		02/07/14 22:57	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		02/07/14 22:57	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		02/07/14 22:57	108-88-3	

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ANALYTICAL RESULTS

Project: HW Detwiler
Pace Project No.: 92188820

Sample: 15729 WSW-3 **Lab ID: 92188820006** Collected: 02/05/14 10:25 Received: 02/05/14 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260								
Xylene (Total)	ND	ug/L	2.0	0.66	1		02/07/14 22:57	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		02/07/14 22:57	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		02/07/14 22:57	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		02/07/14 22:57	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		02/07/14 22:57	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		02/07/14 22:57	2037-26-5	

Sample: 15729 WSW-4 **Lab ID: 92188820007** Collected: 02/05/14 10:45 Received: 02/05/14 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/06/14 11:46	02/06/14 16:11	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	113	%	60-140		1	02/06/14 11:46	02/06/14 16:11	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		02/07/14 23:13	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		02/07/14 23:13	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		02/07/14 23:13	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		02/07/14 23:13	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		02/07/14 23:13	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		02/07/14 23:13	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		02/07/14 23:13	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		02/07/14 23:13	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		02/07/14 23:13	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/07/14 23:13	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		02/07/14 23:13	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		02/07/14 23:13	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		02/07/14 23:13	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		02/07/14 23:13	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		02/07/14 23:13	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		02/07/14 23:13	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		02/07/14 23:13	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		02/07/14 23:13	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		02/07/14 23:13	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		02/07/14 23:13	2037-26-5	

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ANALYTICAL RESULTS

Project: HW Detwiler
Pace Project No.: 92188820

Sample: 15729 PS-1 **Lab ID: 92188820008** Collected: 02/05/14 13:20 Received: 02/05/14 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/06/14 11:46	02/06/14 16:52	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	116	%	60-140		1	02/06/14 11:46	02/06/14 16:52	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		02/07/14 23:29	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		02/07/14 23:29	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		02/07/14 23:29	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		02/07/14 23:29	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		02/07/14 23:29	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		02/07/14 23:29	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		02/07/14 23:29	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		02/07/14 23:29	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		02/07/14 23:29	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/07/14 23:29	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		02/07/14 23:29	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		02/07/14 23:29	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		02/07/14 23:29	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		02/07/14 23:29	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		02/07/14 23:29	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		02/07/14 23:29	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		02/07/14 23:29	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		02/07/14 23:29	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		02/07/14 23:29	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		02/07/14 23:29	2037-26-5	

Sample: 15729 CS-3 **Lab ID: 92188820009** Collected: 02/05/14 13:30 Received: 02/05/14 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/06/14 11:46	02/06/14 17:13	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	123	%	60-140		1	02/06/14 11:46	02/06/14 17:13	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**1950**	ug/L	100	50.0	1		02/07/14 23:44	75-85-4	
tert-Amylmethyl ether	**1.2J**	ug/L	10.0	0.10	1		02/07/14 23:44	994-05-8	
Benzene	**64.3**	ug/L	1.0	0.25	1		02/07/14 23:44	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		02/07/14 23:44	624-95-3	
tert-Butyl Alcohol	**50.9J**	ug/L	100	3.6	1		02/07/14 23:44	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		02/07/14 23:44	762-75-4	
1,2-Dichloroethane	**0.90J**	ug/L	1.0	0.12	1		02/07/14 23:44	107-06-2	

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ANALYTICAL RESULTS

Project: HW Detwiler
Pace Project No.: 92188820

Sample: 15729 CS-3 **Lab ID: 92188820009** Collected: 02/05/14 13:30 Received: 02/05/14 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260								
Diisopropyl ether	**8.1**	ug/L	1.0	0.12	1		02/07/14 23:44	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		02/07/14 23:44	64-17-5	
Ethylbenzene	**2.9**	ug/L	1.0	0.30	1		02/07/14 23:44	100-41-4	
Ethyl-tert-butyl ether	**0.19J**	ug/L	10.0	0.070	1		02/07/14 23:44	637-92-3	
Methyl-tert-butyl ether	**32.6**	ug/L	1.0	0.21	1		02/07/14 23:44	1634-04-4	
Naphthalene	**1.3**	ug/L	1.0	0.24	1		02/07/14 23:44	91-20-3	
Toluene	**1.6**	ug/L	1.0	0.26	1		02/07/14 23:44	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		02/07/14 23:44	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		02/07/14 23:44	179601-23-1	
o-Xylene	**0.67J**	ug/L	1.0	0.23	1		02/07/14 23:44	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		02/07/14 23:44	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		02/07/14 23:44	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		02/07/14 23:44	2037-26-5	

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QUALITY CONTROL DATA

Project: HW Detwiler
Pace Project No.: 92188820

QC Batch: MSV/25728 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 92188820006, 92188820007, 92188820008, 92188820009

METHOD BLANK: 1135309 Matrix: Water
Associated Lab Samples: 92188820006, 92188820007, 92188820008, 92188820009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	02/07/14 18:03	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	02/07/14 18:03	
Benzene	ug/L	ND	1.0	02/07/14 18:03	
Diisopropyl ether	ug/L	ND	1.0	02/07/14 18:03	
Ethanol	ug/L	ND	200	02/07/14 18:03	
Ethyl-tert-butyl ether	ug/L	ND	10.0	02/07/14 18:03	
Ethylbenzene	ug/L	ND	1.0	02/07/14 18:03	
m&p-Xylene	ug/L	ND	2.0	02/07/14 18:03	
Methyl-tert-butyl ether	ug/L	ND	1.0	02/07/14 18:03	
Naphthalene	ug/L	ND	1.0	02/07/14 18:03	
o-Xylene	ug/L	ND	1.0	02/07/14 18:03	
tert-Amyl Alcohol	ug/L	ND	100	02/07/14 18:03	
tert-Amylmethyl ether	ug/L	ND	10.0	02/07/14 18:03	
tert-Butyl Alcohol	ug/L	ND	100	02/07/14 18:03	
tert-Butyl Formate	ug/L	ND	50.0	02/07/14 18:03	
Toluene	ug/L	ND	1.0	02/07/14 18:03	
Xylene (Total)	ug/L	ND	2.0	02/07/14 18:03	
1,2-Dichloroethane-d4 (S)	%	98	70-130	02/07/14 18:03	
4-Bromofluorobenzene (S)	%	95	70-130	02/07/14 18:03	
Toluene-d8 (S)	%	100	70-130	02/07/14 18:03	

LABORATORY CONTROL SAMPLE: 1135310

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.2	96	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	900	90	70-130	
Benzene	ug/L	50	50.1	100	70-130	
Diisopropyl ether	ug/L	50	52.2	104	70-130	
Ethanol	ug/L	2000	1840	92	70-130	
Ethyl-tert-butyl ether	ug/L	100	89.8	90	70-130	
Ethylbenzene	ug/L	50	48.1	96	70-130	
m&p-Xylene	ug/L	100	100	100	70-130	
Methyl-tert-butyl ether	ug/L	50	50.2	100	70-130	
Naphthalene	ug/L	50	35.0	70	70-130	
o-Xylene	ug/L	50	49.9	100	70-130	
tert-Amyl Alcohol	ug/L	1000	897	90	70-130	
tert-Amylmethyl ether	ug/L	100	97.8	98	70-130	
tert-Butyl Alcohol	ug/L	500	438	88	70-130	
tert-Butyl Formate	ug/L	400	415	104	70-130	
Toluene	ug/L	50	47.8	96	70-130	
Xylene (Total)	ug/L	150	150	100	70-130	

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QUALITY CONTROL DATA

Project: HW Detwiler
Pace Project No.: 92188820

LABORATORY CONTROL SAMPLE: 1135310

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			99	70-130	

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QUALITY CONTROL DATA

Project: HW Detwiler
Pace Project No.: 92188820

QC Batch: MSV/25729 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92188820004, 92188820005

METHOD BLANK: 1135315 Matrix: Water
Associated Lab Samples: 92188820004, 92188820005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	02/07/14 18:18	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	02/07/14 18:18	
Benzene	ug/L	ND	5.0	02/07/14 18:18	
Diisopropyl ether	ug/L	ND	5.0	02/07/14 18:18	
Ethanol	ug/L	ND	200	02/07/14 18:18	
Ethyl-tert-butyl ether	ug/L	ND	10.0	02/07/14 18:18	
Ethylbenzene	ug/L	ND	5.0	02/07/14 18:18	
m&p-Xylene	ug/L	ND	10.0	02/07/14 18:18	
Methyl-tert-butyl ether	ug/L	ND	5.0	02/07/14 18:18	
Naphthalene	ug/L	ND	5.0	02/07/14 18:18	
o-Xylene	ug/L	ND	5.0	02/07/14 18:18	
tert-Amyl Alcohol	ug/L	ND	100	02/07/14 18:18	
tert-Amylmethyl ether	ug/L	ND	10.0	02/07/14 18:18	
tert-Butyl Alcohol	ug/L	ND	100	02/07/14 18:18	
tert-Butyl Formate	ug/L	ND	50.0	02/07/14 18:18	
Toluene	ug/L	ND	5.0	02/07/14 18:18	
Xylene (Total)	ug/L	ND	10.0	02/07/14 18:18	
1,2-Dichloroethane-d4 (S)	%	100	70-130	02/07/14 18:18	
4-Bromofluorobenzene (S)	%	98	70-130	02/07/14 18:18	
Toluene-d8 (S)	%	99	70-130	02/07/14 18:18	

LABORATORY CONTROL SAMPLE: 1135316

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.2	96	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	900	90	70-130	
Benzene	ug/L	50	50.1	100	70-130	
Diisopropyl ether	ug/L	50	52.2	104	70-130	
Ethanol	ug/L	2000	1840	92	70-130	
Ethyl-tert-butyl ether	ug/L	100	89.8	90	70-130	
Ethylbenzene	ug/L	50	48.1	96	70-130	
m&p-Xylene	ug/L	100	100	100	70-130	
Methyl-tert-butyl ether	ug/L	50	50.2	100	70-130	
Naphthalene	ug/L	50	35.0	70	70-130	
o-Xylene	ug/L	50	49.9	100	70-130	
tert-Amyl Alcohol	ug/L	1000	897	90	70-130	
tert-Amylmethyl ether	ug/L	100	97.8	98	70-130	
tert-Butyl Alcohol	ug/L	500	438	88	70-130	
tert-Butyl Formate	ug/L	400	415	104	70-130	
Toluene	ug/L	50	47.8	96	70-130	
Xylene (Total)	ug/L	150	150	100	70-130	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: HW Detwiler
Pace Project No.: 92188820

LABORATORY CONTROL SAMPLE: 1135316

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1135678 1135679

Parameter	Units	92188788008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	47.0	47.7	94	95	70-130	2	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	1000	1060	100	106	70-130	5	30	
Benzene	ug/L	ND	50	50	58.1	59.7	116	119	70-130	3	30	
Diisopropyl ether	ug/L	ND	50	50	49.5	51.2	99	102	70-130	3	30	
Ethanol	ug/L	ND	2000	2000	878	789	44	39	70-130	11	30	M1
Ethyl-tert-butyl ether	ug/L	ND	100	100	86.9	89.5	87	90	70-130	3	30	
Ethylbenzene	ug/L	ND	50	50	54.4	55.4	109	111	70-130	2	30	
m&p-Xylene	ug/L	ND	100	100	109	112	109	112	70-130	3	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	48.3	50.8	97	102	70-130	5	30	
Naphthalene	ug/L	ND	50	50	56.2	56.4	112	113	70-130	0	30	
o-Xylene	ug/L	ND	50	50	55.8	57.8	112	116	70-130	3	30	
tert-Amyl Alcohol	ug/L	ND	1000	1000	1110	1180	111	118	70-130	6	30	
tert-Amylmethyl ether	ug/L	ND	100	100	107	111	107	111	70-130	4	30	
tert-Butyl Alcohol	ug/L	ND	500	500	703	764	141	153	70-130	8	30	M1
tert-Butyl Formate	ug/L	ND	400	400	ND	ND	0	0	70-130		30	P5
Toluene	ug/L	ND	50	50	55.3	56.3	111	113	70-130	2	30	
1,2-Dichloroethane-d4 (S)	%						84	87	70-130			
4-Bromofluorobenzene (S)	%						98	98	70-130			
Toluene-d8 (S)	%						99	97	70-130			

REPORT OF LABORATORY ANALYSIS

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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: HW Detwiler
Pace Project No.: 92188820

QC Batch: MSV/25769 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92188820001, 92188820002, 92188820003

METHOD BLANK: 1136264 Matrix: Water
Associated Lab Samples: 92188820001, 92188820002, 92188820003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	02/10/14 19:29	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	02/10/14 19:29	
Benzene	ug/L	ND	5.0	02/10/14 19:29	
Diisopropyl ether	ug/L	ND	5.0	02/10/14 19:29	
Ethanol	ug/L	ND	200	02/10/14 19:29	
Ethyl-tert-butyl ether	ug/L	ND	10.0	02/10/14 19:29	
Ethylbenzene	ug/L	ND	5.0	02/10/14 19:29	
m&p-Xylene	ug/L	ND	10.0	02/10/14 19:29	
Methyl-tert-butyl ether	ug/L	ND	5.0	02/10/14 19:29	
Naphthalene	ug/L	ND	5.0	02/10/14 19:29	
o-Xylene	ug/L	ND	5.0	02/10/14 19:29	
tert-Amyl Alcohol	ug/L	ND	100	02/10/14 19:29	
tert-Amylmethyl ether	ug/L	ND	10.0	02/10/14 19:29	
tert-Butyl Alcohol	ug/L	ND	100	02/10/14 19:29	
tert-Butyl Formate	ug/L	ND	50.0	02/10/14 19:29	
Toluene	ug/L	ND	5.0	02/10/14 19:29	
Xylene (Total)	ug/L	ND	10.0	02/10/14 19:29	
1,2-Dichloroethane-d4 (S)	%	96	70-130	02/10/14 19:29	
4-Bromofluorobenzene (S)	%	98	70-130	02/10/14 19:29	
Toluene-d8 (S)	%	97	70-130	02/10/14 19:29	

LABORATORY CONTROL SAMPLE: 1136265

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	49.3	99	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1120	112	70-130	
Benzene	ug/L	50	52.8	106	70-130	
Diisopropyl ether	ug/L	50	52.5	105	70-130	
Ethanol	ug/L	2000	2050	103	70-130	
Ethyl-tert-butyl ether	ug/L	100	90.5	91	70-130	
Ethylbenzene	ug/L	50	51.0	102	70-130	
m&p-Xylene	ug/L	100	103	103	70-130	
Methyl-tert-butyl ether	ug/L	50	51.3	103	70-130	
Naphthalene	ug/L	50	45.5	91	70-130	
o-Xylene	ug/L	50	51.5	103	70-130	
tert-Amyl Alcohol	ug/L	1000	1120	112	70-130	
tert-Amylmethyl ether	ug/L	100	106	106	70-130	
tert-Butyl Alcohol	ug/L	500	629	126	70-130	
tert-Butyl Formate	ug/L	400	206	52	70-130	L0
Toluene	ug/L	50	51.3	103	70-130	
Xylene (Total)	ug/L	150	155	103	70-130	

REPORT OF LABORATORY ANALYSIS

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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: HW Detwiler
Pace Project No.: 92188820

LABORATORY CONTROL SAMPLE: 1136265

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%			93	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1136479 1136480

Parameter	Units	92189180002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	58.7	51.6	117	103	70-130	13	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	895	769	89	77	70-130	15	30	
Benzene	ug/L	ND	50	50	61.5	54.8	123	110	70-130	12	30	
Diisopropyl ether	ug/L	ND	50	50	63.1	55.0	126	110	70-130	14	30	
Ethanol	ug/L	ND	2000	2000	3170	2320	159	116	70-130	31	30	M1,R1
Ethyl-tert-butyl ether	ug/L	ND	100	100	111	95.8	111	96	70-130	14	30	
Ethylbenzene	ug/L	ND	50	50	56.9	50.5	113	101	70-130	12	30	
m&p-Xylene	ug/L	ND	100	100	115	102	115	102	70-130	12	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	61.9	53.8	124	108	70-130	14	30	
Naphthalene	ug/L	ND	50	50	57.3	50.0	112	97	70-130	14	30	
o-Xylene	ug/L	ND	50	50	58.8	51.4	117	102	70-130	14	30	
tert-Amyl Alcohol	ug/L	ND	1000	1000	1210	1110	121	111	70-130	8	30	
tert-Amylmethyl ether	ug/L	ND	100	100	121	105	121	105	70-130	14	30	
tert-Butyl Alcohol	ug/L	ND	500	500	724	671	145	134	70-130	8	30	M1
tert-Butyl Formate	ug/L	ND	400	400	138	94.4	35	24	70-130	38	30	P5,R1
Toluene	ug/L	ND	50	50	58.7	52.0	117	103	70-130	12	30	
1,2-Dichloroethane-d4 (S)	%						100	103	70-130			
4-Bromofluorobenzene (S)	%						99	98	70-130			
Toluene-d8 (S)	%						100	101	70-130			

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: HW Detwiler
Pace Project No.: 92188820

QC Batch: OEXT/25806 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92188820001, 92188820002, 92188820003, 92188820004, 92188820006, 92188820007, 92188820008, 92188820009

METHOD BLANK: 1133960 Matrix: Water
Associated Lab Samples: 92188820001, 92188820002, 92188820003, 92188820004, 92188820006, 92188820007, 92188820008, 92188820009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	02/06/14 12:44	
1-Chloro-2-bromopropane (S)	%	110	60-140	02/06/14 12:44	

LABORATORY CONTROL SAMPLE & LCSD: 1133961 1133962

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.26	0.27	92	94	60-140	2	20	
1-Chloro-2-bromopropane (S)	%				108	122	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1133963 1133964

Parameter	Units	92188820006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.29	.29	0.26	0.27	90	94	60-140	4	20	
1-Chloro-2-bromopropane (S)	%						110	117	60-140			

SAMPLE DUPLICATE: 1133965

Parameter	Units	92188820007 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	113	114	4		

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(704)875-9092

QUALIFIERS

Project: HW Detwiler
Pace Project No.: 92188820

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine(8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.
R1	RPD value was outside control limits.

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HW Detwiler
Pace Project No.: 92188820

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92188820001	15729 MW-32	EPA 8011	OEXT/25806	EPA 8011	GCSV/16597
92188820002	15729 MW-32 Dup	EPA 8011	OEXT/25806	EPA 8011	GCSV/16597
92188820003	15729 MW-35i	EPA 8011	OEXT/25806	EPA 8011	GCSV/16597
92188820004	15729 Field Blank	EPA 8011	OEXT/25806	EPA 8011	GCSV/16597
92188820006	15729 WSW-3	EPA 8011	OEXT/25806	EPA 8011	GCSV/16597
92188820007	15729 WSW-4	EPA 8011	OEXT/25806	EPA 8011	GCSV/16597
92188820008	15729 PS-1	EPA 8011	OEXT/25806	EPA 8011	GCSV/16597
92188820009	15729 CS-3	EPA 8011	OEXT/25806	EPA 8011	GCSV/16597
92188820006	15729 WSW-3	EPA 8260	MSV/25728		
92188820007	15729 WSW-4	EPA 8260	MSV/25728		
92188820008	15729 PS-1	EPA 8260	MSV/25728		
92188820009	15729 CS-3	EPA 8260	MSV/25728		
92188820001	15729 MW-32	EPA 8260	MSV/25769		
92188820002	15729 MW-32 Dup	EPA 8260	MSV/25769		
92188820003	15729 MW-35i	EPA 8260	MSV/25769		
92188820004	15729 Field Blank	EPA 8260	MSV/25729		
92188820005	15729 Trip Blank	EPA 8260	MSV/25729		

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Pace Analytical	Sample Condition Upon Receipt (SCUR)	Page 1 of 2
	Document Number: F-CHR-CS-03-rev.13	Issuing Authority: Pace Huntersville Quality Office

Client Name: Emerald

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☐ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____

Thermometer Used: IR Gun T1102 T1301 **Type of Ice:** Wet Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor T1102: No Correction T1301: No Correction

Corrected Cooler Temp.: 0.4 °C **Biological Tissue is Frozen:** Yes No N/A

Temp should be above freezing to 6°C

Date and Initials of person examining contents: CMF 2/5/14

Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:		
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☑Yes ☐No ☐N/A	16. 2/5/14
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	CMF 2/5/14
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: AMB **Date:** 2-5-14

SRF Review: SB **Date:** 2/5/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

WO#: 92188820

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1585355

Section A Required Client Information:

Company:	Emerald Inc
Address:	2520 Tahoe Dr Sumter SC 29150
Email To:	
Phone:	803 469-5454
Fax:	
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	Ronny Lawder
Copy To:	
Purchase Order No.:	
Project Name:	H.W. Detwiler
Project Number:	

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	A. Baioni
Pace Project Manager:	
Pace Profile #:	3876-15

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTEX, N,M OXYS 8260	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	15729 MW-32	WT	G			2-4-14	1230		6				6						X	X		001
2	" MW-32 Dup						1231															002
3	" MW-35i						1300															003
4	" WSW-3						1025															low detection limits 006
5	" WSW-4						1045															007
6	" PS-1						1320															008
7	" CS-3						1330															009
8	" Field Blank		G				1310		6				6							X		004
9	" Trip Blank	WT				2-4-14			2				2						X			005
10																						
11																						
12																						

92188820

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[signature]	2-4-14	16:55	[signature]	2-4-14	1700	
	Beavex			G Moody - Pace	02-05-14	15:15	
	G Moody	02-05-14	17:00	[signature]	2/5/14	17:00	0.4 yr — yr

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: William McClary

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 2-4-14

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

APPENDIX C

DISPOSAL MANIFESTS

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

February 20, 2014

Mr. Shane S. Shull, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, SC 29201-1708

RE: Purge Water Treatment
HW Detwiler Company
37 South Church Street
Summerton, South Carolina
UST Permit #15729
Clarendon County

Dear Mr. Shull:

Emerald, Inc. is providing this letter to certify the on-site treatment of purge water at the subject site. This purge water was treated in compliance with the conditions set forth in "Proposed Conditions for use of Portable Activated Carbon Units for the Treatment of Small Volumes of Petroleum Hydrocarbon Contaminated Groundwater".

Applicability:

Groundwater to be treated is generated from well development and sampling.

Conditions:

1. The purge and development water is mixed prior to treatment by the activated carbon unit.
2. Free product was not detected in the purge water.
3. Groundwater analytical results from monitoring wells indicate average concentrations of hydrocarbons to be less than 5,000 parts per billion (ppb) Benzene and less than 20,000 ppb total BTEX.
4. The carbon filter material will be replaced after 5,000 gallons of treatment.

5. A record of usage will be maintained by the Contractor.
6. The manufacturer's recommendations have been adhered to.
7. Any SCDHEC recommendations and any conditions set forth by SCDHEC will be adhered to.

Purge waters were treated on-site by Emerald, Inc. personnel using a treatment drum loaded with approximately 50 pounds of activated carbon. This carbon will be loaded to a maximum amount of 3 pounds of total organic carbon or 5,000 gallons of development/purge water, whichever occurs first. Cumulative organic compounds absorbed by the activated carbon is tracked to ensure the capacity of the carbon is not exceeded.

Origin of Water	Treatment Date	Amount
Purge Water	2/4/14	35 Gallons

If you have any additional questions please contact Emerald, Inc. at your convenience. Emerald, Inc. can be reached at 803-469-5454.

Yours very truly,
EMERALD, INC.

William C. McClary, P.G.
Project Geologist

APPENDIX D

SURROUNDING PROPERTY OWNER NOTIFICATIONS

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

February 25, 2014

David Van Wynsberghe
1021 Gipp Street
Summerton, SC 29148

Surrounding the:
HW Detwiler Company
37 South Church Street
Summerton, SC
SCDHEC Site ID #15729

Mr. Van Wynsberghe,

Enclosed is an abbreviated copy of the Report of Limited Groundwater Sampling prepared by Emerald, Inc. to obtain current groundwater quality data for the HW Detwiler Company site, as requested by the South Carolina Department of Health and Environmental Control. This report details the work conducted by Emerald, Inc. at the subject site, including analytical results for samples collected from the monitoring wells and water supply wells on your property at 1021 Gipp Street, Summerton, SC. We are currently awaiting the additional water quality results from SCDHEC.

We appreciate your cooperation throughout this assessment. If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454 or SCDHEC at 803-898-0607.

Sincerely,

William C. McClary, P.G.
Project Manager

Attachments
Abbreviated Report of Limited Groundwater Sampling for HW Detwiler Company

APPENDIX E

QAPP CONTRACTOR'S CHECKLIST

South Carolina
Underground Storage Tank Program

HW Detwiler Company
SCDHEC ID #15729
February 25, 2014

Contractor Checklist

For each report submitted to the UST Management Division, the contractor will be required to verify that all data elements for the required scope of work have been provided. For items not required for the scope of work, the N/A box should be checked. For items required and not completed or provided, the No box should be checked and a thorough description of the reason must be provided.

Item #	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?	X		
3	Is name, address, & phone number of current property owner provided?	X		
4	Is the DHEC Certified UST Site Rehabilitation contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed boring/monitoring wells provided?			X
6	Is the name, address, telephone number, and certification number of the certified laboratory(ies) performing analytical analyses provided?	X		
7	Has the facility history been summarized?	X		
8	Has the regional geology and hydrogeology been described?			X
9	Are the receptor survey results provided as required?			X
10	Has current use of the site and adjacent land been described?	X		
11	Has the site-specific geology and hydrogeology been described?			X
12	Has the primary soil type been described?			X
13	Have field screening results been described?			X
14	Has a description of the soil sample collection and preservation been detailed?			X
15	Has the field screening methodology and procedure been detailed?			X
16	Has the monitoring well installation and development dates been provided?			X
17	Has the method of well development been detailed?			X
18	Has justification been provided for the locations of the monitoring wells?			X
19	Have the monitoring wells been labeled in accordance with the UST QAPP guidelines?	X		
20	Has the groundwater sampling methodology been detailed?	X		
21	Have the groundwater sampling dates and groundwater measurements been provided?	X		
22	Has the purging methodology been detailed?	X		
23	Has the volume of water purged from each well provided along with measurements to verify that purging is complete? (Appendix A)	X		
24	If free-product is present, has the thickness been provided?			X
25	Does the report include a brief discussion of the assessment done and the results?	X		
26	Does the report include a brief discussion of the aquifer evaluation and results?			X
27	Does the report include a brief discussion of the fate & transport models used?			X

South Carolina
Underground Storage Tank Program

HW Detwiler Company
SCDHEC ID #15729
February 25, 2014

Item #	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			X
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			X
30	Have the SSTLs for each compund and pathway been calculated? (Tier 2 Risk Evaluation)			X
31	Have recommendations for further action been provided and explained?	X		
32	Has the soil analytical data for the site been provided in tabular format?			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 1)	X		
34	Has the current and historical laboratory data been provided in tabular format? (Table 2 & 3)	X		
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			X
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			X
37	Has the topographic map been provided with all required elements? (Figure 2)	X		
38	Has the site base map been provided with all required elements? (Figure 3)	X		
39	Have the CoC site maps been provided? (Figure 4)	X		
40	Has the site potentiometric map been provided?			
41	Have the geologic cross-sections been provided?			X
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			X
43	Has the site survey been provided and include all necessary elements?			X
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	X		
45	Is the laboratory performing the analyses properly certified?	X		
46	Has the tax map been included with all necessary elements?			X
47	Have the soil boring/field screening logs been provided?			X
48	Have the well completion logs and SCDHEC Form 1903 been provided?			X
49	Have the aquifer evaluation forms, data, graphs, equation, etc. been provided?			X
50	Have the disposal manifests been provided? (Appendix C)	X		
51	Has a copy of the local zoning regulations been provided?			X
52	Has all fate and transport modeling been provided?			X
53	Have copies of all access agreements obtained by the contractor been provided?			X
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided? (Appendix E)	X		

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

MR HAROLD W DETWILER JR
31 SOUTH CHURCH STREET
SUMMERTON SC 29148-0769

MAR 1 1 2014

UST 31tech DOCKETING

Re: **Site Specific Work Plan Directive**
HW Detwiler Company
37 South Church St., Summerton, SC 29148
UST Permit # 15729
Release Reported June 22, 1993
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Management Division (Division) of the South Carolina Department of Health and Environmental Control (Agency) recognizes your commitment to continue work at this site using Emerald, Inc., as your contractor. The next scope of work will be monitoring well installation and groundwater sampling as outlined in the UST Quality Assurance Program Plan (QAPP) Revision 2.0. Please have your contractor prepare a proposal to install three shallow monitoring wells to define the plume in the area north of Scotts Branch Creek and south of Mood Drive. Once well installation is complete, the new wells should be sampled for BTEX, Naphthalene, Oxygenates, 1,2-DCA, MTBE and EDB in accordance with the QAPP and in compliance with all applicable regulations. A copy of the QAPP Rev. 2.0 is available at http://www.scdhec.gov/environment/lwm/usthome/Qapp.htm.

Your contractor must complete and submit a Site Specific Work Plan (SSWP) and cost agreement for the groundwater sampling event within 30 days of the date of this letter. Upon review and approval of the SSWP and cost agreement, the Division will issue a directive to you for the work. A copy of the SSWP is available at http://www.scdhec.gov/administration/library/D-0653.pdf

On all correspondence concerning this site, please reference UST Permit # 15729. If there are any questions, feel free to contact me by telephone at (803) 898-0607, by fax at (803) 898-0673, or by e-mail at ShullSS@dhec.sc.gov.

Sincerely,

Shane S. Shull, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

cc: Mr. Chad McClary, P.G., Emerald, Inc., P.O. Box 3050, Sumter, SC 29151-3050
Technical File

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

SC DHEC - UST Management
2600 Bull Street
Columbia, SC 29201
Attention: Debra Thoma

Project Name: **HW Detwiler Co**

Project Number: **UST Permit #15729/CA #47601**

Lot Number: **PC06020**

Date Completed: **03/07/2014**

Kelly M. Maberry
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

Case Narrative
SC DHEC - UST Management
Lot Number: PC06020

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Sample Summary
SC DHEC - UST Management
Lot Number: PC06020

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	CS-2	Aqueous	03/06/2014 1110	03/06/2014
002	CS-3	Aqueous	03/06/2014 1030	03/06/2014
003	CS-4	Aqueous	03/06/2014 1050	03/06/2014
004	CS-X	Aqueous	03/06/2014 1040	03/06/2014
005	FB	Aqueous	03/06/2014 1115	03/06/2014
006	Trip Blank	Aqueous	03/06/2014	03/06/2014

(6 samples)

Executive Summary
SC DHEC - UST Management
Lot Number: PC06020

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
002	CS-3	Aqueous	tert-Amyl alcohol (TAA)	8260B	240		ug/L	6
002	CS-3	Aqueous	tert-Amyl methyl ether (TAME)	8260B	0.25	J	ug/L	6
002	CS-3	Aqueous	Benzene	8260B	48		ug/L	6
002	CS-3	Aqueous	Diisopropyl ether (IPE)	8260B	1.6	J	ug/L	6
002	CS-3	Aqueous	Ethylbenzene	8260B	3.5		ug/L	6
002	CS-3	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	7.3		ug/L	6
002	CS-3	Aqueous	Naphthalene	8260B	0.71	J	ug/L	6
002	CS-3	Aqueous	tert-butyl alcohol (TBA)	8260B	9.2	J	ug/L	6
002	CS-3	Aqueous	Toluene	8260B	0.67	J	ug/L	6
002	CS-3	Aqueous	Xylenes (total)	8260B	0.81	J	ug/L	6
003	CS-4	Aqueous	tert-Amyl alcohol (TAA)	8260B	28	J	ug/L	7
003	CS-4	Aqueous	Benzene	8260B	9.0		ug/L	7
003	CS-4	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	0.80	J	ug/L	7
003	CS-4	Aqueous	Xylenes (total)	8260B	0.35	J	ug/L	7
004	CS-X	Aqueous	tert-Amyl alcohol (TAA)	8260B	280		ug/L	8
004	CS-X	Aqueous	tert-Amyl methyl ether (TAME)	8260B	0.25	J	ug/L	8
004	CS-X	Aqueous	Benzene	8260B	53		ug/L	8
004	CS-X	Aqueous	Diisopropyl ether (IPE)	8260B	1.9	J	ug/L	8
004	CS-X	Aqueous	3,3-Dimethyl-1-butanol	8260B	5.4	J	ug/L	8
004	CS-X	Aqueous	Ethylbenzene	8260B	3.8		ug/L	8
004	CS-X	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	8.2		ug/L	8
004	CS-X	Aqueous	Naphthalene	8260B	0.79	J	ug/L	8
004	CS-X	Aqueous	tert-butyl alcohol (TBA)	8260B	10	J	ug/L	8
004	CS-X	Aqueous	Toluene	8260B	0.72	J	ug/L	8
004	CS-X	Aqueous	Xylenes (total)	8260B	0.84	J	ug/L	8

(25 detections)

Client: **SC DHEC - UST Management**
Description: **CS-2**
Date Sampled: **03/06/2014 1110**
Date Received: **03/06/2014**

Laboratory ID: **PC06020-001**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/06/2014 2249	PMM2		41751

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	03/07/2014 0752	JCG	03/06/2014 1542	41719

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		85	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **SC DHEC - UST Management**
Description: **CS-3**
Date Sampled: **03/06/2014 1030**
Date Received: **03/06/2014**

Laboratory ID: **PC06020-002**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/06/2014 2311	PMM2		41751

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**240**		**100**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**0.25**	**J**	**10**	**0.20**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**48**		**1.0**	**0.13**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**1.6**	**J**	**10**	**0.40**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**3.5**		**1.0**	**0.33**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**7.3**		**1.0**	**0.40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**0.71**	**J**	**1.0**	**0.40**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**9.2**	**J**	**100**	**6.7**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**0.67**	**J**	**1.0**	**0.33**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**0.81**	**J**	**1.0**	**0.33**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	03/07/2014 0803	JCG	03/06/2014 1542	41719

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		83	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **SC DHEC - UST Management**
Description: **CS-4**
Date Sampled: **03/06/2014 1050**
Date Received: **03/06/2014**

Laboratory ID: **PC06020-003**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/06/2014 2333	PMM2		41751

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**28**	**J**	**100**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	**71-43-2**	**8260B**	**9.0**		**1.0**	**0.13**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**0.80**	**J**	**1.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**0.35**	**J**	**1.0**	**0.33**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	03/07/2014 0813	JCG	03/06/2014 1542	41719

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		91	57-137

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **SC DHEC - UST Management**
Description: **CS-X**
Date Sampled: **03/06/2014 1040**
Date Received: **03/06/2014**

Laboratory ID: **PC06020-004**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/06/2014 2356	PMM2		41751

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**280**		**100**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**0.25**	**J**	**10**	**0.20**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**53**		**1.0**	**0.13**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**1.9**	**J**	**10**	**0.40**	**ug/L**	**1**
3,3-Dimethyl-1-butanol	**624-95-3**	**8260B**	**5.4**	**J**	**100**	**1.0**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**3.8**		**1.0**	**0.33**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**8.2**		**1.0**	**0.40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**0.79**	**J**	**1.0**	**0.40**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**10**	**J**	**100**	**6.7**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**0.72**	**J**	**1.0**	**0.33**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**0.84**	**J**	**1.0**	**0.33**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	03/07/2014 0823	JCG	03/06/2014 1542	41719

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		97	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **SC DHEC - UST Management**
Description: **FB**
Date Sampled: **03/06/2014 1115**
Date Received: **03/06/2014**

Laboratory ID: **PC06020-005**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/06/2014 2205	PMM2		41751

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		98	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	03/07/2014 0834	JCG	03/06/2014 1542	41719

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		94	57-137

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
ND = Not detected at or above the MDL
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **SC DHEC - UST Management**
Description: **Trip Blank**
Date Sampled: **03/06/2014**
Date Received: **03/06/2014**

Laboratory ID: **PC06020-006**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/06/2014 2227	PMM2		41751

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1.0	0.15	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1.0	0.33	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		1.0	0.33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1.0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: PQ41751-001
Batch: 41751
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	100	6.7	ug/L	03/06/2014 2143
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	03/06/2014 2143
Benzene	ND		1	1.0	0.13	ug/L	03/06/2014 2143
tert-Butyl formate (TBF)	ND		1	100	1.0	ug/L	03/06/2014 2143
1,2-Dichloroethane	ND		1	1.0	0.15	ug/L	03/06/2014 2143
Diisopropyl ether (IPE)	ND		1	10	0.40	ug/L	03/06/2014 2143
3,3-Dimethyl-1-butanol	ND		1	100	1.0	ug/L	03/06/2014 2143
Ethanol	ND		1	1000	33	ug/L	03/06/2014 2143
Ethylbenzene	ND		1	1.0	0.33	ug/L	03/06/2014 2143
Ethyl-tert-butyl ether (ETBE)	ND		1	100	0.20	ug/L	03/06/2014 2143
Methyl tertiary butyl ether (MTBE)	ND		1	1.0	0.40	ug/L	03/06/2014 2143
Naphthalene	ND		1	1.0	0.40	ug/L	03/06/2014 2143
tert-butyl alcohol (TBA)	ND		1	100	6.7	ug/L	03/06/2014 2143
Toluene	ND		1	1.0	0.33	ug/L	03/06/2014 2143
Xylenes (total)	ND		1	1.0	0.33	ug/L	03/06/2014 2143

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		94	70-130
Toluene-d8		98	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: PQ41751-002
Batch: 41751
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	930		1	93	70-130	03/06/2014 2014
tert-Amyl methyl ether (TAME)	50	49		1	99	70-130	03/06/2014 2014
Benzene	50	46		1	92	70-130	03/06/2014 2014
tert-Butyl formate (TBF)	250	220		1	89	70-130	03/06/2014 2014
1,2-Dichloroethane	50	45		1	91	70-130	03/06/2014 2014
Diisopropyl ether (IPE)	50	47		1	93	70-130	03/06/2014 2014
3,3-Dimethyl-1-butanol	1000	980		1	98	70-130	03/06/2014 2014
Ethanol	5000	5000		1	100	60-140	03/06/2014 2014
Ethylbenzene	50	48		1	95	70-130	03/06/2014 2014
Ethyl-tert-butyl ether (ETBE)	50	47		1	94	70-130	03/06/2014 2014
Methyl tertiary butyl ether (MTBE)	50	47		1	94	70-130	03/06/2014 2014

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: PQ41751-002
Batch: 41751
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Naphthalene	50	55		1	111	70-130	03/06/2014 2014
tert-butyl alcohol (TBA)	1000	930		1	93	70-130	03/06/2014 2014
Toluene	50	47		1	94	70-130	03/06/2014 2014
Xylenes (total)	100	97		1	97	70-130	03/06/2014 2014

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		93	70-130
Toluene-d8		100	70-130

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: PQ41751-003
Batch: 41751
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	920		1	92	1.3	70-130	20	03/06/2014 2036
tert-Amyl methyl ether (TAME)	50	47		1	95	4.2	70-130	20	03/06/2014 2036
Benzene	50	46		1	92	0.45	70-130	20	03/06/2014 2036
tert-Butyl formate (TBF)	250	220		1	86	3.4	70-130	20	03/06/2014 2036
1,2-Dichloroethane	50	46		1	92	1.7	70-130	20	03/06/2014 2036
Diisopropyl ether (IPE)	50	46		1	92	1.8	70-130	20	03/06/2014 2036
3,3-Dimethyl-1-butanol	1000	950		1	95	3.3	70-130	20	03/06/2014 2036
Ethanol	5000	4800		1	96	4.3	60-140	20	03/06/2014 2036
Ethylbenzene	50	48		1	95	0.17	70-130	20	03/06/2014 2036
Ethyl-tert-butyl ether (ETBE)	50	44		1	89	5.5	70-130	20	03/06/2014 2036
Methyl tertiary butyl ether (MTBE)	50	45		1	90	4.3	70-130	20	03/06/2014 2036
Naphthalene	50	54		1	108	2.8	70-130	20	03/06/2014 2036
tert-butyl alcohol (TBA)	1000	940		1	94	1.4	70-130	20	03/06/2014 2036
Toluene	50	47		1	95	0.88	70-130	20	03/06/2014 2036
Xylenes (total)	100	95		1	95	2.2	70-130	20	03/06/2014 2036

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		92	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MB

Sample ID: PQ41719-001 **Matrix:** Aqueous
Batch: 41719 **Prep Method:** 8011
Analytical Method: 8011 **Prep Date:** 03/06/2014 1542

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.020	ug/L	03/07/2014 0731

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		84	57-137

EDB & DBCP by Microextraction - LCS

Sample ID: PQ41719-002 **Matrix:** Aqueous
Batch: 41719 **Prep Method:** 8011
Analytical Method: 8011 **Prep Date:** 03/06/2014 1542

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.26		1	102	60-140	03/07/2014 0742

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		89	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

SHEALY

Chain of Custody Record

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

Number 19367

Client: SCDHEC UST Div.	Report to Contact: Debra Thoma	Sampler (Printed Name): Shane Shull & Bob Faller	Quote No.: 14610
Address: 2600 Bull Street	Telephone No. / Fax No. / Email: 803898 0631 thomadl@dhec.sc.gov	Waybill No.	Page: 1 of 1
City: Columbia / State: SC / Zip Code: 29201	Preservative: 1. Unpres. 4. HNO3 7. NaOH; 2. NaOH/ZnA 5. HCL; 3. H2SO4 6. Na Thio.		
Project Name: HW Detriler Co			
Project Number: CA47601 Permit 15729	P.O Number:		

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix: GW	DW	WW	S	Other	Analysis: BTEXMN DCA OXY	EDB	Number of Containers	Bottle (See Instructions on back)	Preservative	Lot No.	Remarks / Cooler ID
									17	15				PC04020	
									A	A					
									S	S					
CS-2	3-6-14	1110	G				X		X	X					24hr TAT
CS-3	3-6-14	1030	G				X		X	X					
CS-4	3-6-14	1050	G				X		X	X					
CS-X	3-6-14	1040	G				X		X	X					
FB	3-6-14	1115						DI	X	X					
Trip Blank									X						

Turn Around Time Required (Prior lab approval required for expedited TAT)
☐ Standard ☑ Rush (Please Specify) 24[redacted] hrs SES

Sample Disposal
☐ Return to Client ☐ Disposal by Lab

QC Requirements (Specify)

Possible Hazard Identification
☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison ☐Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler	3-6-14	1330	1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory Received by: Kelly W Pr	3-6-14	1330

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☑ Yes ☐ No ☐ Ice Pack
Receipt Temp: 7.8 °C
Temp. Blank ☑ Y / ☐ N

Sample Receipt Checklist (SRC)

Client: SCDHEC Cooler Inspected by/date: KWP 13-6-14 Lot #: PC060020

Means of receipt: ☑ SESI ☑ Client ☐ UPS ☐ FedEx ☐ Airborne Exp ☐ Other

Yes ☐	No ☑		1. Were custody seals present on the cooler?
Yes ☐	No ☐		2. If custody seals were present, were they intact and unbroken?

Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt:
17.8 °C / / °C / / °C / / °C
Method: ☑ Temperature Blank ☑ Against Bottles IR Gun ID: #3 IR Gun Correction Factor: -0.3 °C
Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.

Yes ☑	No ☐	NA ☐	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other:_____. (For coolers received via commercial courier, PMs are to be notified immediately.
Yes ☐	No ☐	NA ☑	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐		5. Were proper custody procedures (relinquished/received) followed?
Yes ☐	No ☐	NA ☑	5a Were samples relinquished by client to commercial courier?
Yes ☑	No ☐		6. Were sample IDs listed?
Yes ☑	No ☐		7. Was collection date & time listed?
Yes ☑	No ☐		8. Were tests to be performed listed on the COC?
Yes ☑	No ☐		9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐		10. Did all container label information (ID, date, time) agree with COC?
Yes ☑	No ☐		11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐		12. Was adequate sample volume available?
Yes ☑	No ☐		13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑		14. Were any samples containers missing?
Yes ☐	No ☑		15. Were there any excess samples not listed on COC?
Yes ☐	No ☑	NA ☐	16. Were bubbles present >"pea-size" (¼"or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol (<0.2mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?
Yes ☐	No ☐	NA ☑	21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc…) correctly transcribed from the COC into the comment section in LIMS?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H_2SO_4,HNO_3,HCl,NaOH) with the SR # (number)

Sample(s) _____ were received with bubbles >6 mm in diameter.

Sample(s) _____ were received with TRC >0.2 mg/L for NH3/TKN/cyanide/phenol

Sample labels verified by: _____ Date: _____

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐ Did client respond: Yes ☐ No ☐

SESI employee: _____ Date of response: _____

Comments:

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

March 13, 2014

Mr. Shane Shull, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, SC 29201

QAPP Contractor Addendum
H.W. Detwiler Company
37 South Church Street
Summerton, South Carolina
Clarendon County
UST Permit #15729

Mr. Shull,

Please find the attached Site Specific Work Plan, figures, and proposed costs for the monitoring well installation and limited groundwater sampling event at the subject site. If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454.

Sincerely,

William C. McClary, P.G.
Project Manager

Attachments
Appendix A - Site Specific Work Plan
Appendix B - Figures
Appendix C - Assessment Plan and Cost Agreement

Appendix A

Site Specific Work Plan

D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health and Environmental Control

Site-Specific Work Plan for Approved ACQAP
Underground Storage Tank Management Division

To: Shane S. Shull, Hydrogeologist (SCDHEC Project Manager)

From: William C. McClary, P.G. (Contractor Project Manager)

Contractor: Emerald, Inc. **UST Contractor Certification Number:** 67

Facility Name: H.W. Detwiler **UST Permit #:** 15729

Facility Address: 37 South Church Street, Summerton, SC 29148

Responsible Party: Mr. Harold Detwiler Jr., H.W. Detwiler Company **Phone:** N/A

Responsible Party Address: 31 South Church Street, Summerton, SC 29148

Property Owner (if different): Helen D. Todd

Property Owner Address: 710 Knotty Pine Road, Charleston, SC 29412

Current Use of Property: Office Building

Scope of Work (Please check all that apply)

- ☐ IGWA
- ☐ Tier I
- ☐ Tier II
- ■ Monitoring Well Installation
- ■ Groundwater Sampling
- ☐ Other:
- ☐ GAC

Analyses (Please check all that apply)

Groundwater/Surface Water:

- ■ BTEXNMDCA (8260B)
- ■ Oxygenates (8260B)
- ■ EDB (8011)
- ☐ PAH (8270D)
- ☐ Lead
- ☐ 8 RCRA Metals
- ☐ TPH
- ☐ pH
- ☐ BOD
- ☐ Nitrate
- ☐ Sulfate
- ☐ Other:
- ☐ Methane
- ☐ Ethanol
- ☐ Dissolved Iron

Soil:

- ☐ BTEXN
- ☐ PAH
- ☐ 8 RCRA Metals
- ☐ Oil & Grease (9071)
- ☐ TPH-DRO (3550B/8015B)
- ☐ TPH-GRO (5030B/8015B)
- ☐ Grain Size
- ☐ TOC

Air:

- ☐ BTEXN

Sample Collection (Estimate the number of samples of each matrix that are expected to be collected.)

	Soil		Water Supply Wells		Air	1	Field Blank
4	Monitoring Wells		Surface Water	1	Duplicate	1	Trip Blank

Field Screen Methodology

Estimate number and total completed depth for each point, and include their propose locations on the attached map.

# of shallow points proposed: _____ Estimated Footage: _____ feet per point

# of deep points proposed: _____ Estimated Footage: _____ feet per point

Field Screening Methodology: _____

Permanent Monitoring Wells

Estimate number and total completed depth for each well, and include their propose locations on the attached map.

# of shallow wells: 4 Estimated Footage: 15 feet per point

# of deep wells: _____ Estimated Footage: _____ feet per point

# of recovery wells: _____ Estimated Footage: _____ feet per point

Monitoring Well development method(consistent with SOP): _____

Comments, if warranted: Three wells will be installed along Scotts Branch Creek to monitor possible petroleum impact. One well is proposed along Mood Drive to determine if a prefferential pathway exists between MW-10 and MW-21. In association with drilling at the site, a well pad, well vault and locking plug will be installed on WSW-4 to secure the wellhead.

UST Permit #: 15729 **Facility Name:** H.W. Detwiler

Implementation Schedule (Number of calendar days from approval)

Field Work Start-Up: 3/13/2014 Field Work Completion: 4/10/2014

Report Submittal: 4/20/2014 # of Copies Provided to Property Owners: 1

Aquifer Characterization

Pump Test: ☐ Slug Test: ☐ (Check one and provide explanation below for choice)

Investigation Derived Waste Disposal

Soil: 2 Tons Purge Water: 200 Gallons

Drilling Fluids: _____ Gallons Free Phase Product: _____ Gallons

Additional Details For This Scope of Work

For example, list wells to be sampled, wells to be abandoned/repaired, well pads/bolts/caps to replace, details of AFVR event, etc.

Four newly installed wells will be sampled as part of this asessment. A well pad, well vault, and locaking well cap will be installed on WSW-4 to protect the wellhead. After completion of field activities, a comprehensive survey will be conducted to located the newly installed wells and CS-3 and CS-4.

Compliance With Annual Contractor Assurance Plan (ACQAP)

Yes Laboratory as indicated in ACQAP (Yes/No) If no, indicate laboratory information below.

Name of Laboratory: _____

SCDHEC Certification number: _____

Name of Laboratory Director: _____

Yes Well Driller as indicated in ACQAP (Yes/No) If no, indicate driller information below.

Name of Well Driller: _____

SCLLR Certification number: _____

_____ Other Variations from ACQAP. Please describe below.

Attachments

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:

North Arrow	Proposed monitoring well locations
Location of property lines	Legend with facility name and address, UST permit number, and bar scale
Location of buildings	Streets or highways (indicate names and numbers)
Previous soil sampling locations	Location of all present and former ASTs and USTs
Previous monitoring well locations	Location of all potential receptors
Proposed soil boring locations	

3. Assessment Componant Cost Agreement, SCDHEC Form D-3664

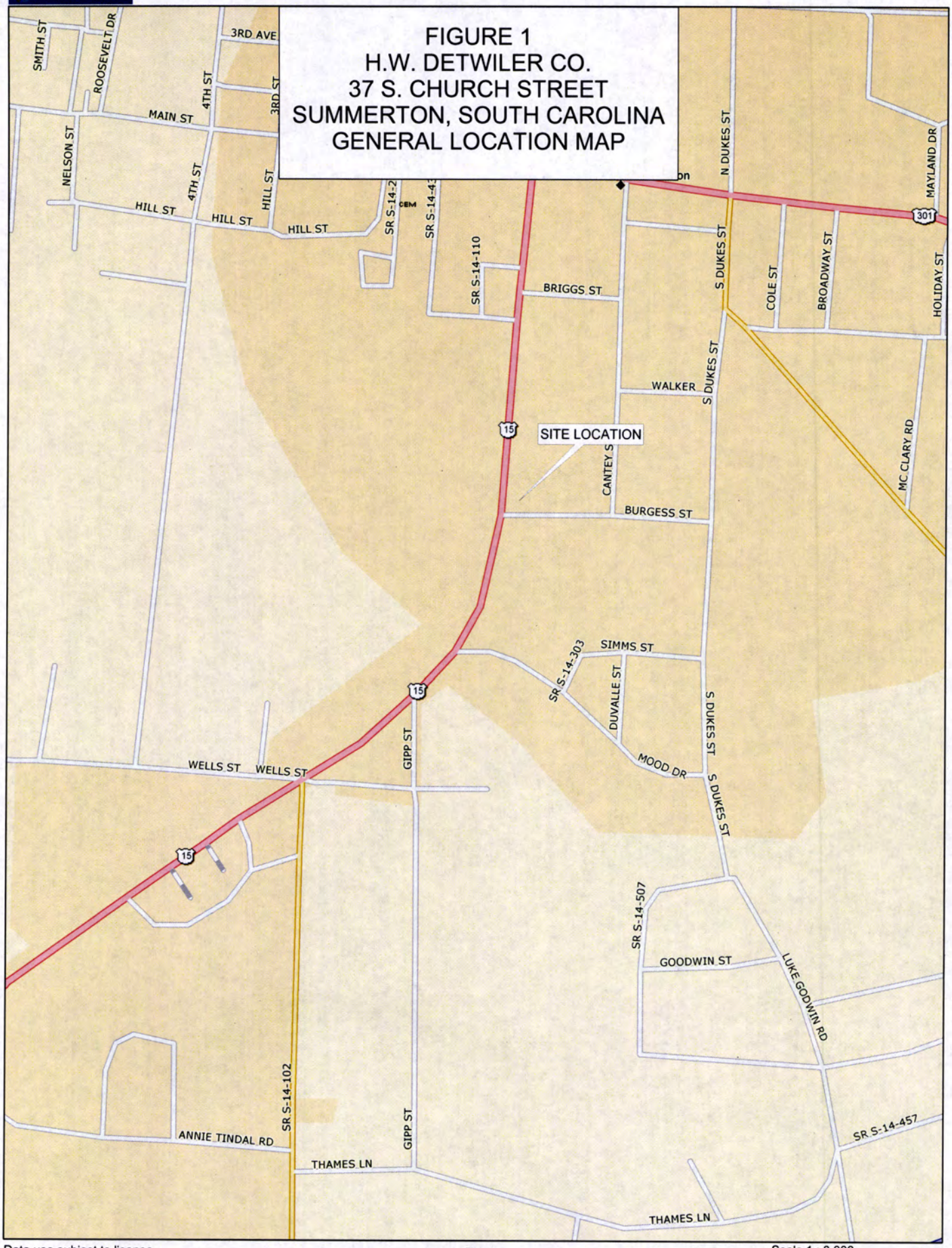
Appendix B

Figures

DeLORME

Street Atlas USA® 2008

FIGURE 1
H.W. DETWILER CO.
37 S. CHURCH STREET
SUMMERTON, SOUTH CAROLINA
GENERAL LOCATION MAP



Data use subject to license.

© 2007 DeLorme. Street Atlas USA® 2008.

www.delorme.com

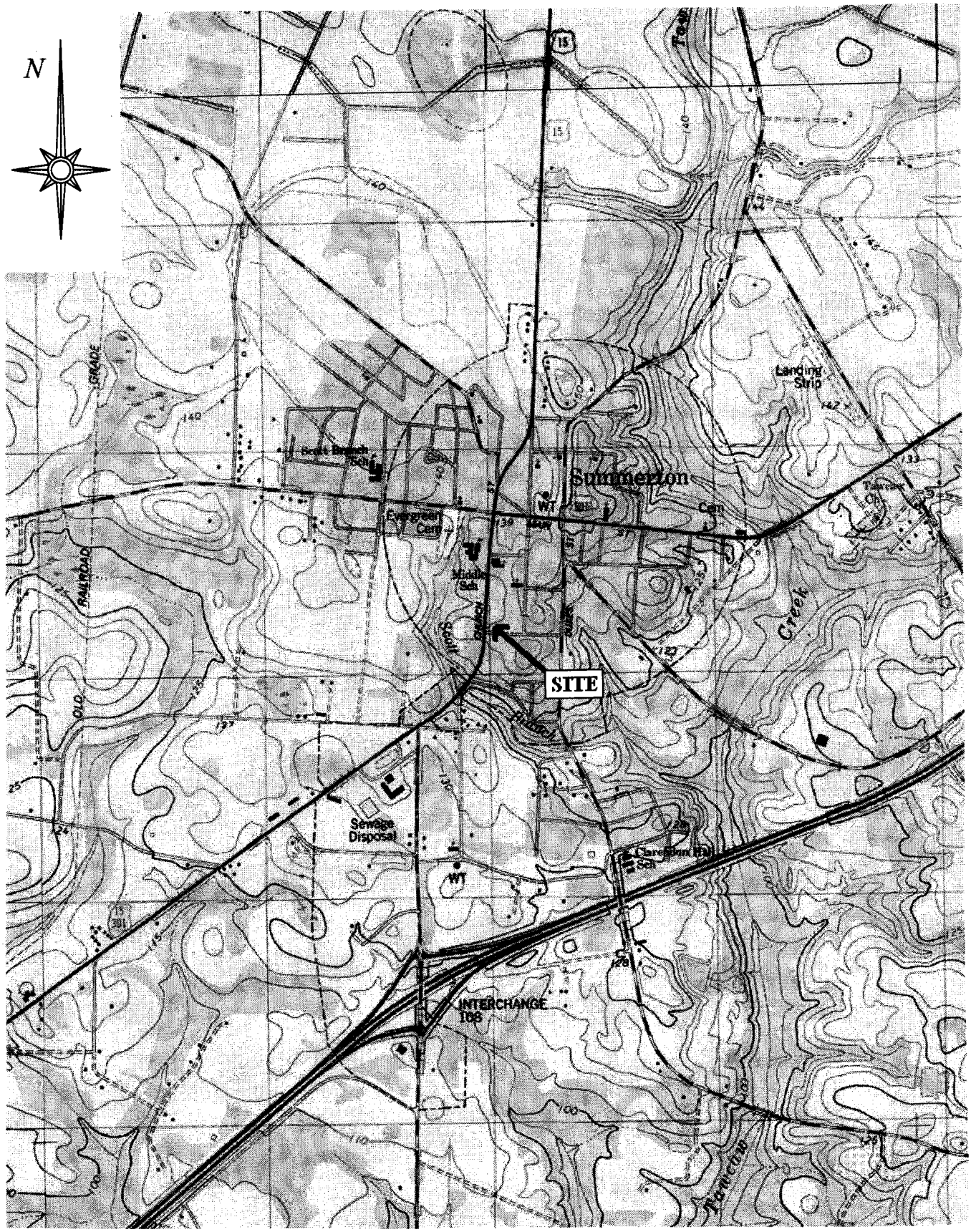
TN

MN (7.5°W)

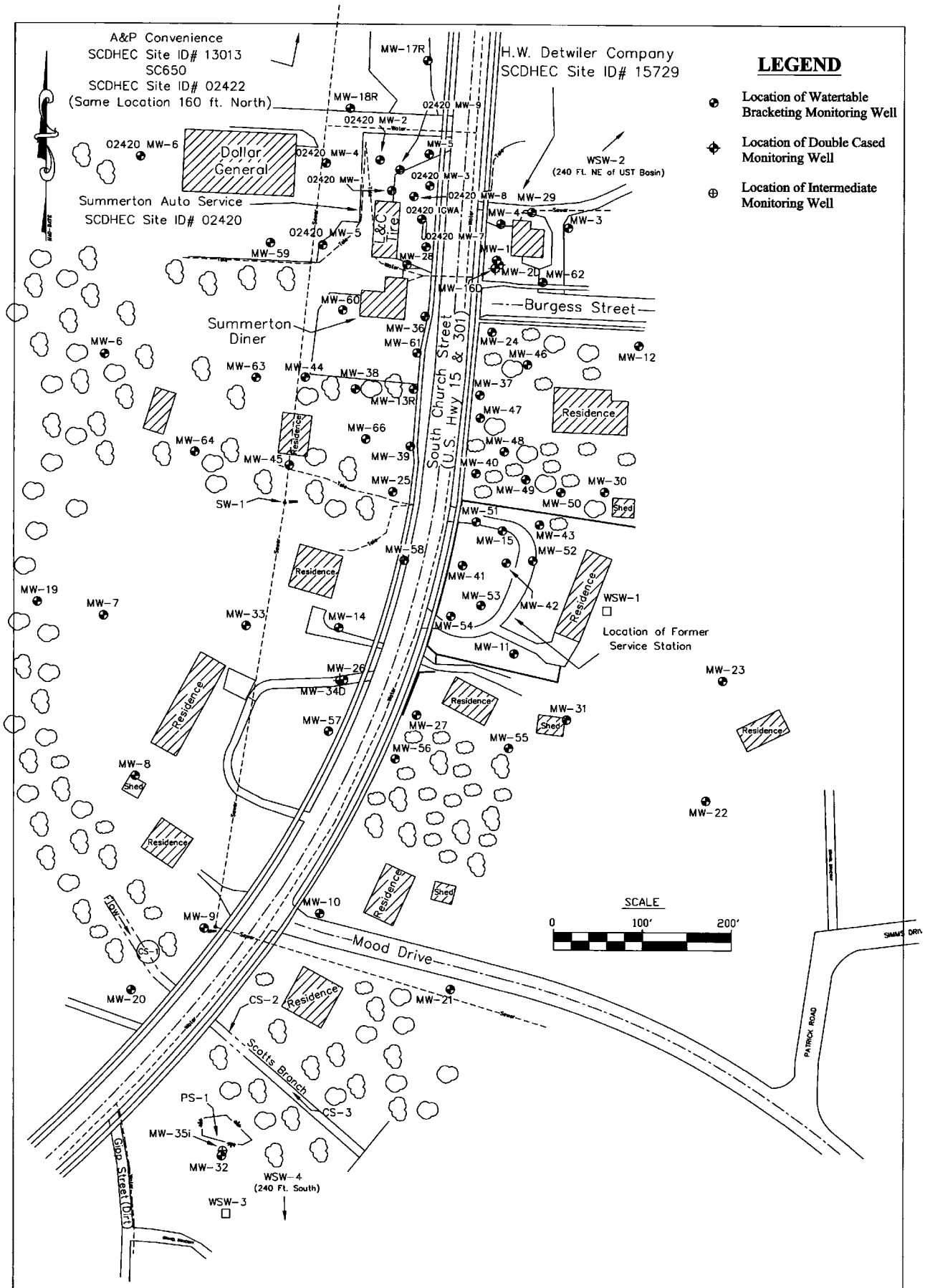
Scale 1 : 8,000

1" = 666.7 ft

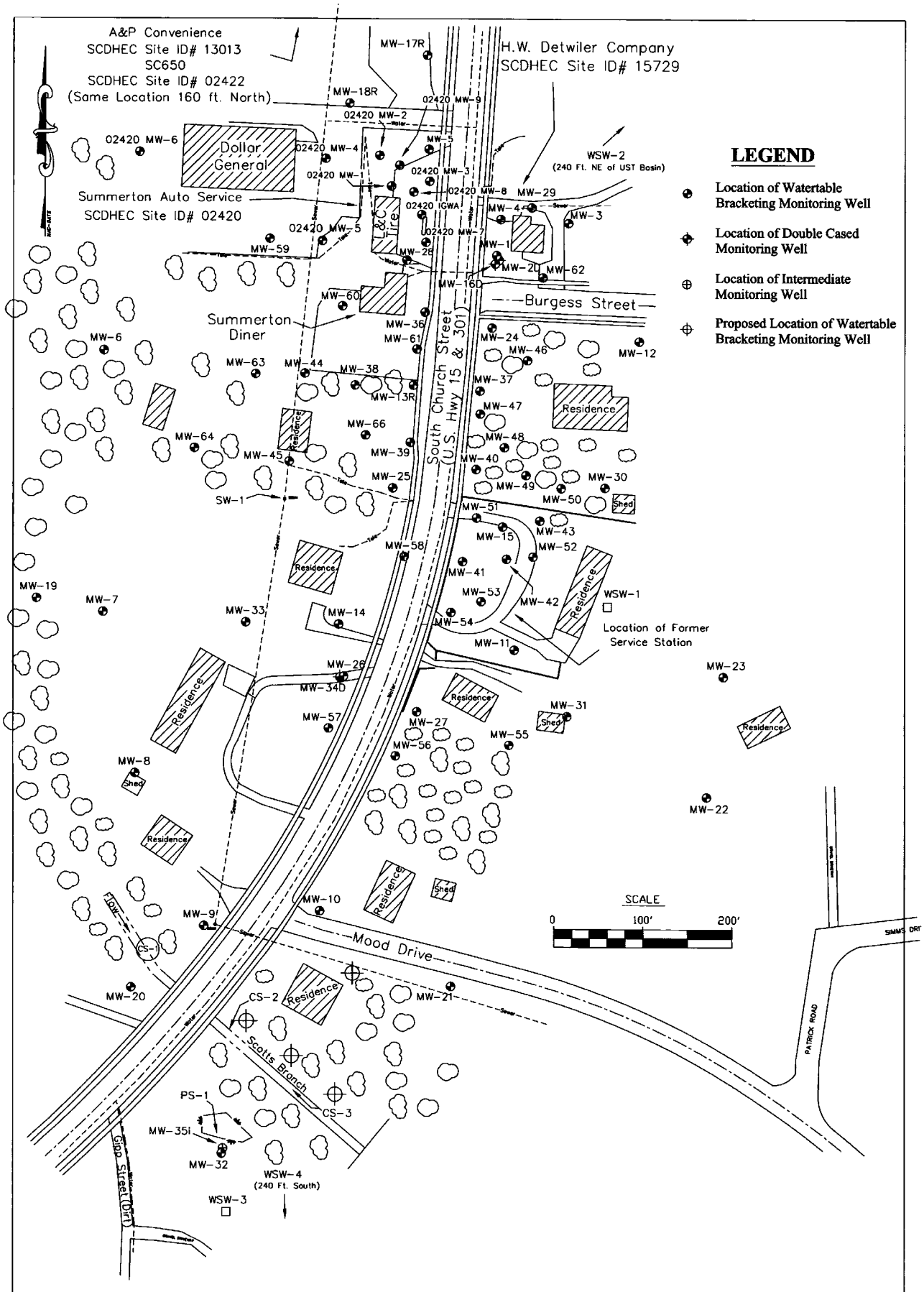
Data Zoom 14-6



H.W. Detwiler Company 37 South Church Street Summerton, SC SCDHEC Site ID# 15729	Figure 2 USGS Topographic Map 7.5 Minute Map 'Summerton, SC' Quadrangle Scale 1 to 2,000	EMERALD, INC. Sumter, SC



PROJECT:	SHEET TITLE:	DATE:	
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 SITE MAP	3/13/14	EMERALD, INC. SUMTER, SOUTH CAROLINA



PROJECT:	SHEET TITLE:	DATE:	
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 4 Proposed Well Locations	3/13/14	**EMERALD, INC.** SUMTER, SOUTH CAROLINA

Appendix C

Assessment Plan and Proposed Cost Agreement

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

ASSESSMENT COMPONENT INVOICE

SOUTH CAROLINA

Department of Health and Environmental Control (DHEC)

Underground Storage Tank Program

ASSESSMENT COMPONENT INVOICE

UST PERMIT # 15729 COUNTY Clarendon

FACILITY NAME H.W. Detwiler Company

STREET ADDRESS 37 South Church Street, Summerton, SC

INVOICE # **PO #** **COST AGREEMENT #**

For work performed during (specify time period) to

I certify, under penalty of law, that I have personally examined and am familiar with the information submitted in this and all attached documents; and that based on myinquiry of those individuals responsible obtaining this information, and any other information I may be aware of, I believe that the submitted information is true, accurate, and complete. I further agree, in accordance with any DHEC demand letter, to promptly repay any overpayment received.

Please fill out **BOTH the Contractor and Responsible Party Sections (original signatures). Also indicate the Payee by placing a check in the box next to the Contractor or Responsible Party.**

Payee

[X] CONTRACTOR

Ronny Lowder			57-0910049
Name (Type or Print)			Federal Tax ID or Social Security Number
Emerald, Inc.			803-469-5454
Company			Telephone Number
PO Box 3050	Sumter	SC	29151
Address	City	State	Zip Code

Signature (please use non-black ink) Title Date Signed

Payee

[ ] OWNER OR OPERATOR/RESPONSIBLE PARTY **Please attach copies of Cancelled Checks (front & back)**

Harold W. Detwiler Jr.			
Name (type or Print)			Federal Tax ID or Social Security Number
Company			Telephone Number
31 South Church Street	Summerton	SC	29148
Address	City	State	Zip Code

Signature (please use non-black ink) Title Date Signed

If payment is to be sent to an address other than above, please indicate below:

Name of Individual or Company (please print) Federal Tax ID or Social Security Number

Address (please print) City State Zip Code

INVOICE AMOUNT:	$9,421.28	
LESS SUBMITTED/PAID WELL DRILLING COSTS:		**SCDHEC USE ONLY** $
AMOUNT REQUESTED:	$9,421.28	

Amount Requested is for Assessment activities as Defined in the SCDHEC Letter.

INVOICE **INVOICE** **INVOICE** **INVOICE**

DHEC 3664 (rev 05/01)

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

ASSESSMENT COMPONENT INVOICE

SOUTH CAROLINA

Department of Health and Environmental Control

Underground Storage Tank Management Division

State Underground Petroleum Environmental Response Bank Account

Facility Name: H.W. Detwiler Company

UST Permit #: 15729 **Cost Agreement #:**

ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL
1. Plan*					
A1. Site-Specific Work Plan	1	x	$150.00		$150.00
B1. Tax Map		x	$70.00		$0.00
C1. Tier II or Comp. Plan /QAPP Appendix B		x	$250.00		$0.00
2. A1. Receptor Survey *		x	$551.00		$0.00
3. Survey (500 x 500 feet)					
A1. Comprehensive Survey	1	x	$1,040.00		$1,040.00
B. Subsurface Geophysical Survey					
1B. < 10 meters below grade		x	$1,300.00		$0.00
2B. > 10 meters below grade		x	$2,310.00		$0.00
C. Geophysical UST or Drum Survey		x	$910.00		$0.00
4. Mob/Demob (Each)					
A1. Equipment	1	x	$1,020.00		$1,020.00
B1. Personnel	4	x	$423.00		$1,692.00
C1. Adverse Terrain Vehicle to install wells	1	x	$500.00		$500.00
5. A1. Soil Borings (hand auger)* (Feet)		feet x	$5.00		$0.00
6. Soil Borings (requiring equipment, push technology, etc.)*					
or Field Screening (including water sample, soil sample, soil gas sample, etc.)*					
A1. Standard		feet x	$7.40		$0.00
C1. Fractured Rock		feet x	$20.20		$0.00
7. A1. Soil Leachability Model (Each)		each x	$60.00		$0.00
8. Abandonment* (per foot)					
A1. 2" diameter or less		feet x	$3.10		$0.00
B1. Greater than 2" to 6" diameter		feet x	$4.50		$0.00
C1. Dug/Bored well (up to 6 foot diameter)		feet x	$15.00		$0.00
9. Well Installation* (per foot)					
A1. Water Table (hand augered)		feet x	$10.60		$0.00
B1. Water Table (drill rig)	60	feet x	$38.00		$2,280.00
C1. Telescoping/ Pit Cased		feet x	$31.80		$0.00
D1. Rock Drilling		feet x	$26.80		$0.00
E1. 2" Rock Coring		feet x	$30.90		$0.00
G1. Multi-sampling ports/screens		feet x	$33.40		$0.00
H1. Recovery Well (4 inch diameter)		feet x	$30.00		$0.00
I1. Pre-packed screen (1.25 inch diameter)		feet x	$15.00		$0.00
J1. Rotosonic (2 inch diameter)		feet x	$44.00		$0.00
K. Re-develop existing well		feet x	$11.00		$0.00
10. Sample Collection / Gauge Depth to Water or Product (Each)					
A. Groundwater (Purge)	4	wells x	$60.00		$240.00
B1. Air or Vapors		receptor x	$12.00		$0.00
C1. Water Supply		receptor x	$22.00		$0.00
D1. Groundwater (No Purge or Duplicate)	1	receptor x	$28.00		$28.00
E1. Gauge Well Only		per well x	$7.00		$0.00
F1. Sample Below Product		per well x	$12.00		$0.00
G1. Passive Diffusion Bag		each x	$26.00		$0.00
H1. Field Blank	1	each x	$24.60		$24.60
11. Laboratory Analyses-Groundwater (Each Sample)					
A2. BTEXNM+ Oxyg's+ 1,2-DCA + Eth (8260B)	7	samples x	$122.00		$854.00
AA1. Filtered Lead		samples x	$13.80		$0.00
B2. 8260B RUSH (All of item A2)		samples x	$153.60		$0.00
C2. Trimethyl, Butyl, and Isopropyl Benzenes		samples x	$36.40		$0.00
D1. PAHs		samples x	$60.60		$0.00
E1. Lead		samples x	$16.00		$0.00
F1. EDB by 8011	6	samples x	$45.20		$271.20
FF1. EDB by 8011 Rush		samples x	$68.20		$0.00
G1. 8 RCRA Metals		samples x	$63.40		$0.00
H1. TPH (9070)		samples x	$41.00		$0.00
I1. pH		samples x	$5.20		$0.00
J1. BOD		samples x	$20.00		$0.00
PP. Ethanol		samples x	$14.80		$0.00

11. Analyses-Soil (Each Sample)					
Q1. BTEX + Naphth.		samples x	$64.00		$0.00
R1. PAHs		samples x	$64.04		$0.00
S1. 8 RCRA Metals		samples x	$56.40		$0.00
U1. TPH-DRO (3550C/8015C)		samples x	$40.00		$0.00
V1. TPH- GRO (5035B/8015C)		samples x	$35.96		$0.00
W1. Grain size/hydrometer		samples x	$104.00		$0.00
X1. Total Organic Carbon		samples x	$30.60		$0.00
11. Analyses-Air (Each Sample)					
Y1. BTEX + Naphthalene		samples x	$216.00		$0.00
11. Analyses-Free Phase Product (Each Sample)					
Z1. Hydrocarbon Fuel Identification		samples x	$357.00		$0.00
12. Aquifer Characterization*					
A1. Pumping Test		hours x	$23.00		$0.00
B1. Slug Test*		tests x	$191.00		$0.00
C1. Fractured Rock		tests x	$100.00		$0.00
13. Free Product Recovery Rate Test* (Each)		tests x	$38.00		$0.00
14. Fate/Transport Modeling					
A1. Mathematical Model		each x	$100.00		$0.00
B1. Computer Model		each x	$100.00		$0.00
15. Risk Evaluation					
A. Tier I Risk Evaluation		x	$300.00		$0.00
B1. Tier II Risk Evaluation		x	$100.00		$0.00
16. A1. Subsequent Survey*		x	$260.00		$0.00
17. Disposal* (gallons or tons)					
AA. Wastewater	200	gallons x	$0.56		$112.00
BB. Free Product		gallons x	$0.50		$0.00
C1. Soil Treatment/Disposal	2	tons x	$60.00		$120.00
D1. Drilling fluids		gallons x	$0.42		$0.00
18. Miscellaneous (attach receipts)					
		x			$0.00
		x			$0.00
		x			$0.00
19. Report Prep & Project Coordination	10%	x	$8,564.80		$856.48
20. Tier I Assessment (Use DHEC 3665 form)		x			$0.00
21. IGWA (Use DHEC 3666 form)		x			$0.00
22. Corrective Action (Use DHEC 3667 form)		x			$0.00
23. Aggressive Fluid & Vapor Recovery (AFVR)					
A1. 8-hour Event*		per event x	$1,375.00		$0.00
A2. 24-hour Event*		per event x	$3,515.00		$0.00
A3. 48-hour Event*		per event x	$6,265.00		$0.00
A4. 96-hour Event*		per event x	$12,567.50		$0.00
C1. Off-gas Treatment 8-hour		per event x	$122.50		$0.00
C2. Off-gas Treatment 24-hour		per event x	$241.50		$0.00
C3. Off-gas Treatment 48-hour		per event x	$327.00		$0.00
C4. Off-gas Treatment 96-hour		per event x	$780.00		$0.00
D1. AFVR Site Reconnaissance		each x	$203.25		$0.00
E1. Additional Hook-ups		each x	$25.75		$0.00
F. AFVR Effluent Disposal		gallon x	$0.30		$0.00
G. AFVR Mobilization/Demobilization		each x	$391.50		$0.00
24. Granulated Activated Carbon (GAC) filter system installation & service:					
A1. New GAC System Installation*		each x	$1,900.00		$0.00
BB. Refurbished GAC System Installation*		each x	$900.00		$0.00
C1. Filter replacement/removal*		each x	$350.00		$0.00
DD. GAC System removal, cleaning, & refurbishment*		each x	$275.00		$0.00
E1. GAC System housing		each x	$250.00		$0.00
F. In-line particulate filter		each x	$150.00		$0.00
G1. Additional piping & fittings		feet x	$1.50		$0.00
25. Well Repair					
A1. Additional Copies of the Report Delivered	1	each x	$50.00		$50.00
B1. Repair 2x2 MW pad	1	each x	$50.00		$50.00
C1. Repair 4x4 MW pad		each x	$88.00		$0.00
D1. Repair well vault	1	each x	$118.00		$118.00
F1. Replace well cover bolts		each x	$2.60		$0.00
G. Replace locking well cap & lock	1	each x	$15.00		$15.00
H1. Replace/Repair stick-up		each x	$134.00		$0.00
I1. Convert Flush-mount to Stick-up		each x	$150.00		$0.00
J1. Convert Stick-up to Flush-mount		each x	$130.00		$0.00
K1. Replace missing/illegible well ID plate		each x	$12.00		$0.00
TOTAL					$9,421.28

*The appropriate mobilization cost can be added to complete these tasks, as necessary

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

MR HAROLD W DETWILER JR
31 SOUTH CHURCH STREET
SUMMERTON SC 29148-0769

MAR 17 2014

Re: **Assessment Directive**
H W Detwiler Company
37 South Church St., Summerton, SC 29148
UST Permit # 15729; CA # 47736; UMW # 25428
Release Reported June 22, 1993
Site Specific Work Plan Received March 13, 2014
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Management Division (Division) of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced Site Specific Work Plan submitted on your behalf by Emerald, Inc. The previous assessment work for this release indicates that petroleum Chemicals of Concern (CoC) are present in the soil and groundwater at concentrations that exceed risk-based screening levels. In order to evaluate the extent of CoC contamination, additional assessment and sampling is necessary. All work should be conducted in accordance with the UST QAPP Revision 2.0, and must be conducted in compliance with all applicable regulations. A copy of the Agency Quality Assurance Program Plan (QAPP) Rev. 2.0 for the UST Management Division is available at http://www.scdhec.gov/environment/lwm/usthome/Qapp.htm.

Assessment activities at the site should begin immediately upon receipt of this letter. Cost agreement # 47736 has been approved for the amount shown on the enclosed cost agreement form for installation of four (4) shallow monitoring wells and sampling of the wells upon completion. Wells should be installed in the general locations described on the enclosed map. The necessary monitoring well approval is enclosed. Groundwater analyses should be conducted for BTEX, Naphthalene, MTBE, Oxygenates, 1,2-DCA, Ethanol, and EDB. Analyses should be in accordance with Appendix E of the QAPP to include duplicate samples, field and trip blanks.

In accordance with the QAPP Rev. 2.0, if any quality assurance problems arise, you must contact the Agency project manager within 24 hours via phone or e-mail. In addition, a discussion of the problem(s) encountered, including quality assurance problems, the actions taken, and the results must be included in the final report submitted to the UST Management Division.

The Assessment Report, contractor checklist (QAPP Appendix K), and invoice are due within 90 days from the date of this letter. The report submitted at the completion of these activities should include the required information outlined in the QAPP. Please note that all applicable South Carolina certification requirements apply to the services and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

Your contractor can submit an invoice for direct payment from State Underground Petroleum Environmental Response Bank (SUPERB) Account for pre-approved costs. By law, the SUPERB Account cannot compensate any costs that are not pre-approved. Please note that applicable South Carolina certification requirements regarding laboratory services, well installation, and report preparation must be satisfied. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

Please note that Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the Agency is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be pre-approved by the Division for the cost to be paid. The Agency reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, the Agency reserves the right to question and/or reject costs if deemed unreasonable and the right to audit project records at any time during the project or after completion of work.

Please note, if unnecessary dilutions are completed resulting in reporting limits of individual CoC in excess of Risk-Based Screening Levels (RBSLs), the data cannot be used. In those cases, the UST Division may deny payment for any non-detect analysis where the reporting limit exceeds the RBSL. The UST Management Division encourages the use of 'J' values as necessary so the appropriate action can be determined for a release.

The Agency grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. The transport and disposal must be conducted in accordance with the QAPP. If the CoC concentrations based on laboratory analysis are below RBSLs, please contact the project manager for approval to dispose of soil and/or groundwater on site. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

On all correspondence regarding this site, please reference UST Permit # 15729 and CA # 47736. If you have any questions regarding this correspondence, please contact me by telephone at (803) 898-0607, by fax at (803) 898-0673, or by e-mail at ShullSS@dhec.sc.gov.

Sincerely,

Shane S. Shull, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement
Map with Proposed Well Locations
Monitoring Well Approval UMW-25428

cc: Mr. Chad McClary, P.G., Emerald, Inc., P.O. Box 3050, Sumter, SC 29151-3050 (w/ enc)
Technical File (w/ enc)

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

Monitoring Well Approval Form

Approval is hereby granted to:	Emerald, Inc.
(on behalf of):	Mr. Harold W Detwiler Jr.
Facility:	H W Detwiler Company
UST Permit Number:	15729
County:	Clarendon

This approval is for the installation of four (4) shallow monitoring wells. The monitoring wells are to be installed in the approved locations. The monitoring wells are to be installed following the South Carolina Well Standards, R.61-71, and the applicable guidance documents.

Please note that R.61-71 requires the following:

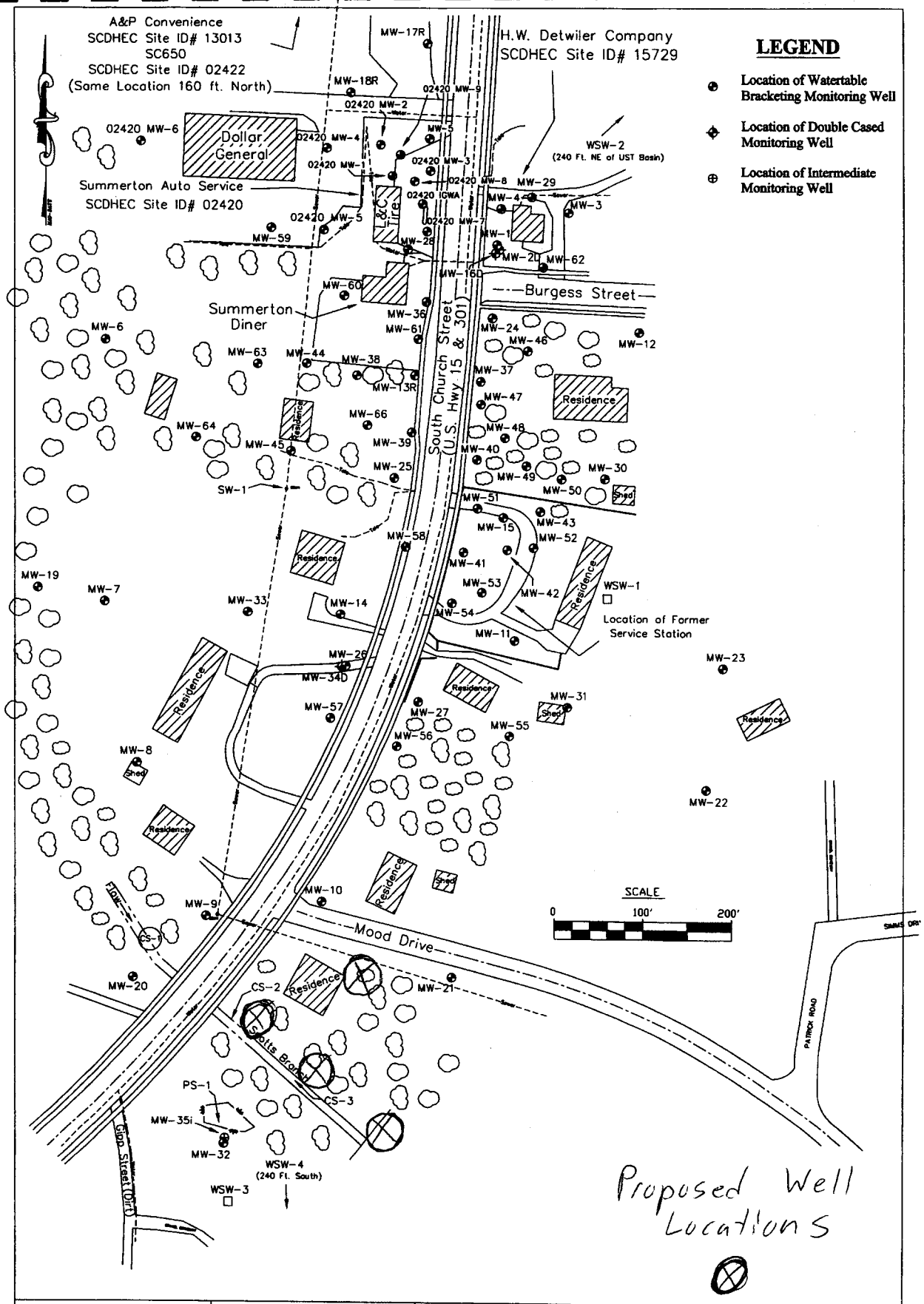
1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.
2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.
3. A Water Well Record Form or other form provided or approved by the Agency shall be completed and submitted to the Agency within 30 days after well completion or abandonment unless another schedule has been approved by the Agency. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f
4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Agency within 30 days of receipt of laboratory results unless another schedule has been approved by the Agency as required by R.61-71.H.1.d.
5. If any of the information provided to the Agency changes, notification to Shane Shull (tel: (803) 898-0607 or e-mail: ShullSS@dhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.
6. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.
7. Agency approval is required prior to abandonment of all monitoring wells as required by R.61-71.H.1.a.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and R.61-71 of the South Carolina Well Standards and Regulations, dated April 26, 2002. A copy of this approval should be on the site during well installation.

Date of Issuance: March 17, 2014

Approval #: UMW-25428

Shane S. Shull, Hydrogeologist
Corrective Action Section
Division of Assessment and Corrective Action
Bureau of Land and Waste Management



PROJECT:	SHEET TITLE:	DATE:	
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 SITE MAP	2/25/14	**EMERALD, INC.** SUMTER, SOUTH CAROLINA

Approved Cost Agreement 47736

Facility: 15729 H W DETWILER CO
SHULLSS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
01 PLAN						
		A1	SITE SPECIFIC WORK PLAN	1.0000	150.00	150.00
04 MOB/DEMOB						
		A1	EQUIPMENT	1.0000	1,020.00	1,020.00
		B1	PERSONNEL	3.0000	423.00	1,269.00
09 WELL INSTALLATION						
		B1	WATER TABLE (DRILL RIG)	75.0000	38.00	2,850.00
10 SAMPLE COLLECTION						
		A1	GROUNDWATER (PURGE)	4.0000	60.00	240.00
		D1	GROUNDWATER NO PURGE/DUPLICATE	1.0000	28.00	28.00
		H1	FIELD BLANK	1.0000	24.60	24.60
11 ANALYSES	GW GROUNDWATER					
		A2	BTEXNM+OXYGS+1,2-DCA+ETH-8260B	7.0000	122.00	854.00
		F1	EDB BY 8011	6.0000	45.20	271.20
16 SUBSEQUENT SURVEY						
		A1	SUBSEQUENT SURVEY	1.0000	260.00	260.00
17 DISPOSAL						
		AA	WASTEWATER	200.0000	0.56	112.00
		C1	SOIL TREATMENT DISPOSAL	2.0000	60.00	120.00
19 RPT/PROJECT MNGT & COORDINATIO						
		PERC	REPORT PREPARATION	0.1000	7,431.80	743.18
25 WELL REPAIR						
		A1	ADDITIONAL COPIES OF REPORT	1.0000	50.00	50.00
		B1	REPAIR 2X2 MONITORING WELL PAD	1.0000	50.00	50.00
		D1	REPLACE WELL VAULT	1.0000	118.00	118.00
		G	REPLACE LOCKING WELL CAP & LOC	1.0000	15.00	15.00
				Total Amount		8,174.98

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

July 7, 2014

Shane S. Shull, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management
SCDHEC
2600 Bull Street
Columbia, S.C. 29201

Re: H.W. Detwiler Co., 37 S. Church St., Summerton, SC 29148
UST Permit #15729; CA #47736
Release Reported June 22, 1993
Report of Additional Assessment ((June 18, 2014)
Clarendon County

Dear Mr. Shull:

On behalf of Mr. Harold Detwiler, Emerald, Inc. is providing you with one copy of the completed Report of Additional Assessment for the Detwiler site. During this event, three additional shallow monitoring wells (MW-71 thru MW-73) and seven monitoring wells were sampled. The groundwater analytical results indicate concentrations of CoC's associated with the new monitoring wells are above detection limits. We have made recommendations to address this and other site issues in Section 3.0 of the report.

If you have any questions regarding the report and its findings, please contact either Chad McClary or myself at (803) 469-5454.

Yours very truly,
Emerald, Inc.

Ronny L. Lowder RLL

Ronny L. Lowder
President

RLL/jrb

Enclosure

cc: Mr. Harold W. Detwiler, Jr.

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REPORT OF ADDITIONAL ASSESSMENT
HW DETWILER COMPANY
37 SOUTH CHURCH STREET
SUMMERTON, SOUTH CAROLINA
UST PERMIT #15729
COST AGREEMENT #47736

Prepared For:

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

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June 18, 2014

Report of Additional Assessment
HW Detwiler Company
37 South Church Street
Summerton, South Carolina

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This document entitled "Report of Additional Assessment", has been prepared for the South Carolina Department of Health and Environmental Control to describe investigative activities initiated at the HW Detwiler Company site located in Summerton, South Carolina. It has been prepared under the direct supervision of William C. McClary, P.G. in accordance with the UST Quality Assurance Division Plan Revision 2.0 and approved Site Specific Work Plan dated March 13, 2014. All questions or comments concerning this report should be directed to Ronny L. Lowder or William C. McClary, P.G., Emerald, Inc., at 803-469-5454.

Emerald, Inc.

Ronny L. Lowder
President

Emerald, Inc.

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1.0 Introduction

The HW Detwiler Company (UST Permit #15729) site is located at 37 South Church Street in Summerton, Clarendon County, SC. Figure 1 contains a general location map showing surrounding roadways, and Figure 2 contains a topographic map for the area. The subject site is currently used as an office building. According to Clarendon County tax records, the site is currently owned by Helen D. Todd (710 Knotty Pine Road, Charleston, SC 29412). Formerly, the site was used by a construction company which stored gasoline in two underground storage tanks (USTs) for its fleet of vehicles. The two USTs, 1,000 gallons each, were permanently closed by removal in June 1993 by G&K Tank Services. A release of petroleum product was reported to SCDHEC in June 1993 and confirmed in July 1993. The responsible party for this release is Harold W. Detwiler Jr. (31 South Church Street, Summerton, SC 29148).

The Detwiler site is located within an area of mixed use. Commercial activities including a restaurant, a former gasoline service station (Summerton Auto Service SCDHEC Site ID #02420) and a convenience store currently maintaining USTs (A&P Convenience SCDHEC Site ID #13013 and SC650 SCDHEC Site ID #02422) are located west and northwest of the subject site respectively. The areas north, east and south of the subject site are used for residential purposes. According to local sources, a former gasoline station was located approximately 300 feet south of the HW Detwiler site (along the eastern side of S. Church Street) in the 1940s and 1950s. This area of the former station is near MW-15 as seen in Figure 3.

A site assessment was conducted by Duncan Environmental Associates, Inc. at the time of closure and a release notification was sent to SCDHEC on June 22, 1993. This assessment indicated soil contamination above the reporting limits for BTEX and TPH compounds.

In July 2000, an Initial Ground Water Assessment (IGWA) was conducted by Emerald, Inc. at the subject site. This assessment included the installation of one groundwater monitoring well. Gauging of this well indicated the presence of free product adjacent to the former UST

basin. In April 2002 Emerald, Inc. submitted a Tier II assessment report for the subject site. This assessment included field screening, the installation of fourteen additional monitoring wells, aquifer testing, and monitoring well sampling. Groundwater sampling indicated the groundwater contaminant plume was not fully defined. In April 2003, Emerald, Inc submitted a Tier II Assessment Report (Addendum 01). This assessment included field screening, monitoring well installation, monitoring well sampling and surface water sampling. This assessment was conducted to better define the horizontal and vertical extent of the contaminant plume. In February 2010, at the request of SCDHEC, Emerald, Inc. conducted a comprehensive groundwater sampling event to provide current groundwater quality data for the subject site. During this sampling event, four monitoring wells were not located and possibly destroyed. In August 2010, SCDHEC requested Aggressive Fluid Vapor Recovery Event (AFVR), additional monitoring well installation and monitoring well sampling at the subject site.

In June 2012, Emerald, Inc. submitted a Report of Monitoring Well Installation documenting the installation of twenty additional shallow monitoring wells at the subject site to better define the free product plume. In February 2013, at the request of SCDHEC, Emerald, Inc. submitted a Report of Groundwater Sampling for the subject site. In December 2013, at the request of SCDHEC, Emerald, Inc. submitted a Report of Groundwater Sampling for the subject site. In February 2014, Emerald, Inc. conducted a limited groundwater sampling of the monitoring wells, water supply wells and surface waters on the property of David Van Wynsberghe in order to obtain current groundwater quality data.

In February 2014, SCDHEC requested a Site Specific Work Plan (SSWP) for additional monitoring well installation and a limited groundwater sampling event. In March 2014, Emerald, Inc. initiated work under the approved SSWP dated March 13, 2014. This report represents the findings of this event.

2.0 Site Activities

Emerald, Inc. personnel conducted this additional assessment at the HW Detwiler Company to provide current groundwater quality data. Field activities required to generate site-specific information for the site are described in detail within this section. Figure 3 contains a site map for the site presenting well locations, relevant structures and utilities.

2.1 Monitoring Well Installation

On March 27, 2014, four shallow monitoring wells (MW-67, MW-68, MW-69 and MW-70) were installed at the site. Well drilling activities were performed using an ATV-mounted drilling rig equipped with hollow-stem augers to construct the borehole. Personnel from Geologic Exploration (Vincent Federle C01930) located in Statesville, NC, performed drilling activities under the supervision of Emerald, Inc. personnel. Monitoring well MW-67 was installed to a depth of 17 feet below ground surface (BGS) and completed with a ten foot screen to bracket the watertable. Monitoring wells MW-68, MW-69 and MW-70 were installed to a depth of 14 feet below ground surface (BGS) and completed with a ten foot screen to bracket the watertable. Groundwater analytical data from these newly installed monitoring wells indicated concentrations of chemicals of concern (CoC) above detection limits. After consultation with the SCDHEC project manager, additional monitoring wells were installed at the subject site to better define the contaminant plume.

On May 12, 2014, three shallow monitoring wells (MW-71, MW-72, and MW-73) were installed at the site. Well drilling activities were performed using an ATV-mounted drilling rig equipped with hollow-stem augers to construct the borehole. Personnel from Geologic Exploration (Vincent Federle C01930) located in Statesville, NC, performed drilling activities under the supervision of Emerald, Inc. personnel. Monitoring wells MW-71, MW-72 and MW-73 were installed to a depth of 14 feet below ground surface (BGS) and completed with a ten foot screen to bracket the watertable.

After well installation, each newly installed well was developed by pumping until the water produced was clear, free of sediment, and the well was determined to be functioning properly. These wells were developed on March 27 and May 12, 2014, by Geologic Exploration and Emerald, Inc. personnel. Approximately 275 gallons of development water was treated on-site using an activated carbon drum. See Appendix D for a copy of the disposal manifest.

During the installation of the groundwater monitoring wells, the soil in each boring was field screened at five foot intervals using a PID (Photoionization Detector). The descriptions of the soil along with the PID readings were entered into the Monitoring Well Installation Log as seen in Appendix A. A total of 0.74 tons of soil cuttings were containerized and transported to the Waste Management Richland County Landfill for proper disposal. See Appendix D for copies of the disposal manifests.

2.2 Static Water Level Measurement

Prior to well purging, sample collection or gauging of the seven newly installed monitoring wells located at the subject site, water levels were taken to the nearest 0.01 foot using a graduated electronic indicator. Figure 3 contains a map for the HW Detwiler site presenting well locations, relevant structures and utilities. Measurements were recorded from the surveyed top of the well casing so they could be referenced to a common datum. Water levels and groundwater elevations are summarized in Table 1. Due to the length of time between each sampling event and the minimal number of monitoring wells sampled, a potentiometric surface map was not produced.

2.3 Groundwater Sampling

On April 8 and May 20, 2014, groundwater samples were collected from seven monitoring wells (MW-67 through MW-73) at the subject site. In addition to these groundwater samples, two duplicate samples (MW-67 and MW-73), two Field Blanks and two Trip Blanks were also collected. One trip blank was included in each cooler shipped to the laboratory. Each

sample collected at the site was documented as to the cooler in which it was placed and a dedicated trip blank was included in each cooler for quality control purposes.

Newly installed monitoring wells were purged by hand bailing until five well volumes were removed from the well (see Well Purge Logs in Appendix B). Field equipment was properly calibrated prior to obtaining readings at the site. Following well purging or gauging, a groundwater sample was collected from each well using a new disposable PVC bailer. Each groundwater sample was poured directly from the bailer into appropriate laboratory supplied containers for analysis. Downhole sampling equipment was properly decontaminated between each sampling location. A total of 51 gallons of purge water was treated on-site using an activated carbon drum. See Appendix D for a copy of the disposal manifest.

Samples were immediately packed in crushed ice in the field ice chest and shipped to Pace Analytical, Inc. of Huntersville, NC (SC Certification #99006001) for laboratory analysis. Each sample was analyzed for BTEX, Naphthalene, MTBE, 1-2 DCA, 8 Oxygenates (EPA Method 8260B) and EDB (EPA Method 8011). Analytical results for the groundwater samples are presented on Tables 2 and 3 with the laboratory reports in Appendix C.

2.4 Analytical Results

Tables 2 and 3 summarize the groundwater analytical results at the subject site, and Appendix C contains a copy of the laboratory reports. Analytical results from groundwater samples collected from the newly installed monitoring wells indicate concentrations of CoCs above detection limits. Figure 4 presents a Groundwater CoC Map for the site.

2.5 Comprehensive Survey

A comprehensive survey dated May 16, 2014, was performed by Construction Support Services of Columbia, SC (Jay Joshi PLS #14811). This survey was conducted to locate the horizontal and vertical position of the monitoring wells, buildings, roadways, and utilities on and surrounding the subject site. Figure 3 presents the locations of monitoring wells and Table 1

contains the well head elevations for the monitoring wells. A copy of the RLS survey is presented in Appendix E.

3.0 Results, Conclusions, and Recommendations

During this assessment, monitoring well installation and a limited groundwater sampling event were conducted at the site. Free product was not detected during this sampling event. Analytical results from groundwater samples indicate concentrations of CoCs associated with the newly installed monitoring wells are above detection limits. Due to the length of time between each sampling event and the minimal number of monitoring wells sampled, a potentiometric surface map was not produced.

Given the above findings during this Report of Groundwater Sampling at the site, Emerald, Inc. recommends a series of long duration AFVR events to remove free product detected at the site and periodic sampling to monitor the contaminant plume.

TABLES

TABLE 1
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 1 OF 4

Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Initial Turbidity (ntu)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
15729 MW-1	3/10/02	PROD	PROD	PROD	13-23	19.44	21.22	1.78	101.64	81.74
	4/12/03	PROD	PROD	PROD		11.40	15.09	3.69	101.64	89.28
	11/11/04	PROD	PROD	PROD		16.88	17.78	0.90	101.64	84.53
	12/21/09	PROD	PROD	PROD		16.34	16.85	0.51	101.64	85.17
	9/8/10	PROD	PROD	PROD		16.73	17.29	0.56	101.64	84.76
	11/19/10	PROD	PROD	PROD		17.25	18.13	0.88	101.64	84.16
	7/13/11	PROD	PROD	PROD		17.23	18.11	0.88	101.64	84.18
	1/21/13	PROD	PROD	PROD		17.00	17.98	0.98	101.64	84.39
	11/13/13	PROD	PROD	PROD		16.21	16.65	0.44	101.64	85.32
15729 MW-2D	3/10/02	--	--	--	42-47	--	18.29	--	101.96	83.67
	4/12/03	--	--	--		--	14.80	--	101.96	87.16
	12/21/09	--	--	--		--	16.68	--	101.96	85.28
	11/22/10	3.51	24.3	--		--	17.96	--	101.96	84.00
	7/13/11	4.76	25.8	--		--	18.23	--	101.96	83.73
	1/21/13	2.32	18.4	59		--	17.50	--	101.96	84.46
	11/13/13	2.94	21.4	33		--	16.93	--	101.96	85.03
15729 MW-3	3/10/02	--	--	--	13-23	--	18.09	--	102.01	83.92
	4/2/03	--	--	--		--	13.45	--	102.01	88.56
	12/21/09	--	--	--		--	16.53	--	102.01	85.48
	11/22/10	--	--	--		--	17.75	--	102.01	84.26
	7/13/11	5.09	23.6	--		--	17.71	--	102.01	84.30
	1/21/13	2.44	16.9	148		--	17.45	--	102.01	84.56
	11/13/13	2.27	17.5	13		--	17.76	--	102.01	84.25
15729 MW-4	3/10/02	--	--	--	15-25	--	17.39	--	101.37	83.98
	4/2/03	--	--	--		--	11.98	--	101.37	89.39
	12/21/09	--	--	--		--	15.95	--	101.37	85.42
	11/22/10	--	--	--		--	17.02	--	101.37	84.35
	7/13/11	4.63	23.7	--		--	16.99	--	101.37	84.38
	1/21/13	1.15	18.8	50		--	16.74	--	101.37	84.63
	11/13/13	1.78	20.4	16		--	16.12	--	101.37	85.25
15729 MW-5	3/10/02	--	--	--	15-25	--	15.52	--	100.04	84.52
	4/2/03	--	--	--		--	14.34	--	100.04	85.70
	12/21/09	--	--	--		--	14.13	--	100.04	85.91
	11/22/10	--	--	--		--	15.25	--	100.04	84.79
	1/21/13	1.45	21.5	27		--	14.87	--	100.04	85.17
	11/13/13	1.02	20.3	10		--	15.50	--	100.04	84.54
15729 MW-6	3/10/02	--	--	--	15-25	--	18.56	--	102.29	83.73
	4/2/03	--	--	--		--	15.70	--	102.29	86.59
	12/22/09	--	--	--		--	17.74	--	102.29	84.55
	11/22/10	--	--	--		--	18.51	--	102.29	83.78
	7/11/11	3.81	26.6	--		--	18.42	--	102.29	83.87
	1/15/13	1.55	21.3	320		--	18.21	--	102.29	84.08
	2/14/13	1.31	16.9	30.5		--	17.98	--	102.29	84.31
	11/13/13	1.97	16.6	211		--	17.97	--	102.29	84.32
15729 MW-7	3/10/02	--	--	--	10-20	--	14.55	--	96.77	82.22
	4/12/03	--	--	--		--	12.09	--	96.77	84.68
	12/22/09	--	--	--		--	13.85	--	96.77	82.92
	11/19/10	--	--	--		--	14.57	--	96.77	82.20
	7/11/11	1.60	25.3	--		--	14.80	--	96.77	81.97
	1/15/13	3.98	18.8	7		--	14.38	--	96.77	82.39
	2/14/13	3.92	17.2	32.7		--	13.83	--	96.77	82.94
	11/12/13	4.86	19.1	27			14.10	--	96.77	82.67
15729 MW-8	3/10/02	--	--	--	5-15	--	8.35	--	89.44	81.09
	4/12/03	--	--	--		--	3.10	--	89.44	86.34
	12/22/09	--	--	--		--	3.70	--	89.44	85.74
	11/19/10	--	--	--		--	8.36	--	89.44	81.08
	7/11/11	2.71	24.7	--		--	5.72	--	89.44	83.72
	1/11/13	6.21	18.0	348		--	5.50	--	89.44	83.94
	11/12/13	4.60	21.2	31		--	7.94	--	89.44	81.50
15729 MW-9	3/10/02	--	--	--	5-15	--	8.21	--	88.21	80.00
	4/12/03	--	--	--		--	5.40	--	88.21	82.81
	12/22/09	--	--	--		--	7.37	--	88.21	80.84
	11/19/10	--	--	--		--	8.14	--	88.21	80.07
	7/11/11	1.45	25.2	--		--	8.22	--	88.21	79.99
	1/11/13	3.82	19.0	>1,000		--	8.00	--	88.21	80.21
	11/12/13	2.85	21.2	53		--	7.81	--	88.21	80.40
15729 MW-10	3/10/02	--	--	--	8-18	--	12.81	--	92.89	80.08
	4/12/03	--	--	--		--	10.02	--	92.89	82.87
	12/22/09	--	--	--		--	11.88	--	92.89	81.01
	11/19/10	--	--	--		--	12.75	--	92.89	80.14
	7/11/11	5.39	25.3	--		--	12.82	--	92.89	80.07
	1/11/13	2.79	21.9	284		--	12.56	--	92.89	80.33
	11/12/13	1.30	21.3	15		--	12.23	--	92.89	80.66
15729 MW-11	3/10/02	--	--	--	15-25	--	20.61	--	101.81	81.20
	4/12/03	--	--	--		--	13.66	--	101.81	88.15
	12/21/09	--	--	--		--	19.46	--	101.81	82.35
	11/19/10	--	--	--		--	20.36	--	101.81	81.45
	7/11/11	3.00	26.3	--		--	20.26	--	101.81	81.55
	1/14/13	2.01	22.4	7		--	20.20	--	101.81	81.61
	11/12/13	3.88	20.2	54		--	19.10	--	101.81	82.71

Notes:

1. ug/l = micrograms per liter
2. mg/l = milligrams per liter
3. NT = Not Tested
4. NL = Not Located
5. PROD = Free Phase Product Detected
6. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline

TABLE 1
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H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
PAGE 2 OF 4

Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Initial Turbidity (ntu)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
15729 MW-12	3/10/02	--	--	--	15-25	--	20.29	--	103.42	83.13
	4/2/03	--	--	--		--	13.52	--	103.42	89.90
	12/21/09	--	--	--		--	18.57	--	103.42	84.85
	11/22/10	--	--	--		--	19.75	--	103.42	83.67
	7/13/11	4.13	24.1	--		--	19.70	--	103.42	83.72
	1/21/13	3.71	19.8	221		--	19.50	--	103.42	83.92
	11/13/13	4.21	18.6	12		--	18.50	--	103.42	84.92
15729 MW-13	3/10/02	PROD	PROD	PROD	15-25	19.10	20.38	1.28	102.69	83.26
	4/2/03	PROD	PROD	PROD		14.45	14.93	0.48	102.69	88.12
	11/11/04	PROD	PROD	PROD		18.40	19.10	0.70	102.69	84.11
	12/22/09	NL	NL	NL		NL	NL	NL	102.69	NL
15729 MW-13R	11/19/10	PROD	PROD	PROD	12-22	18.88	20.11	1.23	102.76	83.56
	7/11/11	PROD	PROD	PROD		19.08	19.19	0.11	102.76	83.65
	1/15/13	PROD	PROD	PROD		18.85	19.15	0.30	102.76	83.83
	11/12/13	PROD	PROD	PROD		18.42	18.46	0.04	102.76	84.33
15729 MW-14	3/10/02	--	--	--	15-25	--	17.33	--	99.07	81.74
	4/12/03	--	--	--		--	12.39	--	99.07	86.68
	12/22/09	--	--	--		--	16.40	--	99.07	82.67
	11/19/10	--	--	--		--	17.20	--	99.07	81.87
	7/11/11	1.90	26.0	--		--	12.19	--	99.07	86.88
	1/14/13	1.50	20.4	5		--	17.00	--	99.07	82.07
	11/12/13	3.92	19.8	111		--	16.37	--	99.07	82.70
15729 MW-15	3/10/02	--	--	--	15-25	--	19.75	--	101.93	82.18
	4/12/03	--	--	--		--	12.94	--	101.93	88.99
	12/21/09	--	--	--		--	18.61	--	101.93	83.32
	11/19/10	PROD	PROD	PROD		19.36	19.57	0.21	101.93	82.52
	7/11/11	PROD	PROD	PROD		19.26	19.56	0.30	101.93	82.59
	1/14/13	PROD	PROD	PROD		18.72	21.99	3.27	101.93	82.36
	11/12/13	PROD	PROD	PROD		17.54	20.30	2.76	101.93	83.67
15729 MW-16D	4/2/03	--	--	--	65-75	--	12.10	--	101.84	89.74
	12/21/09	--	--	--		--	16.93	--	101.84	84.91
	11/22/10	4.21	24.4	--		--	18.18	--	101.84	83.66
	7/13/11	4.45	27.4	--		--	18.31	--	101.84	83.53
	1/21/13	1.18	16.3	21		--	17.90	--	101.84	83.94
	11/12/13	0.76	20.7	142		--	17.09	--	101.84	84.75
15729 MW-17	4/2/03	--	--	--	8-18	--	9.50	--	98.81	89.31
	12/22/09	NL	NL	NL		NL	NL	NL	98.81	NL
15729 MW-17R	11/22/10	4.03	22.5	--	10-20	--	13.40	--	98.86	85.46
	1/21/13	1.21	21.8	12		--	12.97	--	98.86	85.89
	11/13/13	1.44	21.2	43		--	12.40	--	98.86	86.46
15729 MW-18	4/2/03	--	--	--	13-23	--	13.45	--	100.86	87.41
	12/22/09	NL	NL	NL		NL	NL	NL	100.86	NL
15729 MW-18R	11/22/10	4.18	20.5	--	12-22	--	14.38	--	99.32	84.94
	1/21/13	0.85	20.6	72		--	14.35	--	99.32	84.97
	11/13/13	1.38	18.6	317		--	13.73	--	99.32	85.59
15729 MW-19	4/12/03	--	--	--	5-15	--	7.60	--	92.78	85.18
	12/22/09	--	--	--		--	9.90	--	92.78	82.88
	11/19/10	--	--	--		--	10.58	--	92.78	82.20
	7/11/11	4.60	27.1	--		--	10.61	--	92.78	82.17
	1/15/13	1.30	17.9	121		--	10.38	--	92.78	82.40
	2/14/13	2.21	16.1	99		--	9.66	--	92.78	83.12
	11/12/13	1.80	18.5	47		--	10.17	--	92.78	82.61
15729 MW-20	4/12/03	--	--	--	3-13	--	3.52	--	85.47	81.95
	12/22/09	--	--	--		--	4.89	--	85.47	80.58
	11/19/10	--	--	--		--	5.47	--	85.47	80.00
	7/11/11	1.70	26.3	--		--	5.57	--	85.47	79.90
	1/11/13	NL	NL	NL		NL	NL	NL	85.47	NL
	11/12/13	NL	NL	NL		NL	NL	NL	85.47	NL
15729 MW-21	4/12/03	--	--		3-13	--	5.05	--	89.24	84.19
	12/22/09	--	--			--	8.67	--	89.24	80.57
	11/19/10	--	--			--	9.90	--	89.24	79.34
	7/11/11	5.80	26.1			--	10.00	--	89.24	79.24
	1/11/13	1.33	21.7	533		--	9.60	--	89.24	79.64
	11/12/13	1.85	21.5	24		--	9.19	--	89.24	80.05
15729 MW-22	4/12/03	--	--	--	10-25	--	11.96	--	101.70	89.74
	12/22/09	--	--	--		--	19.87	--	101.70	81.83
	11/19/10	--	--	--		--	20.77	--	101.70	80.93
	7/11/11	4.83	26.7	--		--	20.70	--	101.70	81.00
	1/14/13	2.28	20.2	63		--	20.73	--	101.70	80.97
	11/12/13	1.06	19.7	25		--	19.21	--	101.70	82.49
15729 MW-23	4/12/03	--	--	--	10-25	--	13.87	--	103.32	89.45
	12/22/09	NL	NL	NL		NL	NL	NL	103.32	NL
	1/11/13	NL	NL	NL		NL	NL	NL	103.32	NL
	11/12/13	NL	NL	NL		NL	NL	NL	103.32	NL

Notes:

1. ug/l = micrograms per liter
2. mg/l = milligrams per liter
3. NT = Not Tested
4. NL = Not Located
5. PROD = Free Phase Product Detected
6. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline

TABLE 1
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
PAGE 3 OF 4

Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Initial Turbidity (ntu)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
15729 MW-24	11/22/10	4.40	21.4	--	13-23	--	19.48	--	103.34	83.86
	7/11/11	3.33	26.1	--		--	19.39	--	103.34	83.95
	1/21/13	1.06	20.6	29		--	19.21	--	103.34	84.13
	11/13/13	1.44	17.9	16		--	18.63	--	103.34	84.71
15729 MW-25	11/22/10	4.01	21.6	--	12-22	--	18.26	--	101.19	82.93
	7/11/11	1.91	27.0	--		--	18.19	--	101.19	83.00
	1/15/13	0.74	20.5	19		--	18.02	--	101.19	83.17
	2/14/13	1.96	18.1	47		--	17.85	--	101.19	83.34
	11/13/13	1.79	17.6	11		--	17.46	--	101.19	83.73
15729 MW-26	11/19/10	6.41	19.4	--	12-22	--	16.49	--	97.73	81.24
	7/11/11	3.03	26.1	--		--	16.50	--	97.73	81.23
	1/14/13	3.82	20.6	9		--	16.30	--	97.73	81.43
	11/12/13	4.31	22.3	45		--	15.66	--	97.73	82.07
15729 MW-27	11/19/10	5.40	21.0	--	12-22	--	17.89	--	99.04	81.15
	7/11/11	2.80	27.3	--		--	17.85	--	99.04	81.19
	1/14/13	1.02	21.6	97		--	17.68	--	99.04	81.36
	11/12/13	4.14	21.2	69		--	16.90	--	99.04	82.14
15729 MW-28	11/22/10	3.51	24.7	--	12-22	--	17.33	--	101.46	84.13
	1/21/13	PROD	PROD	PROD		16.65	17.98	1.33	101.46	84.46
	11/13/13	PROD	PROD	PROD		16.14	17.32	1.18	101.46	85.01
15729 MW-29	11/22/10	4.39	20.7	--	13-23	--	16.39	--	100.77	84.38
	7/13/11	4.11	23.8	--		--	16.36	--	100.77	84.41
	1/21/13	1.55	20.7	30		--	16.12	--	100.77	84.65
	11/13/13	1.53	19.7	13		--	15.46	--	100.77	85.31
15729 MW-30	11/22/10	5.83	20.3	--	13-23	--	20.49	--	102.90	82.41
	7/11/11	4.41	26.9	--		--	20.24	--	102.90	82.66
	1/21/13	1.45	17.9	57		--	20.23	--	102.90	82.67
	11/13/13	2.63	16.9	7		--	19.20	--	102.90	83.70
15729 MW-31	11/19/10	6.20	20.9	--	12-22	--	18.80	--	99.98	81.18
	7/11/11	3.03	27.1	--		--	18.71	--	99.98	81.27
	1/14/13	2.31	21.3	5		--	18.65	--	99.98	81.33
	11/12/13	4.49	20.5	586		--	17.49	--	99.98	82.49
15729 MW-32	11/19/10	6.89	20.5	--	2-12	--	4.24	--	83.50	79.26
	7/11/11	1.05	24.2	--		--	4.49	--	83.50	79.01
	1/11/13	1.97	16.7	185		--	4.15	--	83.50	79.35
	11/12/13	NS	NS	NS		NS	NS	NS	83.50	NS
	2/4/14	3.89	13.1	148.5		--	3.58	--	83.50	79.92
15729 MW-33	11/19/10	5.70	21.5	--	14-24	--	16.31	--	98.26	81.95
	7/11/11	2.10	24.9	--		--	16.35	--	98.26	81.91
	1/14/13	1.41	19.5	58		--	16.12	--	98.26	82.14
	11/12/13	1.50	20.0	30		--	15.66	--	98.26	82.60
15729 MW-34D	11/19/10	4.11	21.2	--	45-50	--	16.68	--	97.98	81.30
	7/11/11	0.04	26.4	--		--	16.73	--	97.98	81.25
	1/14/13	1.71	20.7	34		--	16.50	--	97.98	81.48
	11/12/13	3.30	23.3	>1,000		--	15.61	--	97.98	82.37
15729 MW-35i	11/19/10	6.44	21.4	--	26-31	--	4.07	--	83.57	79.50
	7/11/11	1.50	25.0	--		--	4.31	--	83.57	79.26
	1/11/13	6.37	18.0	22		--	4.02	--	83.57	79.55
	11/12/13	NS	NS	NS		NS	NS	NS	83.57	NS
	2/4/14	5.90	16.3	31.25		--	3.62	--	83.57	79.95
15729 MW-36	7/11/11	3.40	27.6	--	15-25	--	17.74	--	101.71	83.97
	1/15/13	PROD	PROD	PROD		17.32	17.36	0.04	101.71	84.38
	11/13/13	PROD	PROD	PROD		16.90	17.68	0.78	101.71	84.61
15729 MW-37	7/13/11	4.96	27.1	--	15-25	--	19.68	--	103.21	83.53
	1/21/13	1.47	18.9	103		--	19.50	--	103.21	83.71
	11/13/13	1.42	18.1	34		--	18.86	--	103.21	84.35
15729 MW-38	7/11/11	3.99	26.7	--	15-25	--	18.20	--	101.92	83.72
	1/15/13	0.85	23.8	42		--	18.12	--	101.92	83.80
	2/14/13	0.98	19.5	23		--	17.86	--	101.92	84.06
	11/13/13	0.94	17.3	36		--	17.64	--	101.92	84.28
15729 MW-39	7/11/11	PROD	PROD	PROD	15-25	18.15	20.10	1.95	101.99	83.33
	1/15/13	PROD	PROD	PROD		18.23	18.28	0.05	101.99	83.75
	11/13/13	PROD	PROD	PROD		17.72	18.73	1.01	101.99	84.01
15729 MW-40	7/11/11	PROD	PROD	PROD	15-25	18.45	20.37	1.92	102.15	83.20
	1/21/13	PROD	PROD	PROD		18.41	20.20	1.79	102.15	83.27
	11/13/13	PROD	PROD	PROD		17.82	19.38	1.56	102.15	83.92
15729 MW-41	7/11/11	1.03	26.1	Sheen	15-25	Sheen	18.73	Sheen	101.29	82.56
	1/14/13	PROD	PROD	PROD		18.60	19.00	0.40	101.29	82.59
	11/12/13	PROD	PROD	PROD		17.63	18.04	0.41	101.29	83.55
15729 MW-42	7/11/11	0.50	26.9	--	15-25	--	19.11	--	101.67	82.56
	1/14/13	0.63	22.1	4		--	19.08	--	101.67	82.59
	11/12/13	NR	20.6	43		--	18.03	--	101.67	83.64

Notes:

1. ug/l = micrograms per liter
2. mg/l = milligrams per liter
3. NT = Not Tested
4. NL = Not Located
5. PROD = Free Phase Product Detected
6. DRY = Well went dry during
7. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline
8. NS = Not Sampled, MW-32 & MW-35i samples not collected due to property owner's refusal for access

TABLE 1
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
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Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Initial Turbidity (ntu)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
15729 MW-43	7/11/11	PROD	PROD	PROD	15-25	18.88	20.54	1.66	101.92	82.61
	1/14/13	PROD	PROD	PROD		18.68	21.11	2.43	101.92	82.61
	11/12/13	PROD	PROD	PROD		17.26	20.58	3.32	101.92	83.80
15729 MW-44	7/11/11	4.14	27.0	--	15-25	--	18.70	--	102.42	83.72
	1/15/13	1.11	22.6	38		--	18.48	--	102.42	83.94
	2/14/13	0.95	20.1	72.2		--	18.34	--	102.42	84.08
	11/13/13	0.61	19.9	18		--	18.06	--	102.42	84.36
15729 MW-45	7/11/11	4.44	27.3	--	15-25	--	18.33	--	101.50	83.17
	1/15/13	PROD	PROD	PROD		17.50	17.52	0.02	101.50	83.99
	11/13/13	PROD	PROD	PROD		17.28	19.15	1.87	101.50	83.73
15729 MW-46	1/21/13	PROD	PROD	PROD	15-25	18.90	20.89	1.99	103.26	83.84
	11/13/13	PROD	PROD	PROD		18.16	20.45	2.29	103.26	84.50
15729 MW-47	1/15/13	1.19	23.4	371	15-25	--	19.60	--	103.19	83.59
	2/14/13	1.19	20.3	45.3		--	20.81	--	103.19	82.38
	11/13/13	1.32	18.2	23		--	18.93	--	103.19	84.26
15729 MW-48	1/21/13	1.87	18.5	41	15-25	--	19.14	--	102.53	83.39
	11/13/13	3.16	17.6	12		--	18.48	--	102.53	84.05
15729 MW-49	1/21/13	PROD	PROD	PROD	15-25	18.40	20.50	2.10	101.83	82.88
	11/13/13	PROD	PROD	PROD		17.50	19.74	2.24	101.83	83.75
15729 MW-50	1/21/13	1.31	17.5	133	15-25	--	18.87	--	101.66	82.79
	11/13/13	1.56	14.3	10		--	17.93	--	101.66	83.73
15729 MW-51	1/14/13	PROD	PROD	PROD	15-25	18.75	21.10	2.35	102.06	82.70
	11/12/13	PROD	PROD	PROD		17.69	20.16	2.47	102.06	83.73
15729 MW-52	1/14/13	0.58	22.7	3	15-25	--	19.25	--	101.77	82.52
	11/12/13	0.79	20.7	17		--	18.08	--	101.77	83.69
15729 MW-53	1/14/13	0.71	22.2	47	15-25	--	19.17	--	101.14	81.97
	11/12/13	0.90	21.1	351		--	18.08	--	101.14	83.06
15729 MW-54	1/14/13	0.72	23.4	4	15-25	--	19.07	--	101.12	82.05
	11/12/13	0.98	21.5	11		--	18.10	--	101.12	83.02
15729 MW-55	1/11/13	0.87	20.2	500	14-24	--	18.10	--	99.37	81.27
	11/12/13	2.86	20.8	18		--	17.14	--	99.37	82.23
15729 MW-56	1/11/13	0.60	21.5	>1,000	13-23	--	16.65	--	97.92	81.27
	11/12/13	1.26	21.1	27		--	15.97	--	97.92	81.95
15729 MW-57	1/11/13	0.11	21.4	>1,000	12-22	--	15.80	--	97.31	81.51
	11/12/13	1.21	22.2	10		--	15.31	--	97.31	82.00
15729 MW-58	1/15/13	1.83	21.4	15	14-24	--	17.72	--	100.49	82.77
	2/14/13	2.48	19.5	28.6		--	17.42	--	100.49	83.07
	11/13/13	3.34	19.1	11		--	17.15	--	100.49	83.34
15729 MW-59	1/21/13	1.14	20.4	16	13-23	--	16.92	--	101.59	84.67
	11/13/13	0.78	21.9	125		--	16.58	--	101.59	85.01
15729 MW-60	1/15/13	0.77	22.6	21	15-25	--	18.82	--	103.08	84.26
	2/14/13	1.01	20.0	22.1		--	18.76	--	103.08	84.32
	11/13/13	1.16	17.6	15		--	18.42	--	103.08	84.66
15729 MW-61	1/15/13	0.67	23.4	41	15-25	--	18.90	--	102.85	83.95
	2/14/13	0.66	20.8	14.6		--	18.84	--	102.85	84.01
	11/13/13	1.41	19.0	40		--	18.39	--	102.85	84.46
15729 MW-62	1/21/13	3.03	16.8	55	15-25	--	17.74	--	101.99	84.25
	11/13/13	2.35	20.2	10		--	16.96	--	101.99	85.03
15729 MW-63	1/15/13	0.91	22.5	27	14-24	--	18.01	--	102.01	84.00
	2/14/13	1.19	18.8	99.9		--	17.91	--	102.01	84.10
	11/13/13	0.76	17.7	45		--	17.62	--	102.01	84.39
15729 MW-64	1/15/13	4.12	22.4	86	14-24	--	17.49	--	100.95	83.46
	2/14/13	3.65	17.6	48		--	17.22	--	100.95	83.73
	11/13/13	4.90	15.5	20		--	17.22	--	100.95	83.73
15729 MW-66	1/15/13	2.48	23.3	113	14-24	--	18.42	--	101.97	83.55
	2/14/13	2.58	18.3	10.6		--	0.00	--	101.97	101.97
	11/13/13	1.64	17.2	10		--	17.70	--	101.97	84.27
15729 MW-67	4/8/14	4.36	17.3	11	7-17	--	8.82	--	90.67	81.85
15729 MW-68	4/8/14	2.47	15.9	53	4-14	--	6.34	--	85.46	79.12
15729 MW-69	4/8/14	1.50	16.1	45	4-14	--	6.45	--	86.60	80.15
15729 MW-70	4/8/14	3.57	16.6	13	4-14	--	5.85	--	84.77	78.92
15729 MW-71	5/20/14	2.00	17.5	>1,100	4-14	--	5.02	--	83.20	78.18
15729 MW-72	5/20/14	2.07	17.5	>1,100	4-14	--	4.72	--	82.86	78.14
15729 MW-73	5/20/14	7.97	19.5	211.7	4-14	--	5.50	--	87.26	81.76

Notes:

1. ug/l = micrograms per liter
2. mg/l = milligrams per liter
3. NT = Not Tested
4. NL = Not Located
5. PROD = Free Phase Product Detected
6. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline
7. NR = Not Recorded, Dissolved Oxygen not obtained due to meter malfunction at time of reading

TABLE 2
GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
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Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-1	4/2/03	Free Product - 3.69 Feet								
	12/21/09	Free Product - 0.51 Feet								
	7/13/11	Free Product - 0.88 Feet								
	1/21/13	Free Product - 0.98 Feet								
	11/13/13	Free Product - 0.44 Feet								
15729 MW-2D	4/12/03	**22.6**	**19.8**	**28.3**	**47.9**	ND	**9.90**	NT	**0.15**	NT
	12/21/09	ND	**0.470**	**1.90**	**2.41**	**0.660**	**1.07**	ND	ND	**8.20**
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5 0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-3	4/2/03	ND	**1.0**	ND	ND	ND	ND	NT	ND	NT
	12/21/09	ND	ND	ND	ND	ND	**0.610**	ND	ND	**3.20**
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-4	7/13/01	**2,860**	**1,330**	**581**	**1,490**	**198**	**146**	NT	**13.6**	NT
	12/21/09	**114**	**5.91**	**22.4**	**5.97**	**2.98**	**9.72**	ND	**0.1709**	**13.6**
	11/22/10	**169**	**3.5J**	**3.5J**	<10.0	**4.9J**	**6.7**	**5.5**	**0.13**	<5.0
	7/13/11	**688**	**184**	**129**	**283**	**26.1**	**52.6**	**18.2**	**4.8**	NT
	1/21/13	**1,050**	**610**	**218**	**521**	**52.1**	**77.3**	**25.0**	**9.7**	NT
	11/13/13	**410**	**18.0**	**51.9**	**23.1**	**12.3**	**16.0**	**6.9**	**0.88**	NT
15729 MW-5	4/2/03	**1,650**	**3,000**	**372**	**1,640**	**246**	**94.7**	NT	**22.0**	NT
	12/21/09	**2,610**	**5,820**	**735**	**3,370**	**64.6**	**156**	ND	**34.78**	**84.5**
	11/22/10	**63.9**	**154**	**22.1**	**107**	<5.0	**6.3**	<5 0	**0.91**	<5.0
	1/21/13	**209**	**815**	**135**	**530**	**2.3J**	**24.4**	**1.9J**	**1.3**	NT
	11/13/13	**21.9**	**40.1**	**50.2**	**37.8**	<5.0	**52.7**	<5.0	**0.14**	NT
15729 MW-6	4/2/03	ND	**2.0**	ND	**2.2**	**6.8**	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	**2.61**	ND	ND	ND	**33.3**
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5 0	<5.0	<5.0	<0.020	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5 0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5 0	<5.0	<5.0	<0.020	NT
15729 MW-7	4/12/03	ND	ND	ND	ND	**15.3**	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	**3.10**	ND	ND	ND	**31.2**
	11/19/10	<5.0	<5.0	<5.0	<10.0	**3.1J**	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10 0	<5.0	<5.0	<5.0	<0.020	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5 0	<0.020	NT
15729 MW-8	4/12/03	ND	ND	ND	ND	**3.3**	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	**21.4**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5 0	<5.0	<5.0	<0.020	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5 0	<5.0	<5.0	<0.019	NT
15729 MW-9	4/12/03	**1.4**	ND	ND	ND	**181**	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	**6.86**	ND	ND	ND	**136**
	11/19/10	<5.0	<5.0	<5.0	<10.0	**6.5**	<5.0	<5.0	<0.020	**17.9**
	7/11/11	<5.0	<5.0	<5.0	<10.0	**1.9J**	<5.0	<5.0	<0.020	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10 0	**38.4**	<5.0	<5.0	<0.020	NT
15729 MW-10	4/12/03	**2,000**	**34.4**	**169**	**25.0**	**38.6**	**22.6**	NT	ND	NT
	12/22/09	**1,250**	**20.3**	**44.8**	**15.0**	**58.1**	**12.0**	ND	**0.1719**	**43.6**
	11/19/10	**42.3**	<5.0	**3.8J**	<10.0	**38.3**	<5.0	**13.6**	<0.020	<5.0
	7/11/11	**777**	**5.0**	**14.7**	**8.3J**	**54.4**	**6.3**	**12.0**	<0.020	NT
	1/11/13	**208**	<10.0	**15.6**	<20.0	**38.1**	<10.0	**5.9J**	<0.020	NT
	11/12/13	**34.3**	<5.0	**3.4J**	<10.0	**7.4**	<5.0	<5.0	<0.020	NT
15729 MW-11	4/12/03	**1,100**	**4.2**	**11.2**	**3.2**	ND	**8.80**	NT	**0.23**	NT
	12/21/09	**181**	**32.3**	**20.2**	**6.90**	**1.28**	**8.65**	ND	ND	**34.1**
	11/19/10	**63.6**	<5.0	**1.1J**	<10.0	**2.3J**	**4.0J**	<5.0	<0.020	<5.0
	7/11/11	**72.9**	**20.6**	**8.9**	**18.7**	<5.0	**4.3J**	**2.7J**	<0.020	NT
	1/14/13	**1,470**	**23.9J**	**49.1J**	<100	**28.3J**	**36.5J**	<50 0	**0.082**	NT
	11/12/13	**1.8J**	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-12	4/2/03	ND	**1.3**	ND	**1.5**	ND	ND	NT	ND	NT
	12/21/09	ND	**0.530**	ND	ND	ND	**1.54**	ND	ND	**17.6**
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5 0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5 0	<5.0	<5.0	<0.020	NT
15729 MW-13	4/2/03	Free Product - 0.48 Feet								
	12/21/09	NL	NL	NL	NL	NL	NL	NL	NL	NL

Notes:

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6. PROD= Free Phase Product detected
7. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

TABLE 2
GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
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Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-13R	11/19/10	Free Product - 1.23 Feet								
	7/11/11	Free Product - 0.11 Feet								
	1/15/13	Free Product - 0.30 Feet								
	11/12/13	Free Product - 0.04 Feet								
15729 MW-14	4/12/03	**1,190**	**501**	**390**	**344**	**2,110**	**41.3**	NT	**0.12**	NT
	12/22/09	**1,250**	**20.3**	**44.8**	**15.0**	**58.1**	**12.0**	ND	**0.1719**	**43.6**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	**323**	**593**	**78.7**	**216**	**4.5J**	**4.9J**	<5.0	<0.020	NT
	1/14/13	**421**	**431**	**200**	**497**	**10.5J**	**33.3**	<12.5	**0.024**	NT
	11/12/13	**185**	**154**	**96.1**	**120**	**2.9J**	**7.8**	<5.0	<0.019	NT
15729 MW-15	4/12/03	**7,160**	**15,300**	**1,850**	**8,350**	ND	**282**	NT	**152**	NT
	12/21/09	**6,690**	**18,000**	**3,700**	**13,700**	**5.66**	**844**	ND	**46.78**	**244**
	11/19/10	Free Product - 0.21 Feet								
	7/11/11	Free Product - 0.30 Feet								
	1/14/13	Free Product - 3.27 Feet								
	11/12/13	Free Product - 2.76 Feet								
15729 MW-16D	4/2/03	**4.4**	**16.9**	**5.2**	**19.6**	ND	ND	NT	ND	NT
	12/21/09	**0.870**	**1.37**	**2.00**	**4.48**	ND	**0.890**	ND	ND	**4.00**
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	**1.7J**	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-17	4/2/03	**200**	**700**	ND	**720**	ND	ND	NT	**0.04**	NT
	12/21/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-17R	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	**2.3J**	<5.0	<0.020	NT
15729 MW-18	4/2/03	**6.5**	**426**	**327**	**978**	**70.8**	**49.0**	NT	ND	NT
	12/21/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-18R	11/22/10	<5.0	<5.0	<5.0	<10.0	**4.1J**	<5.0	<5.0	<0.019	<5.0
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	**2.6J**	<5.0	<5.0	<0.020	NT
15729 MW-19	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	**2.35**	ND	ND	ND	**210**
	11/19/10	<5.0	<5.0	<5.0	<10.0	**3.9J**	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5 0	<5.0	<0.020	NT
15729 MW-20	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	NT	ND	**214**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	**7.5**
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/11/13	NL	NL	NL	NL	NL	NL	NL	NL	NL
	11/12/13	NL	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-21	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	**63.0**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	**0.028**	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	**0.023**	NT
	11/12/13	<5.0	<5.0	<5 0	<10.0	<5.0	<5.0	<5.0	**0.029**	NT
15729 MW-22	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	**49.1**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5 0	<5.0	<5.0	<0.020	NT
15729 MW-23	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
	11/19/10	NL	NL	NL	NL	NL	NL	NL	NL	NL
	1/11/13	NL	NL	NL	NL	NL	NL	NL	NL	NL
	11/12/13	NL	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-24	11/22/10	**6,830**	**17,300**	**2,320**	**10,400**	<500	**397J**	<500	**87.8**	**65.4**
	7/11/11	**4,940**	**10,200**	**1,080**	**6,800**	<500	**226J**	<500	**146**	NT
	1/21/13	**6,410**	**6,130**	**778**	**3,160**	**233J**	**254J**	<500	**58.4**	NT
	11/13/13	**6,380**	**12,400**	**1,220**	**4,900**	**51.3**	**282J**	**106**	**105**	NT

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TABLE 2
GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
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Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-24 DUP	1/21/13	6,880	6,620	882	3,470	233J	269J	<500	63.2	NT
	11/13/13	6,670	11,100	1,150	4,550	58.0	271J	117	95.2	NT
15729 MW-25	11/22/10	4,060	5,550	471J	1,720	266J	<500	<500	54.9	17.0
	7/11/11	4,440	7,500	890	2,740	103J	142J	<250	30.9	NT
	2/14/13	2,810	5,150	783	2,260	<100	131	<100	3.5	NT
	11/13/13	29.1	9.4	6.6	24.1	<5.0	8.0	<5.0	14.7	NT
15729 MW-26	11/19/10	211	10.7	15.2	17.7	11.8	4.4J	1.7J	<0.020	<5.0
	7/11/11	257	72.7	81.3	103	7.1J	11.3	<10.0	<0.020	NT
	1/14/13	1,080	324	235	505	23.7J	46.1J	<50.0	<0.021	NT
	11/12/13	390	63.5	143	266	15.3	37.9	4.7J	<0.019	NT
15729 MW-27	11/19/10	177	2.2J	8.4	<10.0	9.1	<5.0	4.3J	<0.020	<5.0
	7/11/11	461	3.8J	11.8	23.4	12.3	8.7	9.1	0.040	NT
	1/14/13	178	<5.0	9.8	4.5J	6.9	<5.0	<5.0	<0.021	NT
	11/12/13	2,510	27.6	175	19.8	46.0	31.1	27.1	0.15	NT
15729 MW-28	11/22/10	3,410	5,070	698	3,250	164J	173J	<250	22.8	52.1
	1/21/13	Free Product - 1.33 Feet								
	11/13/13	Free Product - 1.18 Feet								
15729 MW-29	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	3.8J	<5.0	<5.0	<10.0	<5.0	3.3J	<5.0	<0.020	NT
	11/13/13	<5.0	2.0J	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-30	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	298	1.6J	<5.0	5.2J	<5.0	43.9	3.1J	0.29	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-31	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.18	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.080	NT
	1/14/13	135	<5.0	<5.0	<10.0	<5.0	3.1J	<5.0	0.058	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-32	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-32 DUP	2/4/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-33	11/19/10	144	714	152	419	<50.0	<50.0	<50.0	0.20	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	20.4	53.6	17.0	45.7	<5.0	<5.0	<5.0	0.039	NT
15729 MW-34D	11/19/10	<5.0	<5.0	<5.0	<10.0	4.1J	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	2.0J	<5.0	<5.0	<0.020	NT
	1/14/13	<5.0	<5.0	<5.0	<10.0	1.9J	<5.0	<5.0	<0.021	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-35i	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-36	7/11/11	2,130	2,790	527	2,180	95.1J	126	<100	14.1	NT
	1/15/13	Free Product - 0.04 Feet								
	11/13/13	Free Product - 0.78 Feet								
15729 MW-37	7/13/11	2,760	1,580	409	808	<125	86.4J	75.5J	14.5	NT
	1/21/13	2,810	220	244	224J	80.2J	134	81.6J	5.0	NT
	11/13/13	633	210	112	165	10.9	20.7	17.6	2.5	NT
15729 MW-37 DUP	1/21/13	2,980	238	257	229J	79.0J	139	84.0J	5.1	NT
	11/13/13	39.5	3.7J	4.6J	<10.0	<5.0	2.7J	1.9J	1.2	NT
15729 MW-38	7/11/11	2,790	16,700	2,590	12,300	<500	349J	<500	20.7	NT
	2/14/13	1,880	6,340	948	5,770	<250	274	<250	15.7	NT
	11/13/13	1,340	4,180	775	3,770	<5.0	184	<5.0	8.6	NT
15729 MW-38 DUP	2/14/13	2,250	6,180	1,220	6,020	<250	234J	<250	18.0	NT
15729 MW-39	7/11/11	Free Product - 1.95 Feet								
	1/15/13	Free Product - 0.05 Feet								
	11/13/13	Free Product - 1.01 Feet								

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SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 4 OF 5

Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-40	7/11/11	Free Product - 1.92 Feet								
	1/21/13	Free Product - 1.79 Feet								
	11/13/13	Free Product - 1.56 Feet								
15729 MW-41	7/11/11	7,090	9,700	1,680	3,970	<500	434J	<500	21.8	NT
	1/14/13	Free Product - 0.40 Feet								
	11/12/13	Free Product - 0.41 Feet								
15729 MW-42	7/11/11	337	613	462	865	<25.0	93.8	<25.0	1.1	NT
	1/14/13	1,250	2,210	523	792	<125	96.0J	<125	6.5	NT
	11/12/13	28.4	45.2	781	633	<5.0	172	<5.0	<0.020	NT
15729 MW-43	7/11/11	Free Product - 1.66 Feet								
	1/14/13	Free Product - 2.43 Feet								
	11/12/13	Free Product - 3.32 Feet								
15729 MW-44	7/11/11	4,040	11,800	1,690	7,260	<500	245J	<500	107	NT
	2/14/13	996	3,960	598	3,510	<250	195J	<250	21.7	NT
	11/13/13	4,360	12,900	1,410	6,940	143	292J	81.3	112	NT
15729 MW-44 DUP	2/14/13	1,060	4,170	661	3,770	<250	221J	<250	23.3	NT
15729 MW-45	7/11/11	2,000	11,000	1,960	7,570	<500	<500	<500	13.6	NT
	1/15/13	Free Product - 0.02 Feet								
	11/13/13	Free Product - 1.87 Feet								
15729 MW-46	1/21/13	Free Product - 1.99 Feet								
	11/13/13	Free Product - 2.29 Feet								
15729 MW-47	2/14/13	5,710	1,180	622	574	198J	108J	120J	4.1	NT
	11/13/13	1,940	275	243	224	25.3	51.8	40.9	2.2	NT
15729 MW-48	1/21/13	1,080	14.9	28.0	10.7	37.4	88.3	85.0	0.17	NT
	11/13/13	39.8	3.5J	<5.0	<10.0	<5.0	5.7	4.4J	<0.020	NT
15729 MW-49	1/21/13	Free Product - 2.10 Feet								
	11/13/13	Free Product - 2.24 Feet								
15729 MW-50	1/21/13	960	1,300	183	799	1.8J	86.3	30.3	10.9	NT
	11/13/13	3,370	7,580	777	3,630	1.7J	82.7	34.2	95.2	NT
15729 MW-51	1/14/13	Free Product - 2.35 Feet								
	11/12/13	Free Product - 2.47 Feet								
15729 MW-52	1/14/13	1,070	162	832	644	1.9J	142	<5.0	0.092	NT
	11/12/13	5.6	95.1	285	835	<5.0	58.4	<5.0	<0.020	NT
15729 MW-53	1/14/13	9,410	5,350	1,290	1,610	196	182	<5.0	4.3	NT
	11/12/13	1,940	248	199	130	30.9	48.7	39.1	0.41	NT
15729 MW-53 DUP	11/12/13	1,270	251	154	115	21.0	26.6	22.9	0.39	NT
15729 MW-54	1/14/13	<5.0	3.8J	236	343	<5.0	88.4	<5.0	<0.021	NT
	11/12/13	<5.0	25.6	731	1,910	<5.0	226	<5.0	<0.020	NT
15729 MW-55	1/11/13	524	74.6	24.0	39.0	89.4	38.0	94.2	0.052	NT
	11/12/13	75.2	5.5	15.6	<10.0	<5.0	6.1	2.6J	0.046	NT
15729 MW-56	1/11/13	2,100	299	198	273	38.3	42.9	10.3	<0.020	NT
	11/12/13	3,220	26.2	259	11.6	90.6	81.9	33.2	0.040	NT
15729 MW-57	1/11/13	944	93.8	327	317	37.2	54.3	9.5	<0.020	NT
	11/12/13	605	<5.0	37.4	<10.0	19.8	10.1	5.9	<0.020	NT
15729 MW-58	2/14/13	282	5.7J	30.4	11.9J	10.7	8.1J	<10.0	<0.019	NT
	11/13/13	56.5	54.8	13.7	34.7	<5.0	3.3J	<5.0	0.090	NT
15729 MW-59	1/21/13	15.1	489	190	553	<5.0	69.3	<5.0	<0.020	NT
	11/13/13	196	540	59.1	563	5.2	35.4	<5.0	0.023	NT
15729 MW-60	2/14/13	1,760	2,730	1,220	1,640	<100	205	<100	14.4	NT
	11/13/13	1,680	1,960	1,210	1,470	<50.0	189	<50.0	8.8	NT
15729 MW-61	2/14/13	4,490	10,900	1,370	6,090	<500	205J	<500	34.0	NT
	11/13/13	10,600	17,800	1,680	8,020	208	316	60.3	111	NT
15729 MW-61 DUP	11/13/13	9,500	19,200	1,950	9,370	128	505	53.3	134	NT
15729 MW-62	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	3.1J	<5.0	6.0J	<5.0	4.4J	<5.0	0.034	NT
15729 MW-63	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	3.6J	1.8J	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-64	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT

Notes.

1. ug/l = micrograms per liter
2. mg/l = milligrams per liter
3 ND = Not Detected
4. NT = Not Tested
5. NL = Not Located
6. NS = Not Sampled
7. PROD= Free Phase Product detected
8. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

TABLE 2
GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
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Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-66	2/14/13	**2,430**	**5,580**	**739**	**2,450**	<250	<250	<250	**21.7**	NT
	11/13/13	**1,050**	**2,680**	**261**	**1,080**	**4.9J**	**94.6**	**4.1J**	**4.4**	NT
15729 MW-67	4/8/14	**31.0**	<5.0	**6.2**	<10.0	**1.9J**	<5.0	<5.0	<0.020	NT
15729 MW-67 DUP	4/8/14	**37.3**	<5.0	**7.3**	<10.0	**2.1J**	<5.0	<5.0	<0.019	NT
15729 MW-68	4/8/14	**334**	**4.8J**	**13.6**	<25.0	**72.5**	**6.0J**	**13.3**	<0.020	NT
15729 MW-69	4/8/14	<5.0	<5.0	<5.0	<10.0	**3.3J**	<5.0	<5.0	<0.020	NT
15729 MW-70	4/8/14	**138**	<5.0	<5.0	<10.0	**6.9**	**3.0J**	**12.0**	**0.14**	NT
15729 MW-71	5/20/14	**3.1J**	<5.0	<5.0	<10.0	<5.0	<5 0	<5.0	**0.087**	NT
15729 MW-71 DUP	5/20/14	**3.3J**	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	**0.084**	NT
15729 MW-72	5/20/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-73	5/20/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 WSW-1	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	NT
	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	7/29/11	<1.0	<1.0	<1.0	<2.0	<1.0	<1 0	<1.0	<0.020	NT
	1/21/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS	NS
15729 WSW-2	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	NT
	7/13/11	<1.0	<1.0	<1.0	<2.0	**0.29J**	<1.0	<1.0	<0.020	NT
	1/21/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	11/13/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 WSW-3	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1 0	<0.019	NT
	7/11/11	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	1/11/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 WSW-4	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	7/11/11	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	1/11/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<1.0	<1 0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 PS-1	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<1.0	<1.0	<1.0	<2.0	<1.0	<1 0	<1.0	<0.020	NT
15729 SW-1	11/19/10	<1 0	**4.4**	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	11/13/13	<1.0	**33.5**	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 CS-1	12/22/09	ND	ND	ND	ND	ND	ND	ND	NT	NT
	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	7/11/11	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	1/11/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	11/12/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 CS-2	12/22/09	ND	ND	ND	ND	ND	ND	ND	NT	NT
	7/11/11	<1.0	**0.48J**	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	1/11/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	11/12/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
15729 CS-3	2/4/14	**64.3**	**1.6**	**2.9**	<2.0	**32.6**	**1.3**	**0.90J**	<0.020	NT
15729 Field Blank #1	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5 0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/4/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	4/8/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	5/20/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 Field Blank #2	1/14/13	<5.0	<5.0	<5 0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	11/13/13	<5.0	**4.1J**	<5.0	<10.0	<5.0	**2.7J**	<5.0	<0.020	NT
15729 Field Blank #3	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 Trip Blank #1	1/11/13	<5.0	<5.0	<5.0	<10.0	<5 0	<5.0	<5.0	<0.021	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	NT	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/4/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5 0	NT	NT
	4/8/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	NT	NT
	5/20/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	NT	NT
15729 Trip Blank #2	1/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 Trip Blank #3	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 Trip Blank #4	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT

Notes:

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7. PROD= Free Phase Product detected
8. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

TABLE 3
GROUNDWATER ANALYTICAL DATA (OXYGENATES)
H.W. DETWILER CO.
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 1 OF 4

Well Number	Sample Date	t-Amyl Alcohol (ug/l)	Tert-Amyl Methyl Ether (ug/l)	3,3-Dimethyl-1-Butanol (ug/l)	Tertiary Butyl Alcohol (ug/l)	tert-Butyl Formate (ug/l)	Diisopropyl Ether (ug/l)	Ethanol (ug/l)	Ethyl-tert-butyl Ether (ug/l)
15729 MW-1	7/13/11	Free Product - 0.88 Feet							
	1/21/13	Free Product - 0.98 Feet							
	11/13/13	Free Product - 0.44 Feet							
15729 MW-2D	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-3	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-4	7/13/11	**1,460**	<10.0	<100	<100	<50.0	**26.7**	<200	<10.0
	1/21/13	**3,890**	<50.0	<500	<500	<250	**63.4**	<1,000	<50.0
	11/13/13	**558**	<10.0	<100	<100	<50.0	**10.9**	<200	<10.0
15729 MW-5	1/21/13	**167**	<10.0	<100	<100	<50.0	**2.1J**	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-6	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-7	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-8	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-9	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-10	7/11/11	**1,960**	<10.0	<100	<100	<50.0	**15.3**	<200	<10.0
	1/11/13	**2,170**	<20.0	<200	<200	<100	**7.1J**	<400	<20.0
	11/12/13	**412**	<10.0	<100	<100	<50.0	**2.1J**	<200	<10.0
15729 MW-11	7/11/11	**128**	<10.0	<100	<100	<50.0	**2.6J**	**281**	<10.0
	1/14/13	**4,390**	<100	<1,000	<1,000	<500	**73.3**	<2,000	<100
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-12	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-13R	7/11/11	Free Product - 0.11 Feet							
	1/21/13	Free Product - 0.30 Feet							
	11/12/13	Free Product - 0.04 Feet							
15729 MW-14	7/11/11	**333**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	**1,270**	<25.0	<250	<250	<125	<12.5	<500	<25.0
	11/12/13	**333**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-15	7/11/11	Free Product - 0.30 Feet							
	1/21/13	Free Product - 3.27 Feet							
	11/12/13	Free Product - 2.76 Feet							
15729 MW-16D	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-17R	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-18R	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	**210**	<10.0	<100	**260**	<50.0	<5.0	<200	<10.0
15729 MW-19	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	**151J**	<10.0
15729 MW-20	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	NL	NL	NL	NL	NL	NL	NL	NL
	11/12/13	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-21	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0

Notes.

1 ug/l = micrograms per liter
2 ND = Not detected
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TABLE 3
GROUNDWATER ANALYTICAL DATA (OXYGENATES)
H.W. DETWILER CO.
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 2 OF 4

Well Number	Sample Date	t-Amyl Alcohol (ug/l)	Tert-Amyl Methyl Ether (ug/l)	3,3-Dimethyl-1-Butanol (ug/l)	Tertiary Butyl Alcohol (ug/l)	tert-Butyl Formate (ug/l)	Diisopropyl Ether (ug/l)	Ethanol (ug/l)	Ethyl-tert-butyl Ether (ug/l)
15729 MW-22	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-23	1/11/13	NL	NL	NL	NL	NL	NL	NL	NL
	11/12/13	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-24	7/11/11	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	1/21/13	**17,400**	<1,000	<10,000	<10,000	<5,000	**316J**	<20,000	<1,000
	11/13/13	**25,300**	**6.7J**	<100	**249**	<50.0	**159**	<200	<10.0
15729 MW-24 DUP	1/21/13	**16,700**	<1,000	<10,000	<10,000	<5,000	**318J**	<20,000	<1,000
	11/13/13	**19,300**	**6.1J**	<100	**333**	<50.0	**172**	<200	<10.0
15729 MW-25	7/11/11	**5,710**	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
	2/14/13	**3,420**	<200	<2,000	<2,000	<1,000	<100	<4,000	<200
	11/13/13	**165**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-26	7/11/11	**417**	<20.0	<200	<200	<100	<10.0	<400	<20.0
	1/14/13	**3,390**	<100	<1,000	<1,000	<500	<50.0	<2,000	<100
	11/12/13	**1,560**	<10.0	<100	<100	<50.0	**5.3**	<200	<10.0
15729 MW-27	7/11/11	**791**	<10.0	<100	<100	<50.0	**11.9**	<200	<10.0
	1/14/13	**487**	<10.0	<100	<100	<50.0	**3.4J**	**453**	<10.0
	11/12/13	**3,250**	**6.6J**	<100	**60.1J**	<50.0	**42.4**	<200	<10.0
15729 MW-28	1/21/13	Free Product - 1.33 Feet							
	11/13/13	Free Product - 1.18 Feet							
15729 MW-29	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-30	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	**1,350**	<10.0	<100	<100	<50.0	**1.8J**	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-31	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	**242**	<10.0	<100	<100	<50.0	**4.8J**	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-32	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-32 DUP	2/4/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-33	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	**101**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-34D	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-35i	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-36	7/11/11	**2,600**	<200	<2,000	<2,000	<1,000	**45.2J**	<4,000	<200
	1/15/13	Free Product - 0.04 Feet							
	11/13/13	Free Product - 0.78 Feet							
15729 MW-37	7/13/11	**7,390**	<250	<2,500	<2,500	<1,250	**87.9J**	<5,000	<250
	1/21/13	**12,000**	<250	<2,500	<2,500	<1,250	**125**	<5,000	<250
	11/13/13	**1,660**	<10.0	<100	<100	<50.0	**21.1**	<200	<10.0
15729 MW-37 DUP	1/21/13	**11,000**	<250	<2,500	<2,500	<1,250	**129**	<5,000	<250
	11/13/13	**117**	<10.0	<100	<100	<50.0	**<5.0**	<200	<10.0
15729 MW-38	7/11/11	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	2/14/13	**6,740**	<500	**1,880**	<5,000	<5,000	<2,500	<10,000	<500
	11/13/13	**3,790**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-38 DUP	2/14/13	**5,360**	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
15729 MW-39	7/11/11	Free Product - 1.95 Feet							
	1/15/13	Free Product - 0.05 Feet							
	11/13/13	Free Product - 1.01 Feet							

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GROUNDWATER ANALYTICAL DATA (OXYGENATES)
H.W. DETWILER CO.
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 3 OF 4

Well Number	Sample Date	t-Amyl Alcohol (ug/l)	Tert-Amyl Methyl Ether (ug/l)	3,3-Dimethyl-1-Butanol (ug/l)	Tertiary Butyl Alcohol (ug/l)	tert-Butyl Formate (ug/l)	Diisopropyl Ether (ug/l)	Ethanol (ug/l)	Ethyl-tert-butyl Ether (ug/l)
15729 MW-40	7/11/11	Free Product - 1.92 Feet							
	1/21/13	Free Product - 1.79 Feet							
	11/13/13	Free Product - 1.56 Feet							
15729 MW-41	7/11/11	**13,400**	<1,000	<10,000	<10,000	<5,000	**179J**	<20,000	<1,000
	1/14/13	Free Product - 0.40 Feet							
	11/12/13	Free Product - 0.41 Feet							
15729 MW-42	7/11/11	**849**	<50.0	<500	<500	<250	<25.0	<1,000	<50.0
	1/14/13	**2,330J**	<250	<2,500	<2,500	<1,250	<125	<5,000	<250
	11/12/13	**407**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-43	7/11/11	Free Product - 1.66 Feet							
	1/14/13	Free Product - 2.43 Feet							
	11/12/13	Free Product - 3.32 Feet							
15729 MW-44	7/11/11	**8,400J**	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	2/14/13	<5,000	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
	11/13/13	**26,600**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-44 DUP	2/14/13	<5,000	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
15729 MW-45	7/11/11	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	1/15/13	Free Product - 0.02 Feet							
	11/13/13	Free Product - 1.87 Feet							
15729 MW-46	1/21/13	Free Product - 1.99 Feet							
	11/13/13	Free Product - 2.29 Feet							
15729 MW-47	2/14/13	**10,100**	<500	<5,000	<5,000	<2,500	**204J**	<10,000	<500
	11/13/13	**3,870**	<10.0	<100	<100	<50.0	**65.1**	<200	<10.0
15729 MW-48	1/21/13	**6,750**	**6.5J**	<100	**131**	<50.0	**102**	<200	<10.0
	11/13/13	**381**	<10.0	<100	<100	<50.0	**5.2**	<200	<10.0
15729 MW-49	1/21/13	Free Product - 2.10 Feet							
	11/13/13	Free Product - 2.24 Feet							
15729 MW-50	1/21/13	**2,680**	<10.0	<100	<100	<50.0	**23.4**	<200	<10.0
	11/13/13	**18,500**	<10.0	<100	<100	<50.0	**<5.0**	<200	<10.0
15729 MW-51	1/14/13	Free Product - 2.35 Feet							
	11/12/13	Free Product - 2.47 Feet							
15729 MW-52	1/14/13	**2,820**	<10.0	<100	<100	<50.0	**18.5**	<200	<10.0
	11/12/13	**165**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-53	1/14/13	**24,400**	**31.4**	<100	**422**	<50.0	**318**	<200	<10.0
	11/12/13	**3,670**	**5.1J**	<100	**70.6J**	<50.0	**50.9**	<200	<10.0
15729 MW-53 DUP	11/12/13	**2,400**	**3.7J**	<100	<100	<50.0	**33.0**	<200	<10.0
15729 MW-54	1/14/13	**78.9J**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-55	1/11/13	**10,400**	**9.1J**	<100	**192**	<50.0	**142**	<200	<10.0
	11/12/13	**223**	<10.0	<100	<100	<50.0	**2.8J**	<200	<10.0
15729 MW-56	1/11/13	**4,620**	<10.0	<100	**82.1J**	<50.0	**15.0**	<200	<10.0
	11/12/13	**4,970J**	**12.7**	<100	**112**	<50.0	**47.7**	<200	<10.0
15729 MW-57	1/11/13	**3,970**	<10.0	<100	**151**	<50.0	**11.1**	<200	<10.0
	11/12/13	**2,190**	<10.0	<100	<100	<50.0	**7.0**	<200	<10.0
15729 MW-58	2/14/13	**592**	<20.0	<200	<200	<100	**4.6J**	<400	<20.0
	11/13/13	**144**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-59	1/21/13	**294**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	**973**	<10.0	<100	**548**	<50.0	<5.0	<200	<10.0
15729 MW-60	2/14/13	**4,080**	<200	<2,000	<2,000	<1,000	<100	<4,000	<200
	11/13/13	**2,830**	<100	<1,000	<1,000	<500	<50.0	<2,000	<100
15729 MW-61	2/14/13	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	11/13/13	**17,900**	**113**	<1,000	<1,000	<500	<50.0	<2,000	<100
15729 MW-61 DUP	11/13/13	**28,000**	**66.3**	<500	**386J**	<250	**99.6**	<1,000	<50.0
15729 MW-62	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0

Notes:

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TABLE 3
GROUNDWATER ANALYTICAL DATA (OXYGENATES)
H.W. DETWILER CO.
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 4 OF 4

Well Number	Sample Date	t-Amyl Alcohol (ug/l)	Tert-Amyl Methyl Ether (ug/l)	3,3-Dimethyl-1-Butanol (ug/l)	Tertiary Butyl Alcohol (ug/l)	tert-Butyl Formate (ug/l)	Diisopropyl Ether (ug/l)	Ethanol (ug/l)	Ethyl-tert-butyl Ether (ug/l)
15729 MW-63	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	**87.3J**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-64	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-66	2/14/13	<5,000	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
	11/13/13	<5,000	<10.0	**47.7J**	<100	<50.0	<5.0	<200	<10.0
15729 MW-67	4/8/14	**101**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-67 DUP	4/8/14	**126**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-68	4/8/14	**1,850**	<25.0	<250	<250	<125	**16.2**	<500	<25.0
15729 MW-69	4/8/14	**229**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-70	4/8/14	**738**	<10.0	<100	<100	<50.0	**14.8**	<200	<10.0
15729 MW-71	5/20/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-71 DUP	5/20/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-72	5/20/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-73	5/20/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 WSW-1	7/29/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
15729 WSW-2	7/13/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 WSW-3	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 WSW-4	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<10.0	<50.0	<1.0	<200	<10.0
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<100	<10.0	<100	<10.0	<50.0	<1.0	<200	<10.0
15729 PS-1	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<100	<10.0	<100	<10.0	<50.0	<1.0	<200	<10.0
15729 SW-1	11/13/13	<100	<10.0	<100	<100	<50.0	<1.0	**1,910**	<10.0
15729 CS-1	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 CS-2	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 CS-3	2/4/14	**1,950**	**1.2J**	<100	**50.9J**	<50.0	**8.1**	<200	**0.19J**
15729 Field Blank #1	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/4/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	4/8/14	<100	<10.0	<100	**72.81J**	<50.0	<5.0	<200	<10.0
	5/20/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Field Blank #2	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Field Blank #3	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #1	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/4/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	4/8/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	5/20/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #2	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #3	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #4	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0

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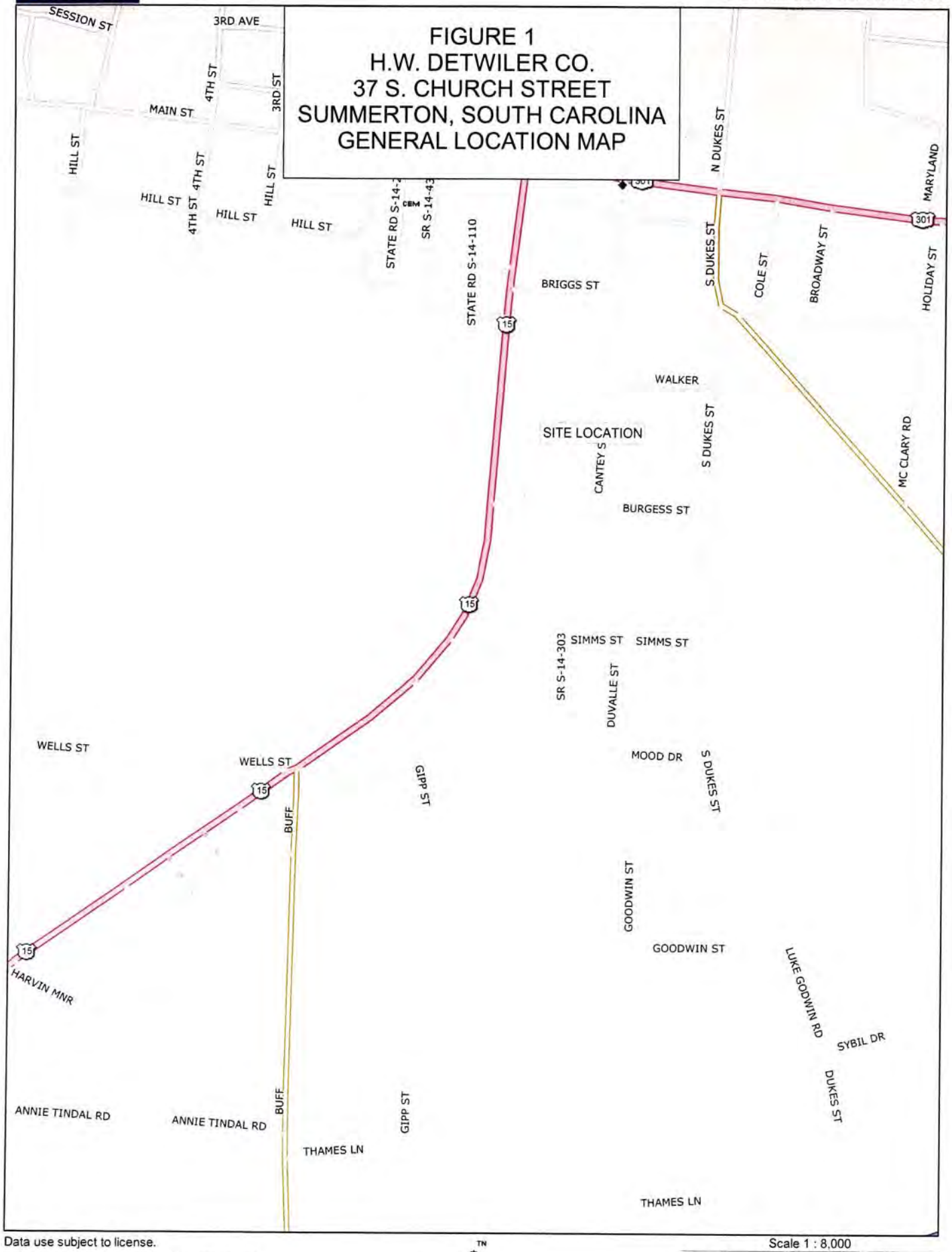
FIGURES

FIGURE 1
H.W. DETWILER CO.
37 S. CHURCH STREET
SUMMERTON, SOUTH CAROLINA
GENERAL LOCATION MAP



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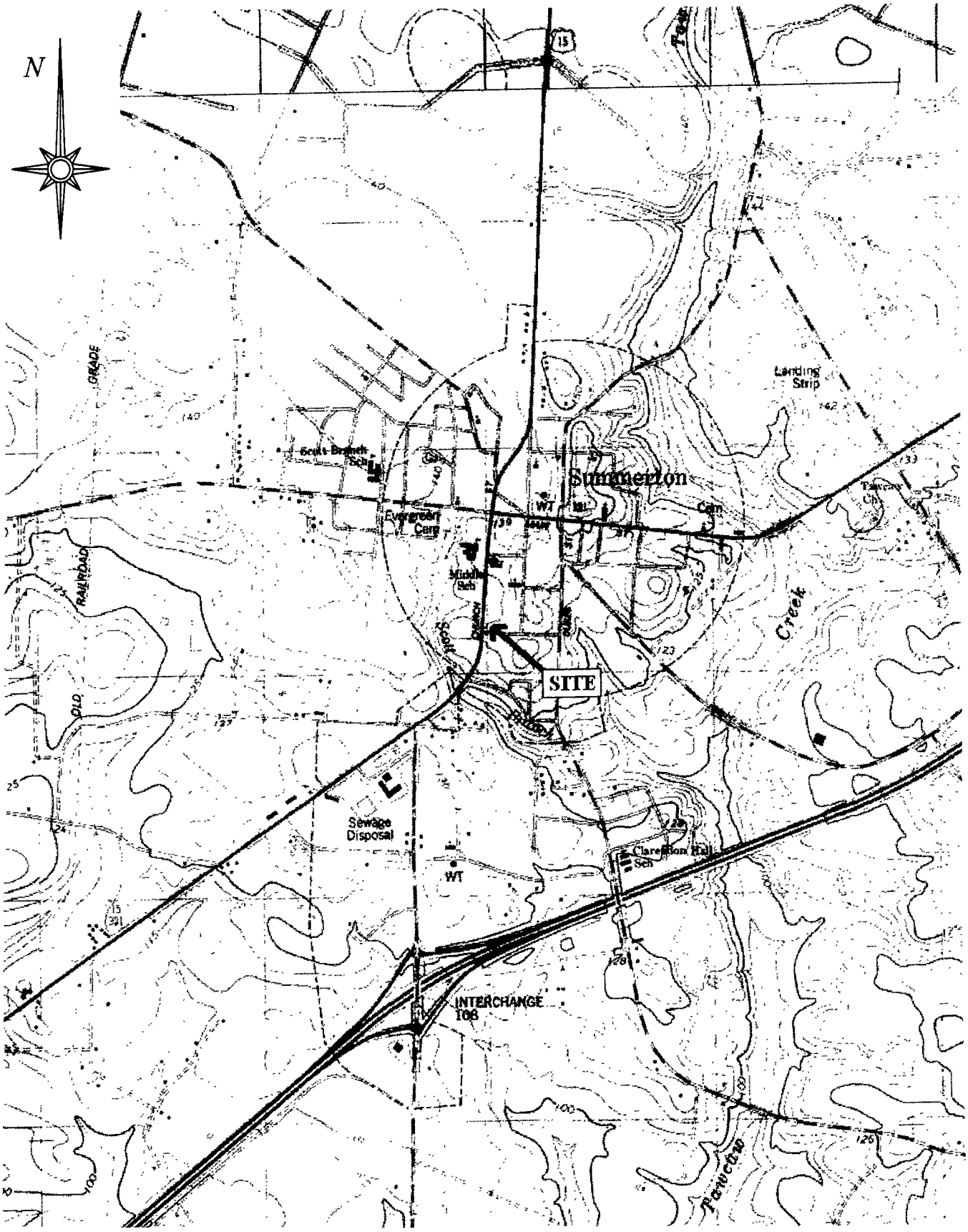
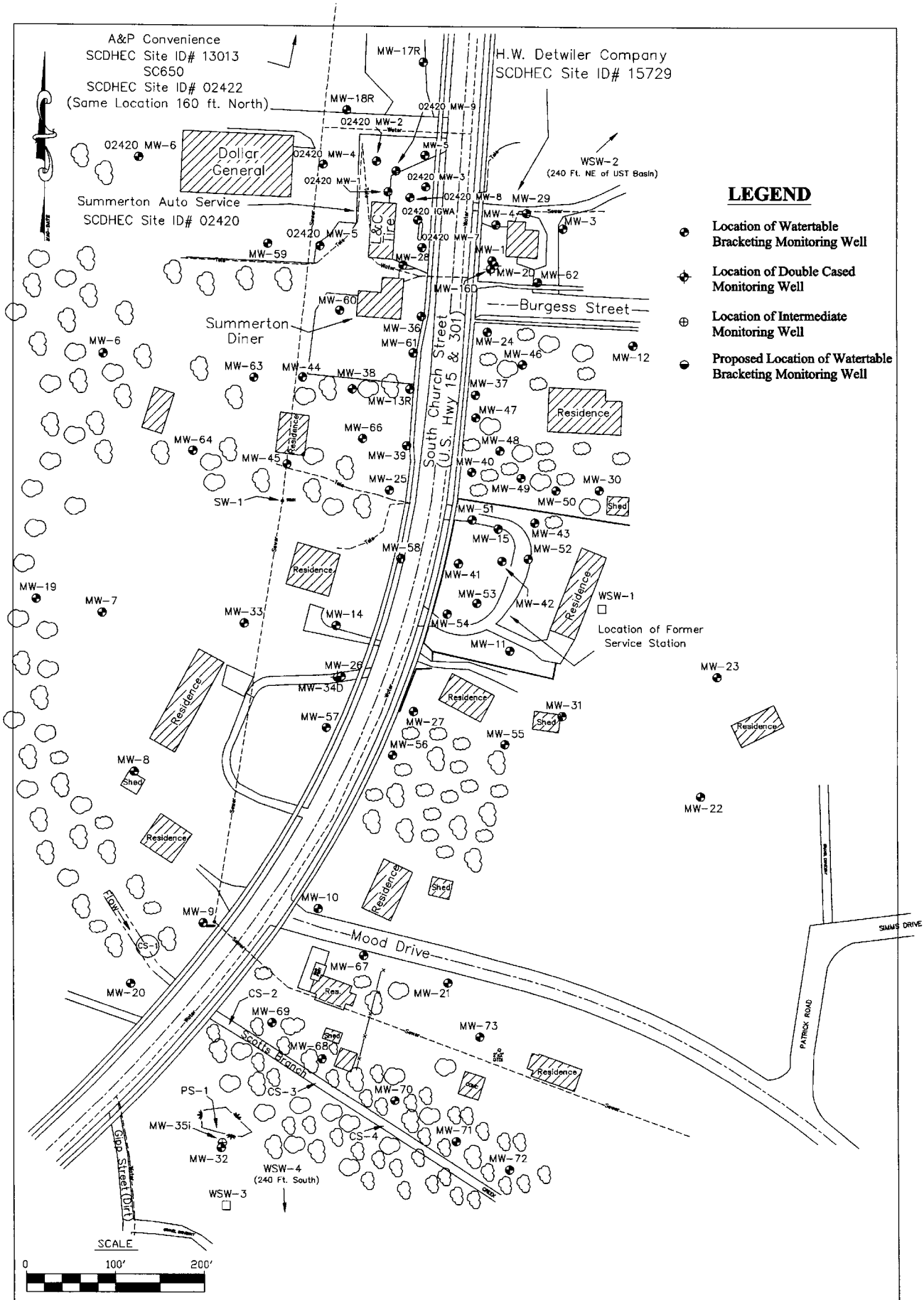
www.delorme.com

TN
MN (7.6°W)

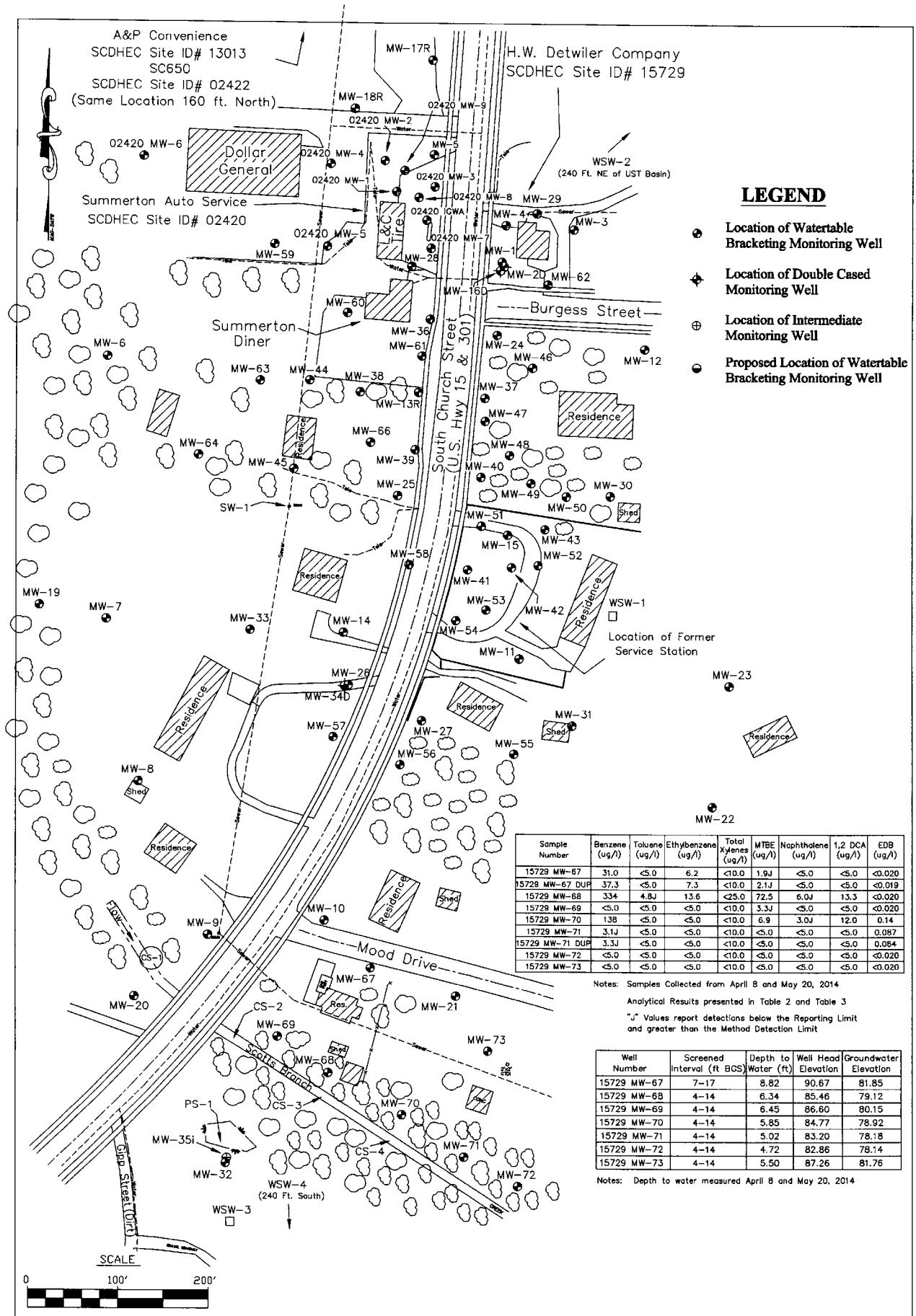
Scale 1 : 8,000
1" = 666.7 ft
Data Zoom 14-6



H.W. Detwiler Company 37 South Church Street Summerton, SC SCDHEC Site ID# 15729	Figure 2 USGS Topographic Map 7.5 Minute Map "Summerton, SC" Quadrangle Scale 1 to 2,000	EMERALD, INC. Sumter, SC



PROJECT:	SHEET TITLE:	DATE:	
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 Site Map	6/18/14	EMERALD, INC. SUMTER, SOUTH CAROLINA



Sample Number	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)
15729 MW-67	31.0	<5.0	6.2	<10.0	1.9J	<5.0	<5.0	<0.020
15729 MW-67 DUP	37.3	<5.0	7.3	<10.0	2.1J	<5.0	<5.0	<0.019
15729 MW-68	334	4.8J	13.6	<25.0	72.5	6.0J	13.3	<0.020
15729 MW-69	<5.0	<5.0	<5.0	<10.0	3.3J	<5.0	<5.0	<0.020
15729 MW-70	138	<5.0	<5.0	<10.0	6.9	3.0J	12.0	0.14
15729 MW-71	3.1J	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.087
15729 MW-71 DUP	3.3J	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.084
15729 MW-72	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-73	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020

Notes: Samples Collected from April 8 and May 20, 2014

Analytical Results presented in Table 2 and Table 3

"J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

Well Number	Screened Interval (ft BGS)	Depth to Water (ft)	Well Head Elevation	Groundwater Elevation
15729 MW-67	7-17	8.82	90.67	81.85
15729 MW-68	4-14	6.34	85.46	79.12
15729 MW-69	4-14	6.45	86.60	80.15
15729 MW-70	4-14	5.85	84.77	78.92
15729 MW-71	4-14	5.02	83.20	78.18
15729 MW-72	4-14	4.72	82.86	78.14
15729 MW-73	4-14	5.50	87.26	81.76

Notes: Depth to water measured April 8 and May 20, 2014

PROJECT:	SHEET TITLE:	DATE:	
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 4 Groundwater CoC Map	6/18/14	EMERALD, INC. SUMTER, SOUTH CAROLINA

APPENDIX A

WATER WELL LOGS

EMERALD, INC.

FIELD ACTIVITY LOG – MW INSTALLATION

Site: HW Detwiler Company (UST Permit #15729)
Date: 3/27/14 through 5/12/14
Personnel: Emerald, Inc. – Chad McClary and Robbie Robertson
Geologic Exploration Inc. – Vincent Federle (C01930)

LOCATION	DATE DRILLED	SPOON	PID	SOILD DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-67	3/27/14	0 - 5'	ND	Red, Clayey Fine to Medium SAND	Moist	Grass at surface No petroleum odor
		5' – 10'	ND	SAA	Moist	No petroleum odor
		10' – 17'	ND	SAA	Saturated	No petroleum odor
				Monitoring well set at 17 ft. with 10 ft. screen		Developed 35 gallons from the well
MW-68	3/27/14	0 - 5'	ND	Brown, Clayey Fine to Medium SAND	Moist	Dirt & leaves at surface No petroleum odor
		5' – 10'	ND	White, Silty Fine to Medium SAND	Moist	No petroleum odor
		10' – 14'	3.5	Tan, Silty Medium to Coarse SAND with rounded 1" Quartz pebbles	Saturated	No petroleum odor
				Monitoring well set at 14 ft. with 10 ft. screen		Developed 35 gallons from the well
MW-69	3/27/14	0 - 5'	ND	Tan, Clayey Fine to Medium SAND	Moist	Dirt & leaves at surface No petroleum odor
		5' – 10'	ND	Gray, Clayey Fine to Medium SAND	Moist	No petroleum odor
		12' – 14'	ND	Orange, Silty Medium to Coarse SAND with rounded 1" Quartz pebbles	Saturated	No petroleum odor
				Monitoring well set at 14 ft. with 10 ft. screen		Developed 35 gallons from the well
MW-70	3/27/14	0 - 5'	1.5	Tan, Clayey Fine to Medium SAND	Moist	Dirt & leaves at surface No petroleum odor
		5' – 10'	ND	White, Clayey Fine to Medium SAND	Moist	No petroleum odor
		10' – 14'	ND	Orange, Silty Fine to Medium SAND	Saturated	No petroleum odor
				Monitoring well set at 14 ft. with 10 ft. screen		Developed 35 gallons from the well

EMERALD, INC.

FIELD ACTIVITY LOG – MW INSTALLATION

Site: HW Detwiler Company (UST Permit #15729)
Date: 3/27/14 through 5/12/14
Personnel: Emerald, Inc. – Chad McClary and Robbie Robertson
Geologic Exploration Inc. – Vincent Federle (C01930)

LOCATION	DATE DRILLED	SPOON	PID	SOILD DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-71	5/12/14	0 - 5'	ND	Brown, Clayey Silty Fine to Medium SAND	Moist	Grass at surface No petroleum odor
		5' – 10'	ND	SAA	Moist	No petroleum odor
		10' – 14'	ND	White, Clayey Fine to Medium SAND	Wet	No petroleum odor Tacky
				Monitoring well set at 14 ft. with 10 ft. screen		Developed 45 gallons from the well
MW-72	5/12/14	0 - 5'	ND	Mottled, Clayey Silty Fine to Medium SAND	Moist	Grass at surface No petroleum odor
		5' – 10'	ND	Tan, Silty Medium to Coarse SAND	Wet	No petroleum odor
		10' – 14'	ND	White, Clayey Fine to Medium SAND with rounded 1" Quartz pebbles	Wet	No petroleum odor Tacky
				Monitoring well set at 14 ft. with 10 ft. screen		Developed 45 gallons from the well
MW-73	5/12/14	0 - 5'	ND	Black, Fine to Medium Sandy SILT	Dry	Grass at surface No petroleum odor
		5' – 10'	ND	Orange, Silty Fine to Medium SAND	Moist	No petroleum odor
		10' – 14'	ND	Red, Silty Medium to Coarse SAND	Wet	No petroleum odor
				Monitoring well set at 14 ft. with 10 ft. screen		Developed 45 gallons from the well

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: BURBAGE, CYNTHIA (last) (first)
Address: 117 HALESWOOD CIRCLE
City: GOOSE CREEK State: SC Zip: 29445
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 06.09" Longitude: 80° 21' 13.22"

3. PUBLIC SYSTEM NAME: 15729 **PUBLIC SYSTEM NUMBER:** MW-67

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
TAN CLAYEY SILTY SAND	16.0	17.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
BENTONITE SEAL FROM 3.0 TO 5 0 FEET

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 17.0 ft. Date Started: 03/27/14 Date Completed: 03/27/14

10. CASING: ☑ Threaded ☐ Welded
Diam.. 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 7.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 7.0 ft. and 17.0 ft. NOTE: MULTIPLE SCREENS
_____ ft and _____ ft USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 12.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 5.0 ft. to 17.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 3.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief

Signed: Vincent R. Federle Well Driller Date: 03/31/14

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: DINGLE, HENRY & WOOD, ELAINE (last) (first)
Address: PO BOX 524
City: SUMMERTON State: SC Zip: 29148
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 04.61" Longitude: 80° 21' 14.14"

3. PUBLIC SYSTEM NAME: 15729 **PUBLIC SYSTEM NUMBER:** MW-68

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth. from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
TAN CLAYEY SILTY SAND	13.0	14.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
BENTONITE SEAL FROM 2.0 TO 3.0 FEET

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 14.0 ft Date Started: 03/27/14 Date Completed: 03/27/14

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 4.0 ft. depth
_____ in. to _____ ft depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam: 2 INCH
Slot/Gauge. .010 Length. 10.0 FEET
Set Between: 4.0 ft. and 14.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 7.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 3.0 ft. to 14.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 2.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 03/31/14

If D Level Driller, provide supervising driller's name.

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Bureau of Water
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DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: DINGLE, HENRY & WOOD, ELAINE (last) (first)
Address: PO BOX 524
City: SUMMERTON State: SC Zip: 29148
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 05.17" Longitude: 80° 21' 14.88"

3. PUBLIC SYSTEM NAME: 15729 **PUBLIC SYSTEM NUMBER:** MW-69

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
TAN CLAYEY SILTY SAND	13.0	14.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
BENTONITE SEAL FROM 2.0 TO 3.0 FEET

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 14.0 ft Date Started: 03/27/14 Date Completed: 03/27/14

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 4.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 4.0 ft. and 14.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 7.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 3.0 ft. to 14.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 2.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P _____ Volts _____ Length of drop pipe ____ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
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Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 03/31/14

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Address: PO BOX 524
City: SUMMERTON State: SC Zip: 29148
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 04.24" Longitude: 80° 21' 13.32"

3. PUBLIC SYSTEM NAME: 15729 **PUBLIC SYSTEM NUMBER:** MW-70

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
TAN CLAYEY SILTY SAND	13.0	14.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
BENTONITE SEAL FROM 2.0 TO 3.0 FEET

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 14.0 ft. Date Started: 03/27/14 Date Completed: 03/27/14

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 4.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 4.0 ft. and 14.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 6.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 3.0 ft. to 14.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth. From 0.0 ft. to 2.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

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Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 03.99" Longitude: 80° 21' 12.28"

3. PUBLIC SYSTEM NAME: 15729 **PUBLIC SYSTEM NUMBER:** MW-71

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from ____ ft. to ____ ft

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
TAN CLAYEY SAND	9.0	10.0
WHITE SAND	4.0	14.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: BENTONITE SEAL FROM 1.0 TO 2.0 FEET

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: UMW-25428

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 14.0 ft. Date Started: 05/12/14 Date Completed: 05/12/14

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 4.0 ft depth
____ in. to ____ ft depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight ____ lb /ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 4.0 ft. and 14.0 ft.
____ ft. and ____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 7.0 ft below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
____ ft. after ____ hrs. Pumping ____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield. ____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 2.0 ft. to 14.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ____
Depth: From 0.0 ft. to 1.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type ____
Well Disinfected ☐ Yes ☐ No Type: ____ Amount: ____

18. PUMP: Date installed: ____ Not installed ☐
Mfr. Name: ____ Model No.: ____
H.P. ____ Volts ____ Length of drop pipe ____ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief

Signed. Vincent R. Federle Well Driller Date: 05/19/14

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: DINGLE, HENRY & WOOD, ELAINE (last) (first)
Address: PO BOX 524
City: SUMMERTON State: SC Zip: 29148
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 03.58" Longitude: 80° 21' 11.32"

3. PUBLIC SYSTEM NAME: 15729 **PUBLIC SYSTEM NUMBER:** MW-72

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
TAN CLAYEY SAND	9.0	10.0
WHITE SAND	4.0	14.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: BENTONITE SEAL FROM 1.0 TO 2.0 FEET

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: UMW-25428

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 14.0 ft. Date Started: 05/12/14 Date Completed: 05/12/14

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 4.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type. SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 4.0 ft. and 14.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 7.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 2.0 ft. to 14.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth. From 0.0 ft. to 1.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.. _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address. (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 05/19/14

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003)

COPY 1 MAIL TO: S C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: DINGLE, HENRY & WOOD, ELAINE (last) (first)
Address: PO BOX 524
City: SUMMERTON State: SC Zip: 29148
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER COMPANY
Street Address: 37 CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: 33° 36' 05.10" Longitude: 80° 21' 11.86"

3. PUBLIC SYSTEM NAME: 15729 **PUBLIC SYSTEM NUMBER:** MW-73

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
TAN CLAYEY SAND	9.0	10.0
WHITE SAND	4.0	14.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: BENTONITE SEAL FROM 1.0 TO 2.0 FEET

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: UMW-25428

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 14.0 ft. Date Started: 05/12/14 Date Completed: 05/12/14

10. CASING: ☑ Threaded ☐ Welded
Diam: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 4.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 4.0 ft. and 14.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 7.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 2.0 ft. to 14.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 1.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type. _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☑ D ☐ (circle one)
Telephone No: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle (Well Driller) Date: 05/19/14

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003)

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

APPENDIX B

PURGE LOGS

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-67

PROJECT: HW Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 4/8/14

SCREENED INTERVAL 7-17 Ft.

STATIC WATER LEVEL: 8.82 Ft.

WATER HEIGHT (Hw): 8.18 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.333 x 5 = 6.7 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 7 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 58-72°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	4.36	17.3	5.59	47	11	Clear, No Petroleum Odor
1st	4.67	17.2	5.33	45	956	Cloudy, No Petroleum Odor
2nd	4.35	17.2	5.27	46	658	Slightly Cloudy, No Petroleum Odor
3rd	4.09	17.4	5.16	47	853	Slightly Cloudy, No Petroleum Odor
4th	4.10	17.4	5.05	47	>1,100	Cloudy, No Petroleum Odor
5th	3.33	17.5	5.26	48	512	Slightly Cloudy, No Petroleum Odor
Sample collected at 1150						
Duplicate sample collected at 1153						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-68

PROJECT: HW Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 4-14 Ft.

STATIC WATER LEVEL: 6.34 Ft.

WATER HEIGHT (Hw): 7.66 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.249 x 5 = 6.2 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 6.5 Gallons

DATE: 4/8/14

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 58-72°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	2.47	15.9	5.29	51	53	Clear, Petroleum Odor
1st	2.33	16.2	5.40	53	>1,100	Cloudy, Petroleum Odor
2nd	2.60	16.4	5.34	54	655	Cloudy, Petroleum Odor
3rd	2.27	16.5	6.13	61	>1,100	Cloudy, Petroleum Odor
4th	2.09	16.4	5.86	62	1083	Cloudy, Petroleum Odor
5th	2.01	16.4	5.90	63	>1,100	Cloudy, Petroleum Odor
Sample collected at 1120						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-69

PROJECT: HW Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 4/8/14

SCREENED INTERVAL 4-14 Ft.

STATIC WATER LEVEL: 6.45 Ft.

WATER HEIGHT (Hw): 7.55 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.231 x 5 = 6.2 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 6.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 58-72°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.50	16.1	4.52	62	45	Clear, No Petroleum Odor
1st	1.65	16.2	3.75	63	473	Slightly Cloudy, No Petroleum Odor
2nd	1.71	16.4	3.63	68	328	Slightly Cloudy, No Petroleum Odor
3rd	1.70	16.4	3.83	68	>1,100	Slightly Cloudy, No Petroleum Odor
4th	2.14	16.4	4.18	68	>1,100	Slightly Cloudy, No Petroleum Odor
5th	1.86	16.5	4.54	66	>1,100	Slightly Cloudy, No Petroleum Odor
Sample collected at 1040						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-70

PROJECT: HW Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 4/8/14

SCREENED INTERVAL 4-14 Ft.

STATIC WATER LEVEL: 5.85 Ft.

WATER HEIGHT (Hw): 8.15 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.328 x 5 = 6.6 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 7 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Cloudy, 58-72°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	3.57	16.6	5.88	76	13	Clear, No Petroleum Odor
1st	3.90	16.0	5.46	78	636	Slightly Cloudy, No Petroleum Odor
2nd	3.26	15.9	4.90	75	488	Slightly Cloudy, No Petroleum Odor
3rd	3.65	15.9	4.61	74	574	Slightly Cloudy, No Petroleum Odor
4th	3.36	15.9	4.56	73	604	Slightly Cloudy, No Petroleum Odor
5th	2.56	16.0	4.89	71	265	Slightly Cloudy, No Petroleum Odor
Sample collected at 945						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-71

PROJECT: HW Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 4-14 Ft.

STATIC WATER LEVEL: 5.02 Ft.

WATER HEIGHT (Hw): 8.98 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.464 x 5 = 7.3 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 8 Gallons

DATE: 5/20/14

EMERALD, INC. PERSONNEL: C. McClary

Field Equipment

		Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Sunny, 50-81°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	2.00	17.5	5.37	117.4	>1,100	Slightly Cloudy, No Petroleum Odor
1st	2.07	17.2	5.18	111.1	>1,100	Slightly Cloudy, No Petroleum Odor
2nd	2.63	16.9	5.08	109.3	896.4	Slightly Cloudy, No Petroleum Odor
3rd	1.72	16.9	5.00	106.7	>1,100	Slightly Cloudy, No Petroleum Odor
4th	3.10	16.9	5.03	107.7	760.4	Slightly Cloudy, No Petroleum Odor
5th	1.77	17.0	5.00	106.0	>1,100	Slightly Cloudy, No Petroleum Odor
Sample collected at 1120						
Duplicate sample collected at 1121						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-72

PROJECT: HW Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 5/20/14

SCREENED INTERVAL 4-14 Ft.

STATIC WATER LEVEL: 4.72 Ft.

WATER HEIGHT (Hw): 9.28 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.513 x 5 = 7.6 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 8 Gallons

EMERALD, INC. PERSONNEL: C. McClary

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Sunny, 50-81°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	2.07	17.5	5.65	75.7	>1,100	Slightly Cloudy, No Petroleum Odor
1st	1.56	17.3	5.30	72.2	>1,100	Slightly Cloudy, No Petroleum Odor
2nd	1.61	17.0	4.96	67.2	>1,100	Slightly Cloudy, No Petroleum Odor
3rd	1.76	17.0	4.98	68.0	>1,100	Slightly Cloudy, No Petroleum Odor
4th	1.59	16.9	4.97	67.0	>1,100	Slightly Cloudy, No Petroleum Odor
5th	2.41	16.9	5.11	68.3	932.8	Slightly Cloudy, No Petroleum Odor
Sample collected at 1231						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-73

PROJECT: HW Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 4-14 Ft.

STATIC WATER LEVEL: 4.72 Ft.

WATER HEIGHT (Hw): 9.28 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.513 x 5 = 7.6 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 8 Gallons

DATE: 5/20/14

EMERALD, INC. PERSONNEL: C. McClary

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	01-0337(H.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	12B100282		

Conditions: Sunny, 50-81°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	7.97	19.5	6.15	109.5	211.7	Cloudy, No Petroleum Odor
1st	7.93	19.1	5.80	79.2	783.9	Cloudy, No Petroleum Odor
2nd	8.69	19.8	6.05	70.2	>1,100	Cloudy, No Petroleum Odor
3rd	8.27	18.8	5.79	69.0	>1,100	Cloudy, No Petroleum Odor
4th	8.20	18.6	5.81	64.8	>1,100	Cloudy, No Petroleum Odor
5th	8.07	19.0	5.65	64.2	>1,100	Cloudy, No Petroleum Odor
Sample collected at 1100						

APPENDIX C

ANALYTICAL DATA SHEETS

Pace Analytical Services, Inc.
9800 Kincey Ave Suite 100
Huntersville, NC 28078
(704)875-9092

April 16, 2014

Ms. Robbin Brown
Emerald, Inc.
2520 Tahoe Drive
Sumter, SC 29150

RE: Project: HW Detwiler 15729
Pace Project No.: 92196759

Dear Ms. Brown:
Enclosed are the analytical results for sample(s) received by the laboratory on April 09, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angela M. Baioni

Angela Baioni
angela.baioni@pacelabs.com
Project Manager

Enclosures

cc: Nicole Christopher, Emerald, Inc.
Mr Chad McClary, Emerald, Inc

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc

Pace Analytical Services, Inc.
9800 Kincey Ave Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: HW Detwiler 15729
Pace Project No.: 92196759

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification # 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HW Detwiler 15729
Pace Project No.: 92196759

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92196759001	**15729 MW-67**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAH	20	PASI-C
92196759002	**15729 MW-67 DUP**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAH	20	PASI-C
92196759003	**15729 MW-68**	EPA 8011	EJK	2	PASI-C
		EPA 8260	MCK	20	PASI-C
92196759004	**15729 MW-69**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAH	20	PASI-C
92196759005	**15729 MW-70**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAH	20	PASI-C
92196759006	**15729 FIELD BLANK**	EPA 8011	EJK	2	PASI-C
		EPA 8260	CAH	20	PASI-C
92196759007	**15729 TRIP BLANK**	EPA 8260	CAH	20	PASI-C

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92196759

Sample: 15729 MW-67 **Lab ID: 92196759001** Collected: 04/08/14 11:50 Received: 04/09/14 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	04/11/14 10:41	04/11/14 13:25	106-93-4	
Surrogates								
1-Chloro-2-bromopropane (S)	110	%	60-140	1	04/11/14 10:41	04/11/14 13:25	301-79-56	
8260 MSV	Analytical Method: EPA 8260							
tert-Amyl Alcohol	**101**	ug/L	100	1		04/11/14 13:39	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		04/11/14 13:39	994-05-8	
Benzene	**31.0**	ug/L	5.0	1		04/11/14 13:39	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		04/11/14 13:39	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		04/11/14 13:39	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		04/11/14 13:39	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		04/11/14 13:39	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		04/11/14 13:39	108-20-3	
Ethanol	ND	ug/L	200	1		04/11/14 13:39	64-17-5	
Ethylbenzene	**6.2**	ug/L	5.0	1		04/11/14 13:39	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		04/11/14 13:39	637-92-3	
Methyl-tert-butyl ether	**1.9J**	ug/L	5.0	1		04/11/14 13:39	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		04/11/14 13:39	91-20-3	
Toluene	ND	ug/L	5.0	1		04/11/14 13:39	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		04/11/14 13:39	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		04/11/14 13:39	179601-23-1	
o-Xylene	ND	ug/L	5.0	1		04/11/14 13:39	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	1		04/11/14 13:39	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130	1		04/11/14 13:39	17060-07-0	
Toluene-d8 (S)	100	%	70-130	1		04/11/14 13:39	2037-26-5	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92196759

Sample: 15729 MW-67 DUP **Lab ID: 92196759002** Collected: 04/08/14 11:53 Received: 04/09/14 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	1	04/11/14 10:41	04/11/14 13:46	106-93-4	
Surrogates								
1-Chloro-2-bromopropane (S)	109	%	60-140	1	04/11/14 10:41	04/11/14 13:46	301-79-56	
8260 MSV	Analytical Method: EPA 8260							
tert-Amyl Alcohol	**126**	ug/L	100	1		04/11/14 13:54	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		04/11/14 13:54	994-05-8	
Benzene	**37.3**	ug/L	5.0	1		04/11/14 13:54	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		04/11/14 13:54	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		04/11/14 13:54	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		04/11/14 13:54	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		04/11/14 13:54	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		04/11/14 13:54	108-20-3	
Ethanol	ND	ug/L	200	1		04/11/14 13:54	64-17-5	
Ethylbenzene	**7.3**	ug/L	5.0	1		04/11/14 13:54	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		04/11/14 13:54	637-92-3	
Methyl-tert-butyl ether	**2.1J**	ug/L	5.0	1		04/11/14 13:54	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		04/11/14 13:54	91-20-3	
Toluene	ND	ug/L	5.0	1		04/11/14 13:54	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		04/11/14 13:54	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		04/11/14 13:54	179601-23-1	
o-Xylene	ND	ug/L	5.0	1		04/11/14 13:54	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		04/11/14 13:54	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130	1		04/11/14 13:54	17060-07-0	
Toluene-d8 (S)	100	%	70-130	1		04/11/14 13:54	2037-26-5	

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ANALYTICAL RESULTS

Project HW Detwiler 15729
Pace Project No.: 92196759

Sample: 15729 MW-68 **Lab ID: 92196759003** Collected: 04/08/14 11:20 Received: 04/09/14 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	04/11/14 10:41	04/11/14 14:07	106-93-4	
Surrogates								
1-Chloro-2-bromopropane (S)	130	%	60-140	1	04/11/14 10:41	04/11/14 14:07	301-79-56	
8260 MSV	Analytical Method: EPA 8260							
tert-Amyl Alcohol	**1850**	ug/L	250	2.5		04/14/14 15:59	75-85-4	
tert-Amylmethyl ether	ND	ug/L	25.0	2.5		04/14/14 15:59	994-05-8	
Benzene	**334**	ug/L	12.5	2.5		04/14/14 15:59	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	250	2.5		04/14/14 15:59	624-95-3	
tert-Butyl Alcohol	ND	ug/L	250	2.5		04/14/14 15:59	75-65-0	
tert-Butyl Formate	ND	ug/L	125	2.5		04/14/14 15:59	762-75-4	
1,2-Dichloroethane	**13.3**	ug/L	12.5	2.5		04/14/14 15:59	107-06-2	
Diisopropyl ether	**16.2**	ug/L	12.5	2.5		04/14/14 15:59	108-20-3	
Ethanol	ND	ug/L	500	2.5		04/14/14 15:59	64-17-5	
Ethylbenzene	**13.6**	ug/L	12.5	2.5		04/14/14 15:59	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	25.0	2.5		04/14/14 15:59	637-92-3	
Methyl-tert-butyl ether	**72.5**	ug/L	12.5	2.5		04/14/14 15:59	1634-04-4	
Naphthalene	**6.0J**	ug/L	12.5	2.5		04/14/14 15:59	91-20-3	
Toluene	**4.8J**	ug/L	12.5	2.5		04/14/14 15:59	108-88-3	
Xylene (Total)	ND	ug/L	25.0	2.5		04/14/14 15:59	1330-20-7	
m&p-Xylene	ND	ug/L	25.0	2.5		04/14/14 15:59	179601-23-1	
o-Xylene	ND	ug/L	12.5	2.5		04/14/14 15:59	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	100	%	70-130	2.5		04/14/14 15:59	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130	2.5		04/14/14 15:59	17060-07-0	
Toluene-d8 (S)	101	%	70-130	2.5		04/14/14 15:59	2037-26-5	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92196759

Sample: 15729 MW-69 **Lab ID: 92196759004** Collected 04/08/14 10:40 Received: 04/09/14 16:40 Matrix. Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0 020	1	04/11/14 10:41	04/11/14 14 27	106-93-4	
Surrogates								
1-Chloro-2-bromopropane (S)	112	%	60-140	1	04/11/14 10:41	04/11/14 14 27	301-79-56	
8260 MSV	Analytical Method. EPA 8260							
tert-Amyl Alcohol	**229**	ug/L	100	1		04/11/14 14:10	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		04/11/14 14:10	994-05-8	
Benzene	ND	ug/L	5 0	1		04/11/14 14:10	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		04/11/14 14:10	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		04/11/14 14.10	75-65-0	
tert-Butyl Formate	ND	ug/L	50 0	1		04/11/14 14 10	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		04/11/14 14 10	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		04/11/14 14:10	108-20-3	
Ethanol	ND	ug/L	200	1		04/11/14 14 10	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		04/11/14 14:10	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10 0	1		04/11/14 14:10	637-92-3	
Methyl-tert-butyl ether	**3.3J**	ug/L	5.0	1		04/11/14 14:10	1634-04-4	
Naphthalene	ND	ug/L	5 0	1		04/11/14 14 10	91-20-3	
Toluene	ND	ug/L	5 0	1		04/11/14 14 10	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		04/11/14 14:10	1330-20-7	
m&p-Xylene	ND	ug/L	10 0	1		04/11/14 14 10	179601-23-1	
o-Xylene	ND	ug/L	5.0	1		04/11/14 14 10	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	1		04/11/14 14 10	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	1		04/11/14 14:10	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		04/11/14 14:10	2037-26-5	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92196759

Sample: 15729 MW-70 **Lab ID: 92196759005** Collected: 04/08/14 09.45 Received: 04/09/14 16.40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	**0.14**	ug/L	0.020	1	04/11/14 10:41	04/11/14 14:48	106-93-4	
Surrogates								
1-Chloro-2-bromopropane (S)	103	%	60-140	1	04/11/14 10 41	04/11/14 14 48	301-79-56	
8260 MSV	Analytical Method: EPA 8260							
tert-Amyl Alcohol	**738**	ug/L	100	1		04/11/14 14:26	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		04/11/14 14:26	994-05-8	
Benzene	**138**	ug/L	5.0	1		04/11/14 14:26	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		04/11/14 14:26	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		04/11/14 14:26	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		04/11/14 14:26	762-75-4	
1,2-Dichloroethane	**12.0**	ug/L	5.0	1		04/11/14 14 26	107-06-2	
Diisopropyl ether	**14.8**	ug/L	5 0	1		04/11/14 14 26	108-20-3	
Ethanol	ND	ug/L	200	1		04/11/14 14:26	64-17-5	
Ethylbenzene	ND	ug/L	5 0	1		04/11/14 14:26	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		04/11/14 14:26	637-92-3	
Methyl-tert-butyl ether	**6.9**	ug/L	5.0	1		04/11/14 14:26	1634-04-4	
Naphthalene	**3.0J**	ug/L	5.0	1		04/11/14 14:26	91-20-3	
Toluene	ND	ug/L	5 0	1		04/11/14 14 26	108-88-3	
Xylene (Total)	ND	ug/L	10 0	1		04/11/14 14:26	1330-20-7	
m&p-Xylene	ND	ug/L	10 0	1		04/11/14 14.26	179601-23-1	
o-Xylene	ND	ug/L	5 0	1		04/11/14 14:26	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	98	%	70-130	1		04/11/14 14:26	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130	1		04/11/14 14:26	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		04/11/14 14:26	2037-26-5	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92196759

Sample: 15729 FIELD BLANK **Lab ID: 92196759006** Collected 04/08/14 12:10 Received: 04/09/14 16.40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	04/11/14 10:41	04/11/14 15:08	106-93-4	
Surrogates								
1-Chloro-2-bromopropane (S)	111	%	60-140	1	04/11/14 10:41	04/11/14 15 08	301-79-56	
8260 MSV	Analytical Method: EPA 8260							
tert-Amyl Alcohol	ND	ug/L	100	1		04/10/14 17:07	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		04/10/14 17:07	994-05-8	
Benzene	ND	ug/L	5.0	1		04/10/14 17:07	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		04/10/14 17:07	624-95-3	
tert-Butyl Alcohol	**72.8J**	ug/L	100	1		04/10/14 17:07	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		04/10/14 17 07	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		04/10/14 17 07	107-06-2	
Diisopropyl ether	ND	ug/L	5 0	1		04/10/14 17:07	108-20-3	
Ethanol	ND	ug/L	200	1		04/10/14 17:07	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		04/10/14 17:07	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		04/10/14 17 07	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		04/10/14 17 07	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		04/10/14 17 07	91-20-3	
Toluene	ND	ug/L	5 0	1		04/10/14 17 07	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		04/10/14 17:07	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		04/10/14 17:07	179601-23-1	
o-Xylene	ND	ug/L	5.0	1		04/10/14 17:07	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	1		04/10/14 17 07	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130	1		04/10/14 17:07	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		04/10/14 17:07	2037-26-5	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No 92196759

Sample: 15729 TRIP BLANK **Lab ID: 92196759007** Collected: 04/08/14 12:15 Received: 04/09/14 16:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method EPA 8260							
tert-Amyl Alcohol	ND	ug/L	100	1		04/10/14 17:22	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10 0	1		04/10/14 17:22	994-05-8	
Benzene	ND	ug/L	5 0	1		04/10/14 17:22	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		04/10/14 17:22	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		04/10/14 17 22	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		04/10/14 17:22	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		04/10/14 17:22	107-06-2	
Diisopropyl ether	ND	ug/L	5 0	1		04/10/14 17:22	108-20-3	
Ethanol	ND	ug/L	200	1		04/10/14 17:22	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		04/10/14 17:22	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10 0	1		04/10/14 17:22	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		04/10/14 17 22	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		04/10/14 17.22	91-20-3	
Toluene	ND	ug/L	5.0	1		04/10/14 17:22	108-88-3	
Xylene (Total)	ND	ug/L	10 0	1		04/10/14 17:22	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		04/10/14 17:22	179601-23-1	
o-Xylene	ND	ug/L	5.0	1		04/10/14 17 22	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	99	%	70-130	1		04/10/14 17:22	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130	1		04/10/14 17:22	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		04/10/14 17:22	2037-26-5	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92196759

QC Batch: MSV/26400 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92196759006, 92196759007

METHOD BLANK: 1175489 Matrix: Water
Associated Lab Samples: 92196759006, 92196759007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	04/10/14 14 39	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	04/10/14 14:39	
Benzene	ug/L	ND	5 0	04/10/14 14:39	
Diisopropyl ether	ug/L	ND	5.0	04/10/14 14 39	
Ethanol	ug/L	ND	200	04/10/14 14:39	
Ethyl-tert-butyl ether	ug/L	ND	10.0	04/10/14 14:39	
Ethylbenzene	ug/L	ND	5.0	04/10/14 14:39	
m&p-Xylene	ug/L	ND	10 0	04/10/14 14:39	
Methyl-tert-butyl ether	ug/L	ND	5.0	04/10/14 14 39	
Naphthalene	ug/L	ND	5.0	04/10/14 14 39	
o-Xylene	ug/L	ND	5 0	04/10/14 14:39	
tert-Amyl Alcohol	ug/L	ND	100	04/10/14 14 39	
tert-Amylmethyl ether	ug/L	ND	10.0	04/10/14 14.39	
tert-Butyl Alcohol	ug/L	ND	100	04/10/14 14:39	
tert-Butyl Formate	ug/L	ND	50.0	04/10/14 14:39	
Toluene	ug/L	ND	5.0	04/10/14 14:39	
Xylene (Total)	ug/L	ND	10 0	04/10/14 14:39	
1,2-Dichloroethane-d4 (S)	%	100	70-130	04/10/14 14:39	
4-Bromofluorobenzene (S)	%	100	70-130	04/10/14 14 39	
Toluene-d8 (S)	%	98	70-130	04/10/14 14:39	

LABORATORY CONTROL SAMPLE 1175490

Parameter	Units	Spike Conc	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.4	97	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	850	85	70-130	
Benzene	ug/L	50	51 1	102	70-130	
Diisopropyl ether	ug/L	50	49.7	99	70-130	
Ethanol	ug/L	2000	1580	79	70-130	
Ethyl-tert-butyl ether	ug/L	100	87 7	88	70-130	
Ethylbenzene	ug/L	50	50.4	101	70-130	
m&p-Xylene	ug/L	100	102	102	70-130	
Methyl-tert-butyl ether	ug/L	50	48.4	97	70-130	
Naphthalene	ug/L	50	49.2	98	70-130	
o-Xylene	ug/L	50	51 1	102	70-130	
tert-Amyl Alcohol	ug/L	1000	917	92	70-130	
tert-Amylmethyl ether	ug/L	100	98.3	98	70-130	
tert-Butyl Alcohol	ug/L	500	456	91	70-130	
tert-Butyl Formate	ug/L	400	386	96	70-130	
Toluene	ug/L	50	50.6	101	70-130	
Xylene (Total)	ug/L	150	153	102	70-130	

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QUALITY CONTROL DATA

Project. HW Detwiler 15729
Pace Project No 92196759

LABORATORY CONTROL SAMPLE 1175490

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE 1176422 1176423

Parameter	Units	92196067033 Result	MS Spike Conc	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	54.9	55 1	110	110	70-130	0	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	953	976	95	98	70-130	2	
Benzene	ug/L	ND	50	50	58 5	57.8	117	116	70-130	1	
Diisopropyl ether	ug/L	ND	50	50	55 3	55.8	111	112	70-130	1	
Ethanol	ug/L	ND	2000	2000	1860	2000	93	100	70-130	7	
Ethyl-tert-butyl ether	ug/L	ND	100	100	98.1	99.8	98	100	70-130	2	
Ethylbenzene	ug/L	ND	50	50	57.7	57 3	115	115	70-130	1	
m&p-Xylene	ug/L	ND	100	100	116	116	116	116	70-130	1	
Methyl-tert-butyl ether	ug/L	ND	50	50	54.1	55 8	108	112	70-130	3	
Naphthalene	ug/L	ND	50	50	54 0	56.0	108	112	70-130	4	
o-Xylene	ug/L	ND	50	50	58.0	57.6	116	115	70-130	1	
tert-Amyl Alcohol	ug/L	ND	1000	1000	1050	1070	105	107	70-130	2	
tert-Amylmethyl ether	ug/L	ND	100	100	109	111	109	111	70-130	1	
tert-Butyl Alcohol	ug/L	ND	500	500	613	651	122	130	70-130	6	
tert-Butyl Formate	ug/L	ND	400	400	191	180	48	45	70-130	6	M0
Toluene	ug/L	ND	50	50	57 6	57.8	115	116	70-130	0	
1,2-Dichloroethane-d4 (S)	%						100	100	70-130		
4-Bromofluorobenzene (S)	%						101	99	70-130		
Toluene-d8 (S)	%						101	100	70-130		

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No . 92196759

QC Batch. MSV/26420 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description. 8260 MSV SC
Associated Lab Samples: 92196759001, 92196759002, 92196759004, 92196759005

METHOD BLANK 1176520 Matrix Water
Associated Lab Samples: 92196759001, 92196759002, 92196759004, 92196759005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	04/11/14 13.07	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	04/11/14 13:07	
Benzene	ug/L	ND	5.0	04/11/14 13 07	
Diisopropyl ether	ug/L	ND	5.0	04/11/14 13 07	
Ethanol	ug/L	ND	200	04/11/14 13.07	
Ethyl-tert-butyl ether	ug/L	ND	10.0	04/11/14 13:07	
Ethylbenzene	ug/L	ND	5.0	04/11/14 13 07	
m&p-Xylene	ug/L	ND	10 0	04/11/14 13 07	
Methyl-tert-butyl ether	ug/L	ND	5 0	04/11/14 13:07	
Naphthalene	ug/L	ND	5 0	04/11/14 13:07	
o-Xylene	ug/L	ND	5.0	04/11/14 13 07	
tert-Amyl Alcohol	ug/L	ND	100	04/11/14 13:07	
tert-Amylmethyl ether	ug/L	ND	10 0	04/11/14 13:07	
tert-Butyl Alcohol	ug/L	ND	100	04/11/14 13:07	
tert-Butyl Formate	ug/L	ND	50.0	04/11/14 13 07	
Toluene	ug/L	ND	5.0	04/11/14 13 07	
Xylene (Total)	ug/L	ND	10.0	04/11/14 13.07	
1,2-Dichloroethane-d4 (S)	%	102	70-130	04/11/14 13:07	
4-Bromofluorobenzene (S)	%	100	70-130	04/11/14 13:07	
Toluene-d8 (S)	%	99	70-130	04/11/14 13:07	

LABORATORY CONTROL SAMPLE: 1176521

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48 6	97	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	837	84	70-130	
Benzene	ug/L	50	48.8	98	70-130	
Diisopropyl ether	ug/L	50	48 8	98	70-130	
Ethanol	ug/L	2000	1740	87	70-130	
Ethyl-tert-butyl ether	ug/L	100	87.5	87	70-130	
Ethylbenzene	ug/L	50	47.9	96	70-130	
m&p-Xylene	ug/L	100	98 5	99	70-130	
Methyl-tert-butyl ether	ug/L	50	49.4	99	70-130	
Naphthalene	ug/L	50	49.3	99	70-130	
o-Xylene	ug/L	50	49 3	99	70-130	
tert-Amyl Alcohol	ug/L	1000	897	90	70-130	
tert-Amylmethyl ether	ug/L	100	96.0	96	70-130	
tert-Butyl Alcohol	ug/L	500	447	89	70-130	
tert-Butyl Formate	ug/L	400	388	97	70-130	
Toluene	ug/L	50	48.6	97	70-130	
Xylene (Total)	ug/L	150	148	99	70-130	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92196759

LABORATORY CONTROL SAMPLE: 1176521

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE 1176906 1176907

Parameter	Units	92196759005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,2-Dichloroethane	ug/L	12.0	50	50	66 9	60.6	110	97	70-130	10	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	917	835	92	84	70-130	9	
Benzene	ug/L	138	50	50	183	180	89	83	70-130	2	
Diisopropyl ether	ug/L	14.8	50	50	68 7	63.3	108	97	70-130	8	
Ethanol	ug/L	ND	2000	2000	2190	1970	110	99	70-130	11	
Ethyl-tert-butyl ether	ug/L	ND	100	100	98 3	88 3	98	88	70-130	11	
Ethylbenzene	ug/L	ND	50	50	56.2	49.6	112	99	70-130	12	
m&p-Xylene	ug/L	ND	100	100	114	101	114	101	70-130	12	
Methyl-tert-butyl ether	ug/L	6 9	50	50	61.0	56.1	108	98	70-130	8	
Naphthalene	ug/L	3.0J	50	50	54.7	50 9	103	96	70-130	7	
o-Xylene	ug/L	ND	50	50	56 9	50 4	112	99	70-130	12	
tert-Amyl Alcohol	ug/L	738	1000	1000	1770	1690	104	96	70-130	5	
tert-Amylmethyl ether	ug/L	ND	100	100	108	96.2	108	96	70-130	11	
tert-Butyl Alcohol	ug/L	ND	500	500	568	562	110	109	70-130	1	
tert-Butyl Formate	ug/L	ND	400	400	403	297	101	74	70-130	30	
Toluene	ug/L	ND	50	50	56 9	50.6	114	101	70-130	12	
1,2-Dichloroethane-d4 (S)	%						101	101	70-130		
4-Bromofluorobenzene (S)	%						100	99	70-130		
Toluene-d8 (S)	%						100	100	70-130		

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92196759

QC Batch: MSV/26436 Analysis Method: EPA 8260
QC Batch Method EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92196759003

METHOD BLANK 1177517 Matrix: Water
Associated Lab Samples: 92196759003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	04/14/14 11:15	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	04/14/14 11:15	
Benzene	ug/L	ND	5.0	04/14/14 11:15	
Diisopropyl ether	ug/L	ND	5.0	04/14/14 11:15	
Ethanol	ug/L	ND	200	04/14/14 11:15	
Ethyl-tert-butyl ether	ug/L	ND	10.0	04/14/14 11:15	
Ethylbenzene	ug/L	ND	5.0	04/14/14 11:15	
m&p-Xylene	ug/L	ND	10.0	04/14/14 11:15	
Methyl-tert-butyl ether	ug/L	ND	5.0	04/14/14 11:15	
Naphthalene	ug/L	ND	5.0	04/14/14 11:15	
o-Xylene	ug/L	ND	5.0	04/14/14 11:15	
tert-Amyl Alcohol	ug/L	ND	100	04/14/14 11:15	
tert-Amylmethyl ether	ug/L	ND	10.0	04/14/14 11:15	
tert-Butyl Alcohol	ug/L	ND	100	04/14/14 11:15	
tert-Butyl Formate	ug/L	ND	50.0	04/14/14 11:15	
Toluene	ug/L	ND	5.0	04/14/14 11:15	
Xylene (Total)	ug/L	ND	10.0	04/14/14 11:15	
1,2-Dichloroethane-d4 (S)	%	101	70-130	04/14/14 11:15	
4-Bromofluorobenzene (S)	%	100	70-130	04/14/14 11:15	
Toluene-d8 (S)	%	100	70-130	04/14/14 11:15	

LABORATORY CONTROL SAMPLE 1177518

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	51.3	103	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	942	94	70-130	
Benzene	ug/L	50	51.2	102	70-130	
Diisopropyl ether	ug/L	50	51.4	103	70-130	
Ethanol	ug/L	2000	1910	95	70-130	
Ethyl-tert-butyl ether	ug/L	100	93.0	93	70-130	
Ethylbenzene	ug/L	50	50.2	100	70-130	
m&p-Xylene	ug/L	100	103	103	70-130	
Methyl-tert-butyl ether	ug/L	50	52.5	105	70-130	
Naphthalene	ug/L	50	52.3	105	70-130	
o-Xylene	ug/L	50	51.0	102	70-130	
tert-Amyl Alcohol	ug/L	1000	1030	103	70-130	
tert-Amylmethyl ether	ug/L	100	102	102	70-130	
tert-Butyl Alcohol	ug/L	500	517	103	70-130	
tert-Butyl Formate	ug/L	400	412	103	70-130	
Toluene	ug/L	50	51.3	103	70-130	
Xylene (Total)	ug/L	150	154	103	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92196759

LABORATORY CONTROL SAMPLE. 1177518

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%			102	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			101	70-130	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92196759

QC Batch: OEXT/26980 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description GCS 8011 EDB DBCP
Associated Lab Samples: 92196759001, 92196759002, 92196759003, 92196759004, 92196759005, 92196759006

METHOD BLANK: 1176350 Matrix: Water
Associated Lab Samples: 92196759001, 92196759002, 92196759003, 92196759004, 92196759005, 92196759006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	04/11/14 11:41	
1-Chloro-2-bromopropane (S)	%	109	60-140	04/11/14 11 41	

LABORATORY CONTROL SAMPLE & LCSD 1176351 1176352

Parameter	Units	Spike Conc	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.28	0.28	98	96	60-140	2	20	
1-Chloro-2-bromopropane (S)	%				107	109	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1176353 1176354

Parameter	Units	92196863006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	28	28	0.27	0.28	98	100	60-140	2	
1-Chloro-2-bromopropane (S)	%						110	113	60-140		

SAMPLE DUPLICATE: 1176355

Parameter	Units	92196863007 Result	Dup Result	RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		
1-Chloro-2-bromopropane (S)	%	108	107	1	

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QUALIFIERS

Project: HW Detwiler 15729
Pace Project No.. 92196759

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit

RL - Reporting Limit

S - Surrogate

1,2-Diphenylhydrazine(8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride

Pace Analytical is TNI accredited Contact your Pace PM for the current list of accredited analytes

TNI - The NELAC Institute.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project HW Detwiler 15729
Pace Project No 92196759

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92196759001	**15729 MW-67**	EPA 8011	OEXT/26980	EPA 8011	GCSV/17223
92196759002	**15729 MW-67 DUP**	EPA 8011	OEXT/26980	EPA 8011	GCSV/17223
92196759003	**15729 MW-68**	EPA 8011	OEXT/26980	EPA 8011	GCSV/17223
92196759004	**15729 MW-69**	EPA 8011	OEXT/26980	EPA 8011	GCSV/17223
92196759005	**15729 MW-70**	EPA 8011	OEXT/26980	EPA 8011	GCSV/17223
92196759006	**15729 FIELD BLANK**	EPA 8011	OEXT/26980	EPA 8011	GCSV/17223
92196759001	**15729 MW-67**	EPA 8260	MSV/26420		
92196759002	**15729 MW-67 DUP**	EPA 8260	MSV/26420		
92196759003	**15729 MW-68**	EPA 8260	MSV/26436		
92196759004	**15729 MW-69**	EPA 8260	MSV/26420		
92196759005	**15729 MW-70**	EPA 8260	MSV/26420		
92196759006	**15729 FIELD BLANK**	EPA 8260	MSV/26400		
92196759007	**15729 TRIP BLANK**	EPA 8260	MSV/26400		

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Pace Analytical	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: April 07. 2014 Page 1 of 2
	Document Number: **F-CHR-CS-003-rev.14**	Issuing Authority: Pace Huntersville Quality Office

Client Name: Emerald

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other_____

[redacted]

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1102 T1401 Type of Ice: (Wet) Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor T1102: No Correction T1301: No Correction

Corrected Cooler Temp.: 2-8 °C Biological Tissue is Frozen: Yes No (N/A)

Date and Initials of person examining contents: ZD 4/1/14

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:_____		
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☑Yes ☐No ☑N/A	16. Yes 4/1/14
Trip Blank Custody Seals Present	☑Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted:_____ Date/Time:_____

Comments/ Resolution:_____

SCURF Review: AMB Date: 4-9-14

SRF Review: DB Date: 4/9/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

WO# : 92196759

92196759

(if no label available)

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1783904

Section A Required Client Information

Company	Emerald Inc.
Address	2520 Tahoe Dr. Sumter, SC 29150
Email To	
Phone:	(803) 469-5454
Fax:	
Requested Due Date/TAT:	Standard

Section B Required Project Information

Report To	Ronny Lowder
Copy To	
Purchase Order No.	
Project Name	HW Detwiler
Project Number	15729

Section C Invoice Information

Attention:	
Company Name	
Address:	
Pace Quote Reference	
Pace Project Manager	A. Baioni
Pace Profile #	39076-15

REGULATORY AGENCY

NPDES | GROUND WATER | DRINKING WATER
UST | RCRA | OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Btex, N,M	1,2 DCA (8260B)	Oxy's	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	15729 MW-67	WT	G			4/8/14	1150		6				6						X	X	X	X		001
2	" " MW-67 Dup						1153		6				6											002
3	" " MW-68						1120		6				6											003
4	" " MW-69						1040		6				6											004
5	" " MW-70						0945		6				6											005
6	" " Field Blank						1210		6				6						X	X	X	X		006
7	" " Trip Blank						1215		2				2						X	X	X			007
8																								
9																								
10																								
11																								
12																								

92194759

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Robbie Robertson	4/8/14	1315	[signature]	4-8-14	1700				
	Beaver			D Moody-Pace	4-09-14	15:40				
	D Moody	4-09-14	16:40	[signature]	4/9/14	1640	2.8	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robbie Robertson

SIGNATURE of SAMPLER: Robbie Robertson

DATE Signed (MM/DD/YY): 4/8/14

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev 07, 15-May-2007

Pace Analytical Services, Inc.
9800 Kincey Ave Suite 100
Huntersville, NC 28078
(704)875-9092

May 28, 2014

Ms. Robbin Brown
Emerald, Inc.
2520 Tahoe Drive
Sumter, SC 29150

RE: Project: HW Detwiler 15729
Pace Project No.: 92202374

Dear Ms. Brown:
Enclosed are the analytical results for sample(s) received by the laboratory on May 21, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angela M. Baioni

Angela Baioni
angela.baioni@pacelabs.com
Project Manager

Enclosures

cc. Nicole Christopher, Emerald, Inc
Mr. Chad McClary, Emerald, Inc.

Pace Analytical Services, Inc.
9800 Kincey Ave Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: HW Detwiler 15729
Pace Project No.: 92202374

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #. 12
South Carolina Certification #: 99006001
Florida/NELAP Certification # E87627
Kentucky UST Certification # 84
West Virginia Certification #: 357
Virginia/VELAP Certification # 460221

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: HW Detwiler 15729
Pace Project No.: 92202374

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92202374001	**15729 MW-71**	Water	05/20/14 11:20	05/21/14 16:00
92202374002	**15729 MW-71 DUP**	Water	05/20/14 11 21	05/21/14 16:00
92202374003	**15729 MW-72**	Water	05/20/14 12:31	05/21/14 16:00
92202374004	**15729 MW-73**	Water	05/20/14 11 00	05/21/14 16:00
92202374005	**15729 FIELD BLANK**	Water	05/20/14 13:00	05/21/14 16.00
92202374006	**15729 TRIP BLANK**	Water	05/20/14 00:00	05/21/14 16:00

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SAMPLE ANALYTE COUNT

Project: HW Detwiler 15729
Pace Project No.: 92202374

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92202374001	**15729 MW-71**	EPA 8011	JMC	2	PASI-C
		EPA 8260	NU1	20	PASI-C
92202374002	**15729 MW-71 DUP**	EPA 8011	JMC	2	PASI-C
		EPA 8260	NU1	20	PASI-C
92202374003	**15729 MW-72**	EPA 8011	JMC	2	PASI-C
		EPA 8260	NU1	20	PASI-C
92202374004	**15729 MW-73**	EPA 8011	JMC	2	PASI-C
		EPA 8260	NU1	20	PASI-C
92202374005	**15729 FIELD BLANK**	EPA 8011	JMC	2	PASI-C
		EPA 8260	NU1	20	PASI-C
92202374006	**15729 TRIP BLANK**	EPA 8260	NU1	20	PASI-C

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.. 92202374

Sample: 15729 MW-71 **Lab ID: 92202374001** Collected: 05/20/14 11:20 Received: 05/21/14 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.087**	ug/L	0.020	0.020	1	05/23/14 13 48	05/23/14 15:51	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	91	%	60-140		1	05/23/14 13:48	05/23/14 15:51	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/22/14 14:37	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/22/14 14:37	994-05-8	
Benzene	**3.1J**	ug/L	5.0	1.7	1		05/22/14 14:37	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/22/14 14:37	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/22/14 14:37	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/22/14 14 37	762-75-4	
1,2-Dichloroethane	ND	ug/L	5 0	1.8	1		05/22/14 14:37	107-06-2	
Diisopropyl ether	ND	ug/L	5 0	1.7	1		05/22/14 14:37	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/22/14 14:37	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/22/14 14:37	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/22/14 14:37	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/22/14 14:37	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/22/14 14:37	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/22/14 14:37	108-88-3	
Xylene (Total)	ND	ug/L	10 0	2 7	1		05/22/14 14 37	1330-20-7	
m&p-Xylene	ND	ug/L	10 0	3.1	1		05/22/14 14:37	179601-23-1	
o-Xylene	ND	ug/L	5.0	1 6	1		05/22/14 14:37	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		05/22/14 14:37	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		05/22/14 14:37	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		05/22/14 14:37	2037-26-5	

Sample: 15729 MW-71 DUP **Lab ID: 92202374002** Collected: 05/20/14 11:21 Received: 05/21/14 16:00 Matrix Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.084**	ug/L	0 020	0.020	1	05/23/14 13:48	05/23/14 16:11	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	115	%	60-140		1	05/23/14 13:48	05/23/14 16 11	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/22/14 14 53	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/22/14 14:53	994-05-8	
Benzene	**3.3J**	ug/L	5 0	1.7	1		05/22/14 14:53	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32 1	1		05/22/14 14 53	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/22/14 14:53	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/22/14 14 53	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/22/14 14 53	107-06-2	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92202374

Sample: 15729 MW-71 DUP **Lab ID: 92202374002** Collected: 05/20/14 11:21 Received: 05/21/14 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Diisopropyl ether	ND	ug/L	5.0	1 7	1		05/22/14 14.53	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/22/14 14 53	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/22/14 14:53	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/22/14 14:53	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1 7	1		05/22/14 14 53	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/22/14 14:53	91-20-3	
Toluene	ND	ug/L	5 0	1 6	1		05/22/14 14 53	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/22/14 14:53	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3 1	1		05/22/14 14 53	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/22/14 14 53	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		05/22/14 14.53	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		05/22/14 14:53	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		05/22/14 14:53	2037-26-5	

Sample: 15729 MW-72 **Lab ID: 92202374003** Collected: 05/20/14 12:31 Received: 05/21/14 16 00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/23/14 13:49	05/23/14 16 32	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	118	%	60-140		1	05/23/14 13 49	05/23/14 16 32	301-79-56	
8260 MSV	Analytical Method EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/22/14 15:08	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3 4	1		05/22/14 15 08	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/22/14 15:08	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/22/14 15:08	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/22/14 15.08	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7 3	1		05/22/14 15 08	762-75-4	
1,2-Dichloroethane	ND	ug/L	5 0	1 8	1		05/22/14 15 08	107-06-2	
Diisopropyl ether	ND	ug/L	5 0	1.7	1		05/22/14 15 08	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/22/14 15:08	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/22/14 15:08	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/22/14 15:08	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/22/14 15:08	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/22/14 15:08	91-20-3	
Toluene	ND	ug/L	5 0	1.6	1		05/22/14 15.08	108-88-3	
Xylene (Total)	ND	ug/L	10 0	2.7	1		05/22/14 15:08	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/22/14 15:08	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/22/14 15:08	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		05/22/14 15:08	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92202374

Sample: 15729 MW-72 **Lab ID: 92202374003** Collected: 05/20/14 12:31 Received: 05/21/14 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
1,2-Dichloroethane-d4 (S)	109	%	70-130		1		05/22/14 15:08	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		05/22/14 15:08	2037-26-5	

Sample: 15729 MW-73 **Lab ID: 92202374004** Collected: 05/20/14 11:00 Received: 05/21/14 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/23/14 13:49	05/23/14 16:52	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	117	%	60-140		1	05/23/14 13:49	05/23/14 16:52	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/22/14 15:24	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/22/14 15:24	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/22/14 15:24	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/22/14 15:24	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/22/14 15:24	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/22/14 15:24	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/22/14 15:24	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/22/14 15:24	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/22/14 15:24	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/22/14 15:24	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/22/14 15:24	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/22/14 15:24	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/22/14 15:24	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/22/14 15:24	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/22/14 15:24	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/22/14 15:24	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/22/14 15:24	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		05/22/14 15:24	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	70-130		1		05/22/14 15:24	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		05/22/14 15:24	2037-26-5	

Sample: 15729 FIELD BLANK **Lab ID: 92202374005** Collected: 05/20/14 13:00 Received: 05/21/14 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/23/14 13:49	05/23/14 17:13	106-93-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92202374

Sample: 15729 FIELD BLANK **Lab ID: 92202374005** Collected: 05/20/14 13.00 Received: 05/21/14 16.00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
Surrogates									
1-Chloro-2-bromopropane (S)	118	%	60-140		1	05/23/14 13:49	05/23/14 17:13	301-79-56	
8260 MSV	Analytical Method. EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76 8	1		05/22/14 12 46	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10 0	3.4	1		05/22/14 12:46	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/22/14 12:46	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/22/14 12:46	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57 7	1		05/22/14 12 46	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/22/14 12 46	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/22/14 12:46	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/22/14 12 46	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/22/14 12 46	64-17-5	
Ethylbenzene	ND	ug/L	5 0	1.6	1		05/22/14 12 46	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/22/14 12:46	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1 7	1		05/22/14 12.46	1634-04-4	
Naphthalene	ND	ug/L	5.0	2 0	1		05/22/14 12:46	91-20-3	
Toluene	ND	ug/L	5 0	1.6	1		05/22/14 12:46	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2 7	1		05/22/14 12:46	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3 1	1		05/22/14 12:46	179601-23-1	
o-Xylene	ND	ug/L	5.0	1 6	1		05/22/14 12:46	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		05/22/14 12:46	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	70-130		1		05/22/14 12:46	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		05/22/14 12:46	2037-26-5	

Sample: 15729 TRIP BLANK **Lab ID: 92202374006** Collected: 05/20/14 00:00 Received: 05/21/14 16:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No	Qual
8260 MSV	Analytical Method EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/22/14 13:02	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/22/14 13 02	994-05-8	
Benzene	ND	ug/L	5 0	1.7	1		05/22/14 13:02	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32 1	1		05/22/14 13 02	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/22/14 13:02	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/22/14 13.02	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1 8	1		05/22/14 13 02	107-06-2	
Diisopropyl ether	ND	ug/L	5 0	1 7	1		05/22/14 13:02	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/22/14 13.02	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1 6	1		05/22/14 13 02	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3 6	1		05/22/14 13 02	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1 7	1		05/22/14 13 02	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/22/14 13:02	91-20-3	

REPORT OF LABORATORY ANALYSIS

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Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92202374

Sample: 15729 TRIP BLANK **Lab ID: 92202374006** Collected: 05/20/14 00 00 Received: 05/21/14 16 00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Toluene	ND	ug/L	5.0	1.6	1		05/22/14 13:02	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/22/14 13:02	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/22/14 13:02	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/22/14 13:02	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		05/22/14 13:02	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		05/22/14 13:02	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		05/22/14 13:02	2037-26-5	

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(704)875-9092

QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92202374

QC Batch: MSV/26910 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description 8260 MSV SC
Associated Lab Samples: 92202374001, 92202374002, 92202374003, 92202374004, 92202374005, 92202374006

METHOD BLANK: 1204719 Matrix: Water
Associated Lab Samples: 92202374001, 92202374002, 92202374003, 92202374004, 92202374005, 92202374006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	05/22/14 12:30	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	05/22/14 12 30	
Benzene	ug/L	ND	5 0	05/22/14 12:30	
Diisopropyl ether	ug/L	ND	5 0	05/22/14 12.30	
Ethanol	ug/L	ND	200	05/22/14 12:30	
Ethyl-tert-butyl ether	ug/L	ND	10 0	05/22/14 12:30	
Ethylbenzene	ug/L	ND	5.0	05/22/14 12:30	
m&p-Xylene	ug/L	ND	10 0	05/22/14 12 30	
Methyl-tert-butyl ether	ug/L	ND	5.0	05/22/14 12:30	
Naphthalene	ug/L	ND	5.0	05/22/14 12 30	
o-Xylene	ug/L	ND	5 0	05/22/14 12:30	
tert-Amyl Alcohol	ug/L	ND	100	05/22/14 12 30	
tert-Amylmethyl ether	ug/L	ND	10.0	05/22/14 12:30	
tert-Butyl Alcohol	ug/L	ND	100	05/22/14 12:30	
tert-Butyl Formate	ug/L	ND	50 0	05/22/14 12:30	
Toluene	ug/L	ND	5.0	05/22/14 12:30	
Xylene (Total)	ug/L	ND	10 0	05/22/14 12:30	
1,2-Dichloroethane-d4 (S)	%	106	70-130	05/22/14 12:30	
4-Bromofluorobenzene (S)	%	99	70-130	05/22/14 12:30	
Toluene-d8 (S)	%	100	70-130	05/22/14 12:30	

LABORATORY CONTROL SAMPLE 1204720

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	55.6	111	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	872	87	70-130	
Benzene	ug/L	50	53 7	107	70-130	
Diisopropyl ether	ug/L	50	53.4	107	70-130	
Ethanol	ug/L	2000	2050	102	70-130	
Ethyl-tert-butyl ether	ug/L	100	93.2	93	70-130	
Ethylbenzene	ug/L	50	46.7	93	70-130	
m&p-Xylene	ug/L	100	95 1	95	70-130	
Methyl-tert-butyl ether	ug/L	50	53 5	107	70-130	
Naphthalene	ug/L	50	48.4	97	70-130	
o-Xylene	ug/L	50	47 5	95	70-130	
tert-Amyl Alcohol	ug/L	1000	942	94	70-130	
tert-Amylmethyl ether	ug/L	100	101	101	70-130	
tert-Butyl Alcohol	ug/L	500	535	107	70-130	
tert-Butyl Formate	ug/L	400	395	99	70-130	
Toluene	ug/L	50	50.2	100	70-130	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92202374

LABORATORY CONTROL SAMPLE: 1204720

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	143	95	70-130	
1,2-Dichloroethane-d4 (S)	%			105	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			102	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1205017 1205018

Parameter	Units	92202374001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	56.6	37 3	112	74	70-130	41	30	R1
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	899	603	90	60	70-130	39	30	M0,R1
Benzene	ug/L	3 1J	50	50	57.8	39.3	109	72	70-130	38	30	R1
Diisopropyl ether	ug/L	ND	50	50	53.6	35 0	106	69	70-130	42	30	M0,R1
Ethanol	ug/L	ND	2000	2000	1640	1120	82	56	70-130	37	30	M0,R1
Ethyl-tert-butyl ether	ug/L	ND	100	100	93.7	61.6	94	62	70-130	41	30	M0,R1
Ethylbenzene	ug/L	ND	50	50	46 7	31.0	93	62	70-130	40	30	M0,R1
m&p-Xylene	ug/L	ND	100	100	95 2	62 9	95	63	70-130	41	30	M0,R1
Methyl-tert-butyl ether	ug/L	ND	50	50	54.5	35.6	109	71	70-130	42	30	R1
Naphthalene	ug/L	ND	50	50	45.2	32 1	90	64	70-130	34	30	M0,R1
o-Xylene	ug/L	ND	50	50	46.7	30.8	93	62	70-130	41	30	M0,R1
tert-Amyl Alcohol	ug/L	ND	1000	1000	1020	697	100	68	70-130	37	30	M0,R1
tert-Amylmethyl ether	ug/L	ND	100	100	99.0	65.8	99	66	70-130	40	30	M0,R1
tert-Butyl Alcohol	ug/L	ND	500	500	545	353	109	71	70-130	43	30	R1
tert-Butyl Formate	ug/L	ND	400	400	341	184	85	46	70-130	60	30	M0,R1
Toluene	ug/L	ND	50	50	50.2	33.5	100	67	70-130	40	30	M0,R1
1,2-Dichloroethane-d4 (S)	%						107	107	70-130			
4-Bromofluorobenzene (S)	%						101	101	70-130			
Toluene-d8 (S)	%						102	102	70-130			

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92202374

QC Batch: OEXT/27881 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92202374001, 92202374002, 92202374003, 92202374004, 92202374005

METHOD BLANK: 1205797 Matrix: Water
Associated Lab Samples: 92202374001, 92202374002, 92202374003, 92202374004, 92202374005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	05/23/14 14:48	
1-Chloro-2-bromopropane (S)	%	114	60-140	05/23/14 14:48	

LABORATORY CONTROL SAMPLE & LCSD: 1205798 1205799

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0 32	0 32	112	110	60-140	0	20	
1-Chloro-2-bromopropane (S)	%				119	116	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1205800 1205801

Parameter	Units	92202598005 Result	MS Spike Conc	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	28	0 33	0 33	118	118	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						123	122	60-140			

SAMPLE DUPLICATE: 1205802

Parameter	Units	92202598006 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	119	120	1		

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REPORT OF LABORATORY ANALYSIS

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Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: HW Detwiler 15729
Pace Project No.: 92202374

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine(8270 listed analyte) decomposes to Azobenzene

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270 The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes

TNI - The NELAC Institute

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

R1 RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HW Detwiler 15729
Pace Project No.. 92202374

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92202374001	**15729 MW-71**	EPA 8011	OEXT/27881	EPA 8011	GCSV/17698
92202374002	**15729 MW-71 DUP**	EPA 8011	OEXT/27881	EPA 8011	GCSV/17698
92202374003	**15729 MW-72**	EPA 8011	OEXT/27881	EPA 8011	GCSV/17698
92202374004	**15729 MW-73**	EPA 8011	OEXT/27881	EPA 8011	GCSV/17698
92202374005	**15729 FIELD BLANK**	EPA 8011	OEXT/27881	EPA 8011	GCSV/17698
92202374001	**15729 MW-71**	EPA 8260	MSV/26910		
92202374002	**15729 MW-71 DUP**	EPA 8260	MSV/26910		
92202374003	**15729 MW-72**	EPA 8260	MSV/26910		
92202374004	**15729 MW-73**	EPA 8260	MSV/26910		
92202374005	**15729 FIELD BLANK**	EPA 8260	MSV/26910		
92202374006	**15729 TRIP BLANK**	EPA 8260	MSV/26910		

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Pace Analytical	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: April 07, 2014 Page 1 of 2
	Document Number: **F-CHR-CS-003-rev.14**	Issuing Authority: Pace Huntersville Quality Office

Client Name: Emerald Inc

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☒ Commercial ☐ Pace Other_____

[redacted]

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1102 (1401) Type of Ice: (Wet) Blue None ☒ Samples on ice, cooling process has begun

Temp Correction Factor **T1102**: No Correction **T1301**: No Correction

Corrected Cooler Temp.: 2.4 °C Biological Tissue is Frozen: Yes No N/A

Temp should be above freezing to 6°C

Comments:

Date and initials of person examining contents: AAS 5/21/14

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☒No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☒No ☐N/A	7.
Sufficient Volume:	☒Yes ☐No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No ☐N/A	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
Containers Intact:	☒Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC:	☐Yes ☒No ☐N/A	12. Sample 3 MW-72 time is 1230
-Includes date/time/ID/Analysis Matrix:_____		
All containers needing preservation have been checked.	☐Yes ☐No ☒N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☒N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☒Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☒N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☒No ☐N/A	15.
Trip Blank Present:	☒Yes ☐No ☐N/A	16. trip blank has no date/time on label
Trip Blank Custody Seals Present	☒Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted:_____ Date/Time:_____

Comments/ Resolution:_____

SCURF Review:		Date:	
SRF Review:	LL	Date:	5/22/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Place label here

WO# : 92202374

92202374

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www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1177099

Section A Required Client Information.

Company:	Emerald Inc
Address:	2520 Tahoe Dr Sumter SC
Email To	
Phone:	803 469-5454
Fax:	
Requested Due Date/TAT:	

Section B Required Project Information.

Report To:	R. Lowder
Copy To:	
Purchase Order No.:	
Project Name	H.W. Detwiler
Project Number	15729

Section C Invoice Information:

Attention:	
Company Name	
Address	
Pace Quote Reference	
Pace Project Manager:	A Baioni
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	BTEX, N, MDCA oxys	8260B	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	15729 MW-71	GW	G			5-20-14	1120		6				6						X		X		001
2	" MW-71 Dup	↓	↓			↓	1121		↓				↓						↓		↓		002
3	" MW-72	↓	↓			↓	1231		↓				↓						↓		↓		003
4	" MW-73	↓	↓			↓	1100		↓				↓						↓		↓		004
5	" Field Blank	↓	G			↓	1300		6				6						↓		X		005
6	Trip Blank	GW				5-20-14	—		2				2						X				006
7																							
8																							
9																							
10																							
11																							
12																							

92202374

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	[signature]	5-20-14	17:00	[signature]	5-20-14	1700				
	Keyla Freeze	5/21/14	14:00	Keyla Freeze	5/21/14	14:09				
				Alyna Smalley Pace	5/21/14	1600	2.4	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: William McClary

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 5-20-14

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

APPENDIX D

DISPOSAL MANIFESTS

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

June 9, 2014

Mr. Shane Shull, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Program
Bureau of Land and Waste Management
SCDHEC
2600 Bull Street
Columbia, SC 29201-1708

RE: Purge Water Treatment
H.W. Detwiler Company
37 S. Church Street
Summerton, South Carolina
Clarendon County
UST Permit #15729; CA #47736

Dear Mr. Shull,

Emerald, Inc. is providing this letter to certify the on-site treatment of purge water at the subject site. This purge water was treated in compliance with the conditions set forth in "Proposed Conditions for use of Portable Activated Carbon Units for the Treatment of Small Volumes of Petroleum Hydrocarbon Contaminated Groundwater".

Applicability:

Groundwater to be treated is generated from well development and sampling.

Conditions:

1. The purge and development water is mixed prior to treatment by the activated carbon unit.
2. Free product was not detected in the purge water.

3. Groundwater analytical results from monitoring wells indicate average concentrations of hydrocarbons to be less than 5,000 parts per billion (ppb) Benzene and less than 20,000 ppb total BTEX.
4. The carbon filter material will be replaced after 5,000 gallons of treatment.
5. A record of usage will be maintained by the Contractor.
6. The manufacturer's recommendations have been adhered to.
7. Any SCDHEC recommendations and any conditions set forth by SCDHEC will be adhered to.

Purge waters were treated on-site by Emerald, Inc. personnel using a treatment drum loaded with approximately 50 pounds of activated carbon. This carbon will be loaded to a maximum amount of 3 pounds of total organic carbon or 5,000 gallons of development/purge water, whichever occurs first. Cumulative organic compounds absorbed by the activated carbon is tracked to ensure the capacity of the carbon is not exceeded.

Origin of Water	Treatment Date	Amount
Development Water	3/27/14 and 5/12/14	275 Gallons
Purge Water	4/8/14 & 5/20/14	51 Gallons

If you have any additional questions please contact Emerald, Inc. at your convenience. Emerald, Inc. can be reached at 803-469-5454.

Yours very truly,
EMERALD, INC.

William C. McClary, P.G.
Project Geologist

WASTE MANAGEMENT

Richland County LF
1047 Highway Church Road
Elgin, SC, 29045
Ph: (803) 788-3054

Original
Ticket# 1302819

Customer Name EMERALDINC 901 EMERALD INC
Ticket Date 01/01/2014
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 0
Destination
PO
Profile 102214SC (NON HAZ PETROLEUM CONTAMINATED SOIL)
Generator 186-EMERALDINCVAR EMERALD INC - VARIOUS

Carrier Emerald
Vehicle [illegible]
Container
Driver
Check#
Billing # 0000901
Gen EPA ID NR

	Time	Scale	ScaleMaster		
In	[illegible]	Scale1	Dwayne	Gross	14420 lb
Out	[illegible]	Scale2	Dwayne	Tare	[illegible] lb
				Net	[illegible] lb
				Tons	[illegible]

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	ContSoilPet-Tons-C	100	2.65	Tons				43-SUMTER
2	FUEL-Fuel Surcharg	100		%				43-SUMTER
3	EVF-P-Standard Env	100		%				43-SUMTER
4	RCR-P-Regulatory C	100		%				43-SUMTER

Total Fees
Total Ticket

SIGNATURE Robbie Robertson

20% Players American (16855) = 0.53 tons
20% HW Detwiler (15729) = 0.53 tons
20% Turbeville Exxon (02394) = 0.53 tons
40% Carbon = 1.06 tons

03WM

SPECIAL WASTE MANIFEST

Emerald Manifest #14-01

WASTE ID NUMBER **102214SC**	***Richland Landfill*** **1047 Highway Church Road** **Elgin, SC 29045**
EXPIRATION DATE **January 14, 2015**	**Special Waste Phone: 803-744-3345** **Fax: 866-904-7194**
	Prepared by: Sandra Reeves

GENERATOR OF WASTE: EMERALD - VARIOUS LOCATIONS

CUSTOMER: EMERALD, INC. **ACCOUNT NUMBER:** 820-901

LOCATION OF WASTE:

CITY: **COUNTY:** SUMTER

PHONE NUMBER: 803-469-5454 **CONTACT:** CHAD MCCLARY

FAX NUMBER:

GENERATOR'S SIGNATURE **DATE:**

TRANSPORTER OF WASTE:

DATE: 4/1/14 **TRUCK NUMBER:** Gmc 2500 4x4

DRIVER'S SIGNATURE Robbie Robertson

****** TO BE COMPLETED BY RICHLAND LANDFILL********

DISPOSAL SITE: RICHLAND LANDFILL ELGIN, SC

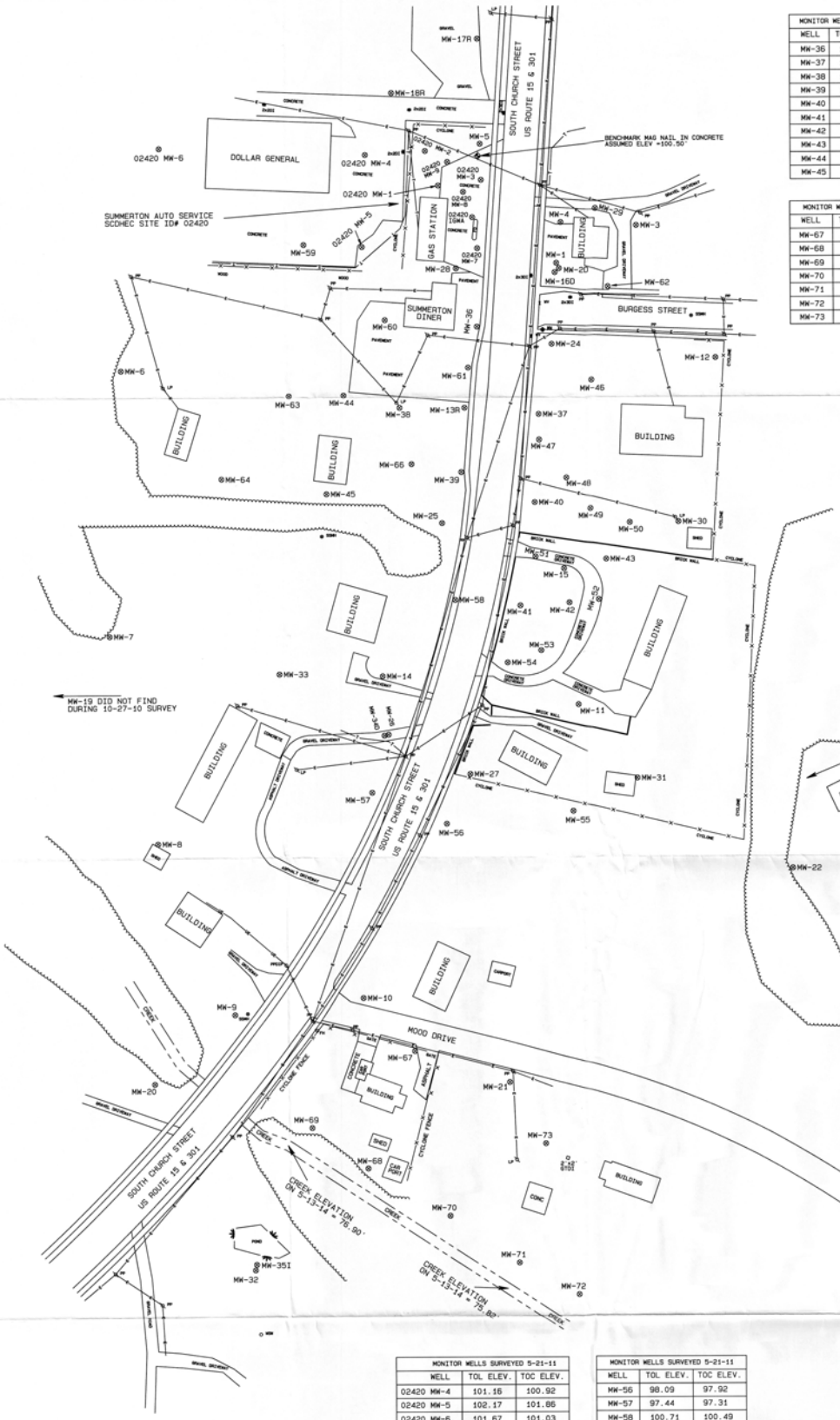
Waste Class: SOIL

DESCRIPTION OF WASTE: NON-HAZARDOUS PETROLEUM CONTAMINATED SOIL

TICKET NUMBER: 130819 **TONNAGE:** 2.65

RECEIVED BY: DCM

20% Players American (#11855) = 0.53 tons
20% Hwy Detwiler (#15729) = 0.53 tons
20% Turbeville Exxon (#02394) = 0.53 tons
40% Carbon = 1.06 tons



MONITOR WELLS SURVEYED 6-15-11		
WELL	TOL ELEV.	TOC ELEV.
MW-36	102.37	101.71
MW-37	103.61	103.21
MW-38	102.78	101.92
MW-39	102.45	101.99
MW-40	102.44	102.15
MW-41	101.64	101.29
MW-42	101.87	101.67
MW-43	102.16	101.92
MW-44	103.06	102.42
MW-45	101.78	101.50

MONITOR WELLS SURVEYED 5-13-14		
WELL	TOL ELEV.	TOC ELEV.
MW-67	90.98	90.67
MW-68	86.06	85.46
MW-69	86.95	86.60
MW-70	85.05	84.77
MW-71	83.78	83.20
MW-72	83.32	82.86
MW-73	87.54	87.26

MONITOR WELLS SURVEYED 10-27-10		
WELL	TOL ELEV.	TOC ELEV.
MW-1	102.09	101.64
02420 IGWA	101.19	100.80
02420 MW-1	101.29	100.83
MW-2D	102.14	101.96
02420 MW-3	102.17	102.01
MW-3A	100.61	100.38
MW-4	101.55	101.37
02420 MW-2	100.54	100.28
MW-5	100.43	100.04
MW-6	102.73	102.29
MW-7	97.02	96.77
MW-8	89.65	89.44
MW-9	88.50	88.21
MW-10	93.09	92.89
MW-11	101.99	101.81
MW-12	103.60	103.42
MW-13R	103.26	102.76
MW-14	99.40	99.07
MW-15	102.18	101.93
MW-16D	102.10	101.84
MW-17R	99.51	98.86
MW-18R	99.87	99.32
MW-20	86.01	85.47
MW-21	89.40	89.24
MW-22	101.97	101.70
MW-24	103.89	103.34
MW-25	101.61	101.19
MW-26	98.15	97.73
MW-27	99.44	99.04
MW-28	101.84	101.46
MW-29	101.31	100.77
MW-30	103.29	102.90
MW-31	100.38	99.98
MW-32	83.95	83.50
MW-33	98.66	98.26
MW-34D	98.29	97.98
MW-35I	83.75	83.57

MONITOR WELLS SURVEYED 5-21-11		
WELL	TOL ELEV.	TOC ELEV.
02420 MW-4	101.16	100.92
02420 MW-5	102.17	101.86
02420 MW-6	101.67	101.03
02420 MW-7	101.27	100.91
02420 MW-8	100.96	100.62
02420 MW-9	100.92	100.59
MW-46	103.59	103.26
MW-47	103.69	103.19
MW-48	102.86	102.53
MW-49	102.35	101.83
MW-50	102.39	101.66
MW-51	102.46	102.06
MW-52	102.28	101.77
MW-53	101.58	101.14
MW-54	101.50	101.12
MW-55	99.66	99.37

MONITOR WELLS SURVEYED 5-21-11		
WELL	TOL ELEV.	TOC ELEV.
MW-56	98.09	97.92
MW-57	97.44	97.31
MW-58	100.71	100.49
MW-59	102.14	101.59
MW-60	103.51	103.08
MW-61	103.26	102.85
MW-62	102.42	101.99
MW-63	102.52	102.01
MW-64	101.52	100.95
MW-65	NOT INSTALLED	
MW-66	102.41	101.97

LEGEND AND ABBREVIATIONS:

- MW = MONITORING WELL
- TPED = TELEPHONE PEDESTAL
- SDMH = STORM DRAIN MAN HOLE
- SSMH = SANITARY SEWER MAN HOLE
- TMH = TELEPHONE MAN HOLE
- WM = WATER METER
- WV = WATER VALVE
- FH = FIRE HYDRANT
- LP = LIGHT POLE
- PP = POWER POLE
- GM = GAS METER
- GV = GAS VALVE
- UST = UNDERGROUND STORAGE TANK
- USTF = UNDERGROUND STORAGE TANK FILL
- USTV = UNDERGROUND STORAGE TANK VENT
- CTCB = CONCRETE TOP CATCH BASIN
- SIGN = SIGN
- RCP = REINFORCED CONCRETE PIPE
- VAC/AIR = VACUUM AND AIR DISPENSER
- PHONE = PAY TELEPHONE
- FD = FUEL DISPENSER
- KTANK = KEROSENE TANK
- KDISP = KEROSENE DISPENSER
- OVERHEAD POWER LINE
- WOODLINE
- UNDERGROUND TELEPHONE LINE
- FENCE LINE
- CREEK EDGE
- POND EDGE

GRAPHIC SCALE 1"=50'

0 50 100 150

THIS PARCEL MAY BE SUBJECT TO EASEMENT AND/OR RIGHT-OF-WAYS NOT SHOWN. A TITLE SEARCH IS CONCLUSIVE OF TITLE SEARCH

NOTE: FOR THE PURPOSE OF RECORDATION AT COUNTY COURTHOUSE OR THE CONVEYANCE OF PROPERTY.

NOTE: I HEREBY CERTIFY THAT THE DETAIL SHOWN HEREON WAS DRAWN UNDER MY DIRECT SUPERVISION.

SOUTH CAROLINA REGISTERED LAND SURVEYOR No. 14811 JAY S. JOSHI

SOUTH CAROLINA CONSTRUCTION CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
STATE PLANE
COORDINATE SYSTEM

GRID NORTH

NAD83

COMPREHENSIVE SITE SKETCH OF

H.W. DETWILER

37 SOUTH CHURCH STREET
SUMMERTON, CLARENDON COUNTY, SC
SCDHEC SITE ID #15729
PREPARED FOR

EMERALD

JAY S. JOSHI PLS # 14811
PO BOX 90488, COLUMBIA, SC, 29290 803-776-9909

DATE: MAY 16, 2014

JOB #051314L

SUB OF JOBS #052112G, #061511K, #102710B

WASTE MANAGEMENT

Richland County LF
1047 Highway Church Road
Elgin, SC, 29045
Ph: (803) 788-3054

Original
Ticket# 1309179

Customer Name EMERALDINC_901 EMERALD INC
Ticket Date 05/14/2014
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 0
Destination
PO
Profile 102214SC (NON HAZ PETROLEUM CONTAMINATED SOIL)
Generator 126-EMERALDINCVAR EMERALD INC - VARIOUS

Carrier Emerald
Vehicle# 1
Container
Driver
Check#
Billing # 0000901
Gen EPA ID NR

Volume

	Time	Scale	ScaleMaster		
In	05/14/2014 07:54:29	Inbound #2	Dwayne	Gross	13860 lb
Out	05/14/2014 08:11:02	Outbound	Dwayne	Tare	9720 lb
				Net	4140 lb
				Tons	2.07

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	ContSoilPet-Tons-C	100	2.07	Tons				43-SUMTER
2	FUEL-Fuel Surcharg	100		%				43-SUMTER
3	EVF-P-Standard Env	100		%				43-SUMTER
4	RCR-P-Regulatory C	100		%				43-SUMTER

10% Detwiler
20% Turbeville Exxon
70% Flemmings inc

Total Fees
Total Ticket

SIGNATURE

103WM

SPECIAL WASTE MANIFEST

Emerald Manifest # 14-08

WASTE ID NUMBER **102214SC**	***Richland Landfill*** **1047 Highway Church Road** **Elgin, SC 29045**
EXPIRATION DATE **January 14, 2015**	**Special Waste Phone: 803-744-3345** **Fax: 866-904-7194**

Prepared by: Sandra Reeves

GENERATOR OF WASTE: EMERALD - VARIOUS LOCATIONS

CUSTOMER: EMERALD, INC. **ACCOUNT NUMBER:** 820-901

LOCATION OF WASTE:

CITY: **COUNTY:** SUMTER

PHONE NUMBER: 803-469-5454 **CONTACT:** CHAD MCCLARY

FAX NUMBER:

GENERATOR'S SIGNATURE Emerald/ Flemming 66 **DATE:** 5-14-14

TRANSPORTER OF WASTE: Emerald Inc

DATE: 5-14-14 **TRUCK NUMBER:** 1

DRIVER'S SIGNATURE

****** TO BE COMPLETED BY RICHLAND LANDFILL********

DISPOSAL SITE: RICHLAND LANDFILL ELGIN, SC

Waste Class: SOIL

DESCRIPTION OF WASTE: NON-HAZARDOUS PETROLEUM CONTAMINATED SOIL

TICKET NUMBER: 1309179 **TONNAGE:** 2.07

RECEIVED BY: DCM

10% Detwiler (#15729) = 0.21 tons
20% Turbeville Farm (#02294) = 0.41 tons
70% Flemmings 66 (#02100) = 1.45 tons

APPENDIX E

RLS SURVEY

APPENDIX F

SURROUNDING PROPERTY OWNER NOTIFICATIONS

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

Site Access Permission Form

I, Henry B Dingle, Owner, am authorized to grant /~~deny~~ permission to Emerald, Inc. and its employees and contractors to enter the property at 6 Mood Drive to perform an environmental assessment as described in the Request for Property Access letter, located in Summerton, South Carolina at:

Clarendon County TMS #078-12-03-006-00

Yes	No	
(✓)	( )	Do you give Emerald, Inc. permission to enter the above referenced property to perform an environmental assessment as described in Request for Property Access letter dated 2/26/2014?

Yes	No	
( )	(✓)	Do you have an irrigation well installed on this property?
( )	(✓)	Do you have a drinking well installed on this property?

Henry B Dingle
Owner (Printed Name)

Owner (Signature)

18 March 2014
Date

Also, please provide a phone number so we may contact you about site activities.

Phone: 803 460 6128 ← Elaine Wood (SISTER) Resident

Cell Phone: 803 429 9181 ← Henry Dingle

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

Site Access Permission Form

I, Cynthia Burbage, Owner, am authorized to grant / deny permission to Emerald, Inc. and its employees and contractors to enter the property at Mood Drive to perform an environmental assessment as described in the Request for Property Access letter, located in Summerton, South Carolina at:

Clarendon County TMS #078-12-03-005-00

Yes	No	
(✓)	( )	Do you give Emerald, Inc. permission to enter the above referenced property to perform an environmental assessment as described in Request for Property Access letter dated 3/11/2014?

Yes	No	
( )	( )	Do you have an irrigation well installed on this property?
( )	( )	Do you have a drinking well installed on this property?

? jb

Cynthia Burbage
Owner (Printed Name)

Cynthia Burbage
Owner (Signature)

3-18-2014
Date

Also, please provide a phone number so we may contact you about site activities.

Phone: 843-764-3227

Cell Phone: _____

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

June 18, 2014

Cynthia L. Burbage
117 Haleswood Circle
Goose Creek, SC 29445

Surrounding the:
H.W. Detwiler Company
37 South Church Street
Summerton, South Carolina
SCDHEC Site ID# 15729

Ms. Burbage,

Thank you for allowing Emerald, Inc. access to your property as part of the environmental assessment work being conducted at the H.W. Detwiler Company site. Enclosed is an abbreviated copy of the Additional Assessment Report prepared by Emerald, Inc. documenting the environmental work conducted on and surrounding your property. This assessment was requested by the South Carolina Department of Health and Environmental Control to determine the severity and extent of groundwater contamination.

We appreciate your cooperation throughout this assessment. If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454 or SCDHEC at 803-898-0589.

Sincerely,

William C. McClary, P.G.
Project Manager

Attachments
Abbreviated Additional Assessment Report for H.W. Detwiler Company

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

June 18, 2014

Henry Dingle & Elaine Wood
PO Box 524
Summerton, SC 29148

Surrounding the:
H.W. Detwiler Company
37 South Church Street
Summerton, South Carolina
SCDHEC Site ID# 15729

Henry Dingle & Elaine Wood,

Thank you for allowing Emerald, Inc. access to your property as part of the environmental assessment work being conducted at the H.W. Detwiler Company site. Enclosed is an abbreviated copy of the Additional Assessment Report prepared by Emerald, Inc. documenting the environmental work conducted on and surrounding your property. This assessment was requested by the South Carolina Department of Health and Environmental Control to determine the severity and extent of groundwater contamination.

We appreciate your cooperation throughout this assessment. If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454 or SCDHEC at 803-898-0589.

Sincerely,

William C. McClary, P.G.
Project Manager

Attachments
Abbreviated Additional Assessment Report for H.W. Detwiler Company

APPENDIX G

QAPP CONTRACTOR'S CHECKLIST

South Carolina
Underground Storage Tank Program

HW Detwiler Company
SCDHEC ID #15729
June 18, 2014

Contractor Checklist

For each report submitted to the UST Management Division, the contractor will be required to verify that all data elements for the required scope of work have been provided. For items not required for the scope of work, the N/A box should be checked. For items required and not completed or provided, the No box should be checked and a thorough description of the reason must be provided.

Item #	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?	X		
3	Is name, address, & phone number of current property owner provided?	X		
4	Is the DHEC Certified UST Site Rehabilitation contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed boring/monitoring wells provided?	X		
6	Is the name, address, telephone number, and certification number of the certified laboratory(ies) performing analytical analyses provided?	X		
7	Has the facility history been summarized?	X		
8	Has the regional geology and hydrogeology been described?			X
9	Are the receptor survey results provided as required?			X
10	Has current use of the site and adjacent land been described?	X		
11	Has the site-specific geology and hydrogeology been described?			X
12	Has the primary soil type been described?			X
13	Have field screening results been described?			X
14	Has a description of the soil sample collection and preservation been detailed?			X
15	Has the field screening methodology and procedure been detailed?			X
16	Has the monitoring well installation and development dates been provided?	X		
17	Has the method of well development been detailed?	X		
18	Has justification been provided for the locations of the monitoring wells?	X		
19	Have the monitoring wells been labeled in accordance with the UST QAPP guidelines?	X		
20	Has the groundwater sampling methodology been detailed?	X		
21	Have the groundwater sampling dates and groundwater measurements been provided?	X		
22	Has the purging methodology been detailed?	X		
23	Has the volume of water purged from each well provided along with measurements to verify that purging is complete? (Appendix B)	X		
24	If free-product is present, has the thickness been provided?			X
25	Does the report include a brief discussion of the assessment done and the results?	X		
26	Does the report include a brief discussion of the aquifer evaluation and results?			X
27	Does the report include a brief discussion of the fate & transport models used?			X

South Carolina
Underground Storage Tank Program

HW Detwiler Company
SCDHEC ID #15729
June 18, 2014

Item #	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			X
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			X
30	Have the SSTLs for each compund and pathway been calculated? (Tier 2 Risk Evaluation)			X
31	Have recommendations for further action been provided and explained?	X		
32	Has the soil analytical data for the site been provided in tabular format?			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 1)	X		
34	Has the current and historical laboratory data been provided in tabular format? (Table 2 & 3)	X		
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			X
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			X
37	Has the topographic map been provided with all required elements? (Figure 2)	X		
38	Has the site base map been provided with all required elements? (Figure 3)	X		
39	Have the CoC site maps been provided? (Figure 4)	X		
40	Has the site potentiometric map been provided?			X
41	Have the geologic cross-sections been provided?			X
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			X
43	Has the site survey been provided and include all necessary elements? (Appendix E)	X		
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix C)	X		
45	Is the laboratory performing the analyses properly certified?	X		
46	Has the tax map been included with all necessary elements?			X
47	Have the soil boring/field screening logs been provided?			X
48	Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix A)	X		
49	Have the aquifer evaluation forms, data, graphs, equation, etc. been provided?			X
50	Have the disposal manifests been provided? (Appendix D)	X		
51	Has a copy of the local zoning regulations been provided?			X
52	Has all fate and transport modeling been provided?			X
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix F)	X		
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided? (Appendix G)	X		

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

MR HAROLD W DETWILER JR
31 SOUTH CHURCH STREET
SUMMERTON SC 29148-0769

DEC 17 2014

Re: **Site Specific Work Plan (SSWP) Request**
HW Detwiler Company & Summerton Auto Service
37 S. Church St. & 29 S. Church St., Summerton, SC
UST Permits #15729 & #02420
Release Reported June 22, 1993 (UST Permit #15729)
Release #3 Reported May 11, 2010 (UST Permit #02420)
Report of Additional Assessment Received July 9, 2014
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) recognizes your commitment to continue work at this site using Emerald, Inc., as your contractor. The next appropriate scope of work at the site is a comprehensive groundwater sampling event.

The groundwater sampling event should be conducted in accordance with the UST Quality Assurance Program Plan (QAPP) Revision 2.0 and must be conducted in compliance with all applicable regulations. Samples should be collected from all monitoring wells, water supply wells and surface water locations and should be analyzed for BTEX + Naphth + MtBE, 1,2-DCA, 8 oxygenates, and EDB. Any monitoring wells that have not been sampled within the past 12 months will need to be purged. A copy of the Agency QAPP Revision 2.0 for the UST Management Division is available at http://www.scdhec.gov/Environment/docs/QAPP_Rev-2_April%202013.pdf.

Please have your contractor complete and submit the Site Specific Work Plan (SSWP) and Cost Agreement within thirty (30) days of the date of this letter. Every component may not be necessary to complete the above scope of work. The State Underground Petroleum Environmental Response Bank (SUPERB) Account allowable cost for each component is included on the Assessment Component Cost Agreement Form. **Please note that technical and financial preapproval from the Agency must be issued before work begins**.

On all correspondence concerning this site, please reference **UST Permits #15729 and #02420.** If you have any questions in regards to this scope of work, please contact me at (803) 898-0607 or by email at thrasham@dhec.sc.gov.

Sincerely,

Ashleigh Thrash

Ashleigh Thrash, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management

cc: Emerald Inc., PO Box 3050, Sumter, SC 29151
Technical File

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

UST
JAN 07 2015
PROGRAM

January 5, 2015

UST
37 Tech
DOCKETING

Ms. Ashleigh Thrash, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, SC 29201

Site Specific Work Plan
HW Detwiler Company
37 S. Church St.
Summerton, South Carolina
Clarendon County
UST Permit #15729

Ms. Thrash,

Please find the attached Site Specific Work Plan, figures, and proposed costs for a comprehensive groundwater sampling event at the subject site. A site visit was conducted on January 5, 2015 to assess site conditions. If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454.

Sincerely,

William C. McClary, P.G.
Project Manager

Attachments
Appendix A - Site Specific Work Plan
Appendix B - Figures
Appendix C - Assessment Plan and Cost Agreement

Appendix A

Site Specific Work Plan

D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health and Environmental Control

Site-Specific Work Plan for Approved ACQAP
Underground Storage Tank Management Division

To: Ashleigh Thrash, Hydrogeologist (SCDHEC Project Manager)

From: William C. McClary, P.G. (Contractor Project Manager)

Contractor: Emerald, Inc. **UST Contractor Certification Number:** 67

Facility Name: HW Detwiler Company **UST Permit #:** 15729

Facility Address: 37 S. Church St., Summerton, SC

Responsible Party: Mr. Harold W Detwiler Jr. **Phone:** N/A

Responsible Party Address: 31 S. Church St., Summerton, SC

Property Owner (if different):

Property Owner Address:

Current Use of Property: Offices

Scope of Work (Please check all that apply)

- ☐ IGWA
- ☐ Tier I
- ☐ Tier II
- ☐ Monitoring Well Installation
- ■ Groundwater Sampling
- ☐ Other:
- ☐ GAC

Analyses (Please check all that apply)

Groundwater/Surface Water:

- ■ BTEXNMDCA (8260B)
- ■ Oxygenates (8260B)
- ■ EDB (8011)
- ☐ PAH (8270D)
- ☐ Lead
- ☐ 8 RCRA Metals
- ☐ TPH
- ☐ pH
- ☐ BOD
- ☐ Nitrate
- ☐ Sulfate
- ☐ Other:
- ☐ Methane
- ☐ Ethanol
- ☐ Dissolved Iron

Soil:

- ☐ BTEXN
- ☐ PAH
- ☐ 8 RCRA Metals
- ☐ Oil & Grease (9071)
- ☐ TPH-DRO (3550B/8015B)
- ☐ TPH-GRO (5030B/8015B)
- ☐ Grain Size
- ☐ TOC

Air:

- ☐ BTEXN

Sample Collection (Estimate the number of samples of each matrix that are expected to be collected)

	Soil	4	Water Supply Wells		Air	5	Field Blank
73	Monitoring Wells	6	Surface Water	5	Duplicate	5	Trip Blank

Field Screen Methodology

Estimate number and total completed depth for each point, and include their propose locations on the attached map.

# of shallow points proposed: _____ Estimated Footage: _____ feet per point

# of deep points proposed: _____ Estimated Footage: _____ feet per point

Field Screening Methodology: _____

Permanent Monitoring Wells

Estimate number and total completed depth for each well, and include their propose locations on the attached map.

# of shallow wells: _____ Estimated Footage: _____ feet per point

# of deep wells: _____ Estimated Footage: _____ feet per point

# of recovery wells: _____ Estimated Footage: _____ feet per point

Monitoring Well development method(consistent with SOP): _____

Comments, if warranted: _____

UST Permit #: 15729 **Facility Name:** HW Detwiler Company

Implementation Schedule (Number of calendar days from approval)

Field Work Start-Up: 1/20/2015 Field Work Completion: 2/4/2015

Report Submittal: 2/25/2015 # of Copies Provided to Property Owners: 3

Aquifer Characterization

Pump Test: ☐ Slug Test: ☐ (Check one and provide explanation below for choice)

Investigation Derived Waste Disposal

Soil:	Tons	Wastewater: 800	Gallons
Drilling Fluids:	Gallons	Development:	Gallons
AFVR Effluent:	Gallons	Free Phase Product:	Gallons

Additional Details For This Scope of Work

For example, list wells to be sampled, wells to be abandoned/repaired, well pads/bolts/caps to replace, details of AFVR event, etc.

As requested by SCDHEC, Emerald, Inc. will collect samples from 73 monitoring wells (MW-1, MW-2D, MW-3 through MW-13, MW-13R, MW-14, MW-15, MW-16D, MW-17, MW-18, MW-18R, MW-19 through MW-33, MW-34D, MW-35I, and MW-36 through MW-73) at the subject site. In addition, samples will also be collected from four active water supply wells (WSW-1 through WSW-4) and six surface waters (PS-1, SW-1, CS1 through CS-4). These samples are being collected to provide current groundwater quality data for the site. Several wells are expected to contain free product and these wells are listed in the proposed cost agreement as purge wells in case the wells do not contain free product at the time of sampling. Each well is proposed to be purged prior to sampling since it has been greater than one year since the last sampling event. A site visit was conducted by Mr. Robbie Robertson on January 5, 2015 to assess site conditions. During this site visit monitoring well MW-23 was not located.

Compliance With Annual Contractor Assurance Plan (ACQAP)

Yes Laboratory as indicated in ACQAP (Yes/No) If no, indicate laboratory information below.

Name of Laboratory:

SCDHEC Certification number:

Name of Laboratory Director:

N/A Well Driller as indicated in ACQAP (Yes/No) If no, indicate driller information below.

Name of Well Driller:

SCLLR Certification number:

Other Variations from ACQAP. Please describe below.

Attachments

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:

North Arrow	Proposed monitoring well locations
Location of property lines	Legend with facility name and address, UST permit number, and bar scale
Location of buildings	Streets or highways (indicate names and numbers)
Previous soil sampling locations	Location of all present and former ASTs and USTs
Previous monitoring well locations	Location of all potential receptors
Proposed soil boring locations	

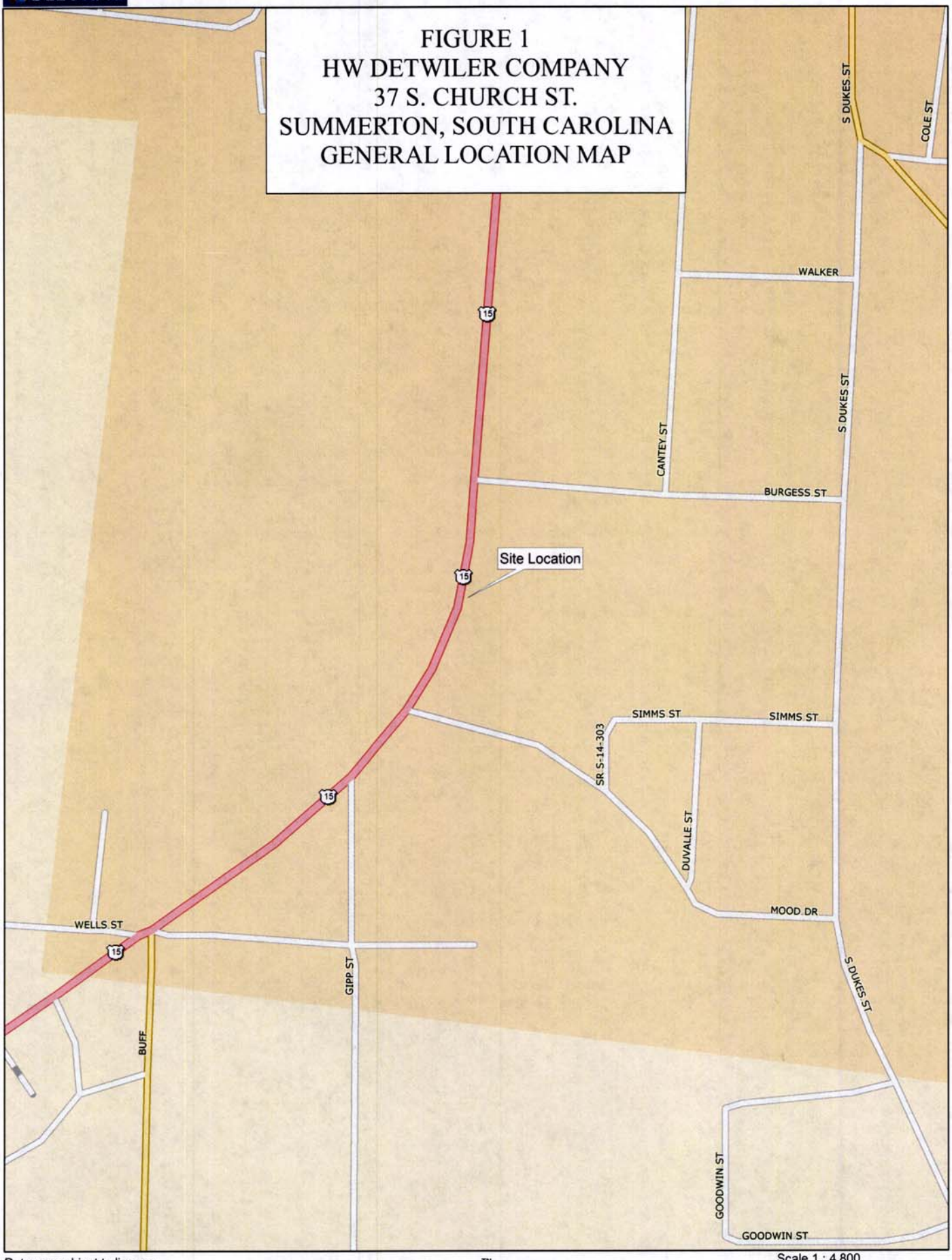
3. Assessment Componant Cost Agreement, SCDHEC Form D-3664

Appendix B

Figures

DeLorme Street Atlas USA® 2014

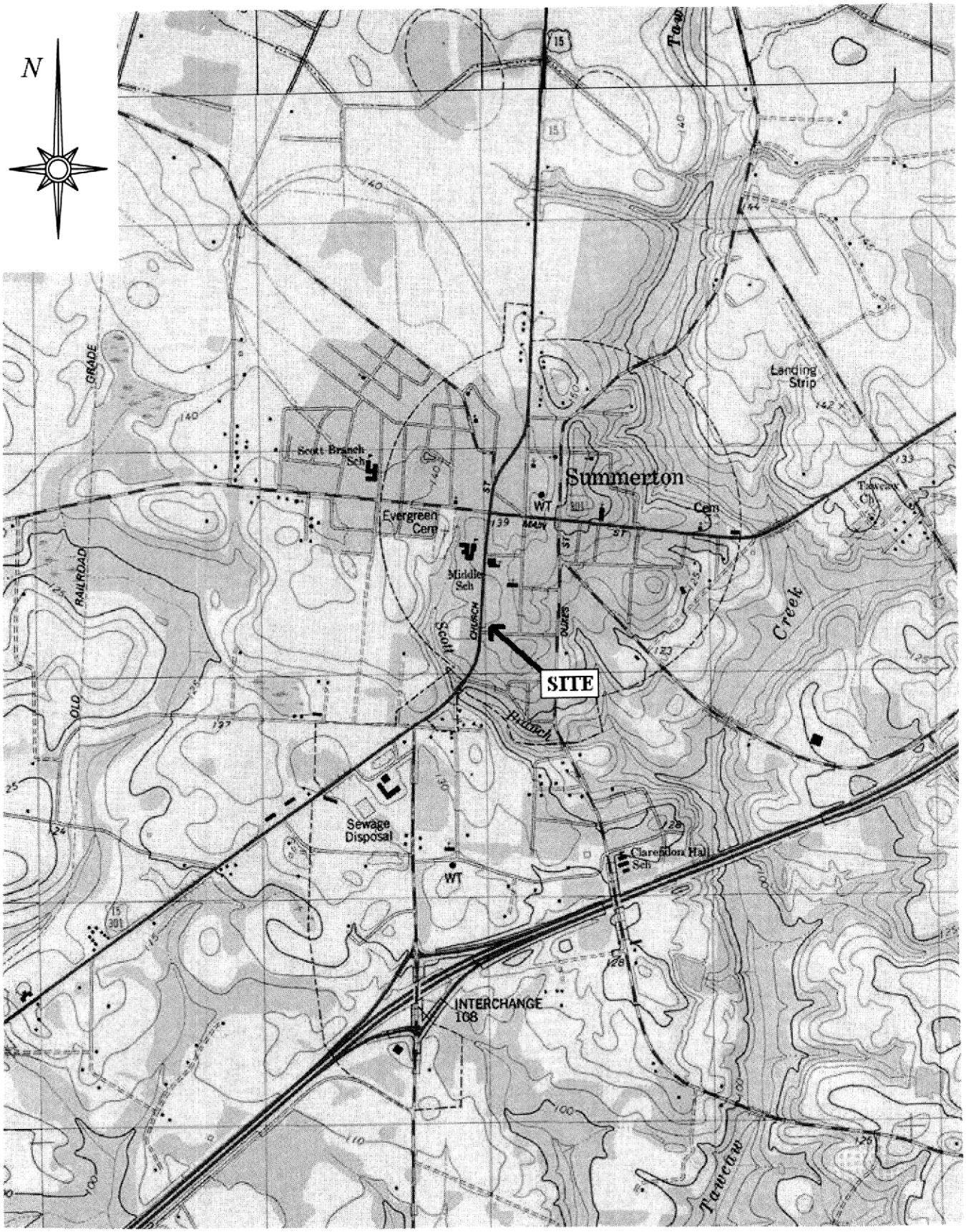
FIGURE 1
HW DETWILER COMPANY
37 S. CHURCH ST.
SUMMERTON, SOUTH CAROLINA
GENERAL LOCATION MAP



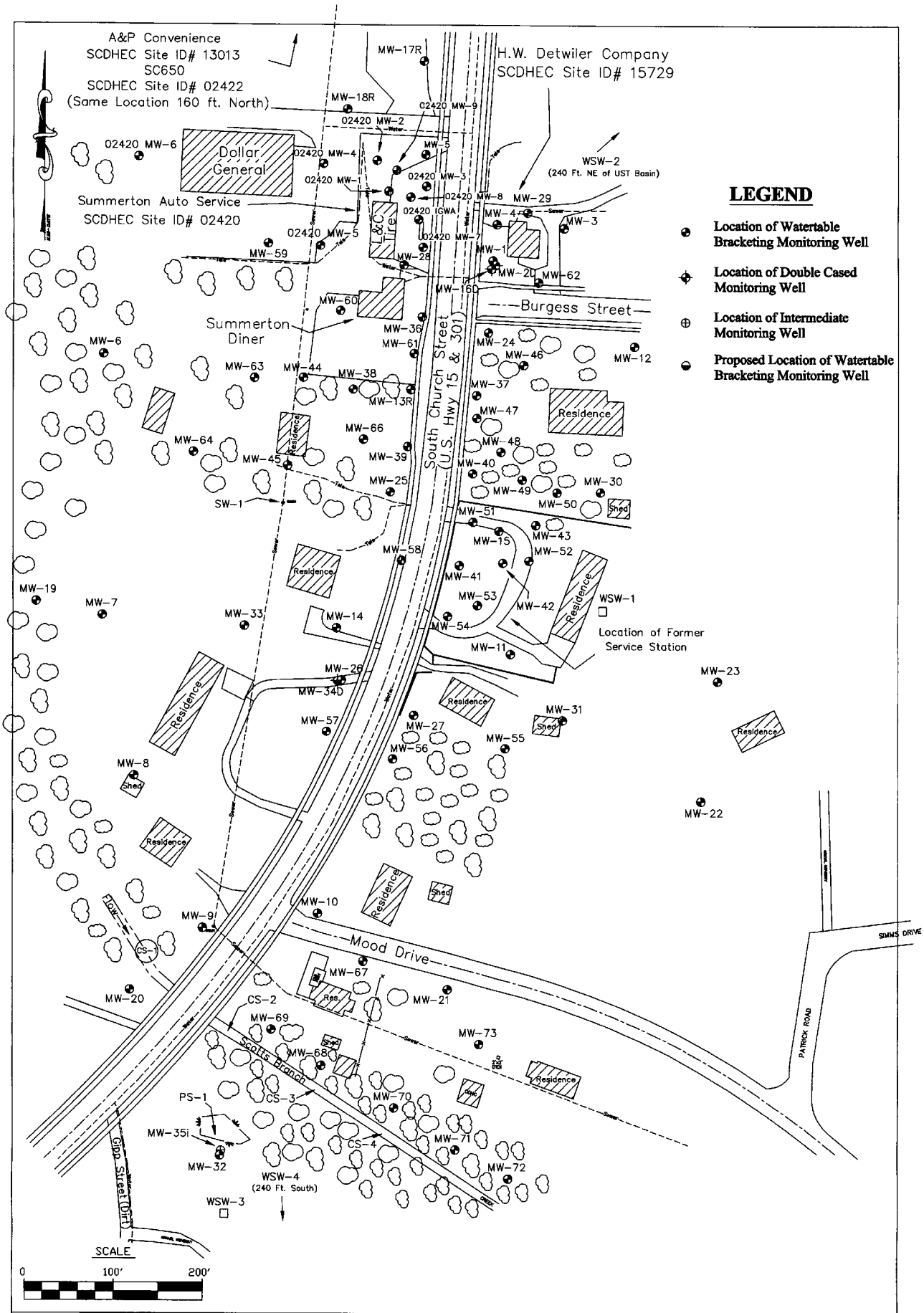
Data use subject to license.
© DeLorme. DeLorme Street Atlas USA® 2014.
www.delorme.com

TN
MN (7.7°W)

Scale 1 : 4,800
1" = 400.0 ft
Data Zoom 15-5



H.W. Detwiler Company 37 South Church Street Summerton, SC SCDHEC Site ID# 15729	Figure 2 USGS Topographic Map 7.5 Minute Map "Summerton, SC" Quadrangle Scale 1 to 2,000	EMERALD, INC. Sumter, SC



PROJECT:	SHEET TITLE:	DATE:	
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 Site Map	6/18/14	EMERALD, INC. SUMTER, SOUTH CAROLINA

Appendix C

Assessment Plan and Proposed Cost Agreement

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

ASSESSMENT COMPONENT INVOICE

SOUTH CAROLINA

Department of Health and Environmental Control (DHEC)

Underground Storage Tank Program

ASSESSMENT COMPONENT INVOICE

UST PERMIT # 15729 COUNTY Clarendon

FACILITY NAME HW Detwiler Company

STREET ADDRESS 37 S. Church St., Summerton, SC

INVOICE # **PO #** **COST AGREEMENT #**

For work performed during (specify time period) to

I certify, under penalty of law, that I have personally examined and am familiar with the information submitted in this and all attached documents; and that based on my inquiry of those individuals responsible obtaining this information, and any other information I may be aware of, I believe that the submitted information is true, accurate, and complete. I further agree, in accordance with any DHEC demand letter, to promptly repay any overpayment received.

Please fill out **BOTH the Contractor and Responsible Party Sections (original signatures). Also indicate the Payee by placing a check in the box next to the Contractor or Responsible Party.**

Payee

[X] CONTRACTOR

Ronny Lowder			57-0910049
Name (Type or Print)			Federal Tax ID or Social Security Number
Emerald, Inc.			803-469-5454
Company			Telephone Number
PO Box 3050	Sumter	SC	29151
Address	City	State	Zip Code

Signature (please use non-black ink) Title Date Signed

Payee

[ ] OWNER OR OPERATOR/RESPONSIBLE PARTY **Please attach copies of Cancelled Checks (front & back)**

Mr. Harold W. Detwiler Jr.			
Name (type or Print)			Federal Tax ID or Social Security Number
Company			Telephone Number
31 S. Church St.	Summerton	SC	29148
Address	City	State	Zip Code

Signature (please use non-black ink) Title Date Signed

If payment is to be sent to an address other than above, please indicate below:

Name of Individual or Company (please print) Federal Tax ID or Social Security Number

Address (please print) City State Zip Code

INVOICE AMOUNT: $27,338.75

LESS SUBMITTED/PAID WELL DRILLING COSTS:

AMOUNT REQUESTED: $27,338.75

Amount Requested is for Assessment activities as Defined in the SCDHEC Letter

INVOICE **INVOICE** **INVOICE** **INVOICE**

DHEC 3664 (rev 05/01)

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

ASSESSMENT COMPONENT INVOICE
SOUTH CAROLINA
Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account

Facility Name: HW Detwiler Company

UST Permit #: 15729 **Cost Agreement #:**

ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL
1. Plan*					
A1. Site-Specific Work Plan	1	x	$150.00		$150.00
B1. Tax Map		x	$70.00		$0.00
C1. Tier II or Comp. Plan /QAPP Appendix B		x	$250.00		$0.00
2. A1. Receptor Survey *		x	$551.00		$0.00
3. Survey (500 x 500 feet)					
A1. Comprehensive Survey		x	$1,040.00		$0.00
B. Subsurface Geophysical Survey					
1B. < 10 meters below grade		x	$1,300.00		$0.00
2B. > 10 meters below grade		x	$2,310.00		$0.00
C. Geophysical UST or Drum Survey		x	$910.00		$0.00
4. Mob/Demob (Each)					
A1. Equipment		x	$1,020.00		$0.00
B1. Personnel	6	x	$423.00		$2,538.00
C1. Adverse Terrain Vehicle to install wells		x	$500.00		$0.00
5. A1. Soil Borings (hand auger)* (Feet)		feet x	$5.00		$0.00
6. Soil Borings (requiring equipment, push technology, etc.)*					
or Field Screening (including water sample, soil sample, soil gas sample, etc.)*					
AA. Standard		feet x	$15.00		$0.00
C1. Fractured Rock		feet x	$20.20		$0.00
7. A1. Soil Leachability Model (Each)		each x	$60.00		$0.00
8. Abandonment* (per foot)					
A1. 2" diameter or less		feet x	$3.10		$0.00
B1. Greater than 2" to 6" diameter		feet x	$4.50		$0.00
C1. Dug/Bored well (up to 6 foot diameter)		feet x	$15.00		$0.00
9. Well Installation* (per foot)					
A1. Water Table (hand augered)		feet x	$10.60		$0.00
B1. Water Table (drill rig)		feet x	$38.00		$0.00
CC. Telescoping/ Pit Cased		feet x	$50.00		$0.00
DD. Rock Drilling		feet x	$58.00		$0.00
E1. 2" Rock Coring		feet x	$30.90		$0.00
G1. Rock Multi-sampling ports/screens		feet x	$33.40		$0.00
H1. Recovery Well (4 inch diameter)		feet x	$30.00		$0.00
II. Pre-packed screen (1.25 inch diameter)		feet x	$45.00		$0.00
J1. Rotosonic (2 inch diameter)		feet x	$44.00		$0.00
K. Re-develop existing well		feet x	$11.00		$0.00
10. Sample Collection / Gauge Depth to Water or Product (Each)					
A. Groundwater (Purge)	73	wells x	$60.00		$4,380.00
B1. Air or Vapors		receptor x	$12.00		$0.00
C1. Water Supply	10	receptor x	$22.00		$220.00
D1. Groundwater (No Purge or Duplicate)	5	receptor x	$28.00		$140.00
E1. Gauge Well Only		per well x	$7.00		$0.00
F1. Sample Below Product		per well x	$12.00		$0.00
G1. Passive Diffusion Bag		each x	$26.00		$0.00
H1. Field Blank	5	each x	$24.60		$123.00
11. Laboratory Analyses-Groundwater (Each Sample)					
A2. BTEXNM+ Oxyg's+ 1,2-DCA + Eth (8260B)	98	samples x	$122.00		$11,956.00
AA1. Filtered Lead		samples x	$13.80		$0.00
B2. 8260B RUSH (All of item A2)		samples x	$153.60		$0.00
C2. Trimethyl, Butyl, and Isopropyl Benzenes		samples x	$36.40		$0.00
D1. PAHs		samples x	$60.60		$0.00
E1. Lead		samples x	$16.00		$0.00
F1. EDB by 8011	93	samples x	$45.20		$4,203.60
FF1. EDB by 8011 Rush		samples x	$68.20		$0.00
G1. 8 RCRA Metals		samples x	$63.40		$0.00
H1. TPH (9070)		samples x	$41.00		$0.00
I1. pH		samples x	$5.20		$0.00
J1. BOD		samples x	$20.00		$0.00
PP. Ethanol		samples x	$14.80		$0.00

11. Analyses-Soil (Each Sample)					
Q1. BTEX + Naphth.		samples x	$64.00		$0.00
R1. PAHs		samples x	$64.04		$0.00
S1. 8 RCRA Metals		samples x	$56.40		$0.00
U1. TPH-DRO (3550C/8015C)		samples x	$40.00		$0.00
V1. TPH- GRO (5035B/8015C)		samples x	$35.96		$0.00
W1. Grain size/hydrometer		samples x	$104.00		$0.00
X1. Total Organic Carbon		samples x	$30.60		$0.00
11. Analyses-Air (Each Sample)					
Y1. BTEX + Naphthalene		samples x	$216.00		$0.00
11. Analyses-Free Phase Product (Each Sample)					
Z1. Hydrocarbon Fuel Identification		samples x	$357.00		$0.00
12. Aquifer Characterization*					
A1. Pumping Test		hours x	$23.00		$0.00
B1. Slug Test*		tests x	$191.00		$0.00
C1. Fractured Rock		tests x	$100.00		$0.00
13. Free Product Recovery Rate Test* (Each)		tests x	$38.00		$0.00
14. Fate/Transport Modeling					
A1. Mathematical Model		each x	$100.00		$0.00
B1. Computer Model		each x	$100.00		$0.00
15. Risk Evaluation					
A. Tier I Risk Evaluation		x	$300.00		$0.00
B1. Tier II Risk Evaluation		x	$100.00		$0.00
16. A1. Subsequent Survey*		x	$260.00		$0.00
17. Disposal* (gallons or tons)					
AA. Wastewater	800	gallons x	$0.56		$448.00
BB. Free Product		gallons x	$0.50		$0.00
C1. Soil Treatment/Disposal		tons x	$60.00		$0.00
D1. Drilling fluids		gallons x	$0.42		$0.00
18. Miscellaneous (attach receipts)					
		x			$0.00
19. Report Prep & Project Coordination	12%	x	$24,409.60		$2,929.15
20. Tier I Assessment (Use DHEC 3665 form)		x	$0.00		$0.00
21. IGWA (Use DHEC 3666 form)		x	$0.00		$0.00
22. Corrective Action (Use DHEC 3667 form)		x			$0.00
23. Aggressive Fluid & Vapor Recovery (AFVR)					
A1. 8-hour Event*		per event x	$1,375.00		$0.00
AA. 24-hour Event*		per event x	$3,825.00		$0.00
A3. 48-hour Event*		per event x	$6,265.00		$0.00
A4. 96-hour Event*		per event x	$12,567.50		$0.00
C1. Off-gas Treatment 8-hour		per event x	$122.50		$0.00
C2. Off-gas Treatment 24-hour		per event x	$241.50		$0.00
C3. Off-gas Treatment 48-hour		per event x	$327.00		$0.00
C4. Off-gas Treatment 96-hour		per event x	$780.00		$0.00
D1. AFVR Site Reconnaissance		each x	$203.25		$0.00
E1. Additional Hook-ups		each x	$25.75		$0.00
F1. AFVR Effluent Disposal		gallon x	$0.44		$0.00
G. AFVR Mobilization/Demobilization		each x	$391.50		$0.00
24. Granulated Activated Carbon (GAC) filter system installation & service:					
A1. New GAC System Installation*		each x	$1,900.00		$0.00
BB. Refurbished GAC System Installation*		each x	$900.00		$0.00
C1. Filter replacement/removal*		each x	$350.00		$0.00
DD. GAC System removal, cleaning, & refurbishment*		each x	$275.00		$0.00
E1. GAC System housing		each x	$250.00		$0.00
F. In-line particulate filter		each x	$150.00		$0.00
G1. Additional piping & fittings		feet x	$1.50		$0.00
25. Well Repair					
A1. Additional Copies of the Report Delivered	3	each x	$50.00		$150.00
B1. Repair 2x2 MW pad		each x	$50.00		$0.00
C1. Repair 4x4 MW pad		each x	$88.00		$0.00
D1. Repair well vault		each x	$118.00		$0.00
F1. Replace well cover bolts	10	each x	$2.60		$26.00
G. Replace locking well cap & lock	5	each x	$15.00		$75.00
H1. Replace/Repair stick-up		each x	$134.00		$0.00
I1. Convert Flush-mount to Stick-up		each x	$150.00		$0.00
J1. Convert Stick-up to Flush-mount		each x	$130.00		$0.00
K1. Replace missing/illegible well ID plate		each x	$12.00		$0.00
TOTAL					$27,338.75

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

MR HAROLD W DETWILER JR
31 SOUTH CHURCH STREET
SUMMERTON SC 29148-0769

JAN 16 2015

Re: **Groundwater Sampling Directive**
HW Detwiler Co., 37 S. Church St., Summerton, SC
UST Permit #15729; CA #49579
Release Reported June 22, 1993
Site Specific Work Plan Received January 7, 2015
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Management Division (Division) of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced Site Specific Work Plan submitted on your behalf by Emerald, Inc. This scope of work will include comprehensive groundwater sampling to evaluate current site conditions. All work should be conducted in accordance with the UST Quality Assurance Program Plan (QAPP), Revision 2.0, and must be conducted in compliance with all applicable regulations. A copy of the Agency's QAPP Rev. 2.0, for the UST Management Division is available at http://www.scdhec.gov/environment/docs/QAPP_Rev-2_April2013.pdf.

Activities at the site should begin immediately upon receipt of this letter. Cost agreement **#49579** has been approved for the amount shown on the enclosed cost agreement form for a comprehensive groundwater sampling event. Groundwater samples will be taken from all monitoring wells, water supply wells, and surface water locations. Samples will be analyzed for BTEX, Naphthalene, MTBE, 1,2-DCA, 8 Oxygenates, and EDB. Since it has been greater than 12 months since the last sampling event, all wells will need to be purged prior to sampling. Sampling and analyses should be conducted in accordance with Appendix E of the QAPP, Rev. 2.0, and to include duplicate samples, field and trip blanks.

The Monitoring Report and invoice are due within 60 days from the date of this letter. The report submitted at the completion of these activities should include the required information outlined in the QAPP. Please note that all applicable South Carolina certification requirements apply to the services and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

Emerald, Inc. can submit an invoice for direct payment from State Underground Petroleum Environmental Response Bank (SUPERB) Account for pre-approved costs. By law, the SUPERB Account cannot compensate any costs that are not pre-approved. Please note that applicable South Carolina certification requirements regarding the services and report preparation must be satisfied. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

Please note that Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the Agency is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be pre-approved by the Agency for the cost to be paid. The Agency reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, the Agency reserves the right to question and/or reject costs if deemed unreasonable and the right to audit project records at any time during the project or after completion of work.

Please note; if unnecessary dilutions are completed resulting in reporting limits of individual Chemicals of Concern in excess of Risk-Based Screening Levels (RBSLs), the data cannot be used. In those cases, the Division may deny payment for any non-detect analysis where the reporting limit exceeds the RBSL. The UST Management Division encourages the use of 'J' values as necessary so the appropriate action can be determined for a release.

The Agency grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. The transport and disposal must be conducted in accordance with the QAPP. If the CoC concentrations based on laboratory analysis are below RBSLs, please contact the project manager for approval to dispose of soil and/or groundwater on site. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

On all correspondence regarding this site, please reference **UST Permit #15729** and **CA #49579**. If you have any questions regarding this correspondence, please contact me by telephone at (803) 898-0607 or by e-mail at thrasham@dhec.sc.gov.

Sincerely,

Ashleigh Thrash

Ashleigh Thrash, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement

cc: Emerald Inc., PO Box 3050, Sumter, SC 29151 (w/ enc)
Technical File (w/ enc)

Approved Cost Agreement 49579

Facility: 15729 H W DETWILER CO
THRASHAM
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
01 PLAN						
		A1	SITE SPECIFIC WORK PLAN	1.0000	150.00	150.00
04 MOB/DEMOB						
		B1	PERSONNEL	6.0000	423.00	2,538.00
10 SAMPLE COLLECTION						
		A1	GROUNDWATER (PURGE)	73.0000	60.00	4,380.00
		C1	WATER SUPPLY	10.0000	22.00	220.00
		D1	GROUNDWATER NO PURGE/DUPLICATE	5.0000	28.00	140.00
		H1	FIELD BLANK	5.0000	24.60	123.00
11 ANALYSES						
	GW GROUNDWATER	A2	BTEXNM+OXYGS+1,2-DCA+ETH-8260B	98.0000	122.00	11,956.00
		F1	EDB BY 8011	93.0000	45.20	4,203.60
17 DISPOSAL						
		AA	WASTEWATER	800.0000	0.56	448.00
19 RPT/PROJECT MNGT & COORDINATIO						
		PRT	REPORT PREPARATION	0.1200	24,409.60	2,929.15
25 WELL REPAIR						
		A1	ADDITIONAL COPIES OF REPORT	3.0000	50.00	150.00
		F1	REPLACE WELL COVER BOLTS	10.0000	2.60	26.00
		G	REPLACE LOCKING WELL CAP & LOC	5.0000	15.00	75.00
				Total Amount		27,338.75

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

UST
MAR 19 2015
PROGRAM

UST
39 tech
DOCKETING

March 11, 2015

Ashleigh Thrash, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management
SCDHEC
2600 Bull Street
Columbia, S.C. 29201

Re: H.W. Detwiler Co., 37 S. Church St., Summerton, SC 29148
UST Permit #15729; CA #49579
Release Reported June 22, 1993
Report of Groundwater Sampling (March 10, 2015)
Clarendon County

Dear Ms. Thrash:

On behalf of Mr. Harold Detwiler, Emerald, Inc. is providing you with one copy of the completed Report of Groundwater Sampling for the Detwiler site. Analytical results from groundwater samples collected during this event have generally remained constant or increased since the last sampling event. Free product was detected in twelve monitoring wells at the site. We have made recommendations for the site in Section 3.0 of the report.

If you have any questions regarding the report and its findings, please contact either Chad McClary or myself at (803) 469-5454.

Yours very truly,
Emerald, Inc.

Ronny L. Lowder
President

RLL/jrb

Enclosure

cc: Mr. Harold W. Detwiler, Jr.

Celebrating 25 Years

1990-2015

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

REPORT OF GROUNDWATER SAMPLING
HW DETWILER COMPANY
37 SOUTH CHURCH STREET
SUMMERTON, SOUTH CAROLINA
UST PERMIT #15729
COST AGREEMENT #49579

Prepared For:

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

Prepared By:

Emerald, Inc.
UST Site Rehabilitation Contractor #67
P.O. Box 3050
2520 Tahoe Drive
Sumter, South Carolina 29151

March 10, 2014

Celebrating 25 Years

1990-2015

Signature Page

This document entitled "Report of Groundwater Sampling", has been prepared for the South Carolina Department of Health and Environmental Control to describe investigative activities initiated at the HW Detwiler Company site located in Summerton, South Carolina. It has been prepared under the direct supervision of William C. McClary, P.G. in accordance with the UST Quality Assurance Division Plan Revision 2.0 and approved Site Specific Work Plan dated January 5, 2015. All questions or comments concerning this report should be directed to Ronny L. Lowder or William C. McClary, P.G., Emerald, Inc., at 803-469-5454.

Emerald, Inc.

Ronny L. Lowder
President

Emerald, Inc.

William C. McClary, P.G.
South Carolina Registration #2386

Report of Groundwater Sampling
HW Detwiler Company
37 South Church Street
Summerton, South Carolina

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1.0 Introduction

The HW Detwiler Company (UST Permit #15729) site is located at 37 South Church Street in Summerton, Clarendon County, SC. Figure 1 contains a general location map showing surrounding roadways, and Figure 2 contains a topographic map for the area. The subject site is currently used as an office building. According to Clarendon County tax records, the site is currently owned by Helen D. Todd (710 Knotty Pine Road, Charleston, SC 29412). Formerly, the site was used by a construction company which stored gasoline in two underground storage tanks (USTs) for its fleet of vehicles. The two 1,000 gallon USTs were abandoned by removal in June 1993 by G&K Tank Services. A release of petroleum product was reported to SCDHEC in June 1993 and confirmed in July 1993. The responsible party for this release is Harold W. Detwiler Jr. (31 South Church Street, Summerton, SC 29148).

The Detwiler site is located within an area of mixed use. Commercial activities including a restaurant, a tire repair shop (Summerton Auto Service SCDHEC Site ID #02420) and a convenience store currently maintaining USTs (A&P Convenience SCDHEC Site ID #13013 and SC650 SCDHEC Site ID #02422) are located west and northwest of the subject site respectively. The areas north, east and south of the subject site are used for residential purposes. According to local sources, a former gasoline station was located approximately 300 feet south of the HW Detwiler site (along the eastern side of S. Church Street) in the 1940s and 1950s. This area of the former station is near MW-15 as presented on Figure 3.

A site assessment was conducted by Duncan Environmental Associates, Inc. at the time of closure and a release notification was sent to SCDHEC on June 22, 1993. This assessment indicated soil contamination above the reporting limits for BTEX and TPH compounds.

In July 2000, an Initial Ground Water Assessment (IGWA) was conducted by Emerald, Inc. at the subject site. This assessment included the installation of one groundwater monitoring well. Gauging of this well indicated the presence of free product adjacent to the former UST basin. In April 2002, Emerald, Inc. submitted a Tier II assessment report for the subject site.

This assessment included field screening, the installation of fourteen additional monitoring wells, aquifer testing, and monitoring well sampling. Groundwater sampling indicated the groundwater contaminant plume was not fully defined. In April 2003, Emerald, Inc. submitted a Tier II Assessment Report (Addendum 01). This assessment included field screening, monitoring well installation, monitoring well sampling and surface water sampling. This assessment was conducted to better define the horizontal and vertical extent of the contaminant plume. In February 2010, at the request of SCDHEC, Emerald, Inc. conducted a comprehensive groundwater sampling event to provide current groundwater quality data for the subject site. During this sampling event, four monitoring wells were not located and possibly destroyed. In August 2010, SCDHEC requested an Aggressive Fluid Vapor Recovery Event (AFVR), additional monitoring well installation and monitoring well sampling at the subject site.

In June 2012, Emerald, Inc. submitted a Report of Monitoring Well Installation documenting the installation of twenty additional shallow monitoring wells at the subject site to better define the free product plume. In February 2013, at the request of SCDHEC, Emerald, Inc. submitted a Report of Groundwater Sampling for the subject site. In December 2013, Emerald, Inc. submitted a Report of Groundwater Sampling for the subject site. In February 2014, Emerald, Inc. conducted a limited groundwater sampling of the monitoring wells, water supply wells and surface waters on and surrounding the property of David Van Wynsberghe in order to obtain current groundwater quality data.

In June 2014, at the request of SCDHEC, Emerald, Inc. submitted a Report of Additional Assessment documenting the installation of seven additional shallow monitoring wells and limited groundwater sampling at the subject site to better define the plume and monitor any impact to the nearby creek.

In December 2014, SCDHEC requested a Site Specific Work Plan (SSWP) for a comprehensive groundwater sampling event. In February 2015, Emerald, Inc. initiated work

under the approved SSWP dated January 5, 2015. This report represents the findings of this event.

2.0 Site Activities

Emerald, Inc. personnel conducted this groundwater sampling event at the HW Detwiler Company site to provide current groundwater quality data. Field activities required to generate site-specific information for the site are described in detail within this section. Figure 3 contains a site map for the site presenting well locations, relevant structures and utilities.

2.1 Static Water Level Measurement

Prior to well purging, sample collection or gauging of each monitoring well located at the subject site, water levels were recorded to the nearest 0.01 foot using a graduated electronic indicator. Measurements were recorded from the surveyed top of the well casing so they could be referenced to a common datum. Monitoring well MW-23 was not located during this sampling event. Water levels and groundwater elevations are summarized in Table 1. Based upon the groundwater elevations recorded during this sampling event, groundwater flow in the shallow aquifer appears to be toward the south. See Figure 4 for a Groundwater Contour Map for the shallow aquifer. Free phase product was detected in 12 monitoring wells gauged during this sampling event.

The following table documents the of free phase product thickness recorded at the at the HW Detwiler site:

Monitoring Well	Product Thickness (ft.)
15729 MW-1	0.03
15729 MW-13R	0.02
15729 MW-15	1.70
15729 MW-28	0.62
15729 MW-39	0.76
15729 MW-40	1.50
15729 MW-41	0.24
15729 MW-43	1.49
15729 MW-45	1.38
15729 MW-46	1.75
15729 MW-49	0.58
15729 MW-51	1.38

2.2 Groundwater Sampling

On February 20 through 26, 2015, groundwater samples were collected from 59 monitoring wells (MW-2D, MW-3 through MW-12, MW-14, MW-16D, MW-17R, MW-18R, MW-19 through MW-22, MW-24, MW-25, MW-26, MW-27, MW-29 through MW-33, MW-34D, MW-35i, MW-36, MW-37, MW-38, MW-42, MW-44, MW-47, MW-48, MW-50, MW-52 through MW-64 and MW-66 through MW-73) at the subject site. Monitoring well MW-23 could not be located at the time of sampling. In addition to these groundwater samples, five duplicate samples (MW-24, MW-44, MW-53, MW-56, and MW-61), five Field Blanks and seven Trip Blanks were also collected. One trip blank was included in each cooler shipped to the laboratory. Each sample collected at the site was documented as to the cooler in which it was placed and a dedicated trip blank was included in each cooler for quality control purposes.

Pre-existing wells that bracketed the watertable and had been sampled in the last year were not purged prior to sample collection. Pre-existing wells that did not bracket the watertable or had not been sampled in the past year were purged by hand until five well volumes were

removed from the well, until the pH, conductivity, temperature and turbidity readings were within 10% or dryness, whichever occurred first (see Well Purge Logs in Appendix A).

Field equipment was properly calibrated prior to collecting data at the site. Following well purging or gauging, a groundwater sample was collected from each well using a new disposable PVC bailer. Each sample was poured directly from the PVC bailer into appropriate laboratory supplied containers. Downhole sampling equipment was properly decontaminated between each sampling location. A total of 367.5 gallons of purge water was treated on-site using an activated carbon drum. See Appendix C for a copy of the disposal manifest.

Samples were immediately packed in crushed ice in the field ice chest and shipped to Pace Analytical, Inc. of Huntersville, NC (SC Certification #99006001) for laboratory analysis. Each sample was analyzed for BTEX, Naphthalene, MTBE, 1-2 DCA, 8 Oxygenates (EPA Method 8260B) and EDB (EPA Method 8011). Analytical results for the groundwater samples are presented on Tables 2 and 3 with the laboratory reports in Appendix B.

2.3 Water Supply Well Sampling

On February 23, 2015, four nearby water supply wells surrounding the site were sampled. Locations of these water supply wells and contact information are presented below.

Water Supply Well	Location of Well	Type of Well	Well Owner Information
WSW-1	35 S. Church Street	Irrigation	Jean & Charlie Johnson PO Box 698 Summerton, SC 29102
WSW-2	24 S. Cantey Street	Irrigation	Daulton & Kathy Dubose 24 S. Cantey Street Summerton, SC 29148
WSW-3	1021 Gipp Street	Drinking Water	David Van Wynsberghe 1021 Gipp Street Summerton, SC 29148
WSW-4	1021 Gipp Street	Irrigation (No Pump)	David Van Wynsberghe 1021 Gipp Street Summerton, SC 29148

WSW-2 is an irrigation well and a sample was collected from a spigot at the well pump house in the back yard of the residence. WSW-1 is an irrigation well and a sample was collected from the well pump located at the rear of the residence. WSW-3 is a water supply well supplying water to the residence and WSW-4 is an irrigation well (currently without a pump) located at the rear of the same residence. A sample was collected from WSW-3 from a spigot at the wellhead. A sample was collected from WSW-4 by lowering a bailer into the well to collect a sample. The well head of WSW-4 is not currently protected with only a pipe sticking out of the ground. The property owner has stated in the past that this well has never functioned correctly but he would not like to have it abandoned. Water supply well locations are presented on Figure 3.

Samples were collected after allowing the well pump to run (if possible) for approximately 10 minutes or until the well pump turned on. Water supply well samples were packed in crushed ice in the field ice chest and shipped to Pace Analytical Services, Inc. of Huntersville, NC (SC Certification #99006001) for laboratory analysis. Each water supply well sample was documented as to the cooler in which it was placed and a dedicated trip blank was included in the cooler for quality control purposes. These samples were analyzed for BTEX, Naphthalene, MTBE, 1-2 DCA, 8 Oxygenates (EPA Method 8260B) and EDB (EPA Method 8011). Analytical results for these water supply well samples are presented on Tables 2 and 3 with the laboratory reports found in Appendix B.

2.4 Surface Water Sampling

On February 23, 2015, six surface water samples (PS-1, SW-1 and CS-1 through CS-4) were collected at the subject site. PS-1 was collected from a pond located adjacent to MW-32 by lowering laboratory supplied containers into the surface water body to collect a sample. SW-1 was collected from a sewer manhole located south of MW-45. This sample was collected by lowering a disposable bailer into the manhole to collect a sample. CS-1 was collected from

Scotts Branch, on the western side of South Church Street. CS-2 was collected from Scotts Branch, east of the South Church Street bridge. CS-3 and CS-4 were collected downstream of the South Church Street bridge. CS-1 through CS-4 were collected by lowering laboratory supplied containers into the surface water body to collect a sample. Surface water sampling locations are presented on Figure 3.

Surface water samples were packed in crushed ice in the field ice chest and shipped to Pace Analytical Services, Inc. of Huntersville, NC (SC Certification #99006001) for laboratory analysis. These samples were documented as to the cooler in which they were placed, and a dedicated trip blank was included in each cooler for quality control purposes. These samples were analyzed for BTEX, Naphthalene, MTBE, 1-2 DCA, 8 Oxygenates (EPA Method 8260B) and EDB (EPA Method 8011). Analytical results for these surface water samples are presented on Tables 2 and 3 with the laboratory reports found in Appendix B.

2.5 Analytical Results

Tables 2 and 3 summarize the groundwater analytical results at the subject site, and Appendix B contains a copy of the laboratory reports. Groundwater samples were collected from fifty-nine monitoring wells and free product was detected in twelve monitoring wells during this sampling event. Measurable free product was detected in MW-1, MW-13R, MW-15, MW-28, MW-39, MW-40, MW-41, MW-43, MW-45, MW-46, MW-49 and MW-51 during this sampling event. Concentrations of chemicals of concern have generally remained constant or increased since the last sampling event.

Sampling of nearby surface waters indicates petroleum impact to Scott's Branch Creek with detections in CS-2, CS-3 and CS-4. These sampling locations have previously contained CoCs at levels above detection limits. In addition, SW-1, collected from a sanitary sewer manhole located near MW-45 once again contained detectable concentrations of Toluene. During this sampling event WSW-1 through WSW-3 did not contain detectable concentrations of

CoCs. A sample collected from WSW-4 did contain Toluene at 2.0 ug/l during this sampling event. The well is currently not in use with only an open pipe at ground surface that could allow surface runoff to reach the water table. Figure 5 presents a Groundwater CoC Map for the site.

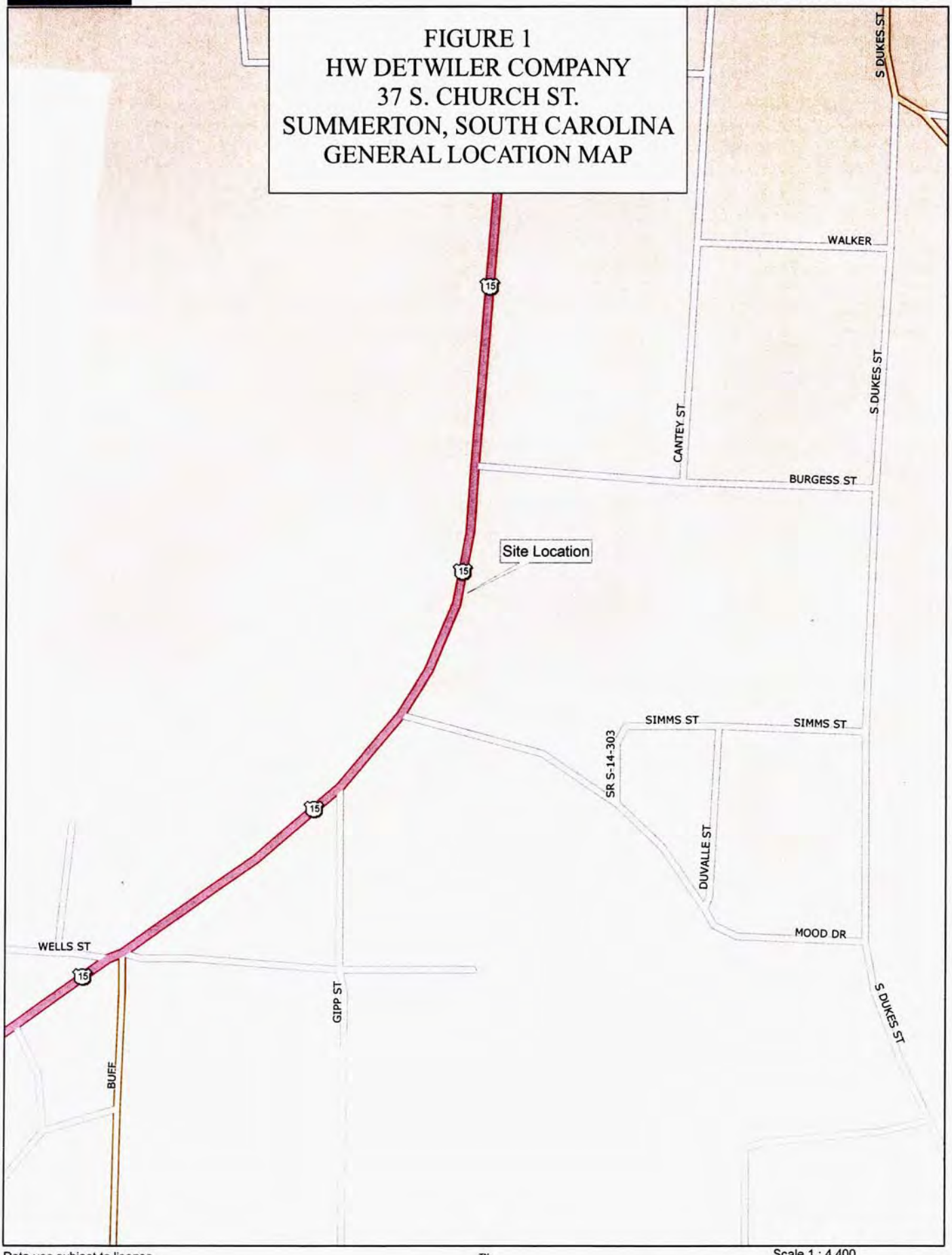
3.0 Results, Conclusions, and Recommendations

During this work effort a comprehensive groundwater sampling event was conducted at the subject site to provide current groundwater quality data. Free product was detected in twelve monitoring wells at the subject site. Analytical results from groundwater samples indicate concentrations of CoCs associated with the site have generally remained constant or increased since the last sampling event. Four surface water samples contained detectable concentrations of CoCs during this sampling event. A sample collected from SW-1 detected 12.6 ug/l of Toluene in this sanitary sewer. Samples collected from Scotts Branch Creek (CS-2 through CS-4) also contained benzene at levels above detection limits. WSW-4 contained Toluene at 2.0 ug/l during this sampling event. This is the first detection during a sampling event in this out of service irrigation well. This well is currently open with no protective covering around the wellhead and surface runoff may explain the detection in the well.

Given the above findings during this Report of Groundwater Sampling at the site, Emerald, Inc. recommends a series of long duration AFVR events to remove free product detected at the site. In addition to the removal of free product, these events would provide valuable data to any future contractor bidding on active corrective action at the site. Information such as water production, off gas readings over time and the overall effectiveness of the events would provide more data for each contractor to prepare a competitive bid for cleanup. Periodic sampling to monitor the contaminant plume and nearby receptors should also take place to ensure plume stability.

TABLES

FIGURE 1
HW DETWILER COMPANY
37 S. CHURCH ST.
SUMMERTON, SOUTH CAROLINA
GENERAL LOCATION MAP



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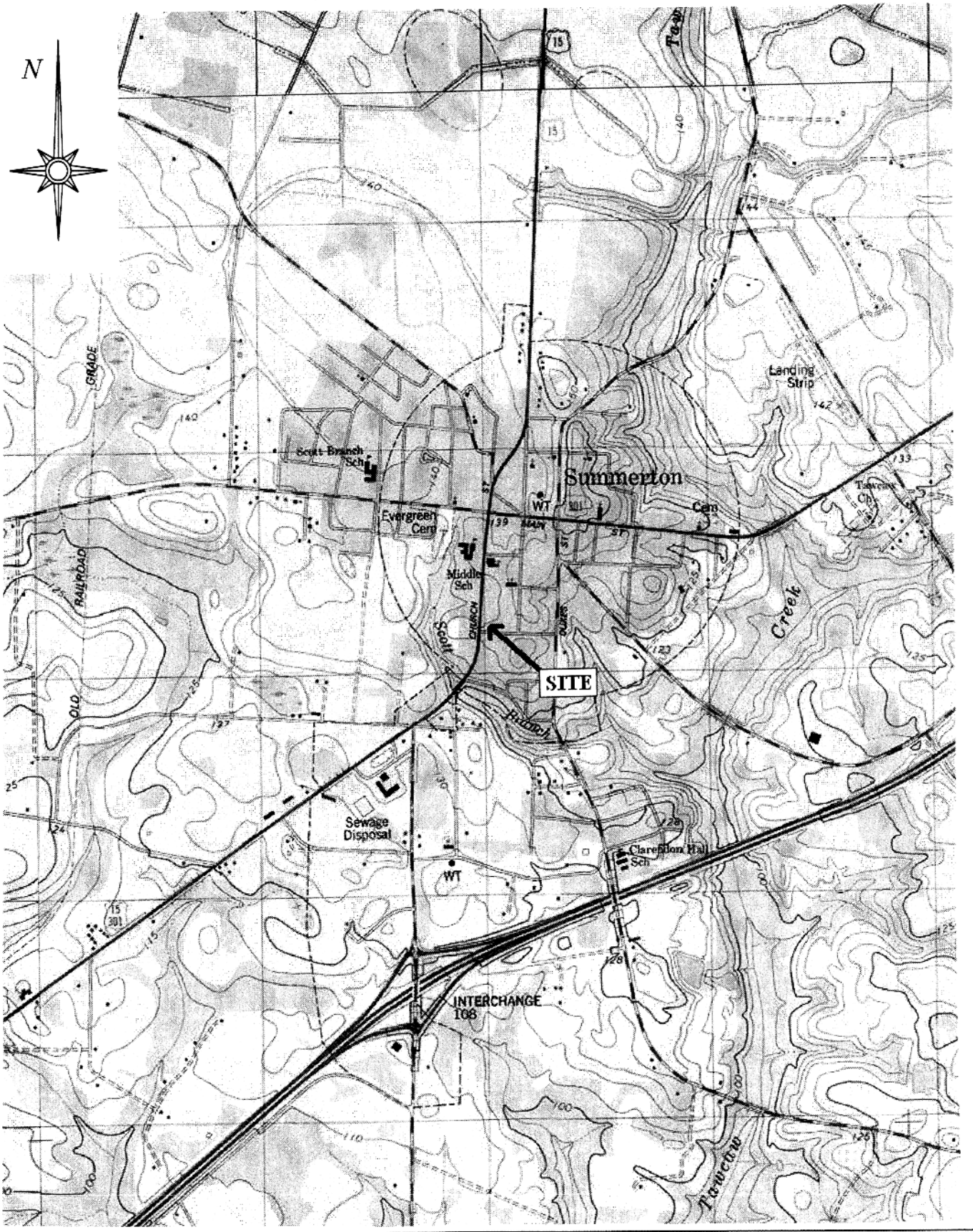
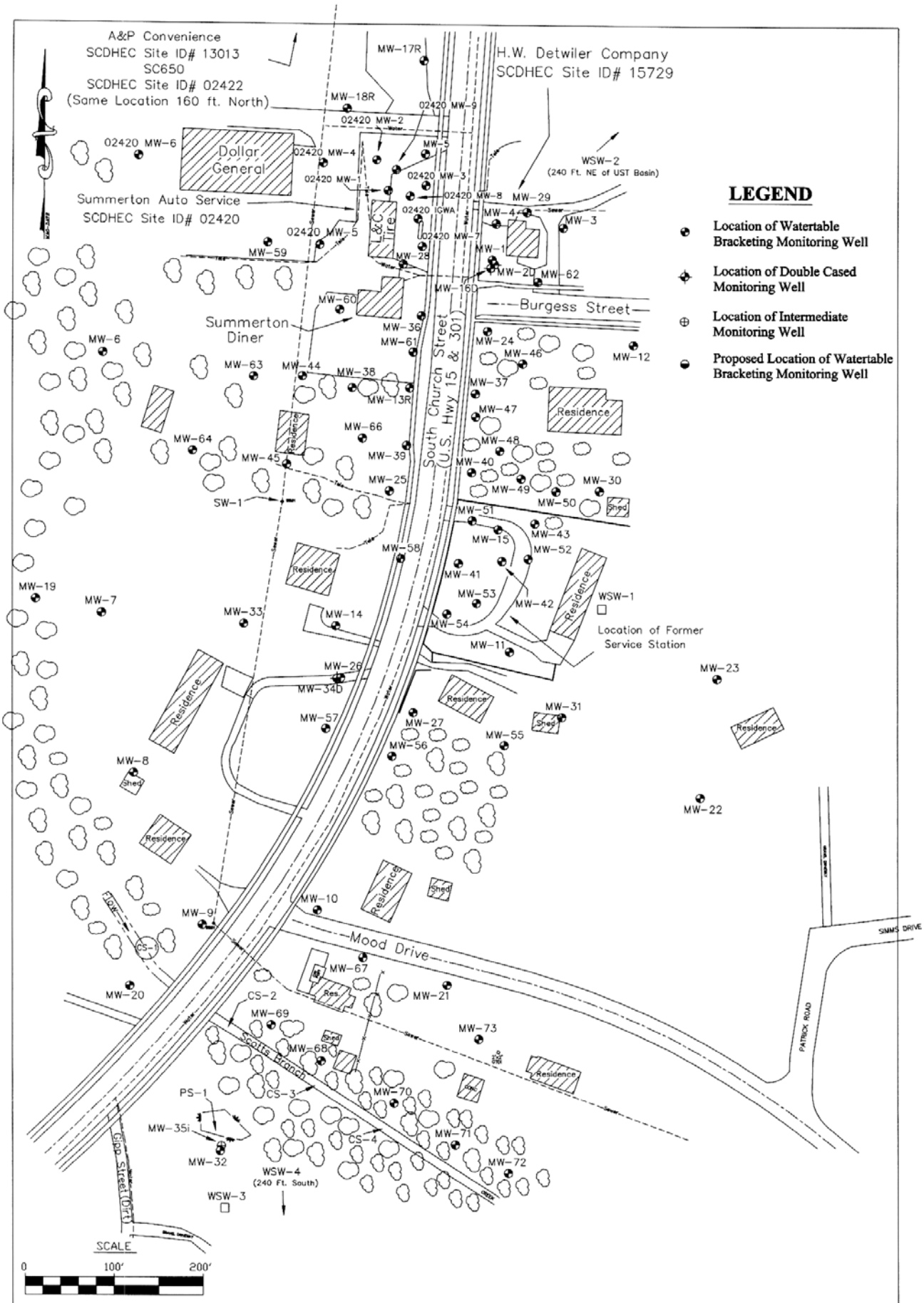
www.delorme.com

TN
MN (7.7°W)

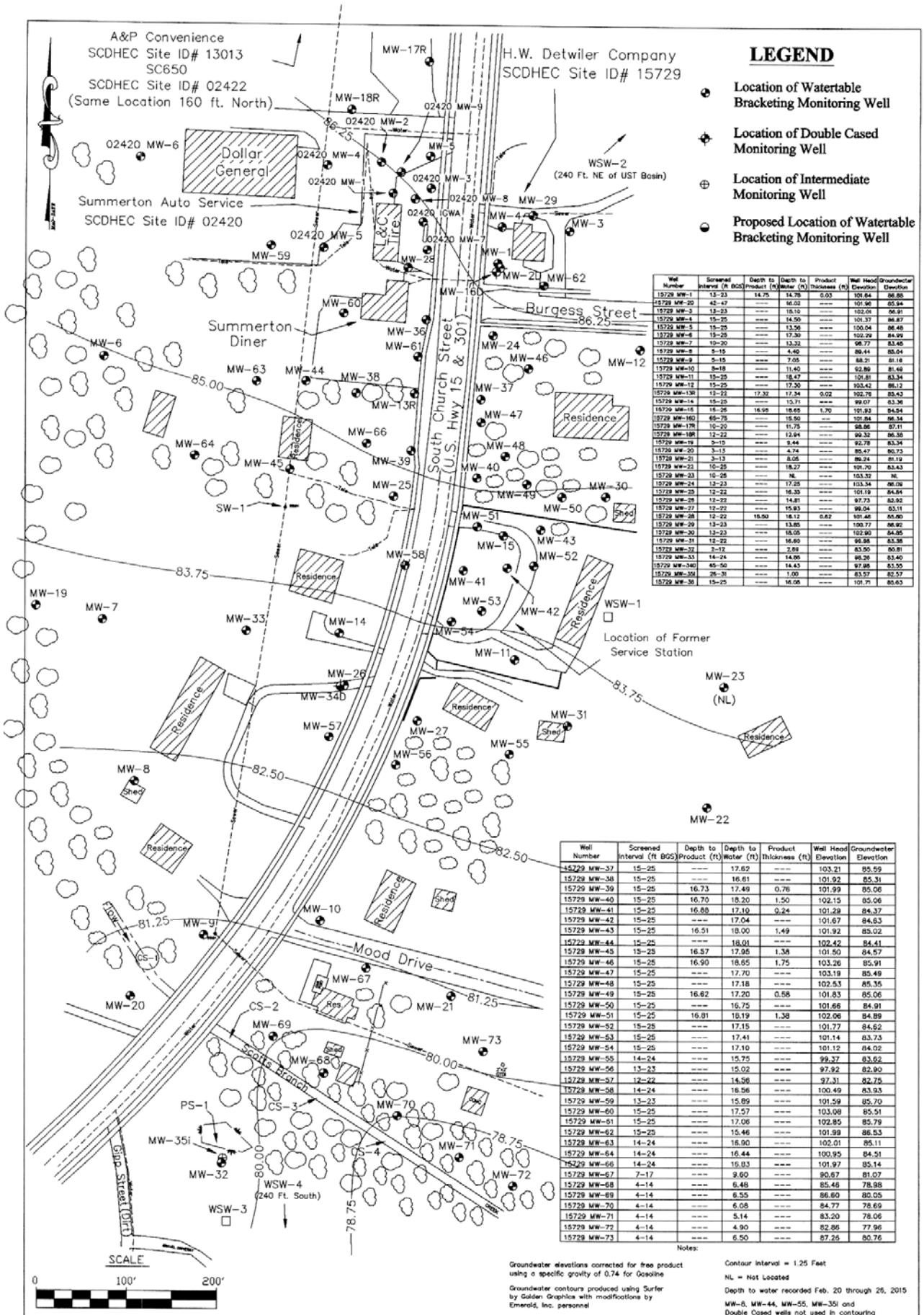
Scale 1 : 4,400
1" = 366.7 ft
Data Zoom 15-5



H.W. Detwiler Company 37 South Church Street Summerton, SC SCDHEC Site ID# 15729	Figure 2 USGS Topographic Map 7.5 Minute Map "Summerton, SC" Quadrangle Scale 1 to 2,000	EMERALD, INC. Sumter, SC



PROJECT:	SHEET TITLE:	DATE:	
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 Site Map	3/10/15	EMERALD, INC. SUMTER, SOUTH CAROLINA



LEGEND

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased Monitoring Well
- Location of Intermediate Monitoring Well
- Proposed Location of Watertable Bracketing Monitoring Well

Well Number	Screened Interval (ft BGS)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Well Head Elevation	Groundwater Elevation
15729 MW-1	13-23	14.75	14.75	0.03	101.64	86.86
15729 MW-20	42-47	----	16.02	----	101.96	85.94
15729 MW-2	13-23	----	15.10	----	102.06	86.91
15729 MW-4	15-25	----	14.50	----	101.37	86.87
15729 MW-5	15-25	----	13.56	----	100.04	86.46
15729 MW-6	15-25	----	17.30	----	102.29	84.99
15729 MW-7	10-20	----	13.32	----	98.77	83.45
15729 MW-8	5-15	----	4.40	----	88.44	83.04
15729 MW-9	5-15	----	7.05	----	88.21	81.16
15729 MW-10	8-18	----	11.40	----	92.89	81.49
15729 MW-11	15-25	----	18.47	----	101.81	83.34
15729 MW-12	15-25	----	17.30	----	103.42	86.12
15729 MW-13R	13-23	17.32	17.34	0.02	102.76	85.43
15729 MW-14	15-25	----	15.71	----	99.07	83.36
15729 MW-15	15-25	16.95	18.65	1.70	101.83	84.04
15729 MW-16D	65-75	----	15.50	----	101.84	86.34
15729 MW-17R	10-20	----	11.75	----	98.86	87.11
15729 MW-18R	12-22	----	12.94	----	99.32	86.38
15729 MW-19	5-15	----	9.44	----	92.78	83.34
15729 MW-20	3-13	----	4.74	----	89.47	80.73
15729 MW-21	3-13	----	8.05	----	89.24	81.19
15729 MW-22	10-25	----	18.27	----	101.70	83.43
15729 MW-23	10-25	----	NL	----	103.32	NL
15729 MW-24	13-23	----	17.28	----	103.34	86.06
15729 MW-25	12-22	----	16.33	----	101.19	84.86
15729 MW-26	12-22	----	14.81	----	97.73	82.92
15729 MW-27	12-22	----	15.83	----	99.04	83.11
15729 MW-28	12-22	15.50	16.12	0.62	101.46	85.80
15729 MW-29	13-23	----	13.85	----	100.77	86.92
15729 MW-30	13-23	----	16.05	----	102.90	84.85
15729 MW-31	12-22	----	16.60	----	99.98	83.38
15729 MW-32	2-12	----	2.89	----	83.50	80.81
15729 MW-33	14-24	----	14.86	----	98.26	83.40
15729 MW-34D	45-50	----	14.43	----	97.98	83.55
15729 MW-35I	25-31	----	1.00	----	83.57	82.57
15729 MW-36	15-25	----	16.08	----	101.71	85.63

Well Number	Screened Interval (ft BGS)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Well Head Elevation	Groundwater Elevation
15729 MW-37	15-25	----	17.62	----	103.21	85.59
15729 MW-38	15-25	----	16.61	----	101.92	85.31
15729 MW-39	15-25	16.73	17.49	0.76	101.99	85.06
15729 MW-40	15-25	16.70	18.20	1.50	102.15	85.06
15729 MW-41	15-25	16.88	17.10	0.24	101.29	84.37
15729 MW-42	15-25	----	17.04	----	101.67	84.63
15729 MW-43	15-25	16.51	18.00	1.49	101.92	85.02
15729 MW-44	15-25	----	18.01	----	102.42	84.41
15729 MW-45	15-25	16.57	17.95	1.38	101.50	84.57
15729 MW-46	15-25	16.90	18.65	1.75	103.26	85.91
15729 MW-47	15-25	----	17.70	----	103.19	85.49
15729 MW-48	15-25	----	17.18	----	102.53	85.35
15729 MW-49	15-25	16.62	17.20	0.58	101.83	85.06
15729 MW-50	15-25	----	16.75	----	101.66	84.91
15729 MW-51	15-25	16.81	18.19	1.38	102.06	84.89
15729 MW-52	15-25	----	17.15	----	101.77	84.62
15729 MW-53	15-25	----	17.41	----	101.14	83.73
15729 MW-54	15-25	----	17.10	----	101.12	84.02
15729 MW-55	14-24	----	15.75	----	99.37	83.62
15729 MW-56	13-23	----	15.02	----	97.92	82.90
15729 MW-57	12-22	----	14.56	----	97.31	82.75
15729 MW-58	14-24	----	16.56	----	100.49	83.93
15729 MW-59	13-23	----	15.89	----	101.59	85.70
15729 MW-60	15-25	----	17.57	----	103.08	85.51
15729 MW-61	15-25	----	17.06	----	102.85	85.79
15729 MW-62	15-25	----	15.46	----	101.99	86.53
15729 MW-63	14-24	----	16.90	----	102.01	85.11
15729 MW-64	14-24	----	16.44	----	100.95	84.51
15729 MW-66	14-24	----	16.83	----	101.97	85.14
15729 MW-67	7-17	----	9.60	----	90.67	81.07
15729 MW-68	4-14	----	6.48	----	85.46	78.98
15729 MW-69	4-14	----	6.55	----	86.60	80.05
15729 MW-70	4-14	----	6.08	----	84.77	78.69
15729 MW-71	4-14	----	5.14	----	83.20	78.06
15729 MW-72	4-14	----	4.90	----	82.86	77.96
15729 MW-73	4-14	----	6.50	----	87.26	80.76

Notes:

Groundwater elevations corrected for free product using a specific gravity of 0.74 for Gasoline

Groundwater contours produced using Surfer by Golden Graphics with modifications by Emerald, Inc. personnel

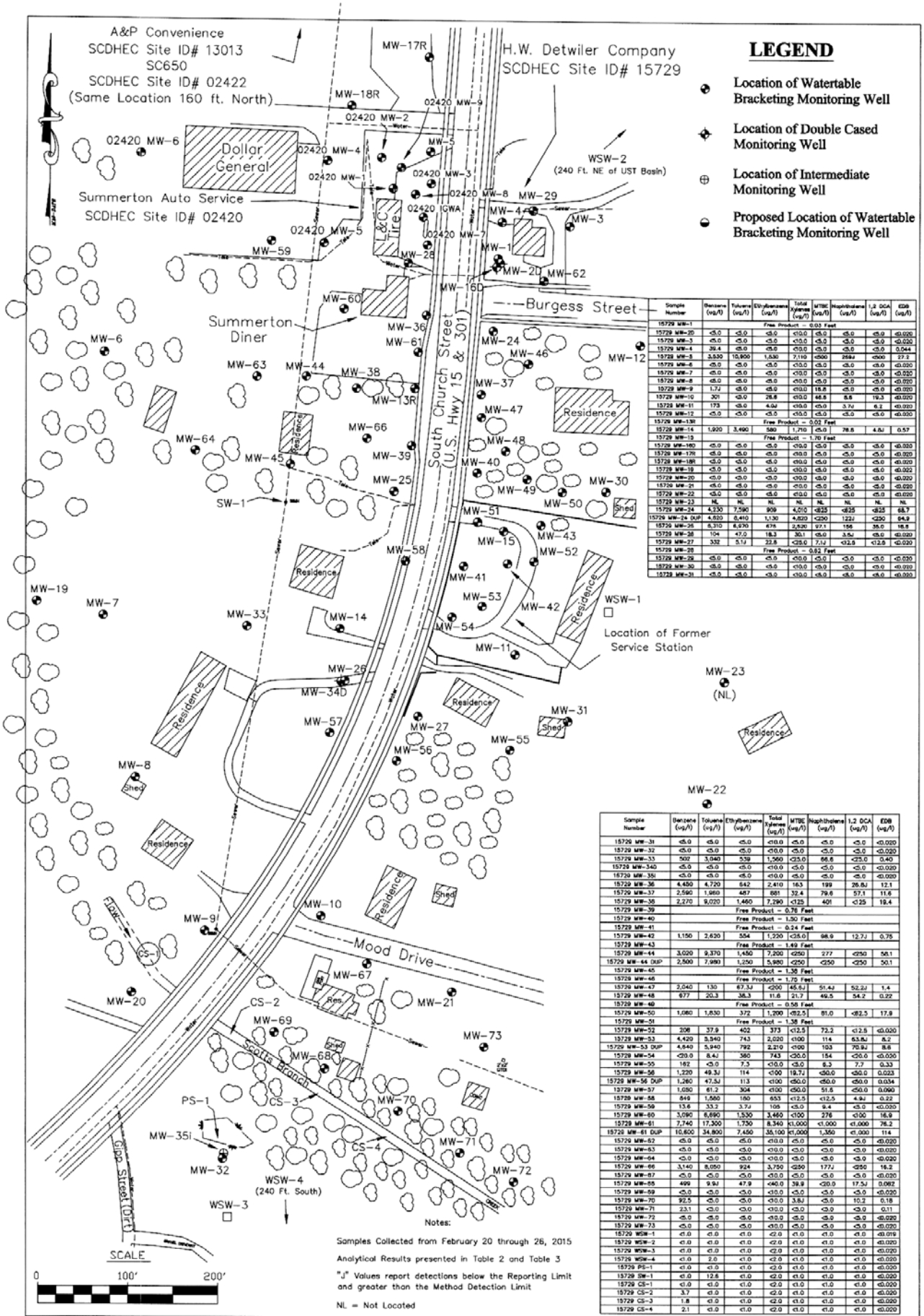
Contour Interval = 1.25 Feet

NL = Not Located

Depth to water recorded Feb. 20 through 26, 2015

MW-8, MW-44, MW-55, MW-35i and Double Cased wells not used in contouring

PROJECT:	SHEET TITLE:	DATE:	
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 4 Potentiometric Surface Map	3/10/15	EMERALD, INC. SUMTER, SOUTH CAROLINA



LEGEND

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased Monitoring Well
- Location of Intermediate Monitoring Well
- Proposed Location of Watertable Bracketing Monitoring Well

Sample Number	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)
15729 MW-1	Free Product – 0.03 Feet							
15729 MW-2D	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-3	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-4	39.4	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.044
15729 MW-5	2,530	10,900	1,530	7,110	<500	269J	<500	27.2
15729 MW-6	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-7	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-8	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-9	1.7J	<5.0	<5.0	<10.0	15.8	<5.0	<5.0	<0.020
15729 MW-10	301	<5.0	28.8	<10.0	66.8	8.6	19.3	<0.020
15729 MW-11	173	<5.0	4.0J	<10.0	<5.0	3.7J	6.2	<0.020
15729 MW-12	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-13R	Free Product – 0.02 Feet							
15729 MW-14	1,920	3,490	580	1,710	<5.0	78.8	4.8J	0.57
15729 MW-15	Free Product – 1.70 Feet							
15729 MW-16D	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-17R	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-18R	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-19	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-20	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-21	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-22	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-23	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-24	4,230	7,590	909	4,010	<625	<625	<625	68.7
15729 MW-24 DUP	4,820	8,410	1,130	4,820	<250	122J	<250	64.9
15729 MW-25	5,310	6,970	675	2,520	97.1	156	35.0	18.8
15729 MW-26	104	47.0	18.3	30.1	<5.0	3.5J	<5.0	<0.020
15729 MW-27	332	5.1J	22.8	<25.0	7.1J	<12.5	<12.5	<0.020
15729 MW-28	Free Product – 0.82 Feet							
15729 MW-29	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-30	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-31	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020

Sample Number	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)
15729 MW-31	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-32	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-33	509	3,040	539	1,560	<25.0	66.8	<25.0	0.40
15729 MW-34D	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
16729 MW-35i	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-36	4,450	4,720	842	2,410	163	199	26.8J	12.1
15729 MW-37	2,590	1,980	487	881	32.4	79.6	57.1	11.6
15729 MW-38	2,270	9,020	1,460	7,290	<125	401	<125	19.4
15729 MW-39	Free Product – 0.76 Feet							
15729 MW-40	Free Product – 1.50 Feet							
15729 MW-41	Free Product – 0.24 Feet							
15729 MW-42	1,150	2,620	554	1,220	<35.0	98.9	12.7J	0.75
15729 MW-43	Free Product – 1.49 Feet							
15729 MW-44	3,020	9,370	1,450	7,200	<250	277	<250	58.1
15729 MW-44 DUP	2,500	7,980	1,250	5,980	<250	<250	<250	50.1
15729 MW-45	Free Product – 1.38 Feet							
15729 MW-46	Free Product – 1.75 Feet							
15729 MW-47	2,040	130	67.3J	<200	45.6J	51.4J	52.2J	1.4
15729 MW-48	677	20.3	38.3	11.6	21.7	49.5	54.2	0.22
15729 MW-49	Free Product – 0.58 Feet							
15729 MW-50	1,080	1,830	372	1,200	<62.5	81.0	<62.5	17.9
15729 MW-51	Free Product – 1.38 Feet							
15729 MW-52	208	37.9	402	373	<12.5	72.2	<12.5	<0.020
15729 MW-53	4,420	5,540	743	2,020	<100	114	53.8J	8.2
15729 MW-53 DUP	4,840	5,940	792	2,210	<100	103	70.9J	8.6
15729 MW-54	<20.0	8.4J	380	743	<20.0	154	<20.0	<0.020
15729 MW-55	162	<5.0	7.3	<10.0	<5.0	8.3	7.7	0.33
15729 MW-56	1,220	49.3J	114	<100	19.7J	<50.0	<50.0	0.023
15729 MW-56 DUP	1,260	47.5J	113	<100	<50.0	<50.0	<50.0	0.034
15729 MW-57	1,080	61.2	304	<100	<50.0	51.5	<50.0	0.060
15729 MW-58	846	1,560	160	653	<12.5	<12.5	4.9J	0.22
15729 MW-59	13.6	33.2	3.7J	105	<5.0	9.4	<5.0	<0.020
15729 MW-60	3,090	6,690	1,530	3,460	<100	276	<100	16.9
15729 MW-61	7,740	17,300	1,730	8,340	<1,000	<1,000	<1,000	76.2
15729 MW-61 DUP	10,600	34,800	7,450	38,100	<1,000	1,350	<1,000	114
15729 MW-62	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-63	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-64	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-66	3,140	8,050	924	3,750	<250	177J	<250	16.2
15729 MW-67	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-68	499	9.9J	47.9	<40.0	39.9	<20.0	17.5J	0.082
15729 MW-69	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-70	92.5	<5.0	<5.0	<10.0	3.8J	<5.0	10.2	0.18
15729 MW-71	23.1	<3.0	<3.0	<10.0	<3.0	<3.0	<3.0	0.11
15729 MW-72	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 MW-73	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
15729 WSW-1	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.019
15729 WSW-2	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 WSW-3	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 WSW-4	<1.0	2.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 PS-1	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 SW-1	<1.0	12.6	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 CS-1	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 CS-2	3.7	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 CS-3	1.8	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
15729 CS-4	2.1	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020

Notes:

Samples Collected from February 20 through 26, 2015

Analytical Results presented in Table 2 and Table 3

"J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

NL = Not Located

PROJECT:	SHEET TITLE:	DATE:	
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 4 Potentiometric Surface Map	3/10/15	EMERALD, INC. SUMTER, SOUTH CAROLINA

FIGURES

TABLE 1
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 1 OF 5

Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
15729 MW-1	3/10/02	PROD	PROD	13-23	19.44	21.22	1.78	101.64	81.74
	4/12/03	PROD	PROD		11.40	15.09	3.69	101.64	89.28
	11/11/04	PROD	PROD		16.88	17.78	0.90	101.64	84.53
	12/21/09	PROD	PROD		16.34	16.85	0.51	101.64	85.17
	9/8/10	PROD	PROD		16.73	17.29	0.56	101.64	84.76
	11/19/10	PROD	PROD		17.25	18.13	0.88	101.64	84.16
	7/13/11	PROD	PROD		17.23	18.11	0.88	101.64	84.18
	1/21/13	PROD	PROD		17.00	17.98	0.98	101.64	84.39
	11/13/13	PROD	PROD		16.21	16.65	0.44	101.64	85.32
	2/26/15	PROD	PROD		14.75	14.78	0.03	101.64	86.88
15729 MW-2D	3/10/02	–	–	42-47	–	18.29	–	101.96	83.67
	4/12/03	–	–		–	14.80	–	101.96	87.16
	12/21/09	–	–		–	16.68	–	101.96	85.28
	11/22/10	3.51	24.3		–	17.96	–	101.96	84.00
	7/13/11	4.76	25.8		–	18.23	–	101.96	83.73
	1/21/13	2.32	18.4		–	17.50	–	101.96	84.46
	11/13/13	2.94	21.4		–	16.93	–	101.96	85.03
	2/25/15	1.67	20.3		–	16.02	–	101.96	85.94
15729 MW-3	3/10/02	–	–	13-23	–	18.09	–	102.01	83.92
	4/2/03	–	–		–	13.45	–	102.01	88.56
	12/21/09	–	–		–	16.53	–	102.01	85.48
	11/22/10	–	–		–	17.75	–	102.01	84.26
	7/13/11	5.09	23.6		–	17.71	–	102.01	84.30
	1/21/13	2.44	16.9		–	17.45	–	102.01	84.56
	11/13/13	2.27	17.5		–	17.76	–	102.01	84.25
	2/26/15	1.28	16.3		–	15.10	–	102.01	86.91
15729 MW-4	3/10/02	–	–	15-25	–	17.39	–	101.37	83.98
	4/2/03	–	–		–	11.98	–	101.37	89.39
	12/21/09	–	–		–	15.95	–	101.37	85.42
	11/22/10	–	–		–	17.02	–	101.37	84.35
	7/13/11	4.63	23.7		–	16.99	–	101.37	84.38
	1/21/13	1.15	18.8		–	16.74	–	101.37	84.63
	11/13/13	1.78	20.4		–	16.12	–	101.37	85.25
	2/26/15	1.31	17.2		–	14.50	–	101.37	86.87
15729 MW-5	3/10/02	–	–	15-25	–	15.52	–	100.04	84.52
	4/2/03	–	–		–	14.34	–	100.04	85.70
	12/21/09	–	–		–	14.13	–	100.04	85.91
	11/22/10	–	–		–	15.25	–	100.04	84.79
	1/21/13	1.45	21.5		–	14.87	–	100.04	85.17
	11/13/13	1.02	20.3		–	15.50	–	100.04	84.54
	2/20/15	0.84	20.0		–	13.56	–	100.04	86.48
15729 MW-6	3/10/02	–	–	15-25	–	18.56	–	102.29	83.73
	4/2/03	–	–		–	15.70	–	102.29	86.59
	12/22/09	–	–		–	17.74	–	102.29	84.55
	11/22/10	–	–		–	18.51	–	102.29	83.78
	7/11/11	3.81	26.6		–	18.42	–	102.29	83.87
	1/15/13	1.55	21.3		–	18.21	–	102.29	84.08
	2/14/13	1.31	16.9		–	17.98	–	102.29	84.31
	11/13/13	1.97	16.6		–	17.97	–	102.29	84.32
	2/20/15	2.03	16.3		–	17.30	–	102.29	84.99
15729 MW-7	3/10/02	–	–	10-20	–	14.55	–	96.77	82.22
	4/12/03	–	–		–	12.09	–	96.77	84.68
	12/22/09	–	–		–	13.85	–	96.77	82.92
	11/19/10	–	–		–	14.57	–	96.77	82.20
	7/11/11	1.60	25.3		–	14.80	–	96.77	81.97
	1/15/13	3.98	18.8		–	14.38	–	96.77	82.39
	2/14/13	3.92	17.2		–	13.83	–	96.77	82.94
	11/12/13	4.86	19.1		–	14.10	–	96.77	82.67
	2/23/15	3.90	15.7		–	13.32	–	96.77	83.45
15729 MW-8	3/10/02	–	–	5-15	–	8.35	–	89.44	81.09
	4/12/03	–	–		–	3.10	–	89.44	86.34
	12/22/09	–	–		–	3.70	–	89.44	85.74
	11/19/10	–	–		–	8.36	–	89.44	81.08
	7/11/11	2.71	24.7		–	5.72	–	89.44	83.72
	1/11/13	6.21	18.0		–	5.50	–	89.44	83.94
	11/12/13	4.60	21.2		–	7.94	–	89.44	81.50
	2/24/15	3.90	11.2		–	4.40	–	89.44	85.04
15729 MW-9	3/10/02	–	–	5-15	–	8.21	–	88.21	80.00
	4/12/03	–	–		–	5.40	–	88.21	82.81
	12/22/09	–	–		–	7.37	–	88.21	80.84
	11/19/10	–	–		–	8.14	–	88.21	80.07
	7/11/11	1.45	25.2		–	8.22	–	88.21	79.99
	1/11/13	3.82	19.0		–	8.00	–	88.21	80.21
	11/12/13	2.85	21.2		–	7.81	–	88.21	80.40
	2/24/15	2.46	12.9		–	7.05	–	88.21	81.16

Notes:

1. ug/l = micrograms per liter
2. mg/l = milligrams per liter
3. NT = Not Tested
4. NL = Not Located
5. PROD = Free Phase Product Detected
6. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline

TABLE 1
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
PAGE 2 OF 5

Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
15729 MW-10	3/10/02	--	--	8-18	--	12.81	--	92.89	80.08
	4/12/03	--	--		--	10.02	--	92.89	82.87
	12/22/09	--	--		--	11.88	--	92.89	81.01
	11/19/10	--	--		--	12.75	--	92.89	80.14
	7/11/11	5.39	25.3		--	12.82	--	92.89	80.07
	1/11/13	2.79	21.9		--	12.56	--	92.89	80.33
	11/12/13	1.30	21.3		--	12.23	--	92.89	80.66
	2/24/15	1.24	16.3		--	11.40	--	92.89	81.49
15729 MW-11	3/10/02	--	--	15-25	--	20.61	--	101.81	81.20
	4/12/03	--	--		--	13.66	--	101.81	88.15
	12/21/09	--	--		--	19.46	--	101.81	82.35
	11/19/10	--	--		--	20.36	--	101.81	81.45
	7/11/11	3.00	26.3		--	20.26	--	101.81	81.55
	1/14/13	2.01	22.4		--	20.20	--	101.81	81.61
	11/12/13	3.88	20.2		--	19.10	--	101.81	82.71
	2/24/15	1.80	16.2		--	18.47	--	101.81	83.34
15729 MW-12	3/10/02	--	--	15-25	--	20.29	--	103.42	83.13
	4/2/03	--	--		--	13.52	--	103.42	89.90
	12/21/09	--	--		--	18.57	--	103.42	84.85
	11/22/10	--	--		--	19.75	--	103.42	83.67
	7/13/11	4.13	24.1		--	19.70	--	103.42	83.72
	1/21/13	3.71	19.8		--	19.50	--	103.42	83.92
	11/13/13	4.21	18.6		--	18.50	--	103.42	84.92
	2/25/15	2.71	17.6		--	17.30	--	103.42	86.12
15729 MW-13	3/10/02	PROD	PROD	15-25	19.10	20.38	1.28	102.69	83.26
	4/2/03	PROD	PROD		14.45	14.93	0.48	102.69	88.12
	11/11/04	PROD	PROD		18.40	19.10	0.70	102.69	84.11
	12/22/09	NL	NL		NL	NL	NL	102.69	NL
15729 MW-13R	11/19/10	PROD	PROD	12-22	18.88	20.11	1.23	102.76	83.56
	7/11/11	PROD	PROD		19.08	19.19	0.11	102.76	83.65
	1/15/13	PROD	PROD		18.85	19.15	0.30	102.76	83.83
	11/12/13	PROD	PROD		18.42	18.46	0.04	102.76	84.33
	2/23/15	PROD	PROD		17.32	17.34	0.02	102.76	85.43
15729 MW-14	3/10/02	--	--	15-25	--	17.33	--	99.07	81.74
	4/12/03	--	--		--	12.39	--	99.07	86.68
	12/22/09	--	--		--	16.40	--	99.07	82.67
	11/19/10	--	--		--	17.20	--	99.07	81.87
	7/11/11	1.90	26.0		--	12.19	--	99.07	86.88
	1/14/13	1.50	20.4		--	17.00	--	99.07	82.07
	11/12/13	3.92	19.8		--	16.37	--	99.07	82.70
	2/23/15	3.18	16.9		--	15.71	--	99.07	83.36
15729 MW-15	3/10/02	--	--	15-25	--	19.75	--	101.93	82.18
	4/12/03	--	--		--	12.94	--	101.93	88.99
	12/21/09	--	--		--	18.61	--	101.93	83.32
	11/19/10	PROD	PROD		19.36	19.57	0.21	101.93	82.52
	7/11/11	PROD	PROD		19.26	19.56	0.30	101.93	82.59
	1/14/13	PROD	PROD		18.72	21.99	3.27	101.93	82.36
	11/12/13	PROD	PROD		17.54	20.30	2.76	101.93	83.67
	2/24/15	PROD	PROD		16.95	18.65	1.70	101.93	84.54
15729 MW-16D	4/2/03	--	--	65-75	--	12.10	--	101.84	89.74
	12/21/09	--	--		--	16.93	--	101.84	84.91
	11/22/10	4.21	24.4		--	18.18	--	101.84	83.66
	7/13/11	4.45	27.4		--	18.31	--	101.84	83.53
	1/21/13	1.18	16.3		--	17.90	--	101.84	83.94
	11/12/13	0.76	20.7		--	17.09	--	101.84	84.75
	2/25/15	2.32	18.2		--	15.50	--	101.84	86.34
15729 MW-17	4/2/03	--	--	8-18	--	9.50	--	98.81	89.31
	12/22/09	NL	NL		NL	NL	NL	98.81	NL
15729 MW-17R	11/22/10	4.03	22.5	10-20	--	13.40	--	98.86	85.46
	1/21/13	1.21	21.8		--	12.97	--	98.86	85.89
	11/13/13	1.44	21.2		--	12.40	--	98.86	86.46
	2/20/15	0.99	20.6		--	11.75	--	98.86	87.11
15729 MW-18	4/2/03	--	--	13-23	--	13.45	--	100.86	87.41
	12/22/09	NL	NL		NL	NL	NL	100.86	NL
15729 MW-18R	11/22/10	4.18	20.5	12-22	--	14.38	--	99.32	84.94
	1/21/13	0.85	20.6		--	14.35	--	99.32	84.97
	11/13/13	1.38	18.6		--	13.73	--	99.32	85.59
	2/20/15	1.34	19.3		--	12.94	--	99.32	86.38

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6. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline

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GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
PAGE 3 OF 5

Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
15729 MW-19	4/12/03	--	--	5-15	--	7.60	--	92.78	85.18
	12/22/09	--	--		--	9.90	--	92.78	82.88
	11/19/10	--	--		--	10.58	--	92.78	82.20
	7/11/11	4.60	27.1		--	10.61	--	92.78	82.17
	1/15/13	1.30	17.9		--	10.38	--	92.78	82.40
	2/14/13	2.21	16.1		--	9.66	--	92.78	83.12
	11/12/13	1.80	18.5		--	10.17	--	92.78	82.61
	2/23/15	2.13	14.9		--	9.44	--	92.78	83.34
15729 MW-20	4/12/03	--	--	3-13	--	3.52	--	85.47	81.95
	12/22/09	--	--		--	4.89	--	85.47	80.58
	11/19/10	--	--		--	5.47	--	85.47	80.00
	7/11/11	1.70	26.3		--	5.57	--	85.47	79.90
	1/11/13	NL	NL		NL	NL	NL	85.47	NL
	11/12/13	NL	NL		NL	NL	NL	85.47	NL
	2/23/15	2.67	15.1		--	4.74	--	85.47	80.73
15729 MW-21	4/12/03	--	--	3-13	--	5.05	--	89.24	84.19
	12/22/09	--	--		--	8.67	--	89.24	80.57
	11/19/10	--	--		--	9.90	--	89.24	79.34
	7/11/11	5.80	26.1		--	10.00	--	89.24	79.24
	1/11/13	1.33	21.7		--	9.60	--	89.24	79.64
	11/12/13	1.85	21.5		--	9.19	--	89.24	80.05
	2/24/15	1.34	15.3		--	8.05	--	89.24	81.19
15729 MW-22	4/12/03	--	--	10-25	--	11.96	--	101.70	89.74
	12/22/09	--	--		--	19.87	--	101.70	81.83
	11/19/10	--	--		--	20.77	--	101.70	80.93
	7/11/11	4.83	26.7		--	20.70	--	101.70	81.00
	1/14/13	2.28	20.2		--	20.73	--	101.70	80.97
	11/12/13	1.06	19.7		--	19.21	--	101.70	82.49
	2/24/15	2.26	14.7		--	18.27	--	101.70	83.43
15729 MW-23	4/12/03	--	--	10-25	--	13.87	--	103.32	89.45
	12/22/09	NL	NL		NL	NL	NL	103.32	NL
	1/11/13	NL	NL		NL	NL	NL	103.32	NL
	11/12/13	NL	NL		NL	NL	NL	103.32	NL
	2/24/15	NL	NL		NL	NL	NL	103.32	NL
15729 MW-24	11/22/10	4.40	21.4	13-23	--	19.48	--	103.34	83.86
	7/11/11	3.33	26.1		--	19.39	--	103.34	83.95
	1/21/13	1.06	20.6		--	19.21	--	103.34	84.13
	11/13/13	1.44	17.9		--	18.63	--	103.34	84.71
	2/25/15	0.63	17.1		--	17.25	--	103.34	86.09
15729 MW-25	11/22/10	4.01	21.6	12-22	--	18.26	--	101.19	82.93
	7/11/11	1.91	27.0		--	18.19	--	101.19	83.00
	1/15/13	0.74	20.5		--	18.02	--	101.19	83.17
	2/14/13	1.96	18.1		--	17.85	--	101.19	83.34
	11/13/13	1.79	17.6		--	17.46	--	101.19	83.73
	2/23/15	3.01	18.9		--	16.35	--	101.19	84.84
15729 MW-26	11/19/10	6.41	19.4	12-22	--	16.49	--	97.73	81.24
	7/11/11	3.03	26.1		--	16.50	--	97.73	81.23
	1/14/13	3.82	20.6		--	16.30	--	97.73	81.43
	11/12/13	4.31	22.3		--	15.66	--	97.73	82.07
	2/23/15	2.69	18.4		--	14.81	--	97.73	82.92
15729 MW-27	11/19/10	5.40	21.0	12-22	--	17.89	--	99.04	81.15
	7/11/11	2.80	27.3		--	17.85	--	99.04	81.19
	1/14/13	1.02	21.6		--	17.68	--	99.04	81.36
	11/12/13	4.14	21.2		--	16.90	--	99.04	82.14
	2/24/15	1.88	16.3		--	15.93	--	99.04	83.11
15729 MW-28	11/22/10	3.51	24.7	12-22	--	17.33	--	101.46	84.13
	1/21/13	PROD	PROD		16.65	17.98	1.33	101.46	84.46
	11/13/13	PROD	PROD		16.14	17.32	1.18	101.46	85.01
	2/20/15	PROD	PROD		15.50	16.12	0.62	101.46	85.80
15729 MW-29	11/22/10	4.39	20.7	13-23	--	16.39	--	100.77	84.38
	7/13/11	4.11	23.8		--	16.36	--	100.77	84.41
	1/21/13	1.55	20.7		--	16.12	--	100.77	84.65
	11/13/13	1.53	19.7		--	15.46	--	100.77	85.31
	2/26/15	2.05	16.6		--	13.85	--	100.77	86.92
15729 MW-30	11/22/10	5.83	20.3	13-23	--	20.49	--	102.90	82.41
	7/11/11	4.41	26.9		--	20.24	--	102.90	82.66
	1/21/13	1.45	17.9		--	20.23	--	102.90	82.67
	11/13/13	2.63	16.9		--	19.20	--	102.90	83.70
	2/25/15	1.55	15.4		--	18.05	--	102.90	84.85
15729 MW-31	11/19/10	6.20	20.9	12-22	--	18.80	--	99.98	81.18
	7/11/11	3.03	27.1		--	18.71	--	99.98	81.27
	1/14/13	2.31	21.3		--	18.65	--	99.98	81.33
	11/12/13	4.49	20.5		--	17.49	--	99.98	82.49
	2/24/15	2.99	15.6		--	16.60	--	99.98	83.38

Notes:

1. ug/l = micrograms per liter
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3. NT = Not Tested
4. NL = Not Located
5. PROD = Free Phase Product Detected
6. DRY = Well went dry during
7. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline

TABLE 1
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
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Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
15729 MW-32	11/19/10	6.89	20.5	2-12	–	4.24	–	83.50	79.26
	7/11/11	1.05	24.2		–	4.49	–	83.50	79.01
	1/11/13	1.97	16.7		–	4.15	–	83.50	79.35
	11/12/13	NS	NS		NS	NS	NS	83.50	NS
	2/4/14	3.89	13.1		–	3.58	–	83.50	79.92
	2/23/15	2.46	13.5		–	2.69	–	83.50	80.81
15729 MW-33	11/19/10	5.70	21.5	14-24	–	16.31	–	98.26	81.95
	7/11/11	2.10	24.9		–	16.35	–	98.26	81.91
	1/14/13	1.41	19.5		–	16.12	–	98.26	82.14
	11/12/13	1.50	20.0		–	15.66	–	98.26	82.60
	2/23/15	1.40	17.3		–	14.86	–	98.26	83.40
15729 MW-34D	11/19/10	4.11	21.2	45-50	–	16.68	–	97.98	81.30
	7/11/11	0.04	26.4		–	16.73	–	97.98	81.25
	1/14/13	1.71	20.7		–	16.50	–	97.98	81.48
	11/12/13	3.30	23.3		–	15.61	–	97.98	82.37
	2/23/15	1.70	17.8		–	14.43	–	97.98	83.55
15729 MW-35i	11/19/10	6.44	21.4	26-31	–	4.07	–	83.57	79.50
	7/11/11	1.50	25.0		–	4.31	–	83.57	79.26
	1/11/13	6.37	18.0		–	4.02	–	83.57	79.55
	11/12/13	NS	NS		NS	NS	NS	83.57	NS
	2/4/14	5.90	16.3		–	3.62	–	83.57	79.95
	2/23/15	4.42	15.5		–	1.00	–	83.57	82.57
15729 MW-36	7/11/11	3.40	27.6	15-25	–	17.74	–	101.71	83.97
	1/15/13	PROD	PROD		17.32	17.36	0.04	101.71	84.38
	11/13/13	PROD	PROD		16.90	17.68	0.78	101.71	84.61
	2/20/15	1.02	19.6		–	16.08	–	101.71	85.63
15729 MW-37	7/13/11	4.96	27.1	15-25	–	19.68	–	103.21	83.53
	1/21/13	1.47	18.9		–	19.50	–	103.21	83.71
	11/13/13	1.42	18.1		–	18.86	–	103.21	84.35
	2/25/15	1.31	20.1		–	17.62	–	103.21	85.59
15729 MW-38	7/11/11	3.99	26.7	15-25	–	18.20	–	101.92	83.72
	1/15/13	0.85	23.8		–	18.12	–	101.92	83.80
	2/14/13	0.98	19.5		–	17.86	–	101.92	84.06
	11/13/13	0.94	17.3		–	17.64	–	101.92	84.28
	2/23/15	0.71	18.2		–	16.61	–	101.92	85.31
15729 MW-39	7/11/11	PROD	PROD	15-25	18.15	20.10	1.95	101.99	83.33
	1/15/13	PROD	PROD		18.23	18.28	0.05	101.99	83.75
	11/13/13	PROD	PROD		17.72	18.73	1.01	101.99	84.01
	2/23/15	PROD	PROD		16.73	17.49	0.76	101.99	85.06
15729 MW-40	7/11/11	PROD	PROD	15-25	18.45	20.37	1.92	102.15	83.20
	1/21/13	PROD	PROD		18.41	20.20	1.79	102.15	83.27
	11/13/13	PROD	PROD		17.82	19.38	1.56	102.15	83.92
	2/25/15	PROD	PROD		16.70	18.20	1.50	102.15	85.06
15729 MW-41	7/11/11	1.03	26.1	15-25	Sheen	18.73	Sheen	101.29	82.56
	1/14/13	PROD	PROD		18.60	19.00	0.40	101.29	82.59
	11/12/13	PROD	PROD		17.63	18.04	0.41	101.29	83.55
	2/24/15	PROD	PROD		16.86	17.10	0.24	101.29	84.37
15729 MW-42	7/11/11	0.50	26.9	15-25	–	19.11	–	101.67	82.56
	1/14/13	0.63	22.1		–	19.08	–	101.67	82.59
	11/12/13	NR	20.6		–	18.03	–	101.67	83.64
	2/24/15	0.98	16.7		–	17.04	–	101.67	84.63
15729 MW-43	7/11/11	PROD	PROD	15-25	18.88	20.54	1.66	101.92	82.61
	1/14/13	PROD	PROD		18.68	21.11	2.43	101.92	82.61
	11/12/13	PROD	PROD		17.26	20.58	3.32	101.92	83.80
	2/24/15	PROD	PROD		16.51	18.00	1.49	101.92	85.02
15729 MW-44	7/11/11	4.14	27.0	15-25	–	18.70	–	102.42	83.72
	1/15/13	1.11	22.6		–	18.48	–	102.42	83.94
	2/14/13	0.95	20.1		–	18.34	–	102.42	84.08
	11/13/13	0.61	19.9		–	18.06	–	102.42	84.36
	2/23/15	0.45	19.1		–	18.01	–	102.42	84.41
15729 MW-45	7/11/11	4.44	27.3	15-25	–	18.33	–	101.50	83.17
	1/15/13	PROD	PROD		17.50	17.52	0.02	101.50	83.99
	11/13/13	PROD	PROD		17.28	19.15	1.87	101.50	83.73
	2/20/15	PROD	PROD		16.57	17.95	1.38	101.50	84.57
15729 MW-46	1/21/13	PROD	PROD	15-25	18.90	20.89	1.99	103.26	83.84
	11/13/13	PROD	PROD		18.16	20.45	2.29	103.26	84.50
	2/25/15	PROD	PROD		16.90	18.65	1.75	103.26	85.91
15729 MW-47	1/15/13	1.19	23.4	15-25	–	19.60	–	103.19	83.59
	2/14/13	1.19	20.3		–	20.81	–	103.19	82.38
	11/13/13	1.32	18.2		–	18.93	–	103.19	84.26
	2/25/15	0.93	18.8		–	17.70	–	103.19	85.49
15729 MW-48	1/21/13	1.87	18.5	15-25	–	19.14	–	102.53	83.39
	11/13/13	3.16	17.6		–	18.48	–	102.53	84.05
	2/25/15	1.54	16.1		–	17.18	–	102.53	85.35

Notes:

1. ug/l = micrograms per liter
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4. NL = Not Located
5. PROD = Free Phase Product Detected
6. DRY = Well went dry during
7. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline
8. NS = Not Sampled

TABLE 1
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
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Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
15729 MW-49	1/21/13	PROD	PROD	15-25	18.40	20.50	2.10	101.83	82.88
	11/13/13	PROD	PROD		17.50	19.74	2.24	101.83	83.75
	2/25/15	PROD	PROD		16.62	17.20	0.58	101.83	85.06
15729 MW-50	1/21/13	1.31	17.5	15-25	–	18.87	–	101.66	82.79
	11/13/13	1.56	14.3		–	17.93	–	101.66	83.73
	2/25/15	0.79	16.0		–	16.75	–	101.66	84.91
15729 MW-51	1/14/13	PROD	PROD	15-25	18.75	21.10	2.35	102.06	82.70
	11/12/13	PROD	PROD		17.69	20.16	2.47	102.06	83.73
	2/24/15	PROD	PROD		16.81	18.19	1.38	102.06	84.89
15729 MW-52	1/14/13	0.58	22.7	15-25	–	19.25	–	101.77	82.52
	11/12/13	0.79	20.7		–	18.08	–	101.77	83.69
	2/24/15	0.50	17.2		–	17.15	–	101.77	84.62
15729 MW-53	1/14/13	0.71	22.2	15-25	–	19.17	–	101.14	81.97
	11/12/13	0.90	21.1		–	18.08	–	101.14	83.06
	2/24/15	1.81	16.2		–	17.41	–	101.14	83.73
15729 MW-54	1/14/13	0.72	23.4	15-25	–	19.07	–	101.12	82.05
	11/12/13	0.98	21.5		–	18.10	–	101.12	83.02
	2/24/15	1.24	17.3		–	17.10	–	101.12	84.02
15729 MW-55	1/11/13	0.87	20.2	14-24	–	18.10	–	99.37	81.27
	11/12/13	2.86	20.8		–	17.14	–	99.37	82.23
	2/24/15	1.19	15.2		–	15.75	–	99.37	83.62
15729 MW-56	1/11/13	0.60	21.5	13-23	–	16.65	–	97.92	81.27
	11/12/13	1.26	21.1		–	15.97	–	97.92	81.95
	2/24/15	1.12	16.9		–	15.02	–	97.92	82.90
15729 MW-57	1/11/13	0.11	21.4	12-22	–	15.80	–	97.31	81.51
	11/12/13	1.21	22.2		–	15.31	–	97.31	82.00
	2/23/15	0.37	18.4		–	14.56	–	97.31	82.75
15729 MW-58	1/15/13	1.83	21.4	14-24	–	17.72	–	100.49	82.77
	2/14/13	2.48	19.5		–	17.42	–	100.49	83.07
	11/13/13	3.34	19.1		–	17.15	–	100.49	83.34
	2/23/15	3.55	19.3		–	16.56	–	100.49	83.93
15729 MW-59	1/21/13	1.14	20.4	13-23	–	16.92	–	101.59	84.67
	11/13/13	0.78	21.9		–	16.58	–	101.59	85.01
	2/20/15	1.03	20.3		–	15.89	–	101.59	85.70
15729 MW-60	1/15/13	0.77	22.6	15-25	–	18.82	–	103.08	84.26
	2/14/13	1.01	20.0		–	18.76	–	103.08	84.32
	11/13/13	1.16	17.6		–	18.42	–	103.08	84.66
	2/20/15	0.50	17.6		–	17.57	–	103.08	85.51
15729 MW-61	1/15/13	0.67	23.4	15-25	–	18.90	–	102.85	83.95
	2/14/13	0.66	20.8		–	18.84	–	102.85	84.01
	11/13/13	1.41	19.0		–	18.39	–	102.85	84.46
	2/26/15	0.60	19.3		–	17.06	–	102.85	85.79
15729 MW-62	1/21/13	3.03	16.8	15-25	–	17.74	–	101.99	84.25
	11/13/13	2.35	20.2		–	16.96	–	101.99	85.03
	2/26/15	2.20	16.9		–	15.46	–	101.99	86.53
15729 MW-63	1/15/13	0.91	22.5	14-24	–	18.01	–	102.01	84.00
	2/14/13	1.19	18.8		–	17.91	–	102.01	84.10
	11/13/13	0.76	17.7		–	17.62	–	102.01	84.39
	2/20/15	1.15	17.2		–	16.90	–	102.01	85.11
15729 MW-64	1/15/13	4.12	22.4	14-24	–	17.49	–	100.95	83.46
	2/14/13	3.65	17.6		–	17.22	–	100.95	83.73
	11/13/13	4.90	15.5		–	17.22	–	100.95	83.73
	2/20/15	3.01	15.1		–	16.44	–	100.95	84.51
15729 MW-66	1/15/13	2.48	23.3	14-24	–	18.42	–	101.97	83.55
	2/14/13	2.58	18.3		–	0.00	–	101.97	101.97
	11/13/13	1.64	17.2		–	17.70	–	101.97	84.27
	2/23/15	1.65	17.6		–	16.83	–	101.97	85.14
15729 MW-67	4/8/14	4.36	17.3	7-17	–	8.82	–	90.67	81.85
	2/25/15	1.92	15.5		–	9.60	–	90.67	81.07
15729 MW-68	4/8/14	2.47	15.9	4-14	–	6.34	–	85.46	79.12
	2/25/15	2.61	13.9		–	6.48	–	85.46	78.98
15729 MW-69	4/8/14	1.50	16.1	4-14	–	6.45	–	86.60	80.15
	2/25/15	0.79	13.9		–	6.55	–	86.60	80.05
15729 MW-70	4/8/14	3.57	16.6	4-14	–	5.85	–	84.77	78.92
	2/25/15	0.78	14.1		–	6.08	–	84.77	78.69
15729 MW-71	5/20/14	2.00	17.5	4-14	–	5.02	–	83.20	78.18
	2/25/15	0.83	13.7		–	5.14	–	83.20	78.06
15729 MW-72	5/20/14	2.07	17.5	4-14	–	4.72	–	82.86	78.14
	2/25/15	1.06	12.9		–	4.90	–	82.86	77.96
15729 MW-73	5/20/14	7.97	19.5	4-14	–	5.50	–	87.26	81.76
	2/24/15	3.71	14.6		–	6.50	–	87.26	80.76

Notes:

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4. NL = Not Located
5. PROD = Free Phase Product Detected
6. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline
7. NR = Not Recorded

TABLE 2
GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
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Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-1	4/2/03	Free Product - 3.69 Feet								
	12/21/09	Free Product - 0.51 Feet								
	7/13/11	Free Product - 0.88 Feet								
	1/21/13	Free Product - 0.98 Feet								
	11/13/13	Free Product - 0.44 Feet								
	2/26/15	Free Product - 0.03 Feet								
15729 MW-2D	4/12/03	**22.6**	**19.8**	**28.3**	**47.9**	ND	**9.90**	NT	**0.15**	NT
	12/21/09	ND	**0.470**	**1.90**	**2.41**	**0.660**	**1.07**	ND	ND	**8.20**
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/25/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-3	4/2/03	ND	**1.0**	ND	ND	ND	ND	NT	ND	NT
	12/21/09	ND	ND	ND	ND	ND	**0.610**	ND	ND	**3.20**
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/26/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-4	7/13/01	**2,860**	**1,330**	**581**	**1,490**	**198**	**146**	NT	**13.6**	NT
	12/21/09	**114**	**5.91**	**22.4**	**5.97**	**2.98**	**9.72**	ND	**0.1709**	**13.6**
	11/22/10	**169**	**3.5J**	**3.5J**	<10.0	**4.9J**	**6.7**	**5.5**	**0.13**	<5.0
	7/13/11	**688**	**184**	**129**	**283**	**26.1**	**52.6**	**18.2**	**4.8**	NT
	1/21/13	**1,050**	**610**	**218**	**521**	**52.1**	**77.3**	**25.0**	**9.7**	NT
	11/13/13	**410**	**18.0**	**51.9**	**23.1**	**12.3**	**16.0**	**6.9**	**0.88**	NT
	2/26/15	**39.4**	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	**0.044**	NT
15729 MW-5	4/2/03	**1,650**	**3,000**	**372**	**1,640**	**246**	**94.7**	NT	**22.0**	NT
	12/21/09	**2,610**	**5,820**	**735**	**3,370**	**64.6**	**156**	ND	**34.78**	**84.5**
	11/22/10	**63.9**	**154**	**22.1**	**107**	<5.0	**6.3**	<5.0	**0.91**	<5.0
	1/21/13	**209**	**815**	**135**	**530**	**2.3J**	**24.4**	**1.9J**	**1.3**	NT
	11/13/13	**21.9**	**40.1**	**50.2**	**37.8**	<5.0	**52.7**	<5.0	**0.14**	NT
	2/20/15	**3,530**	**10,900**	**1,530**	**7,110**	<500	**269J**	<500	**27.2**	NT
15729 MW-6	4/2/03	ND	**2.0**	ND	**2.2**	**6.8**	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	**2.61**	ND	ND	ND	**33.3**
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/20/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-7	4/12/03	ND	ND	ND	ND	**15.3**	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	**3.10**	ND	ND	ND	**31.2**
	11/19/10	<5.0	<5.0	<5.0	<10.0	**3.1J**	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/23/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-8	4/12/03	ND	ND	ND	ND	**3.3**	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	**21.4**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019	NT
	2/24/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-9	4/12/03	**1.4**	ND	ND	ND	**181**	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	**6.86**	ND	ND	ND	**136**
	11/19/10	<5.0	<5.0	<5.0	<10.0	**6.5**	<5.0	<5.0	<0.020	**17.9**
	7/11/11	<5.0	<5.0	<5.0	<10.0	**1.9J**	<5.0	<5.0	<0.020	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	**38.4**	<5.0	<5.0	<0.020	NT
	2/24/15	**1.7J**	<5.0	<5.0	<10.0	**16.8**	<5.0	<5.0	<0.020	NT
15729 MW-10	4/12/03	**2,000**	**34.4**	**169**	**25.0**	**38.6**	**22.6**	NT	ND	NT
	12/22/09	**1,250**	**20.3**	**44.8**	**15.0**	**58.1**	**12.0**	ND	**0.1719**	**43.6**
	11/19/10	**42.3**	<5.0	**3.8J**	<10.0	**38.3**	<5.0	**13.6**	<0.020	<5.0
	7/11/11	**777**	**5.0**	**14.7**	**8.3J**	**54.4**	**6.3**	**12.0**	<0.020	NT
	1/11/13	**208**	<10.0	**15.6**	<20.0	**38.1**	<10.0	**5.9J**	<0.020	NT
	11/12/13	**34.3**	<5.0	**3.4J**	<10.0	**7.4**	<5.0	<5.0	<0.020	NT
	2/24/15	**301**	<5.0	**26.6**	<10.0	**46.6**	**8.6**	**19.3**	<0.020	NT
15729 MW-11	4/12/03	**1,100**	**4.2**	**11.2**	**3.2**	ND	**8.80**	NT	**0.23**	NT
	12/21/09	**181**	**32.3**	**20.2**	**6.90**	**1.28**	**8.65**	ND	ND	**34.1**
	11/19/10	**63.6**	<5.0	**1.1J**	<10.0	**2.3J**	**4.0J**	<5.0	<0.020	<5.0
	7/11/11	**72.9**	**20.6**	**8.9**	**18.7**	<5.0	**4.3J**	**2.7J**	<0.020	NT
	1/14/13	**1,470**	**23.9J**	**49.1J**	<100	**28.3J**	**36.5J**	<50.0	**0.082**	NT
	11/12/13	**1.8J**	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/24/15	**173**	<5.0	**4.0J**	<10.0	<5.0	**3.7J**	**6.2**	<0.020	NT

Notes:

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5. NL = Not Located
6. NS = Not Sampled
7. PROD= Free Phase Product detected
8. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

TABLE 2
GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
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Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-12	4/2/03	ND	1.3	ND	1.5	ND	ND	NT	ND	NT
	12/21/09	ND	0.530	ND	ND	ND	1.54	ND	ND	17.6
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/25/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-13	4/2/03	Free Product - 0.48 Feet								
	12/21/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-13R	11/19/10	Free Product - 1.23 Feet								
	7/11/11	Free Product - 0.11 Feet								
	1/15/13	Free Product - 0.30 Feet								
	11/12/13	Free Product - 0.04 Feet								
	2/23/15	Free Product - 0.02 Feet								
15729 MW-14	4/12/03	1,190	501	390	344	2,110	41.3	NT	0.12	NT
	12/22/09	1,250	20.3	44.8	15.0	58.1	12.0	ND	0.1719	43.6
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	323	593	78.7	216	4.5J	4.9J	<5.0	<0.020	NT
	1/14/13	421	431	200	497	10.5J	33.3	<12.5	0.024	NT
	11/12/13	185	154	96.1	120	2.9J	7.8	<5.0	<0.019	NT
	2/23/15	1,920	3,490	580	1,710	<5.0	76.8	4.8J	0.57	NT
15729 MW-15	4/12/03	7,160	15,300	1,850	8,350	ND	282	NT	152	NT
	12/21/09	6,690	18,000	3,700	13,700	5.66	844	ND	46.78	244
	11/19/10	Free Product - 0.21 Feet								
	7/11/11	Free Product - 0.30 Feet								
	1/14/13	Free Product - 3.27 Feet								
	11/12/13	Free Product - 2.76 Feet								
	2/24/15	Free Product - 1.70 Feet								
15729 MW-16D	4/2/03	4.4	16.9	5.2	19.6	ND	ND	NT	ND	NT
	12/21/09	0.870	1.37	2.00	4.48	ND	0.890	ND	ND	4.00
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	1.7J	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/25/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-17	4/2/03	200	700	ND	720	ND	ND	NT	0.04	NT
	12/21/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-17R	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	2.3J	<5.0	<0.020	NT
	2/20/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-18	4/2/03	6.5	426	327	978	70.8	49.0	NT	ND	NT
	12/21/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-18R	11/22/10	<5.0	<5.0	<5.0	<10.0	4.1J	<5.0	<5.0	<0.019	<5.0
	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	2.6J	<5.0	<5.0	<0.020	NT
	2/20/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-19	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	2.35	ND	ND	ND	210
	11/19/10	<5.0	<5.0	<5.0	<10.0	3.9J	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/23/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.022	NT
15729 MW-20	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	NT	ND	214
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	7.5
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/11/13	NL	NL	NL	NL	NL	NL	NL	NL	NL
	11/12/13	NL	NL	NL	NL	NL	NL	NL	NL	NL
	2/23/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-21	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	63.0
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.028	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.023	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.029	NT
	2/24/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT

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H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 3 OF 6

Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-22	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	49.1
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/24/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-23	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
	11/19/10	NL	NL	NL	NL	NL	NL	NL	NL	NL
	1/11/13	NL	NL	NL	NL	NL	NL	NL	NL	NL
	11/12/13	NL	NL	NL	NL	NL	NL	NL	NL	NL
	2/24/15	NL	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-24	11/22/10	6,830	17,300	2,320	10,400	<500	397J	<500	87.8	65.4
	7/11/11	4,940	10,200	1,080	6,800	<500	226J	<500	146	NT
	1/21/13	6,410	6,130	778	3,160	233J	254J	<500	58.4	NT
	11/13/13	6,380	12,400	1,220	4,900	51.3	282J	106	105	NT
	2/25/15	4,230	7,590	909	4,010	<625	<625	<625	68.7	NT
15729 MW-24 DUP	1/21/13	6,880	6,620	882	3,470	233J	269J	<500	63.2	NT
	11/13/13	6,670	11,100	1,150	4,550	58.0	271J	117	95.2	NT
	2/25/15	4,820	8,410	1,130	4,820	<250	122J	<250	64.9	NT
15729 MW-25	11/22/10	4,060	5,550	471J	1,720	266J	<500	<500	54.9	17.0
	7/11/11	4,440	7,500	890	2,740	103J	142J	<250	30.9	NT
	2/14/13	2,810	5,150	783	2,260	<100	131	<100	3.5	NT
	11/13/13	29.1	9.4	6.6	24.1	<5.0	8.0	<5.0	14.7	NT
	2/23/15	5,310	6,970	675	2,520	97.1	156	35.0	18.8	NT
15729 MW-26	11/19/10	211	10.7	15.2	17.7	11.8	4.4J	1.7J	<0.020	<5.0
	7/11/11	257	72.7	81.3	103	7.1J	11.3	<10.0	<0.020	NT
	1/14/13	1,080	324	235	505	23.7J	46.1J	<50.0	<0.021	NT
	11/12/13	390	63.5	143	266	15.3	37.9	4.7J	<0.019	NT
	2/23/15	104	47.0	18.3	30.1	<5.0	3.5J	<5.0	<0.020	NT
15729 MW-27	11/19/10	177	2.2J	8.4	<10.0	9.1	<5.0	4.3J	<0.020	<5.0
	7/11/11	461	3.8J	11.8	23.4	12.3	8.7	9.1	0.040	NT
	1/14/13	178	<5.0	9.8	4.5J	6.9	<5.0	<5.0	<0.021	NT
	11/12/13	2,510	27.6	175	19.8	46.0	31.1	27.1	0.15	NT
	2/24/15	332	5.1J	22.8	<25.0	7.1J	<12.5	<12.5	<0.020	NT
15729 MW-28	11/22/10	3,410	5,070	698	3,250	164J	173J	<250	22.8	52.1
	1/21/13	Free Product - 1.33 Feet								
	11/13/13	Free Product - 1.18 Feet								
	2/20/15	Free Product - 0.62 Feet								
15729 MW-29	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	3.8J	<5.0	<5.0	<10.0	<5.0	3.3J	<5.0	<0.020	NT
	11/13/13	<5.0	2.0J	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/26/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-30	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/21/13	298	1.6J	<5.0	5.2J	<5.0	43.9	3.1J	0.29	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/25/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-31	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.18	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.080	NT
	1/14/13	135	<5.0	<5.0	<10.0	<5.0	3.1J	<5.0	0.058	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/24/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-32	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/23/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-32 DUP	2/4/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-33	11/19/10	144	714	152	419	<50.0	<50.0	<50.0	0.20	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/12/13	20.4	53.6	17.0	45.7	<5.0	<5.0	<5.0	0.039	NT
	2/23/15	502	3,040	539	1,560	<25.0	66.6	<25.0	0.40	NT
15729 MW-34D	11/19/10	<5.0	<5.0	<5.0	<10.0	4.1J	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	2.0J	<5.0	<5.0	<0.020	NT
	1/14/13	<5.0	<5.0	<5.0	<10.0	1.9J	<5.0	<5.0	<0.021	NT
	11/12/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/23/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT

Notes:

1. ug/l = micrograms per liter
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3. ND = Not Detected
4. NT = Not Tested
5. NL = Not Located
6. NS = Not Sampled
7. PROD= Free Phase Product detected
8. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

TABLE 2
GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
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Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-35i	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	1/11/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.021	NT
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/23/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-36	7/11/11	2,130	2,790	527	2,180	95.1J	126	<100	14.1	NT
	1/15/13	Free Product - 0.04 Feet								
	11/13/13	Free Product - 0.78 Feet								
	2/20/15	4,450	4,720	642	2,410	163	199	26.8J	12.1	NT
15729 MW-37	7/13/11	2,760	1,580	409	808	<125	86.4J	75.5J	14.5	NT
	1/21/13	2,810	220	244	224J	80.2J	134	81.6J	5.0	NT
	11/13/13	633	210	112	165	10.9	20.7	17.6	2.5	NT
	2/25/15	2,590	1,960	487	881	32.4	79.6	57.1	11.6	NT
15729 MW-37 DUP	1/21/13	2,980	238	257	229J	79.0J	139	84.0J	5.1	NT
	11/13/13	39.5	3.7J	4.6J	<10.0	<5.0	2.7J	1.9J	1.2	NT
15729 MW-38	7/11/11	2,790	16,700	2,590	12,300	<500	349J	<500	20.7	NT
	2/14/13	1,880	6,340	948	5,770	<250	274	<250	15.7	NT
	11/13/13	1,340	4,180	775	3,770	<5.0	184	<5.0	8.6	NT
	2/23/15	2,270	9,020	1,460	7,290	<125	401	<125	19.4	NT
15729 MW-38 DUP	2/14/13	2,250	6,180	1,220	6,020	<250	234J	<250	18.0	NT
15729 MW-39	7/11/11	Free Product - 1.95 Feet								
	1/15/13	Free Product - 0.05 Feet								
	11/13/13	Free Product - 1.01 Feet								
	2/23/15	Free Product - 0.76 Feet								
15729 MW-40	7/11/11	Free Product - 1.92 Feet								
	1/21/13	Free Product - 1.79 Feet								
	11/13/13	Free Product - 1.56 Feet								
	2/25/15	Free Product - 1.50 Feet								
15729 MW-41	7/11/11	7,090	9,700	1,680	3,970	<500	434J	<500	21.8	NT
	1/14/13	Free Product - 0.40 Feet								
	11/12/13	Free Product - 0.41 Feet								
	2/24/15	Free Product - 0.24 Feet								
15729 MW-42	7/11/11	337	613	462	865	<25.0	93.8	<25.0	1.1	NT
	1/14/13	1,250	2,210	523	792	<125	96.0J	<125	6.5	NT
	11/12/13	28.4	45.2	781	633	<5.0	172	<5.0	<0.020	NT
	2/24/15	1,150	2,620	554	1,220	<25.0	98.9	12.7J	0.75	NT
15729 MW-43	7/11/11	Free Product - 1.66 Feet								
	1/14/13	Free Product - 2.43 Feet								
	11/12/13	Free Product - 3.32 Feet								
	2/24/15	Free Product - 1.49 Feet								
15729 MW-44	7/11/11	4,040	11,800	1,690	7,260	<500	245J	<500	107	NT
	2/14/13	996	3,960	598	3,510	<250	195J	<250	21.7	NT
	11/13/13	4,360	12,900	1,410	6,940	143	292J	81.3	112	NT
	2/23/15	3,020	9,370	1,450	7,200	<250	277	<250	58.1	NT
15729 MW-44 DUP	2/14/13	1,060	4,170	661	3,770	<250	221J	<250	23.3	NT
	2/23/15	2,500	7,980	1,250	5,980	<250	<250	<250	50.1	NT
15729 MW-45	7/11/11	2,000	11,000	1,960	7,570	<500	<500	<500	13.6	NT
	1/15/13	Free Product - 0.02 Feet								
	11/13/13	Free Product - 1.87 Feet								
	2/20/15	Free Product - 1.38 Feet								
15729 MW-46	1/21/13	Free Product - 1.99 Feet								
	11/13/13	Free Product - 2.29 Feet								
	2/25/15	Free Product - 1.75 Feet								
15729 MW-47	2/14/13	5,710	1,180	622	574	198J	108J	120J	4.1	NT
	11/13/13	1,940	275	243	224	25.3	51.8	40.9	2.2	NT
	2/25/15	2,040	130	67.3J	<200	45.6J	51.4J	52.2J	1.4	NT
15729 MW-48	1/21/13	1,080	14.9	28.0	10.7	37.4	88.3	85.0	0.17	NT
	11/13/13	39.8	3.5J	<5.0	<10.0	<5.0	5.7	4.4J	<0.020	NT
	2/25/15	677	20.3	38.3	11.6	21.7	49.5	54.2	0.22	NT
15729 MW-49	1/21/13	Free Product - 2.10 Feet								
	11/13/13	Free Product - 2.24 Feet								
	2/25/15	Free Product - 0.58 Feet								
15729 MW-50	1/21/13	960	1,300	183	799	1.8J	86.3	30.3	10.9	NT
	11/13/13	3,370	7,580	777	3,630	1.7J	82.7	34.2	95.2	NT
	2/25/15	1,060	1,830	372	1,200	<62.5	81.0	<62.5	17.9	NT
15729 MW-51	1/14/13	Free Product - 2.35 Feet								
	11/12/13	Free Product - 2.47 Feet								
	2/24/15	Free Product - 1.38 Feet								
15729 MW-52	1/14/13	1,070	162	832	644	1.9J	142	<5.0	0.092	NT
	11/12/13	5.6	95.1	285	835	<5.0	58.4	<5.0	<0.020	NT
	2/24/15	208	37.9	402	373	<12.5	72.2	<12.5	<0.020	NT

Notes:

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5. NL = Not Located
6. NS = Not Sampled
7. PROD= Free Phase Product detected
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TABLE 2
GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 5 OF 6

Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
15729 MW-53	1/14/13	9,410	5,350	1,290	1,610	196	182	<5.0	4.3	NT
	11/12/13	1,940	248	199	130	30.9	48.7	39.1	0.41	NT
	2/24/15	4,420	5,540	743	2,020	<100	114	63.8J	8.2	NT
15729 MW-53 DUP	11/12/13	1,270	251	154	116	21.0	26.6	22.9	0.39	NT
	2/24/15	4,640	5,940	792	2,210	<100	103	70.9J	8.6	NT
15729 MW-54	1/14/13	<5.0	3.8J	236	343	<5.0	88.4	<5.0	<0.021	NT
	11/12/13	<5.0	25.6	731	1,910	<5.0	226	<5.0	<0.020	NT
	2/24/15	<20.0	8.4J	360	743	<20.0	154	<20.0	<0.020	NT
15729 MW-55	1/11/13	524	74.6	24.0	39.0	89.4	38.0	94.2	0.052	NT
	11/12/13	75.2	5.5	15.6	<10.0	<5.0	6.1	2.6J	0.046	NT
	2/24/15	162	<5.0	7.3	<10.0	<5.0	6.3	7.7	0.33	NT
15729 MW-56	1/11/13	2,100	299	198	273	38.3	42.9	10.3	<0.020	NT
	11/12/13	3,220	26.2	259	11.6	90.6	81.9	33.2	0.040	NT
	2/24/15	1,220	49.3J	114	<100	19.7J	<50.0	<50.0	0.023	NT
15729 MW-56 DUP	2/24/15	1,260	47.5J	113	<100	<50.0	<50.0	<50.0	0.034	NT
15729 MW-57	1/11/13	944	93.8	327	317	37.2	54.3	9.5	<0.020	NT
	11/12/13	605	<5.0	37.4	<10.0	19.8	10.1	5.9	<0.020	NT
	2/23/15	1,050	61.2	304	<100	<50.0	51.6	<50.0	0.090	NT
15729 MW-58	2/14/13	282	5.7J	30.4	11.9J	10.7	8.1J	<10.0	<0.019	NT
	11/13/13	56.5	54.8	13.7	34.7	<5.0	3.3J	<5.0	0.090	NT
	2/23/15	849	1,580	180	653	<12.5	<12.5	4.9J	0.22	NT
15729 MW-59	1/21/13	15.1	489	190	553	<5.0	69.3	<5.0	<0.020	NT
	11/13/13	196	540	59.1	563	5.2	35.4	<5.0	0.023	NT
	2/20/15	13.6	33.2	3.7J	105	<5.0	9.4	<5.0	<0.020	NT
15729 MW-60	2/14/13	1,760	2,730	1,220	1,840	<100	205	<100	14.4	NT
	11/13/13	1,680	1,960	1,210	1,470	<50.0	189	<50.0	8.8	NT
	2/20/15	3,090	6,690	1,530	3,460	<100	276	<100	16.9	NT
15729 MW-61	2/14/13	4,490	10,900	1,370	6,090	<500	205J	<500	34.0	NT
	11/13/13	10,600	17,800	1,680	8,020	208	316	60.3	111	NT
	2/26/15	7,740	17,300	1,730	8,340	<1,000	<1,000	<1,000	76.2	NT
15729 MW-61 DUP	11/13/13	9,500	19,200	1,950	9,370	128	505	53.3	134	NT
	2/26/15	10,600	34,800	7,450	35,100	<1,000	1,350	<1,000	114	NT
15729 MW-62	1/21/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	3.1J	<5.0	6.0J	<5.0	4.4J	<5.0	0.034	NT
	2/26/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-63	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	3.6J	1.8J	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/20/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-64	2/14/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	11/13/13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/20/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-66	2/14/13	2,430	5,580	739	2,450	<250	<250	<250	21.7	NT
	11/13/13	1,050	2,680	261	1,080	4.9J	94.6	4.1J	4.4	NT
	2/23/15	3,140	8,050	924	3,750	<250	177J	<250	16.2	NT
15729 MW-67	4/8/14	31.0	<5.0	6.2	<10.0	1.9J	<5.0	<5.0	<0.020	NT
	2/25/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-67 DUP	4/8/14	37.3	<5.0	7.3	<10.0	2.1J	<5.0	<5.0	<0.019	NT
15729 MW-68	4/8/14	334	4.8J	13.6	<25.0	72.5	6.0J	13.3	<0.020	NT
	2/25/15	499	9.9J	47.9	<40.0	39.9	<20.0	17.5J	0.062	NT
15729 MW-69	4/8/14	<5.0	<5.0	<5.0	<10.0	3.3J	<5.0	<5.0	<0.020	NT
	2/25/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-70	4/8/14	138	<5.0	<5.0	<10.0	6.9	3.0J	12.0	0.14	NT
	2/25/15	92.5	<5.0	<5.0	<10.0	3.8J	<5.0	10.2	0.18	NT
15729 MW-71	5/20/14	3.1J	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.087	NT
	2/25/15	23.1	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.11	NT
15729 MW-71 DUP	5/20/14	3.3J	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.084	NT
15729 MW-72	5/20/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/25/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 MW-73	5/20/14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
	2/24/15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
15729 WSW-1	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	NT
	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	7/29/11	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	1/21/13	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/23/15	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.019	NT

Notes:

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6. NS = Not Sampled
7. PROD= Free Phase Product detected
8. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

TABLE 3
GROUNDWATER ANALYTICAL DATA (OXYGENATES)
H.W. DETWILER CO.
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 1 OF 5

Well Number	Sample Date	t-Amyl Alcohol (ug/l)	Tert-Amyl Methyl Ether (ug/l)	3,3-Dimethyl-1-Butanol (ug/l)	Tertiary Butyl Alcohol (ug/l)	tert-Butyl Formate (ug/l)	Diisopropyl Ether (ug/l)	Ethanol (ug/l)	Ethyl-tert-butyl Ether (ug/l)
15729 MW-1	7/13/11	Free Product - 0.88 Feet							
	1/21/13	Free Product - 0.98 Feet							
	11/13/13	Free Product - 0.44 Feet							
	2/26/15	Free Product - 0.03 Feet							
15729 MW-2D	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/25/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-3	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/26/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-4	7/13/11	**1,460**	<10.0	<100	<100	<50.0	**26.7**	<200	<10.0
	1/21/13	**3,890**	<50.0	<500	<500	<250	**63.4**	<1,000	<50.0
	11/13/13	**558**	<10.0	<100	<100	<50.0	**10.9**	<200	<10.0
	2/26/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-5	1/21/13	**167**	<10.0	<100	<100	<50.0	**2.1J**	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/20/15	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
15729 MW-6	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/20/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-7	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/23/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-8	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/24/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-9	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/24/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-10	7/11/11	**1,960**	<10.0	<100	<100	<50.0	**15.3**	<200	<10.0
	1/11/13	**2,170**	<20.0	<200	<200	<100	**7.1J**	<400	<20.0
	11/12/13	**412**	<10.0	<100	<100	<50.0	**2.1J**	<200	<10.0
	2/24/15	**2,830**	**5.8J**	<100	<100	<50.0	**32.4**	<200	<10.0
15729 MW-11	7/11/11	**128**	<10.0	<100	<100	<50.0	**2.6J**	**281**	<10.0
	1/14/13	**4,390**	<100	<1,000	<1,000	<500	**73.3**	<2,000	<100
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/24/15	**790**	<10.0	<100	<100	<50.0	**8.4**	<200	<10.0
15729 MW-12	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/25/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-13R	7/11/11	Free Product - 0.11 Feet							
	1/21/13	Free Product - 0.30 Feet							
	11/12/13	Free Product - 0.04 Feet							
	2/23/15	Free Product - 0.02 Feet							
15729 MW-14	7/11/11	**333**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	**1,270**	<25.0	<250	<250	<125	<12.5	<500	<25.0
	11/12/13	**333**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/23/15	**3,440**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-15	7/11/11	Free Product - 0.30 Feet							
	1/21/13	Free Product - 3.27 Feet							
	11/12/13	Free Product - 2.76 Feet							
	2/24/15	Free Product - 1.70 Feet							
15729 MW-16D	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/25/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-17R	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/20/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-18R	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	**210**	<10.0	<100	**260**	<50.0	<5.0	<200	<10.0
	2/20/15	<100	<10.0	<100	**93.0J**	<50.0	<5.0	<200	<10.0

Notes:

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TABLE 3
GROUNDWATER ANALYTICAL DATA (OXYGENATES)
H.W. DETWILER CO.
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
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Well Number	Sample Date	t-Amyl Alcohol (ug/l)	Tert-Amyl Methyl Ether (ug/l)	3,3-Dimethyl-1-Butanol (ug/l)	Tertiary Butyl Alcohol (ug/l)	tert-Butyl Formate (ug/l)	Diisopropyl Ether (ug/l)	Ethanol (ug/l)	Ethyl-tert-butyl Ether (ug/l)
15729 MW-19	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	**151J**	<10.0
	2/23/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-20	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	NL	NL	NL	NL	NL	NL	NL	NL
	11/12/13	NL	NL	NL	NL	NL	NL	NL	NL
	2/23/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-21	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/24/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-22	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/24/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-23	1/11/13	NL	NL	NL	NL	NL	NL	NL	NL
	11/12/13	NL	NL	NL	NL	NL	NL	NL	NL
	2/24/15	NL	NL	NL	NL	NL	NL	NL	NL
15729 MW-24	7/11/11	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	1/21/13	**17,400**	<1,000	<10,000	<10,000	<5,000	**316J**	<20,000	<1,000
	11/13/13	**25,300**	**6.7J**	<100	**249**	<50.0	**159**	<200	<10.0
	2/25/15	<12,500	<1,250	<12,500	<12,500	<6,250	<625	<25,000	<1,250
15729 MW-24 DUP	1/21/13	**16,700**	<1,000	<10,000	<10,000	<5,000	**318J**	<20,000	<1,000
	11/13/13	**19,300**	**6.1J**	<100	**333**	<50.0	**172**	<200	<10.0
	2/25/15	**5,510**	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
15729 MW-25	7/11/11	**5,710**	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
	2/14/13	**3,420**	<200	<2,000	<2,000	<1,000	<100	<4,000	<200
	11/13/13	**165**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/23/15	**8,400**	**34.4J**	<500	**474J**	<250	**88.3**	<1,000	<50.0
15729 MW-26	7/11/11	**417**	<20.0	<200	<200	<100	<10.0	<400	<20.0
	1/14/13	**3,390**	<100	<1,000	<1,000	<500	<50.0	<2,000	<100
	11/12/13	**1,560**	<10.0	<100	<100	<50.0	**5.3**	<200	<10.0
	2/23/15	**199**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-27	7/11/11	**791**	<10.0	<100	<100	<50.0	**11.9**	<200	<10.0
	1/14/13	**487**	<10.0	<100	<100	<50.0	**3.4J**	**453**	<10.0
	11/12/13	**3,250**	**6.6J**	<100	**60.1J**	<50.0	**42.4**	<200	<10.0
	2/24/15	**413**	<25.0	<250	<250	<125	**5.4J**	<500	<25.0
15729 MW-28	1/21/13	Free Product - 1.33 Feet							
	11/13/13	Free Product - 1.18 Feet							
	2/20/15	Free Product - 0.62 Feet							
15729 MW-29	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/26/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-30	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/21/13	**1,350**	<10.0	<100	<100	<50.0	**1.8J**	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/25/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-31	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	**242**	<10.0	<100	<100	<50.0	**4.8J**	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/24/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-32	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/23/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-32 DUP	2/4/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-33	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	**101**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/23/15	**2,190**	<50.0	<500	<500	<250	<25.0	<1,000	<50.0
15729 MW-34D	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/23/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0

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7. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

TABLE 3
GROUNDWATER ANALYTICAL DATA (OXYGENATES)
H.W. DETWILER CO.
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 3 OF 5

Well Number	Sample Date	t-Amyl Alcohol (ug/l)	Tert-Amyl Methyl Ether (ug/l)	3,3-Dimethyl-1-Butanol (ug/l)	Tertiary Butyl Alcohol (ug/l)	tert-Butyl Formate (ug/l)	Diisopropyl Ether (ug/l)	Ethanol (ug/l)	Ethyl-tert-butyl Ether (ug/l)
15729 MW-35i	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/23/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-36	7/11/11	**2,600**	<200	<2,000	<2,000	<1,000	**45.2J**	<4,000	<200
	1/15/13	Free Product - 0.04 Feet							
	11/13/13	Free Product - 0.78 Feet							
	2/20/15	**5,700**	**109**	<1,000	<1,000	<500	<50.0	<2,000	<100
15729 MW-37	7/13/11	**7,390**	<250	<2,500	<2,500	<1,250	**87.9J**	<5,000	<250
	1/21/13	**12,000**	<250	<2,500	<2,500	<1,250	**125**	<5,000	<250
	11/13/13	**1,660**	<10.0	<100	<100	<50.0	**21.1**	<200	<10.0
	2/25/15	**4,280**	<50.0	<500	<500	<250	**80.3**	<1,000	<50.0
15729 MW-37 DUP	1/21/13	**11,000**	<250	<2,500	<2,500	<1,250	**129**	<5,000	<250
	11/13/13	**117**	<10.0	<100	<100	<50.0	**<5.0**	<200	<10.0
15729 MW-38	7/11/11	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	2/14/13	**6,740**	<500	**1,880**	<5,000	<5,000	<2,500	<10,000	<500
	11/13/13	**3,790**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/23/15	**7,460**	<250	<2,500	<2,500	<1,250	<125	<5,000	<250
15729 MW-38 DUP	2/14/13	**5,360**	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
15729 MW-39	7/11/11	Free Product - 1.95 Feet							
	1/15/13	Free Product - 0.05 Feet							
	11/13/13	Free Product - 1.01 Feet							
	2/23/15	Free Product - 0.76 Feet							
15729 MW-40	7/11/11	Free Product - 1.92 Feet							
	1/21/13	Free Product - 1.79 Feet							
	11/13/13	Free Product - 1.56 Feet							
	2/25/15	Free Product - 1.50 Feet							
15729 MW-41	7/11/11	**13,400**	<1,000	<10,000	<10,000	<5,000	**179J**	<20,000	<1,000
	1/14/13	Free Product - 0.40 Feet							
	11/12/13	Free Product - 0.41 Feet							
	2/24/15	Free Product - 0.24 Feet							
15729 MW-42	7/11/11	**849**	<50.0	<500	<500	<250	<25.0	<1,000	<50.0
	1/14/13	**2,330J**	<250	<2,500	<2,500	<1,250	<125	<5,000	<250
	11/12/13	**407**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/24/15	**3,070**	<50.0	<500	<500	<250	<25.0	<1,000	<50.0
15729 MW-43	7/11/11	Free Product - 1.66 Feet							
	1/14/13	Free Product - 2.43 Feet							
	11/12/13	Free Product - 3.32 Feet							
	2/24/15	Free Product - 1.49 Feet							
15729 MW-44	7/11/11	**8,400J**	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	2/14/13	<5,000	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
	11/13/13	**26,600**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/23/15	**13,000**	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
15729 MW-44 DUP	2/14/13	<5,000	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
	2/23/15	**6,640**	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
15729 MW-45	7/11/11	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	1/15/13	Free Product - 0.02 Feet							
	11/13/13	Free Product - 1.87 Feet							
	2/20/15	Free Product - 1.38 Feet							
15729 MW-46	1/21/13	Free Product - 1.99 Feet							
	11/13/13	Free Product - 2.29 Feet							
	2/25/15	Free Product - 1.75 Feet							
15729 MW-47	2/14/13	**10,100**	<500	<5,000	<5,000	<2,500	**204J**	<10,000	<500
	11/13/13	**3,870**	<10.0	<100	<100	<50.0	**65.1**	<200	<10.0
	2/25/15	**4,370**	<200	<2,000	<2,000	<1,000	**73.3J**	<4,000	<200
15729 MW-48	1/21/13	**6,750**	**6.5J**	<100	**131**	<50.0	**102**	<200	<10.0
	11/13/13	**381**	<10.0	<100	<100	<50.0	**5.2**	<200	<10.0
	2/25/15	**3,810**	<10.0	<100	**58.4J**	<50.0	**70.2**	<200	<10.0
15729 MW-49	1/21/13	Free Product - 2.10 Feet							
	11/13/13	Free Product - 2.24 Feet							
	2/25/15	Free Product - 0.58 Feet							
15729 MW-50	1/21/13	**2,680**	<10.0	<100	<100	<50.0	**23.4**	<200	<10.0
	11/13/13	**18,500**	<10.0	<100	<100	<50.0	**<5.0**	<200	<10.0
	2/25/15	**1,490**	<125	<1,250	<1,250	<625	<62.5	<2,500	<125
15729 MW-51	1/14/13	Free Product - 2.35 Feet							
	11/12/13	Free Product - 2.47 Feet							
	2/24/15	Free Product - 1.38 Feet							

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SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
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Well Number	Sample Date	t-Amyl Alcohol (ug/l)	Tert-Amyl Methyl Ether (ug/l)	3,3-Dimethyl-1-Butanol (ug/l)	Tertiary Butyl Alcohol (ug/l)	tert-Butyl Formate (ug/l)	Diisopropyl Ether (ug/l)	Ethanol (ug/l)	Ethyl-tert-butyl Ether (ug/l)
15729 MW-52	1/14/13	**2,820**	<10.0	<100	<100	<50.0	**18.5**	<200	<10.0
	11/12/13	**165**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/24/15	**582**	<25.0	<250	<250	<125	<12.5	<500	<25.0
15729 MW-53	1/14/13	**24,400**	**31.4**	<100	**422**	<50.0	**318**	<200	<10.0
	11/12/13	**3,670**	**5.1J**	<100	**70.6J**	<50.0	**50.9**	<200	<10.0
	2/24/15	**7,770**	<200	<2,000	<2,000	<1,000	<100	<4,000	<200
15729 MW-53 DUP	11/12/13	**2,400**	**3.7J**	<100	<100	<50.0	**33.0**	<200	<10.0
	2/24/15	**8,140**	<200	<2,000	<2,000	<1,000	**102**	<4,000	<200
15729 MW-54	1/14/13	**78.9J**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/24/15	<400	<40.0	<400	<400	<200	<20.0	<800	<40.0
15729 MW-55	1/11/13	**10,400**	**9.1J**	<100	**192**	<50.0	**142**	<200	<10.0
	11/12/13	**223**	<10.0	<100	<100	<50.0	**2.8J**	<200	<10.0
	2/24/15	**1,060**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-56	1/11/13	**4,620**	<10.0	<100	**82.1J**	<50.0	**15.0**	<200	<10.0
	11/12/13	**4,970J**	**12.7**	<100	**112**	<50.0	**47.7**	<200	<10.0
	2/24/15	**1,120**	<100	<1,000	<1,000	<500	**17.6J**	<2,000	<100
15729 MW-56 DUP	2/24/15	**1,280**	<100	<1,000	<1,000	<500	**18.4J**	<2,000	<100
15729 MW-57	1/11/13	**3,970**	<10.0	<100	**151**	<50.0	**11.1**	<200	<10.0
	11/12/13	**2,190**	<10.0	<100	<100	<50.0	**7.0**	<200	<10.0
	2/23/15	**2,510**	<100	<1,000	<1,000	<500	<50.0	<2,000	<100
15729 MW-58	2/14/13	**592**	<20.0	<200	<200	<100	**4.6J**	<400	<20.0
	11/13/13	**144**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/23/15	**1,580**	<25.0	<250	<250	<125	<12.5	<500	<25.0
15729 MW-59	1/21/13	**294**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	**973**	<10.0	<100	**548**	<50.0	<5.0	<200	<10.0
	2/20/15	**214**	<10.0	<100	**121**	<50.0	<5.0	<200	<10.0
15729 MW-60	2/14/13	**4,080**	<200	<2,000	<2,000	<1,000	<100	<4,000	<200
	11/13/13	**2,830**	<100	<1,000	<1,000	<500	<50.0	<2,000	<100
	2/20/15	**5,770**	<200	<2,000	<2,000	<1,000	<100	<4,000	<200
15729 MW-61	2/14/13	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	11/13/13	**17,900**	**113**	<1,000	<1,000	<500	<50.0	<2,000	<100
	2/26/15	<20,000	<2,000	<20,000	<20,000	<10,000	<1,000	<40,000	<2,000
15729 MW-61 DUP	11/13/13	**28,000**	**66.3**	<500	**386J**	<250	**99.6**	<1,000	<50.0
	2/26/15	<20,000	<2,000	<20,000	<20,000	<10,000	<1,000	<40,000	<2,000
15729 MW-62	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/26/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-63	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	**87.3J**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/20/15	**122**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-64	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/20/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-66	2/14/13	<5,000	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
	11/13/13	<5,000	<10.0	**47.7J**	<100	<50.0	<5.0	<200	<10.0
	2/23/15	**6,820**	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
15729 MW-67	4/8/14	**101**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/25/15	**170**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-67 DUP	4/8/14	**126**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-68	4/8/14	**1,850**	<25.0	<250	<250	<125	**16.2**	<500	<25.0
	2/25/15	**1,440**	<40.0	<400	<400	<200	**20.3**	<800	<40.0
15729 MW-69	4/8/14	**229**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/25/15	**141**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-70	4/8/14	**738**	<10.0	<100	<100	<50.0	**14.8**	<200	<10.0
	2/25/15	**369**	<10.0	<100	<100	<50.0	**8.9**	<200	<10.0
15729 MW-71	5/20/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/25/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-71 DUP	5/20/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-72	5/20/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/25/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 MW-73	5/20/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/24/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0

Notes:

1. ug/l = micrograms per liter
2. ND = Not detected
3. NT = Not Tested
4. NL = Not Located
5. NS = Not Sampled
6. PROD= Free Phase Product detected
7. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

TABLE 3
GROUNDWATER ANALYTICAL DATA (OXYGENATES)
H.W. DETWILER CO.
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID #15729
PAGE 5 OF 5

Well Number	Sample Date	t-Amyl Alcohol (ug/l)	Tert-Amyl Methyl Ether (ug/l)	3,3-Dimethyl-1-Butanol (ug/l)	Tertiary Butyl Alcohol (ug/l)	tert-Butyl Formate (ug/l)	Diisopropyl Ether (ug/l)	Ethanol (ug/l)	Ethyl-tert-butyl Ether (ug/l)
15729 WSW-1	7/29/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	2/23/15	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 WSW-2	7/13/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/21/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	2/23/15	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 WSW-3	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	2/23/15	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 WSW-4	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<10.0	<50.0	<1.0	<200	<10.0
	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<100	<10.0	<100	<10.0	<50.0	<1.0	<200	<10.0
	2/23/15	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 PS-1	11/12/13	NS	NS	NS	NS	NS	NS	NS	NS
	2/4/14	<100	<10.0	<100	<10.0	<50.0	<1.0	<200	<10.0
	2/23/15	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 SW-1	11/13/13	<100	<10.0	<100	<100	<50.0	<1.0	**1,910**	<10.0
	2/23/15	<100	<10.0	<100	<100	<50.0	<1.0	**3,680**	<10.0
15729 CS-1	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	2/23/15	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 CS-2	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	1/11/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
	2/23/15	<100	<10.0	<100	<100	<50.0	**0.18J**	<200	<10.0
15729 CS-3	2/4/14	**1,950**	**1.2J**	<100	**50.9J**	<50.0	**8.1**	<200	**0.19J**
	2/23/15	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 CS-4	2/23/15	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
15729 Field Blank #1	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/4/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	4/8/14	<100	<10.0	<100	**72.81J**	<50.0	<5.0	<200	<10.0
	5/20/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/20/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Field Blank #2	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/23/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Field Blank #3	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/24/15	<100	<10.0	<100	**80.4J**	<50.0	<5.0	<200	<10.0
15729 Field Blank #4	2/25/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Field Blank #5	2/26/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #1	1/11/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/4/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	4/8/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	5/20/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/20/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #2	1/14/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/12/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/23/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #3	1/21/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/23/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #4	11/13/13	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	2/24/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #5	2/24/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #6	2/25/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
15729 Trip Blank #7	2/26/15	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0

Notes:

1. ug/l = micrograms per liter
2. ND = Not detected
3. NT = Not Tested
4. NL = Not Located
5. NS = Not Sampled
6. PROD= Free Phase Product detected
7. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

APPENDIX A

PURGE LOGS

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-2D

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 42-47 Ft.

STATIC WATER LEVEL: 16.02 Ft.

WATER HEIGHT (Hw): 30.98 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 5.05 x 5 = 25.2 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 26.25 Gallons

DATE: 2/25/15

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 37-39°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.67	20.3	7.24	95	10	Clear, No Petroleum Odor
1st	1.34	20.6	6.71	94	103	Clear, No Petroleum Odor
2nd	1.29	20.7	6.58	91	267	Clear, No Petroleum Odor
3rd	1.26	20.7	6.48	87	756	Cloudy, No Petroleum Odor
4th	1.35	20.7	6.60	85	655	Cloudy, No Petroleum Odor
5th	1.52	20.5	6.61	85	711	Cloudy, No Petroleum Odor
Sample collected at 1630						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-3

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/26/15

SCREENED INTERVAL 13-23 Ft.

STATIC WATER LEVEL: 15.10 Ft.

WATER HEIGHT (Hw): 7.90 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.288 x 5 = 6.4 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 2.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 37-42°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.28	16.3	4.20	91.0	698	Cloudy, No Petroleum Odor
1st	1.52	17.0	4.25	96.1	742	Cloudy, No Petroleum Odor
2nd	1.48	17.2	4.19	98.2	679	Cloudy, No Petroleum Odor
						Within 10%
Sample collected at 1050						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-4

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/26/15

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 14.50 Ft.

WATER HEIGHT (Hw): 10.50 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.712 x 5 = 8.6 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 3.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 37-42°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.31	17.2	4.33	45.0	458	Slightly Cloudy, No Petroleum Odor
1st	1.20	17.7	4.59	45.3	390	Slightly Cloudy, No Petroleum Odor
2nd	1.19	17.9	4.62	44.6	371	Slightly Cloudy, No Petroleum Odor
						Within 10%
Sample collected at 1020						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-5

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 13.56 Ft.

WATER HEIGHT (Hw): 11.44 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.865 x 5 = 9.3 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 8.75 Gallons

DATE: 2/20/15

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Sunny, 17-37°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	0.84	20.0	4.80	58.4	515	Slightly Cloudy, No Petroleum Odor
1st	0.51	20.5	5.50	117.4	677	Slightly Cloudy, No Petroleum Odor
2nd	0.47	20.6	5.72	129.1	795	Slightly Cloudy, Petroleum Odor
3rd	0.6	20.6	5.85	127.2	661	Slightly Cloudy, Petroleum Odor
4th	0.44	20.5	5.85	128.4	530	Slightly Cloudy, No Petroleum Odor
5th	0.60	20.4	5.89	133.0	536	Slightly Cloudy, No Petroleum Odor
Sample collected at 1320						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-6

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 17.30 Ft.

WATER HEIGHT (Hw): 7.70 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.255 x 5 = 6.3 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 3.75 Gallons

DATE: 2/20/15

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Sunny, 17-37°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	2.03	16.3	4.87	51.5	232	Clear, No Petroleum Odor
1st	1.46	17.1	5.00	71.1	718	Cloudy, No Petroleum Odor
2nd	1.11	17.3	5.06	57.2	555	Slightly Cloudy, Petroleum Odor
3rd	1.12	17.3	5.04	57.4	556	Slightly Cloudy, Petroleum Odor
						Within 10%
Sample collected at 1515						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-7

PROJECT:	H.W. Detwiler Company	**SCREENED INTERVAL**	10-20 Ft.
STREET:	37 South Church Street	**STATIC WATER LEVEL:**	13.32 Ft.
CITY:	Summerton	**WATER HEIGHT (Hw):**	6.68 Ft.
COUNTY:	Clarendon	**WELL DIAMETER (Dw):**	0.166 Ft.
STATE:	South Carolina	**WELL VOLUME (Vw):** $V = (0.02)(Dw^2)(Hw)$	1.089 x 5 = 5.4 Gallons
		PURGE VOLUME:	2.5 Gallons
DATE:	2/23/15	**EMERALD, INC. PERSONNEL:**	R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 42-50°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	3.90	15.7	4.57	49	144	Clear, No Petroleum Odor
1st	3.30	16.7	4.50	52	1,021	Cloudy, No Petroleum Odor
2nd	3.26	16.9	4.42	52	940	Cloudy, No Petroleum Odor
						Within 10%
Sample collected at 1325						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-8

PROJECT:	H.W. Detwiler Company	**SCREENED INTERVAL**	5-15 Ft.
STREET:	37 South Church Street	**STATIC WATER LEVEL:**	4.40 Ft.
CITY:	Summerton	**WATER HEIGHT (Hw):**	10.60 Ft.
COUNTY:	Clarendon	**WELL DIAMETER (Dw):**	0.166 Ft.
STATE:	South Carolina	**WELL VOLUME (Vw):** $V = (0.02)(Dw^2)(Hw)$	1.728 x 5 = 8.6 Gallons
		PURGE VOLUME:	3.5 Gallons
DATE:	2/24/15	**EMERALD, INC. PERSONNEL:**	R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0759(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 32-41°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	3.90	11.2	5.76	43.6	616	Slightly Cloudy, No Petroleum Odor
1st	3.79	11.7	5.75	49.2	387	Slightly Cloudy, No Petroleum Odor
2nd	3.78	11.9	5.76	49.4	390	Slightly Cloudy, No Petroleum Odor
						Within 10%
Sample collected at 1130						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-9

PROJECT:	H.W. Detwiler Company	**SCREENED INTERVAL**	5-15 Ft.
STREET:	37 South Church Street	**STATIC WATER LEVEL:**	7.05 Ft.
CITY:	Summerton	**WATER HEIGHT (Hw):**	7.95 Ft.
COUNTY:	Clarendon	**WELL DIAMETER (Dw):**	0.166 Ft.
STATE:	South Carolina	**WELL VOLUME (Vw):** $V = (0.02)(Dw^2)(Hw)$	1.296 x 5 = 6.5 Gallons
		PURGE VOLUME:	6.25 Gallons
DATE:	2/24/15	**EMERALD, INC. PERSONNEL:**	R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0759(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 32-41°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	2.46	12.9	4.83	54.7	565	Slightly Cloudy, No Petroleum Odor
1st	1.70	13.6	5.02	63.2	757	Cloudy, No Petroleum Odor
2nd	1.50	14.0	5.11	65.3	844	Cloudy, No Petroleum Odor
3rd	1.31	14.5	5.21	61.2	722	Cloudy, No Petroleum Odor
4th	0.91	15.0	5.22	63.9	795	Cloudy, No Petroleum Odor
5th	1.12	14.9	5.52	64.3	876	Cloudy, No Petroleum Odor
Sample collected at 1105						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-10

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/24/15

SCREENED INTERVAL 8-18 Ft.

STATIC WATER LEVEL: 11.40 Ft.

WATER HEIGHT (Hw): 6.60 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.076 x 5 = 5.4 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: Dry at 3 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0759(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 32-41°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.24	16.3	4.30	66.4	28	Clear, Petroleum Odor
1st	0.84	17.3	4.81	57.5	247	Slightly Cloudy, Petroleum Odor
2nd	0.77	17.7	5.29	66.0	476	Slightly Cloudy, Petroleum Odor
3rd	0.76	17.8	5.31	65.9	474	Slightly Cloudy, Petroleum Odor
						Dry at 3 gallons
Sample collected at 945						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-11

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/24/15

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 18.47 Ft.

WATER HEIGHT (Hw): 6.53 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.064 x 5 = 5.3 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 3 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0759(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 32-41°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.80	16.2	5.87	50.4	484	Slightly Cloudy, No Petroleum Odor
1st	1.61	16.2	5.78	46.7	550	Slightly Cloudy, No Petroleum Odor
2nd	1.38	18.1	5.49	58.2	559	Slightly Cloudy, No Petroleum Odor
3rd	1.40	18.3	5.47	57.9	562	Slightly Cloudy, No Petroleum Odor
						Within 10%
Sample collected at 1430						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-12

PROJECT:	H.W. Detwiler Company	**SCREENED INTERVAL**	15-25 Ft.
STREET:	37 South Church Street	**STATIC WATER LEVEL:**	17.30 Ft.
CITY:	Summerton	**WATER HEIGHT (Hw):**	7.70 Ft.
COUNTY:	Clarendon	**WELL DIAMETER (Dw):**	0.166 Ft.
STATE:	South Carolina	**WELL VOLUME (Vw):** $V = (0.02)(Dw^2)(Hw)$	1.255 x 5 = 6.3 Gallons
		PURGE VOLUME:	7.5 Gallons
DATE:	2/25/15	**EMERALD, INC. PERSONNEL:**	R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 37-39°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	2.71	17.6	6.51	53	143	Clear, No Petroleum Odor
1st	2.75	18.0	5.95	56	836	Cloudy, No Petroleum Odor
2nd	2.54	19.0	5.55	57	708	Cloudy, No Petroleum Odor
3rd	2.65	19.1	5.34	58	542	Slightly Cloudy, No Petroleum Odor
4th	2.59	19.3	5.18	58	414	Slightly Cloudy, No Petroleum Odor
5th	2.66	19.5	5.20	58	374	Slightly Cloudy, No Petroleum Odor
Sample collected at 1515						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-14

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/23/15

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 15.71 Ft.

WATER HEIGHT (Hw): 9.29 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.514 x 5 = 7.6 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 8 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 42-50°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	3.18	16.9	5.59	33	769	Clear, No Petroleum Odor
1st	2.14	18.1	5.76	50	768	Slightly Cloudy, Petroleum Odor
2nd	0.70	18.6	6.58	136	737	Slightly Cloudy, Petroleum Odor
3rd	0.75	18.8	6.59	148	474	Slightly Cloudy, Petroleum Odor
4th	1.61	18.7	6.73	103	671	Slightly Cloudy, Petroleum Odor
5th	1.54	18.6	6.62	91	752	Slightly Cloudy, Petroleum Odor
Sample collected at 1230						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-16D

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/25/15

SCREENED INTERVAL 65-75 Ft.

STATIC WATER LEVEL: 15.50 Ft.

WATER HEIGHT (Hw): 59.50 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 9.699 x 5 = 48.5 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 30 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 37-39°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	2.32	18.2	6.31	74	25	Clear, No Petroleum Odor
1st	1.20	19.4	7.04	144	13	Clear, No Petroleum Odor
2nd	0.89	20.4	7.28	156	6	Clear, No Petroleum Odor
3rd	0.86	20.3	7.29	156	6	Clear, No Petroleum Odor
						Within 10%
Sample collected at 1600						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-17R

PROJECT:	H.W. Detwiler Company	**SCREENED INTERVAL**	10-20 Ft.
STREET:	37 South Church Street	**STATIC WATER LEVEL:**	11.75 Ft.
CITY:	Summerton	**WATER HEIGHT (Hw):**	8.25 Ft.
COUNTY:	Clarendon	**WELL DIAMETER (Dw):**	0.166 Ft.
STATE:	South Carolina	**WELL VOLUME (Vw):** $V = (0.02)(Dw^2)(Hw)$	1.345 x 5 = 6.7 Gallons
		PURGE VOLUME:	6.25 Gallons
DATE:	2/20/15	**EMERALD, INC. PERSONNEL:**	R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Sunny, 17-37°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	0.99	20.6	5.25	35.1	231	Slightly Cloudy, No Petroleum Odor
1st	0.80	20.6	5.30	65.2	758	Cloudy, No Petroleum Odor
2nd	0.84	20.6	5.25	66.2	783	Cloudy, No Petroleum Odor
3rd	0.80	20.5	5.31	67.8	523	Slightly Cloudy, No Petroleum Odor
4th	0.81	20.8	5.21	67.3	744	Cloudy, No Petroleum Odor
5th	0.80	20.9	5.22	67.4	700	Cloudy, No Petroleum Odor
Sample collected at 1310						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-18R

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/20/15

SCREENED INTERVAL 12-22 Ft.

STATIC WATER LEVEL: 12.94 Ft.

WATER HEIGHT (Hw): 9.06 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.477 x 5 = 7.4 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 7.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Sunny, 17-37°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.34	19.3	5.76	60.6	139	Clear, No Petroleum Odor
1st	1.16	19.5	5.27	64.1	839	Cloudy, No Petroleum Odor
2nd	1.12	19.3	5.21	62.3	801	Cloudy, No Petroleum Odor
3rd	1.20	20.1	5.06	65.7	717	Cloudy, No Petroleum Odor
4th	1.08	20.4	5.15	69.2	891	Cloudy, No Petroleum Odor
5th	1.14	20.4	5.11	69.0	772	Cloudy, No Petroleum Odor
Sample collected at 1245						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-19

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 5-15 Ft.

STATIC WATER LEVEL: 9.44 Ft.

WATER HEIGHT (Hw): 5.56 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.906 x 5 = 4.5 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 2 Gallons

DATE: 2/23/15

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 42-50°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	2.13	14.9	5.75	42	244	Clear, No Petroleum Odor
1st	1.21	15.3	5.47	46	535	Cloudy, Petroleum Odor
2nd	1.19	15.4	5.46	48	550	Cloudy, Petroleum Odor
						Within 10%
Sample collected at 1300						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-20

PROJECT:	H.W. Detwiler Company	**SCREENED INTERVAL**	3-13 Ft.
STREET:	37 South Church Street	**STATIC WATER LEVEL:**	4.74 Ft.
CITY:	Summerton	**WATER HEIGHT (Hw):**	8.26 Ft.
COUNTY:	Clarendon	**WELL DIAMETER (Dw):**	0.166 Ft.
STATE:	South Carolina	**WELL VOLUME (Vw):** $V = (0.02)(Dw^2)(Hw)$	1.346 x 5 = 6.7 Gallons
		PURGE VOLUME:	6 Gallons
DATE:	2/23/15	**EMERALD, INC. PERSONNEL:**	R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 42-50°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	2.67	15.1	4.71	62	124	Clear, No Petroleum Odor
1st	2.21	15.7	4.91	55	910	Cloudy, Petroleum Odor
2nd	2.60	16.3	4.77	57	1,038	Cloudy, Petroleum Odor
3rd	2.33	16.2	4.76	53	724	Cloudy, Petroleum Odor
4th	2.34	16.4	4.75	54	713	Cloudy, Petroleum Odor
						Within 10%
Sample collected at 1630						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-21

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/24/15

SCREENED INTERVAL 3-13 Ft.

STATIC WATER LEVEL: 8.05 Ft.

WATER HEIGHT (Hw): 4.95 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.807 x 5 = 4.0 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: Dry at 3 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0759(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 32-41°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.34	15.3	4.76	34	591	Slightly Cloudy, No Petroleum Odor
1st	1.27	15.6	4.99	39	707	Slightly Cloudy, No Petroleum Odor
2nd	1.56	16.3	4.70	35	1,057	Cloudy, No Petroleum Odor
3rd	1.58	15.9	4.71	37	1,060	Cloudy, No Petroleum Odor
						Dry at 3 gallons
Sample collected at 1000						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-22

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/24/15

SCREENED INTERVAL 10-25 Ft.

STATIC WATER LEVEL: 18.27 Ft.

WATER HEIGHT (Hw): 6.73 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.097 x 5 = 5.5 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 2 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0759(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 32-41°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	2.26	14.7	5.09	129.7	57	Clear, No Petroleum Odor
1st	2.31	14.9	5.29	141	834	Cloudy, No Petroleum Odor
2nd	2.30	14.8	5.27	149	809	Cloudy, No Petroleum Odor
						Within 10%
Sample collected at 1145						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-24

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/25/15

SCREENED INTERVAL 13-23 Ft.

STATIC WATER LEVEL: 17.25 Ft.

WATER HEIGHT (Hw): 5.75 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.937 x 5 = 4.7 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 1 Gallon

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 37-39°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	0.63	17.1	5.64	99	105	Clear, Petroleum Odor
1st	0.75	19.1	6.43	121	445	Clear, Petroleum Odor
						Dry at 1 gallon
Sample collected at 1455						
Duplicate sample collected at 1458						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-25

PROJECT:	H.W. Detwiler Company	**SCREENED INTERVAL**	12-22 Ft.
STREET:	37 South Church Street	**STATIC WATER LEVEL:**	16.35 Ft.
CITY:	Summerton	**WATER HEIGHT (Hw):**	5.65 Ft.
COUNTY:	Clarendon	**WELL DIAMETER (Dw):**	0.166 Ft.
STATE:	South Carolina	**WELL VOLUME (Vw):** $V = (0.02)(Dw^2)(Hw)$	0.921 x 5 = 4.6 Gallons
		PURGE VOLUME:	5 Gallons
DATE:	2/23/15	**EMERALD, INC. PERSONNEL:**	R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 42-50°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	3.01	18.9	6.32	33	41	Clear, No Petroleum Odor
1st	0.99	19.3	6.30	75	637	Slightly Cloudy, No Petroleum Odor
2nd	0.76	19.5	6.45	119	618	Slightly Cloudy, Petroleum Odor
3rd	0.85	19.5	6.62	144	620	Slightly Cloudy, Petroleum Odor
4th	0.63	19.6	6.65	152	705	Slightly Cloudy, Petroleum Odor
5th	0.92	19.6	6.76	156	510	Slightly Cloudy, Petroleum Odor
Sample collected at 1130						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-26

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/23/15

SCREENED INTERVAL 12-22 Ft.

STATIC WATER LEVEL: 14.81 Ft.

WATER HEIGHT (Hw): 7.19 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.172 x 5 = 5.9 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 4 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 42-50°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	2.69	18.4	7.62	97	7	Clear, No Petroleum Odor
1st	2.78	18.8	7.12	87	641	Slightly Cloudy, No Petroleum Odor
2nd	2.64	18.9	6.95	85	558	Slightly Cloudy, No Petroleum Odor
3rd	2.61	18.8	6.92	84	570	Slightly Cloudy, No Petroleum Odor
						Within 10%
Sample collected at 1445						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-27

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/24/15

SCREENED INTERVAL 12-22 Ft.

STATIC WATER LEVEL: 15.93 Ft.

WATER HEIGHT (Hw): 6.07 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.989 x 5 = 4.9 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: Dry at 2 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0759(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 32-41°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.88	16.3	5.20	32.3	742	Cloudy, Petroleum Odor
1st	1.80	17.1	5.60	37.8	558	Cloudy, Petroleum Odor
2nd	2.71	17.9	5.82	37.5	678	Cloudy, Petroleum Odor
						Dry at 2 gallons
Sample collected at 1320						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-29

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/26/15

SCREENED INTERVAL 13-23 Ft.

STATIC WATER LEVEL: 13.85 Ft.

WATER HEIGHT (Hw): 9.15 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.491 x 5 = 7.5 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 7.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 37-42°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	2.05	16.6	5.19	49.2	343	Slightly Cloudy, No Petroleum Odor
1st	2.08	16.9	5.18	64.2	904	Cloudy, No Petroleum Odor
2nd	1.79	18.0	5.05	51.9	840	Cloudy, No Petroleum Odor
3rd	1.77	18.3	4.96	43.4	776	Cloudy, No Petroleum Odor
4th	1.74	18.1	4.88	42.4	837	Cloudy, No Petroleum Odor
5th	1.87	18.0	4.89	42.7	903	Cloudy, No Petroleum Odor
Sample collected at 1040						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-30

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/25/15

SCREENED INTERVAL 13-23 Ft.

STATIC WATER LEVEL: 18.05 Ft.

WATER HEIGHT (Hw): 4.95 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.807 x 5 = 4.0 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 4 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 37-39°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.55	15.4	4.62	73	737	Cloudy, No Petroleum Odor
1st	1.30	16.6	4.48	79	250	Slightly Cloudy, No Petroleum Odor
2nd	1.41	17.2	4.27	81	288	Slightly Cloudy, No Petroleum Odor
3rd	1.34	17.6	4.26	82	416	Slightly Cloudy, No Petroleum Odor
4th	1.36	17.5	4.24	80	419	Slightly Cloudy, No Petroleum Odor
						Within 10%
Sample collected at 1220						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-31

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 12-22 Ft.

STATIC WATER LEVEL: 16.60 Ft.

WATER HEIGHT (Hw): 5.40 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.88 x 5 = 4.4 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 3 Gallons

DATE: 2/24/15

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0759(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 32-41°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	2.99	15.6	6.46	49.7	392	Clear, No Petroleum Odor
1st	2.81	16.2	6.39	43.6	476	Slightly Cloudy, No Petroleum Odor
2nd	2.88	17.0	5.77	40.2	566	Slightly Cloudy, No Petroleum Odor
3rd	2.87	17.2	5.75	40.3	582	Slightly Cloudy, No Petroleum Odor
						Within 10%
Sample collected at 1300						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-32

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 2-12 Ft.

STATIC WATER LEVEL: 2.69 Ft.

WATER HEIGHT (Hw): 9.31 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.518 x 5 = 7.6 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 7.75 Gallons

DATE: 2/23/15

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 42-50°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	2.46	13.5	5.14	54	901	Slightly Cloudy, No Petroleum Odor
1st	3.07	14.1	4.76	61	970	Slightly Cloudy, No Petroleum Odor
2nd	2.98	14.2	4.73	62	473	Slightly Cloudy, No Petroleum Odor
3rd	3.03	14.5	4.67	65	320	Slightly Cloudy, No Petroleum Odor
4th	3.32	14.5	4.59	65	186	Clear, No Petroleum Odor
5th	2.40	13.8	4.79	55	288	Clear, No Petroleum Odor
Sample collected at 1550						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-33

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/23/15

SCREENED INTERVAL 14-24 Ft.

STATIC WATER LEVEL: 14.86 Ft.

WATER HEIGHT (Hw): 9.14 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.49 x 5 = 7.4 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 7.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 42-50°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.40	17.3	4.97	35	944	Slightly Cloudy, No Petroleum Odor
1st	1.15	17.6	5.22	45	598	Slightly Cloudy, No Petroleum Odor
2nd	1.00	17.9	5.57	62	543	Slightly Cloudy, No Petroleum Odor
3rd	0.99	18.0	5.94	86	581	Slightly Cloudy, No Petroleum Odor
4th	0.89	18.1	6.25	98	678	Slightly Cloudy, No Petroleum Odor
5th	0.89	18.1	6.41	110	762	Slightly Cloudy, No Petroleum Odor
Sample collected at 1345						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-34D

PROJECT:	H.W. Detwiler Company	**SCREENED INTERVAL**	45-50 Ft.
STREET:	37 South Church Street	**STATIC WATER LEVEL:**	14.43 Ft.
CITY:	Summerton	**WATER HEIGHT (Hw):**	35.57 Ft.
COUNTY:	Clarendon	**WELL DIAMETER (Dw):**	0.166 Ft.
STATE:	South Carolina	**WELL VOLUME (Vw):** $V = (0.02)(Dw^2)(Hw)$	5.798 x 5 = 29.0 Gallons
		PURGE VOLUME:	Dry at 12 Gallons
DATE:	2/23/15	**EMERALD, INC. PERSONNEL:**	R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 42-50°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.70	17.8	6.75	76	284	Clear, No Petroleum Odor
1st	1.59	18.9	6.75	79	84	Clear, No Petroleum Odor
2nd	1.12	19.1	6.96	131	945	Clear, No Petroleum Odor
						Dry at 12 gallons
Sample collected at 1420						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-35i

PROJECT:	H.W. Detwiler Company	**SCREENED INTERVAL**	26-31 Ft.
STREET:	37 South Church Street	**STATIC WATER LEVEL:**	1.00 Ft.
CITY:	Summerton	**WATER HEIGHT (Hw):**	30.00 Ft.
COUNTY:	Clarendon	**WELL DIAMETER (Dw):**	0.166 Ft.
STATE:	South Carolina	**WELL VOLUME (Vw):** $V = (0.02)(Dw^2)(Hw)$	4.89 x 5 = 24.5 Gallons
		PURGE VOLUME:	10 Gallons
DATE:	2/23/15	**EMERALD, INC. PERSONNEL:**	R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 42-50°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	4.42	15.5	6.32	42	414	Slightly Cloudy, No Petroleum Odor
1st	4.23	17.0	6.10	46	174	Clear, No Petroleum Odor
2nd	4.20	17.2	6.09	45	180	Clear, No Petroleum Odor
						Within 10%
Sample collected at 1535						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-36

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/20/15

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 16.08 Ft.

WATER HEIGHT (Hw): 8.92 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.454 x 5 = 7.3 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 4.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Sunny, 17-37°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.02	19.6	6.08	162	189	Clear, Petroleum Odor
1st	0.71	20.4	6.24	174	467	Cloudy, Petroleum Odor
2nd	0.44	21.0	6.28	201	499	Cloudy, Petroleum Odor
3rd	0.45	21.1	6.29	199	497	Cloudy, Petroleum Odor
						Within 10%
Sample collected at 1350						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-37

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/25/15

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 17.62 Ft.

WATER HEIGHT (Hw): 7.38 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.203 x 5 = 6.0 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 6.25 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 37-39°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.31	20.1	5.82	65	78	Clear, Petroleum Odor
1st	0.74	19.7	5.70	72	689	Slightly Cloudy, Petroleum Odor
2nd	0.55	19.6	5.80	83	496	Slightly Cloudy, Petroleum Odor
3rd	0.64	19.9	5.87	91	373	Slightly Cloudy, Petroleum Odor
4th	0.69	19.6	6.15	114	329	Slightly Cloudy, Petroleum Odor
5th	0.73	19.9	6.28	123	502	Slightly Cloudy, Petroleum Odor
Sample collected at 1410						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-38

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/23/15

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 16.61 Ft.

WATER HEIGHT (Hw): 8.39 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.368 x 5 = 6.8 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 42-50°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	0.71	18.2	6.26	102	467	Slightly Cloudy, Petroleum Odor
1st	0.66	19.4	6.50	119	617	Slightly Cloudy, Petroleum Odor
2nd	0.84	19.1	6.52	126	804	Slightly Cloudy, Petroleum Odor
3rd	0.85	19.3	6.54	131	800	Slightly Cloudy, Petroleum Odor
						Within 10%
Sample collected at 1110						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-42

PROJECT:	H.W. Detwiler Company	**SCREENED INTERVAL**	15-25 Ft.
STREET:	37 South Church Street	**STATIC WATER LEVEL:**	17.04 Ft.
CITY:	Summerton	**WATER HEIGHT (Hw):**	7.96 Ft.
COUNTY:	Clarendon	**WELL DIAMETER (Dw):**	0.166 Ft.
STATE:	South Carolina	**WELL VOLUME (Vw):** $V = (0.02)(Dw^2)(Hw)$	1.297 x 5 = 6.5 Gallons
		PURGE VOLUME:	6.25 Gallons
DATE:	2/24/15	**EMERALD, INC. PERSONNEL:**	R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0759(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 32-41°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	0.98	16.7	5.42	68.2	336	Slightly Cloudy, Strong Petroleum Odor
1st	0.79	17.2	5.53	91.2	586	Cloudy, Strong Petroleum Odor
2nd	0.70	17.5	5.62	92.8	699	Cloudy, Strong Petroleum Odor
3rd	0.81	17.9	5.84	101.1	539	Slightly Cloudy, Strong Petroleum Odor
4th	0.80	18.0	5.90	101.6	599	Slightly Cloudy, Strong Petroleum Odor
5th	0.97	18.3	6.06	110.2	127	Clear, Strong Petroleum Odor
Sample collected at 1455						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-44

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 18.01 Ft.

WATER HEIGHT (Hw): 6.99 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.139 x 5 = 5.7 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 5.75 Gallons

DATE: 2/23/15

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 42-50°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	0.45	19.1	6.36	170	59	Clear, Petroleum Odor
1st	0.35	19.3	6.41	176	132	Clear, Petroleum Odor
2nd	0.67	20.0	6.37	180	263	Clear, Petroleum Odor
3rd	0.64	20.1	6.42	183	405	Slightly Cloudy, Petroleum Odor
4th	0.72	20.2	6.50	175	218	Slightly Cloudy, Petroleum Odor
5th	0.73	20.2	6.47	178	299	Clear, Petroleum Odor
Sample collected at 950						
Duplicate sample collected at 953						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-47

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/25/15

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 17.70 Ft.

WATER HEIGHT (Hw): 7.30 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.19 x 5 = 5.9 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 6.25 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 37-39°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	0.93	18.8	4.97	69	124	Clear, Petroleum Odor
1st	0.40	19.8	5.39	89	297	Clear, Petroleum Odor
2nd	0.41	19.9	5.62	93	143	Clear, Petroleum Odor
3rd	0.42	19.7	5.76	97	90	Clear, Petroleum Odor
4th	0.49	19.9	5.84	96	141	Clear, Petroleum Odor
5th	0.47	19.6	5.88	101	268	Clear, Petroleum Odor
Sample collected at 1335						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-48

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/25/15

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 17.18 Ft.

WATER HEIGHT (Hw): 7.82 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.275 x 5 = 6.4 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 37-39°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.54	16.1	5.71	40	717	Cloudy, No Petroleum Odor
1st	1.30	17.9	5.45	38	680	Cloudy, No Petroleum Odor
2nd	0.72	17.9	5.18	43	784	Cloudy, No Petroleum Odor
3rd	0.56	18.2	5.15	48	579	Cloudy, No Petroleum Odor
4th	0.54	18.3	5.11	50	525	Cloudy, No Petroleum Odor
						Within 10%
Sample collected at 1310						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-50

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/25/15

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 16.75 Ft.

WATER HEIGHT (Hw): 8.25 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.345 x 5 = 6.7 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 37-39°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	0.79	16.0	5.48	76	540	Slightly Cloudy, Petroleum Odor
1st	0.43	17.0	5.70	74	644	Cloudy, Petroleum Odor
2nd	0.36	17.6	5.84	66	779	Cloudy, Petroleum Odor
3rd	0.38	17.8	5.96	69	824	Cloudy, Petroleum Odor
						Within 10%
Sample collected at 1250						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-52

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/24/15

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 17.15 Ft.

WATER HEIGHT (Hw): 7.85 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.28 x 5 = 6.4 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 2.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0759(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 32-41°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	0.50	17.2	5.63	63.4	48.2	Clear, Strong Petroleum Odor
1st	0.72	17.8	5.60	69.2	175	Clear, Strong Petroleum Odor
2nd	0.70	17.9	5.62	69.4	176	Clear, Strong Petroleum Odor
						Within 10%
Sample collected at 1515						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-53

PROJECT:	H.W. Detwiler Company	**SCREENED INTERVAL**	15-25 Ft.
STREET:	37 South Church Street	**STATIC WATER LEVEL:**	17.41 Ft.
CITY:	Summerton	**WATER HEIGHT (Hw):**	7.59 Ft.
COUNTY:	Clarendon	**WELL DIAMETER (Dw):**	0.166 Ft.
STATE:	South Carolina	**WELL VOLUME (Vw):** $V = (0.02)(Dw^2)(Hw)$	1.237 x 5 = 6.2 Gallons
		PURGE VOLUME:	6.25 Gallons
DATE:	2/24/15	**EMERALD, INC. PERSONNEL:**	R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0759(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 32-41°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.81	16.2	5.51	55.7	494	Slightly Cloudy, Petroleum Odor
1st	0.99	16.8	5.72	70.9	573	Slightly Cloudy, Petroleum Odor
2nd	0.81	17.9	5.91	103.2	623	Slightly Cloudy, Petroleum Odor
3rd	0.66	18.2	5.81	103.9	745	Cloudy, Petroleum Odor
4th	0.80	18.3	6.10	101.2	627	Slightly Cloudy, No Petroleum Odor
5th	0.69	18.1	6.16	101.2	620	Slightly Cloudy, No Petroleum Odor
Sample collected at 1410						
Duplicate sample collected at 1413						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-54

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 17.10 Ft.

WATER HEIGHT (Hw): 7.90 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.288 x 5 = 6.4 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 6.25 Gallons

DATE: 2/24/15

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0759(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 32-41°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.24	17.3	5.90	117.8	448	Slightly Cloudy, Strong Petroleum Odor
1st	1.09	17.8	6.34	135.4	347	Slightly Cloudy, Strong Petroleum Odor
2nd	0.97	18.2	6.39	155.2	99	Clear, Petroleum Odor
3rd	0.89	18.4	6.55	160.4	450	Slightly Cloudy, Petroleum Odor
4th	0.69	18.9	6.71	184.9	658	Slightly Cloudy, No Petroleum Odor
5th	0.77	18.8	6.59	137.3	646	Slightly Cloudy, No Petroleum Odor
Sample collected at 1340						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-55

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/24/15

SCREENED INTERVAL 14-24 Ft.

STATIC WATER LEVEL: 15.75 Ft.

WATER HEIGHT (Hw): 8.25 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.345 x 5 = 6.7 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 7.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0759(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 32-41°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.19	15.2	5.49	55.7	557	Cloudy, No Petroleum Odor
1st	1.23	16.3	5.23	57.8	795	Cloudy, No Petroleum Odor
2nd	1.22	17.1	5.01	59.2	823	Cloudy, No Petroleum Odor
3rd	0.96	17.3	4.95	50.0	699	Cloudy, No Petroleum Odor
4th	0.95	17.5	4.99	49.1	762	Cloudy, No Petroleum Odor
5th	0.97	18.0	4.95	49.9	793	Cloudy, No Petroleum Odor
Sample collected at 1215						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-56

PROJECT:	H.W. Detwiler Company	**SCREENED INTERVAL**	13-23 Ft.
STREET:	37 South Church Street	**STATIC WATER LEVEL:**	15.02 Ft.
CITY:	Summerton	**WATER HEIGHT (Hw):**	7.98 Ft.
COUNTY:	Clarendon	**WELL DIAMETER (Dw):**	0.166 Ft.
STATE:	South Carolina	**WELL VOLUME (Vw):** $V = (0.02)(Dw^2)(Hw)$	1.301 x 5 = 6.5 Gallons
		PURGE VOLUME:	6.25 Gallons
DATE:	2/24/15	**EMERALD, INC. PERSONNEL:**	R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0759(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 32-41°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.12	16.9	5.18	101.0	436	Slightly Cloudy, Strong Petroleum Odor
1st	0.99	17.4	5.26	70.1	502	Slightly Cloudy, Petroleum Odor
2nd	0.83	17.6	5.95	86.2	296	Slightly Cloudy, Petroleum Odor
3rd	0.71	17.4	6.14	88.1	377	Slightly Cloudy, Petroleum Odor
4th	0.77	17.5	6.23	88.4	279	Cloudy, No Petroleum Odor
5th	0.55	18.1	6.54	102.3	285	Cloudy, No Petroleum Odor
Sample collected at 1235						
Duplicate sample collected at 1238						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-57

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/23/15

SCREENED INTERVAL 12-22 Ft.

STATIC WATER LEVEL: 14.56 Ft.

WATER HEIGHT (Hw): 7.44 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.213 x 5 = 6.1 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 3 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 42-50°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	0.37	18.4	6.42	94	815	Slightly Cloudy, No Petroleum Odor
1st	0.29	18.8	6.39	115	795	Slightly Cloudy, No Petroleum Odor
2nd	0.31	18.8	6.41	112	814	Slightly Cloudy, No Petroleum Odor
						Within 10%
Sample collected at 1500						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-58

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/23/15

SCREENED INTERVAL 14-24 Ft.

STATIC WATER LEVEL: 16.56 Ft.

WATER HEIGHT (Hw): 7.44 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.213 x 5 = 6.1 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 3 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 42-50°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	3.55	19.3	6.09	34	988	Slightly Cloudy, No Petroleum Odor
1st	2.27	20.0	5.90	39	943	Slightly Cloudy, No Petroleum Odor
2nd	2.23	20.4	5.91	41	980	Slightly Cloudy, No Petroleum Odor
						Within 10%
Sample collected at 1210						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-59

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/20/15

SCREENED INTERVAL 13-23 Ft.

STATIC WATER LEVEL: 15.89 Ft.

WATER HEIGHT (Hw): 7.11 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.159 x 5 = 5.8 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 7.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Sunny, 17-37°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.03	20.3	6.16	176	24	Clear, Petroleum Odor
1st	0.78	20.1	6.44	181	400	Slightly Cloudy, Petroleum Odor
2nd	0.75	20.4	6.47	189	605	Slightly Cloudy, No Petroleum Odor
3rd	0.56	20.6	6.47	190	491	Slightly Cloudy, No Petroleum Odor
4th	0.66	20.9	6.53	192	446	Slightly Cloudy, No Petroleum Odor
5th	0.59	20.9	6.52	198	343	Slightly Cloudy, No Petroleum Odor
Sample collected at 1225						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-60

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/20/15

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 17.57 Ft.

WATER HEIGHT (Hw): 7.43 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.211 x 5 = 6.1 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 3.75 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Sunny, 17-37°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	0.50	17.6	6.39	127.3	329	Clear, Petroleum Odor
1st	0.44	18.7	6.21	131	495	Cloudy, Petroleum Odor
2nd	0.85	19.1	6.11	135	284	Slightly Cloudy, Petroleum Odor
3rd	0.83	19.3	6.13	136	285	Slightly Cloudy, Petroleum Odor
						Within 10%
Sample collected at 1430						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-61

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 17.06 Ft.

WATER HEIGHT (Hw): 7.94 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.294 x 5 = 6.5 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 6.25 Gallons

DATE: 2/26/15

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 37-42°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	0.60	19.3	6.16	115	146	Clear, Petroleum Odor
1st	0.45	20.0	6.05	110	547	Cloudy, No Petroleum Odor
2nd	0.39	20.9	6.04	111	609	Cloudy, No Petroleum Odor
3rd	0.38	21.3	6.03	116	536	Cloudy, Petroleum Odor
4th	0.52	21.1	6.12	133	591	Cloudy, No Petroleum Odor
5th	0.42	21.2	6.13	122	597	Cloudy, No Petroleum Odor
Sample collected at 1010						
Duplicate sample collected at 1013						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-62

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/26/15

SCREENED INTERVAL 15-25 Ft.

STATIC WATER LEVEL: 15.46 Ft.

WATER HEIGHT (Hw): 9.54 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.555 x 5 = 7.8 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 4.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 37-42°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	2.20	16.9	4.12	79.4	622	Cloudy, Strong Petroleum Odor
1st	2.40	17.9	4.52	67.6	159	Clear, Strong Petroleum Odor
2nd	1.79	18.8	4.53	71.0	454	Slightly Cloudy, Strong Petroleum Odor
3rd	1.79	18.9	4.53	70.8	420	Slightly Cloudy, Strong Petroleum Odor
						Within 10%
Sample collected at 940						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-63

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/20/15

SCREENED INTERVAL 14-24 Ft.

STATIC WATER LEVEL: 16.90 Ft.

WATER HEIGHT (Hw): 7.10 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.157 x 5 = 5.8 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Sunny, 17-37°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.15	17.2	4.99	80.2	184	Clear, No Petroleum Odor
1st	0.73	18.3	4.87	82.6	727	Cloudy, No Petroleum Odor
2nd	0.61	18.6	4.81	84.0	379	Slightly Cloudy, No Petroleum Odor
3rd	0.70	19.2	4.80	83.7	263	Slightly Cloudy, No Petroleum Odor
4th	0.67	19.2	4.81	83.3	264	Slightly Cloudy, No Petroleum Odor
						Within 10%
Sample collected at 1545						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-64

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 14-24 Ft.

STATIC WATER LEVEL: 16.44 Ft.

WATER HEIGHT (Hw): 7.56 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.232 x 5 = 6.2 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 6.25 Gallons

DATE: 2/20/15

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Sunny, 17-37°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	3.01	15.1	5.46	35.4	115	Clear, No Petroleum Odor
1st	3.25	15.5	4.70	36.3	>1,100	Cloudy, No Petroleum Odor
2nd	3.12	16.7	4.51	41.1	>1,100	Cloudy, No Petroleum Odor
3rd	3.21	18.3	4.48	40.6	>1,100	Cloudy, No Petroleum Odor
4th	3.24	18.3	4.47	41.2	>1,100	Cloudy, No Petroleum Odor
5th	2.57	18.4	4.45	43.2	>1,100	Cloudy, No Petroleum Odor
Sample collected at 1500						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-66

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/23/15

SCREENED INTERVAL 14-24 Ft.

STATIC WATER LEVEL: 16.83 Ft.

WATER HEIGHT (Hw): 7.17 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.169 x 5 = 5.8 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 6 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 42-50°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.65	17.6	6.07	34	640	Clear, No Petroleum Odor
1st	0.73	18.7	5.87	53	719	Slightly Cloudy, No Petroleum Odor
2nd	0.76	18.8	6.09	76	877	Slightly Cloudy, No Petroleum Odor
3rd	0.76	18.8	6.30	93	876	Slightly Cloudy, No Petroleum Odor
4th	0.77	18.7	6.31	98	881	Slightly Cloudy, No Petroleum Odor
						Within 10%
Sample collected at 1025						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-67

PROJECT:	H.W. Detwiler Company	**SCREENED INTERVAL**	7-17 Ft.
STREET:	37 South Church Street	**STATIC WATER LEVEL:**	9.60 Ft.
CITY:	Summerton	**WATER HEIGHT (Hw):**	7.40 Ft.
COUNTY:	Clarendon	**WELL DIAMETER (Dw):**	0.166 Ft.
STATE:	South Carolina	**WELL VOLUME (Vw):** $V = (0.02)(Dw^2)(Hw)$	1.206 x 5 = 6.0 Gallons
		PURGE VOLUME:	4 Gallons
DATE:	2/25/15	**EMERALD, INC. PERSONNEL:**	R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 37-39°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.92	15.5	4.86	38	867	Slightly Cloudy, No Petroleum Odor
1st	1.90	16.1	4.64	40	356	Slightly Cloudy, No Petroleum Odor
2nd	1.68	16.5	4.54	40	484	Slightly Cloudy, No Petroleum Odor
3rd	1.69	16.6	4.51	42	510	Slightly Cloudy, No Petroleum Odor
						Within 10%
Sample collected at 1145						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-68

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/25/15

SCREENED INTERVAL 4-14 Ft.

STATIC WATER LEVEL: 6.48 Ft.

WATER HEIGHT (Hw): 7.52 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.226 x 5 = 6.1 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 4 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 37-39°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	2.61	13.9	5.31	37	366	Slightly Cloudy, Petroleum Odor
1st	1.82	14.3	5.30	36	968	Cloudy, Petroleum Odor
2nd	1.27	15.0	5.41	40	732	Cloudy, Petroleum Odor
3rd	1.30	15.0	5.38	40	789	Cloudy, Petroleum Odor
						Within 10%
Sample collected at 940						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-69

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/25/15

SCREENED INTERVAL 4-14 Ft.

STATIC WATER LEVEL: 6.55 Ft.

WATER HEIGHT (Hw): 7.45 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.214 x 5 = 6.1 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 7.5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 37-39°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	0.79	13.9	4.61	57	563	Slightly Cloudy, No Petroleum Odor
1st	0.69	14.9	4.87	52	900	Slightly Cloudy, No Petroleum Odor
2nd	1.04	15.0	4.98	55	729	Slightly Cloudy, No Petroleum Odor
3rd	1.07	15.3	4.93	55	908	Slightly Cloudy, No Petroleum Odor
4th	0.98	16.0	4.78	64	867	Slightly Cloudy, No Petroleum Odor
5th	1.15	16.0	4.91	62	891	Slightly Cloudy, No Petroleum Odor
Sample collected at 1010						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-70

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/25/15

SCREENED INTERVAL 4-14 Ft.

STATIC WATER LEVEL: 6.08 Ft.

WATER HEIGHT (Hw): 7.92 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.291 x 5 = 6.5 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 5 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 37-39°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	0.78	14.1	4.95	49	924	Cloudy, No Petroleum Odor
1st	0.84	14.9	5.14	51	312	Slightly Cloudy, No Petroleum Odor
2nd	0.67	15.2	5.03	51	820	Cloudy, No Petroleum Odor
3rd	0.69	15.3	5.01	52	892	Cloudy, No Petroleum Odor
						Within 10%
Sample collected at 1040						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-71

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/25/15

SCREENED INTERVAL 4-14 Ft.

STATIC WATER LEVEL: 5.14 Ft.

WATER HEIGHT (Hw): 8.86 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.444 x 5 = 7.2 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 3 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 37-39°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	0.83	13.7	5.21	67	867	Cloudy, No Petroleum Odor
1st	0.81	14.0	5.16	70	772	Cloudy, No Petroleum Odor
2nd	0.80	14.3	5.19	70	800	Cloudy, No Petroleum Odor
						Within 10%
Sample collected at 1110						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-72

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/25/15

SCREENED INTERVAL 4-14 Ft.

STATIC WATER LEVEL: 4.90 Ft.

WATER HEIGHT (Hw): 9.10 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.483 x 5 = 7.4 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 6 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0773(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 37-39°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	1.06	12.9	4.30	63	390	Slightly Cloudy, No Petroleum Odor
1st	1.21	13.6	5.19	60	599	Slightly Cloudy, No Petroleum Odor
2nd	1.05	14.0	5.34	62	700	Cloudy, No Petroleum Odor
3rd	1.03	14.5	5.36	63	844	Cloudy, No Petroleum Odor
4th	1.04	14.6	5.37	66	884	Cloudy, No Petroleum Odor
						Within 10%
Sample collected at 1140						

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - 15729 MW-73

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 2/24/15

SCREENED INTERVAL 4-14 Ft.

STATIC WATER LEVEL: 6.50 Ft.

WATER HEIGHT (Hw): 7.50 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 1.223 x 5 = 6.1 Gallons
$V = (0.02) (Dw^2) (Hw)$

PURGE VOLUME: 4 Gallons

EMERALD, INC. PERSONNEL: R. Robertson

Field Equipment

	Serial Number		Serial Number		Serial Number
Interface Probe	02-0759(SM.01L)	Water Level Indicator		Turbidity	201309052
Ph, Conductivity Meter	12B100627	DO Meter	11K00954		

Conditions: Rain, 32-41°F

WELL VOLUME	DISSOLVED OXYGEN	TEMP. (°C)	pH (STU)	CONDUCTIVITY (us/cm)	TURBIDITY (NTU)	NOTES
Initial	3.71	14.6	5.18	37.6	971	Cloudy, No Petroleum Odor
1st	3.54	15.2	5.48	35.8	771	Cloudy, No Petroleum Odor
2nd	3.58	15.5	5.61	38.0	847	Cloudy, No Petroleum Odor
3rd	3.57	15.7	5.62	38.1	850	Cloudy, No Petroleum Odor
						Within 10%
Sample collected at 1045						

APPENDIX B

ANALYTICAL DATA SHEETS

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

March 03, 2015

Ms. Robbin Boykin
Emerald, Inc.
2520 Tahoe Drive
Sumter, SC 29150

RE: Project: HW DETWILER 15729
Pace Project No.: 92238690

Dear Ms. Boykin:
Enclosed are the analytical results for sample(s) received by the laboratory on February 24, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angela M. Baioni

Angela Baioni
angela.baioni@pacelabs.com
Project Manager

Enclosures

cc: Nicole Christopher, Emerald, Inc.
Mr. Chad McClary, Emerald, Inc.

REPORT OF LABORATORY ANALYSIS

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Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: HW DETWILER 15729
Pace Project No.: 92238690

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

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SAMPLE SUMMARY

Project: HW DETWILER 15729
Pace Project No.: 92238690

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92238690001	15729 MW-5	Water	02/20/15 13:20	02/24/15 17:30
92238690002	15729 MW-6	Water	02/20/15 15:15	02/24/15 17:30
92238690003	15729 MW-17R	Water	02/20/15 13:10	02/24/15 17:30
92238690004	15729 MW-18R	Water	02/20/15 12:45	02/24/15 17:30
92238690005	15729 MW-36	Water	02/20/15 13:50	02/24/15 17:30
92238690006	15729 MW-59	Water	02/20/15 12:25	02/24/15 17:30
92238690007	15729 MW-60	Water	02/20/15 14:30	02/24/15 17:30
92238690008	15729 MW-61	Water	02/20/15 14:10	02/24/15 17:30
92238690009	15729 MW-63	Water	02/20/15 15:45	02/24/15 17:30
92238690010	15729 MW-64	Water	02/20/15 15:00	02/24/15 17:30
92238690011	15729 FIELD BLANK #1	Water	02/20/15 15:55	02/24/15 17:30
92238690012	15729 TRIP BLANK #1	Water	02/20/15 00:00	02/24/15 17:30

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SAMPLE ANALYTE COUNT

Project: HW DETWILER 15729
Pace Project No.: 92238690

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92238690001	15729 MW-5	EPA 8011	JMC	2	PASI-C
		EPA 8260	SNP	20	PASI-C
92238690002	15729 MW-6	EPA 8011	JMC	2	PASI-C
		EPA 8260	SNP	20	PASI-C
92238690003	15729 MW-17R	EPA 8011	JMC	2	PASI-C
		EPA 8260	SNP	20	PASI-C
92238690004	15729 MW-18R	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238690005	15729 MW-36	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238690006	15729 MW-59	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238690007	15729 MW-60	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238690008	15729 MW-61	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238690009	15729 MW-63	EPA 8011	JMC	2	PASI-C
		EPA 8260	SNP	20	PASI-C
92238690010	15729 MW-64	EPA 8011	JMC	2	PASI-C
		EPA 8260	SNP	20	PASI-C
92238690011	15729 FIELD BLANK #1	EPA 8011	JMC	2	PASI-C
		EPA 8260	SNP	20	PASI-C
92238690012	15729 TRIP BLANK #1	EPA 8260	SNP	20	PASI-C

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92238690

Sample: 15729 MW-5 **Lab ID: 92238690001** Collected: 02/20/15 13:20 Received: 02/24/15 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**27.2**	ug/L	1.0	1.0	50	03/02/15 19:19	03/03/15 02:14	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		50	03/02/15 19:19	03/03/15 02:14	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	10000	7680	100		03/02/15 13:22	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1000	340	100		03/02/15 13:22	994-05-8	
Benzene	**3530**	ug/L	500	170	100		03/02/15 13:22	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	3210	100		03/02/15 13:22	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	5770	100		03/02/15 13:22	75-65-0	
tert-Butyl Formate	ND	ug/L	5000	730	100		03/02/15 13:22	762-75-4	
1,2-Dichloroethane	ND	ug/L	500	180	100		03/02/15 13:22	107-06-2	
Diisopropyl ether	ND	ug/L	500	170	100		03/02/15 13:22	108-20-3	
Ethanol	ND	ug/L	20000	13800	100		03/02/15 13:22	64-17-5	
Ethylbenzene	**1530**	ug/L	500	160	100		03/02/15 13:22	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	360	100		03/02/15 13:22	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	500	170	100		03/02/15 13:22	1634-04-4	
Naphthalene	**269J**	ug/L	500	200	100		03/02/15 13:22	91-20-3	
Toluene	**10900**	ug/L	500	160	100		03/02/15 13:22	108-88-3	
Xylene (Total)	**7110**	ug/L	1000	270	100		03/02/15 13:22	1330-20-7	
m&p-Xylene	**4860**	ug/L	1000	310	100		03/02/15 13:22	179601-23-1	
o-Xylene	**2250**	ug/L	500	160	100		03/02/15 13:22	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		100		03/02/15 13:22	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		100		03/02/15 13:22	17060-07-0	
Toluene-d8 (S)	100	%	70-130		100		03/02/15 13:22	2037-26-5	

Sample: 15729 MW-6 **Lab ID: 92238690002** Collected: 02/20/15 15:15 Received: 02/24/15 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:37	02/27/15 05:24	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	89	%	60-140		1	02/26/15 17:37	02/27/15 05:24	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		02/28/15 04:57	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		02/28/15 04:57	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		02/28/15 04:57	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		02/28/15 04:57	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		02/28/15 04:57	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		02/28/15 04:57	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		02/28/15 04:57	107-06-2	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92238690

Sample: 15729 MW-6 **Lab ID: 92238690002** Collected: 02/20/15 15:15 Received: 02/24/15 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Diisopropyl ether	ND	ug/L	5.0	1.7	1		02/28/15 04:57	108-20-3	
Ethanol	ND	ug/L	200	138	1		02/28/15 04:57	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		02/28/15 04:57	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		02/28/15 04:57	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		02/28/15 04:57	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		02/28/15 04:57	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		02/28/15 04:57	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/28/15 04:57	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		02/28/15 04:57	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		02/28/15 04:57	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		02/28/15 04:57	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	70-130		1		02/28/15 04:57	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		02/28/15 04:57	2037-26-5	

Sample: 15729 MW-17R **Lab ID: 92238690003** Collected: 02/20/15 13:10 Received: 02/24/15 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:37	02/27/15 05:44	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	117	%	60-140		1	02/26/15 17:37	02/27/15 05:44	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		02/28/15 05:14	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		02/28/15 05:14	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		02/28/15 05:14	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		02/28/15 05:14	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		02/28/15 05:14	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		02/28/15 05:14	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		02/28/15 05:14	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		02/28/15 05:14	108-20-3	
Ethanol	ND	ug/L	200	138	1		02/28/15 05:14	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		02/28/15 05:14	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		02/28/15 05:14	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		02/28/15 05:14	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		02/28/15 05:14	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		02/28/15 05:14	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/28/15 05:14	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		02/28/15 05:14	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		02/28/15 05:14	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		02/28/15 05:14	460-00-4	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92238690

Sample: 15729 MW-17R **Lab ID: 92238690003** Collected: 02/20/15 13:10 Received: 02/24/15 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
1,2-Dichloroethane-d4 (S)	114	%	70-130		1		02/28/15 05:14	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		02/28/15 05:14	2037-26-5	

Sample: 15729 MW-18R **Lab ID: 92238690004** Collected: 02/20/15 12:45 Received: 02/24/15 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:37	02/27/15 06:03	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	101	%	60-140		1	02/26/15 17:37	02/27/15 06:03	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/02/15 14:35	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/02/15 14:35	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/02/15 14:35	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/02/15 14:35	624-95-3	
tert-Butyl Alcohol	**93.0J**	ug/L	100	57.7	1		03/02/15 14:35	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/02/15 14:35	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/02/15 14:35	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/02/15 14:35	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/02/15 14:35	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/02/15 14:35	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/02/15 14:35	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/02/15 14:35	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/02/15 14:35	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/02/15 14:35	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/02/15 14:35	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/02/15 14:35	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/02/15 14:35	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		03/02/15 14:35	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		03/02/15 14:35	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		03/02/15 14:35	2037-26-5	

Sample: 15729 MW-36 **Lab ID: 92238690005** Collected: 02/20/15 13:50 Received: 02/24/15 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**12.1**	ug/L	0.39	0.39	20	02/26/15 17:37	02/27/15 17:16	106-93-4	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92238690

Sample: 15729 MW-36 **Lab ID: 92238690005** Collected: 02/20/15 13:50 Received: 02/24/15 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		20	02/26/15 17:37	02/27/15 17:16	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**5700**	ug/L	1000	768	10		03/02/15 14:50	75-85-4	
tert-Amylmethyl ether	**109**	ug/L	100	34.0	10		03/02/15 14:50	994-05-8	
Benzene	**4450**	ug/L	250	85.0	50		03/03/15 12:07	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	321	10		03/02/15 14:50	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1000	577	10		03/02/15 14:50	75-65-0	
tert-Butyl Formate	ND	ug/L	500	73.0	10		03/02/15 14:50	762-75-4	
1,2-Dichloroethane	**26.8J**	ug/L	50.0	18.0	10		03/02/15 14:50	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	17.0	10		03/02/15 14:50	108-20-3	
Ethanol	ND	ug/L	2000	1380	10		03/02/15 14:50	64-17-5	
Ethylbenzene	**642**	ug/L	50.0	16.0	10		03/02/15 14:50	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	36.0	10		03/02/15 14:50	637-92-3	
Methyl-tert-butyl ether	**163**	ug/L	50.0	17.0	10		03/02/15 14:50	1634-04-4	
Naphthalene	**199**	ug/L	50.0	20.0	10		03/02/15 14:50	91-20-3	
Toluene	**4720**	ug/L	250	80.0	50		03/03/15 12:07	108-88-3	
Xylene (Total)	**2410**	ug/L	100	27.0	10		03/02/15 14:50	1330-20-7	
m&p-Xylene	**1640**	ug/L	100	31.0	10		03/02/15 14:50	179601-23-1	
o-Xylene	**768**	ug/L	50.0	16.0	10		03/02/15 14:50	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		10		03/02/15 14:50	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		10		03/02/15 14:50	17060-07-0	
Toluene-d8 (S)	101	%	70-130		10		03/02/15 14:50	2037-26-5	

Sample: 15729 MW-59 **Lab ID: 92238690006** Collected: 02/20/15 12:25 Received: 02/24/15 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:37	02/27/15 06:42	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	02/26/15 17:37	02/27/15 06:42	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**214**	ug/L	100	76.8	1		03/03/15 10:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/03/15 10:48	994-05-8	
Benzene	**13.6**	ug/L	5.0	1.7	1		03/03/15 10:48	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/03/15 10:48	624-95-3	
tert-Butyl Alcohol	**121**	ug/L	100	57.7	1		03/03/15 10:48	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/03/15 10:48	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/03/15 10:48	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/03/15 10:48	108-20-3	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92238690

Sample: 15729 MW-59 **Lab ID: 92238690006** Collected: 02/20/15 12:25 Received: 02/24/15 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Ethanol	ND	ug/L	200	138	1		03/03/15 10:48	64-17-5	
Ethylbenzene	**3.7J**	ug/L	5.0	1.6	1		03/03/15 10:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/03/15 10:48	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/03/15 10:48	1634-04-4	
Naphthalene	**9.4**	ug/L	5.0	2.0	1		03/03/15 10:48	91-20-3	
Toluene	**33.2**	ug/L	5.0	1.6	1		03/03/15 10:48	108-88-3	
Xylene (Total)	**105**	ug/L	10.0	2.7	1		03/03/15 10:48	1330-20-7	
m&p-Xylene	**42.5**	ug/L	10.0	3.1	1		03/03/15 10:48	179601-23-1	
o-Xylene	**62.6**	ug/L	5.0	1.6	1		03/03/15 10:48	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		03/03/15 10:48	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		03/03/15 10:48	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		03/03/15 10:48	2037-26-5	

Sample: 15729 MW-60 **Lab ID: 92238690007** Collected: 02/20/15 14:30 Received: 02/24/15 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**16.9**	ug/L	0.50	0.50	25	02/26/15 17:39	02/27/15 19:02	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		25	02/26/15 17:39	02/27/15 19:02	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**5770**	ug/L	2000	1540	20		03/02/15 15:23	75-85-4	
tert-Amylmethyl ether	ND	ug/L	200	68.0	20		03/02/15 15:23	994-05-8	
Benzene	**3090**	ug/L	100	34.0	20		03/02/15 15:23	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2000	642	20		03/02/15 15:23	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2000	1150	20		03/02/15 15:23	75-65-0	
tert-Butyl Formate	ND	ug/L	1000	146	20		03/02/15 15:23	762-75-4	
1,2-Dichloroethane	ND	ug/L	100	36.0	20		03/02/15 15:23	107-06-2	
Diisopropyl ether	ND	ug/L	100	34.0	20		03/02/15 15:23	108-20-3	
Ethanol	ND	ug/L	4000	2760	20		03/02/15 15:23	64-17-5	
Ethylbenzene	**1530**	ug/L	100	32.0	20		03/02/15 15:23	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	200	72.0	20		03/02/15 15:23	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	100	34.0	20		03/02/15 15:23	1634-04-4	
Naphthalene	**276**	ug/L	100	40.0	20		03/02/15 15:23	91-20-3	
Toluene	**6690**	ug/L	250	80.0	50		03/03/15 12:24	108-88-3	
Xylene (Total)	**3460**	ug/L	200	54.0	20		03/02/15 15:23	1330-20-7	
m&p-Xylene	**2320**	ug/L	200	62.0	20		03/02/15 15:23	179601-23-1	
o-Xylene	**1140**	ug/L	100	32.0	20		03/02/15 15:23	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		20		03/02/15 15:23	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		20		03/02/15 15:23	17060-07-0	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92238690

Sample: 15729 MW-60 **Lab ID: 92238690007** Collected: 02/20/15 14:30 Received: 02/24/15 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
Toluene-d8 (S)	103	%	70-130		20		03/02/15 15:23	2037-26-5	

Sample: 15729 MW-61 **Lab ID: 92238690008** Collected: 02/20/15 14:10 Received: 02/24/15 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**65.6**	ug/L	1.9	1.9	100	02/26/15 17:39	02/27/15 19:22	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		100	02/26/15 17:39	02/27/15 19:22	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**13400**	ug/L	12500	9600	125		03/02/15 15:38	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1250	425	125		03/02/15 15:38	994-05-8	
Benzene	**7880**	ug/L	625	212	125		03/02/15 15:38	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	12500	4010	125		03/02/15 15:38	624-95-3	
tert-Butyl Alcohol	ND	ug/L	12500	7210	125		03/02/15 15:38	75-65-0	
tert-Butyl Formate	ND	ug/L	6250	912	125		03/02/15 15:38	762-75-4	
1,2-Dichloroethane	ND	ug/L	625	225	125		03/02/15 15:38	107-06-2	
Diisopropyl ether	ND	ug/L	625	212	125		03/02/15 15:38	108-20-3	
Ethanol	ND	ug/L	25000	17200	125		03/02/15 15:38	64-17-5	
Ethylbenzene	**1590**	ug/L	625	200	125		03/02/15 15:38	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1250	450	125		03/02/15 15:38	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	625	212	125		03/02/15 15:38	1634-04-4	
Naphthalene	**399J**	ug/L	625	250	125		03/02/15 15:38	91-20-3	
Toluene	**15300**	ug/L	625	200	125		03/02/15 15:38	108-88-3	
Xylene (Total)	**7180**	ug/L	1250	338	125		03/02/15 15:38	1330-20-7	
m&p-Xylene	**4760**	ug/L	1250	388	125		03/02/15 15:38	179601-23-1	
o-Xylene	**2420**	ug/L	625	200	125		03/02/15 15:38	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		125		03/02/15 15:38	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		125		03/02/15 15:38	17060-07-0	
Toluene-d8 (S)	99	%	70-130		125		03/02/15 15:38	2037-26-5	

Sample: 15729 MW-63 **Lab ID: 92238690009** Collected: 02/20/15 15:45 Received: 02/24/15 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:39	02/26/15 23:09	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	105	%	60-140		1	02/26/15 17:39	02/26/15 23:09	301-79-56	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92238690

Sample: 15729 MW-63 **Lab ID: 92238690009** Collected: 02/20/15 15:45 Received: 02/24/15 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**122**	ug/L	100	76.8	1		02/28/15 05:31	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		02/28/15 05:31	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		02/28/15 05:31	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		02/28/15 05:31	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		02/28/15 05:31	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		02/28/15 05:31	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		02/28/15 05:31	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		02/28/15 05:31	108-20-3	
Ethanol	ND	ug/L	200	138	1		02/28/15 05:31	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		02/28/15 05:31	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		02/28/15 05:31	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		02/28/15 05:31	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		02/28/15 05:31	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		02/28/15 05:31	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/28/15 05:31	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		02/28/15 05:31	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		02/28/15 05:31	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	106	%	70-130		1		02/28/15 05:31	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	70-130		1		02/28/15 05:31	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		02/28/15 05:31	2037-26-5	

Sample: 15729 MW-64 **Lab ID: 92238690010** Collected: 02/20/15 15:00 Received: 02/24/15 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:39	02/26/15 23:28	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	105	%	60-140		1	02/26/15 17:39	02/26/15 23:28	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		02/28/15 05:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		02/28/15 05:48	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		02/28/15 05:48	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		02/28/15 05:48	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		02/28/15 05:48	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		02/28/15 05:48	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		02/28/15 05:48	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		02/28/15 05:48	108-20-3	
Ethanol	ND	ug/L	200	138	1		02/28/15 05:48	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		02/28/15 05:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		02/28/15 05:48	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		02/28/15 05:48	1634-04-4	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92238690

Sample: 15729 MW-64 **Lab ID: 92238690010** Collected: 02/20/15 15:00 Received: 02/24/15 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Naphthalene	ND	ug/L	5.0	2.0	1		02/28/15 05:48	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		02/28/15 05:48	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/28/15 05:48	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		02/28/15 05:48	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		02/28/15 05:48	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		02/28/15 05:48	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	70-130		1		02/28/15 05:48	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		02/28/15 05:48	2037-26-5	

Sample: 15729 FIELD BLANK #1 **Lab ID: 92238690011** Collected: 02/20/15 15:55 Received: 02/24/15 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	02/26/15 17:40	02/26/15 23:47	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	106	%	60-140		1	02/26/15 17:40	02/26/15 23:47	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		02/28/15 04:06	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		02/28/15 04:06	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		02/28/15 04:06	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		02/28/15 04:06	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		02/28/15 04:06	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		02/28/15 04:06	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		02/28/15 04:06	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		02/28/15 04:06	108-20-3	
Ethanol	ND	ug/L	200	138	1		02/28/15 04:06	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		02/28/15 04:06	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		02/28/15 04:06	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		02/28/15 04:06	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		02/28/15 04:06	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		02/28/15 04:06	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/28/15 04:06	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		02/28/15 04:06	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		02/28/15 04:06	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		02/28/15 04:06	460-00-4	
1,2-Dichloroethane-d4 (S)	113	%	70-130		1		02/28/15 04:06	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		02/28/15 04:06	2037-26-5	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92238690

Sample: 15729 TRIP BLANK #1 Lab ID: **92238690012** Collected: 02/20/15 00:00 Received: 02/24/15 17:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		02/28/15 04:23	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		02/28/15 04:23	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		02/28/15 04:23	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		02/28/15 04:23	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		02/28/15 04:23	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		02/28/15 04:23	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		02/28/15 04:23	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		02/28/15 04:23	108-20-3	
Ethanol	ND	ug/L	200	138	1		02/28/15 04:23	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		02/28/15 04:23	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		02/28/15 04:23	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		02/28/15 04:23	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		02/28/15 04:23	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		02/28/15 04:23	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/28/15 04:23	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		02/28/15 04:23	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		02/28/15 04:23	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		02/28/15 04:23	460-00-4	
1,2-Dichloroethane-d4 (S)	113	%	70-130		1		02/28/15 04:23	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		02/28/15 04:23	2037-26-5	

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92238690

QC Batch: MSV/30525 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92238690001, 92238690002, 92238690003, 92238690009, 92238690010, 92238690011, 92238690012

METHOD BLANK: 1399849 Matrix: Water
Associated Lab Samples: 92238690001, 92238690002, 92238690003, 92238690009, 92238690010, 92238690011, 92238690012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	02/27/15 23:52	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	02/27/15 23:52	
Benzene	ug/L	ND	5.0	02/27/15 23:52	
Diisopropyl ether	ug/L	ND	5.0	02/27/15 23:52	
Ethanol	ug/L	ND	200	02/27/15 23:52	
Ethyl-tert-butyl ether	ug/L	ND	10.0	02/27/15 23:52	
Ethylbenzene	ug/L	ND	5.0	02/27/15 23:52	
m&p-Xylene	ug/L	ND	10.0	02/27/15 23:52	
Methyl-tert-butyl ether	ug/L	ND	5.0	02/27/15 23:52	
Naphthalene	ug/L	ND	5.0	02/27/15 23:52	
o-Xylene	ug/L	ND	5.0	02/27/15 23:52	
tert-Amyl Alcohol	ug/L	ND	100	02/27/15 23:52	
tert-Amylmethyl ether	ug/L	ND	10.0	02/27/15 23:52	
tert-Butyl Alcohol	ug/L	ND	100	02/27/15 23:52	
tert-Butyl Formate	ug/L	ND	50.0	02/27/15 23:52	
Toluene	ug/L	ND	5.0	02/27/15 23:52	
Xylene (Total)	ug/L	ND	10.0	02/27/15 23:52	
1,2-Dichloroethane-d4 (S)	%	104	70-130	02/27/15 23:52	
4-Bromofluorobenzene (S)	%	105	70-130	02/27/15 23:52	
Toluene-d8 (S)	%	100	70-130	02/27/15 23:52	

LABORATORY CONTROL SAMPLE: 1399850

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	49.8	100	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1150	115	70-130	
Benzene	ug/L	50	51.9	104	70-130	
Diisopropyl ether	ug/L	50	46.8	94	70-130	
Ethanol	ug/L	2000	3440	172	70-130	L3
Ethyl-tert-butyl ether	ug/L	100	109	109	70-130	
Ethylbenzene	ug/L	50	48.3	97	70-130	
m&p-Xylene	ug/L	100	97.7	98	70-130	
Methyl-tert-butyl ether	ug/L	50	47.0	94	70-130	
Naphthalene	ug/L	50	47.6	95	70-130	
o-Xylene	ug/L	50	47.6	95	70-130	
tert-Amyl Alcohol	ug/L	1000	1230	123	70-130	
tert-Amylmethyl ether	ug/L	100	104	104	70-130	
tert-Butyl Alcohol	ug/L	500	612	122	70-130	
tert-Butyl Formate	ug/L	400	488	122	70-130	
Toluene	ug/L	50	51.0	102	70-130	

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92238690

LABORATORY CONTROL SAMPLE: 1399850

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	145	97	70-130	
1,2-Dichloroethane-d4 (S)	%			93	70-130	
4-Bromofluorobenzene (S)	%			109	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE SAMPLE: 1399851

Parameter	Units	92238690002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	18.7	92	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	ND	0	70-130	M0
Benzene	ug/L	ND	20	21.1	105	70-130	
Diisopropyl ether	ug/L	ND	20	17.3	87	70-130	
Ethanol	ug/L	ND	800	885	111	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	40.5	101	70-130	
Ethylbenzene	ug/L	ND	20	21.4	107	70-130	
m&p-Xylene	ug/L	ND	40	43.2	108	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	17.8	85	70-130	
Naphthalene	ug/L	ND	20	19.8	99	70-130	
o-Xylene	ug/L	ND	20	20.4	102	70-130	
tert-Amyl Alcohol	ug/L	ND	400	404	101	70-130	
tert-Amylmethyl ether	ug/L	ND	40	39.9	100	70-130	
tert-Butyl Alcohol	ug/L	ND	200	284	142	70-130	M0
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	20.9	104	70-130	
1,2-Dichloroethane-d4 (S)	%				93	70-130	
4-Bromofluorobenzene (S)	%				108	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 1399852

Parameter	Units	92238690003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92238690

SAMPLE DUPLICATE: 1399852

Parameter	Units	92238690003 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	114	100	13		
4-Bromofluorobenzene (S)	%	102	107	5		
Toluene-d8 (S)	%	100	98	2		

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92238690

QC Batch: MSV/30538 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92238690004, 92238690005, 92238690007, 92238690008

METHOD BLANK: 1400392 Matrix: Water
Associated Lab Samples: 92238690004, 92238690005, 92238690007, 92238690008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	03/02/15 12:11	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	03/02/15 12:11	
Benzene	ug/L	ND	5.0	03/02/15 12:11	
Diisopropyl ether	ug/L	ND	5.0	03/02/15 12:11	
Ethanol	ug/L	ND	200	03/02/15 12:11	
Ethyl-tert-butyl ether	ug/L	ND	10.0	03/02/15 12:11	
Ethylbenzene	ug/L	ND	5.0	03/02/15 12:11	
m&p-Xylene	ug/L	ND	10.0	03/02/15 12:11	
Methyl-tert-butyl ether	ug/L	ND	5.0	03/02/15 12:11	
Naphthalene	ug/L	ND	5.0	03/02/15 12:11	
o-Xylene	ug/L	ND	5.0	03/02/15 12:11	
tert-Amyl Alcohol	ug/L	ND	100	03/02/15 12:11	
tert-Amylmethyl ether	ug/L	ND	10.0	03/02/15 12:11	
tert-Butyl Alcohol	ug/L	ND	100	03/02/15 12:11	
tert-Butyl Formate	ug/L	ND	50.0	03/02/15 12:11	
Toluene	ug/L	ND	5.0	03/02/15 12:11	
Xylene (Total)	ug/L	ND	10.0	03/02/15 12:11	
1,2-Dichloroethane-d4 (S)	%	108	70-130	03/02/15 12:11	
4-Bromofluorobenzene (S)	%	106	70-130	03/02/15 12:11	
Toluene-d8 (S)	%	97	70-130	03/02/15 12:11	

LABORATORY CONTROL SAMPLE: 1400393

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	49.1	98	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1090	109	70-130	
Benzene	ug/L	50	49.9	100	70-130	
Diisopropyl ether	ug/L	50	48.4	97	70-130	
Ethanol	ug/L	2000	2220	111	70-130	
Ethyl-tert-butyl ether	ug/L	100	110	110	70-130	
Ethylbenzene	ug/L	50	47.6	95	70-130	
m&p-Xylene	ug/L	100	95.4	95	70-130	
Methyl-tert-butyl ether	ug/L	50	44.7	89	70-130	
Naphthalene	ug/L	50	51.1	102	70-130	
o-Xylene	ug/L	50	48.3	97	70-130	
tert-Amyl Alcohol	ug/L	1000	1120	112	70-130	
tert-Amylmethyl ether	ug/L	100	94.9	95	70-130	
tert-Butyl Alcohol	ug/L	500	580	116	70-130	
tert-Butyl Formate	ug/L	400	420	105	70-130	
Toluene	ug/L	50	49.5	99	70-130	

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92238690

LABORATORY CONTROL SAMPLE: 1400393

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	144	96	70-130	
1,2-Dichloroethane-d4 (S)	%			102	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			103	70-130	

MATRIX SPIKE SAMPLE: 1400394

Parameter	Units	92238560017 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	19.4	97	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	427	107	70-130	
Benzene	ug/L	ND	20	21.8	109	70-130	
Diisopropyl ether	ug/L	ND	20	20.8	104	70-130	
Ethanol	ug/L	ND	800	702	88	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	44.2	110	70-130	
Ethylbenzene	ug/L	ND	20	21.0	104	70-130	
m&p-Xylene	ug/L	ND	40	43.2	106	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	18.7	93	70-130	
Naphthalene	ug/L	ND	20	20.5	93	70-130	
o-Xylene	ug/L	ND	20	21.3	104	70-130	
tert-Amyl Alcohol	ug/L	ND	400	420	105	70-130	
tert-Amylmethyl ether	ug/L	ND	40	41.5	104	70-130	
tert-Butyl Alcohol	ug/L	ND	200	327	164	70-130	M0
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	21.2	105	70-130	
1,2-Dichloroethane-d4 (S)	%				99	70-130	
4-Bromofluorobenzene (S)	%				99	70-130	
Toluene-d8 (S)	%				98	70-130	

SAMPLE DUPLICATE: 1400395

Parameter	Units	92238561003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

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(704)875-9092

QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92238690

SAMPLE DUPLICATE: 1400395

Parameter	Units	92238561003 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	109	108	1		
4-Bromofluorobenzene (S)	%	104	105	1		
Toluene-d8 (S)	%	99	99	0		

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92238690

QC Batch: MSV/30549
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV SC
Associated Lab Samples: 92238690006

METHOD BLANK: 1400482
Matrix: Water
Associated Lab Samples: 92238690006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	03/03/15 00:56	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	03/03/15 00:56	
Benzene	ug/L	ND	5.0	03/03/15 00:56	
Diisopropyl ether	ug/L	ND	5.0	03/03/15 00:56	
Ethanol	ug/L	ND	200	03/03/15 00:56	
Ethyl-tert-butyl ether	ug/L	ND	10.0	03/03/15 00:56	
Ethylbenzene	ug/L	ND	5.0	03/03/15 00:56	
m&p-Xylene	ug/L	ND	10.0	03/03/15 00:56	
Methyl-tert-butyl ether	ug/L	ND	5.0	03/03/15 00:56	
Naphthalene	ug/L	ND	5.0	03/03/15 00:56	
o-Xylene	ug/L	ND	5.0	03/03/15 00:56	
tert-Amyl Alcohol	ug/L	ND	100	03/03/15 00:56	
tert-Amylmethyl ether	ug/L	ND	10.0	03/03/15 00:56	
tert-Butyl Alcohol	ug/L	ND	100	03/03/15 00:56	
tert-Butyl Formate	ug/L	ND	50.0	03/03/15 00:56	
Toluene	ug/L	ND	5.0	03/03/15 00:56	
Xylene (Total)	ug/L	ND	10.0	03/03/15 00:56	
1,2-Dichloroethane-d4 (S)	%	102	70-130	03/03/15 00:56	
4-Bromofluorobenzene (S)	%	97	70-130	03/03/15 00:56	
Toluene-d8 (S)	%	98	70-130	03/03/15 00:56	

LABORATORY CONTROL SAMPLE: 1400483

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	47.4	95	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1120	112	70-130	
Benzene	ug/L	50	49.7	99	70-130	
Diisopropyl ether	ug/L	50	51.7	103	70-130	
Ethanol	ug/L	2000	1990	100	70-130	
Ethyl-tert-butyl ether	ug/L	100	109	109	70-130	
Ethylbenzene	ug/L	50	47.7	95	70-130	
m&p-Xylene	ug/L	100	96.0	96	70-130	
Methyl-tert-butyl ether	ug/L	50	46.6	93	70-130	
Naphthalene	ug/L	50	51.1	102	70-130	
o-Xylene	ug/L	50	48.8	98	70-130	
tert-Amyl Alcohol	ug/L	1000	1060	106	70-130	
tert-Amylmethyl ether	ug/L	100	98.0	98	70-130	
tert-Butyl Alcohol	ug/L	500	537	107	70-130	
tert-Butyl Formate	ug/L	400	418	105	70-130	
Toluene	ug/L	50	48.2	96	70-130	

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92238690

LABORATORY CONTROL SAMPLE: 1400483

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	145	97	70-130	
1,2-Dichloroethane-d4 (S)	%			100	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 1400494

Parameter	Units	92238914021 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	20.1	100	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	470	118	70-130	
Benzene	ug/L	ND	20	22.2	111	70-130	
Diisopropyl ether	ug/L	ND	20	21.8	109	70-130	
Ethanol	ug/L	ND	800	891	111	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	45.6	114	70-130	
Ethylbenzene	ug/L	ND	20	21.8	109	70-130	
m&p-Xylene	ug/L	ND	40	43.4	109	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	20.7	99	70-130	
Naphthalene	ug/L	ND	20	21.6	108	70-130	
o-Xylene	ug/L	ND	20	21.2	106	70-130	
tert-Amyl Alcohol	ug/L	ND	400	442	110	70-130	
tert-Amylmethyl ether	ug/L	ND	40	43.1	108	70-130	
tert-Butyl Alcohol	ug/L	ND	200	351	176	70-130	M0
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	21.1	105	70-130	
1,2-Dichloroethane-d4 (S)	%				98	70-130	
4-Bromofluorobenzene (S)	%				98	70-130	
Toluene-d8 (S)	%				97	70-130	

SAMPLE DUPLICATE: 1400495

Parameter	Units	92238914026 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92238690

SAMPLE DUPLICATE: 1400495

Parameter	Units	92238914026 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	106	106	1		
4-Bromofluorobenzene (S)	%	108	106	2		
Toluene-d8 (S)	%	97	97	1		

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92238690

QC Batch: OEXT/33214 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92238690002, 92238690003, 92238690004, 92238690005, 92238690006

METHOD BLANK: 1398571 Matrix: Water
Associated Lab Samples: 92238690002, 92238690003, 92238690004, 92238690005, 92238690006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	02/26/15 22:30	
1-Chloro-2-bromopropane (S)	%	103	60-140	02/26/15 22:30	

LABORATORY CONTROL SAMPLE & LCSD: 1398572 1398573

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.3	0.27	0.27	92	96	60-140	0	20	
1-Chloro-2-bromopropane (S)	%				103	101	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1398688 1398689

Parameter	Units	92238688002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	209	.28	.28	202	207	-2678	-766	60-140	3	20	M3
1-Chloro-2-bromopropane (S)	%						110	109	60-140			

SAMPLE DUPLICATE: 1398690

Parameter	Units	92238688003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	192	190	1	20	
1-Chloro-2-bromopropane (S)	%	0	0			S4

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92238690

QC Batch: OEXT/33215 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92238690007, 92238690008, 92238690009, 92238690010, 92238690011

METHOD BLANK: 1398577 Matrix: Water
Associated Lab Samples: 92238690007, 92238690008, 92238690009, 92238690010, 92238690011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	02/26/15 21:33	
1-Chloro-2-bromopropane (S)	%	111	60-140	02/26/15 21:33	

LABORATORY CONTROL SAMPLE & LCSD: 1398578 1398579

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.3	0.30	0.31	102	112	60-140	3	20	
1-Chloro-2-bromopropane (S)	%				101	114	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1398580 1398582

Parameter	Units	92238913007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.29	.29	0.28	0.28	98	98	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						102	104	60-140			

SAMPLE DUPLICATE: 1398583

Parameter	Units	92238913008 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.40	0.39	2	20	
1-Chloro-2-bromopropane (S)	%	132	124	6		

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92238690

QC Batch: OEXT/33276 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92238690001

METHOD BLANK: 1400745 Matrix: Water
Associated Lab Samples: 92238690001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	03/03/15 01:14	
1-Chloro-2-bromopropane (S)	%	92	60-140	03/03/15 01:14	

LABORATORY CONTROL SAMPLE & LCSD: 1400746 1400747

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.26	0.24	90	86	60-140	6	20	
1-Chloro-2-bromopropane (S)	%				92	90	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1400748 1400749

Parameter	Units	92239079001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.23	0.23	84	84	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						89	91	60-140			

SAMPLE DUPLICATE: 1400750

Parameter	Units	92239079002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	85	88	0		

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QUALIFIERS

Project: HW DETWILER 15729
Pace Project No.: 92238690

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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TNI - The NELAC Institute.

LABORATORIES

PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HW DETWILER 15729
Pace Project No.: 92238690

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92238690001	15729 MW-5	EPA 8011	OEXT/33276	EPA 8011	GCSV/20498
92238690002	15729 MW-6	EPA 8011	OEXT/33214	EPA 8011	GCSV/20475
92238690003	15729 MW-17R	EPA 8011	OEXT/33214	EPA 8011	GCSV/20475
92238690004	15729 MW-18R	EPA 8011	OEXT/33214	EPA 8011	GCSV/20475
92238690005	15729 MW-36	EPA 8011	OEXT/33214	EPA 8011	GCSV/20475
92238690006	15729 MW-59	EPA 8011	OEXT/33214	EPA 8011	GCSV/20475
92238690007	15729 MW-60	EPA 8011	OEXT/33215	EPA 8011	GCSV/20477
92238690008	15729 MW-61	EPA 8011	OEXT/33215	EPA 8011	GCSV/20477
92238690009	15729 MW-63	EPA 8011	OEXT/33215	EPA 8011	GCSV/20477
92238690010	15729 MW-64	EPA 8011	OEXT/33215	EPA 8011	GCSV/20477
92238690011	15729 FIELD BLANK #1	EPA 8011	OEXT/33215	EPA 8011	GCSV/20477
92238690001	15729 MW-5	EPA 8260	MSV/30525		
92238690002	15729 MW-6	EPA 8260	MSV/30525		
92238690003	15729 MW-17R	EPA 8260	MSV/30525		
92238690004	15729 MW-18R	EPA 8260	MSV/30538		
92238690005	15729 MW-36	EPA 8260	MSV/30538		
92238690006	15729 MW-59	EPA 8260	MSV/30549		
92238690007	15729 MW-60	EPA 8260	MSV/30538		
92238690008	15729 MW-61	EPA 8260	MSV/30538		
92238690009	15729 MW-63	EPA 8260	MSV/30525		
92238690010	15729 MW-64	EPA 8260	MSV/30525		
92238690011	15729 FIELD BLANK #1	EPA 8260	MSV/30525		
92238690012	15729 TRIP BLANK #1	EPA 8260	MSV/30525		

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Pace Analytical	Sample Condition Upon Receipt (SCUR) Document Number: F-CHR-CS-003-rev.15	Page 1 of 2 Issuing Authority: Pace Huntersville Quality Office

Client Name: Emerald

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other_____

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☐ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1401 Type of Ice: Wet Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor T1401 No Correction

Corrected Cooler Temp.: 1.2 °C Biological Tissue is Frozen: Yes No N/A

Date and initials of person examining contents: PS 2/24/15

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A
Sufficient Volume:	☑Yes	☐No	☐N/A
Correct Containers Used:	☑Yes	☐No	☐N/A
-Pace Containers Used:	☑Yes	☐No	☐N/A
Containers Intact:	☑Yes	☐No	☐N/A
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A
Sample Labels match COC:	☑Yes	☐No	☐N/A
-Includes date/time/ID/Analysis Matrix:_____			
All containers needing preservation have been checked.	☐Yes	☐No	☑N/A
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes	☐No	
Samples checked for dechlorination:	☐Yes	☐No	☑N/A
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A
Trip Blank Present:	☑Yes	☐No	☐N/A
Trip Blank Custody Seals Present	☑Yes	☐No	☐N/A
Pace Trip Blank Lot # (if purchased):_____			

1.	
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Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted:_____ Date/Time:_____

Comments/ Resolution:_____

SCURF Review: AMB Date: 2-24-15

SRF Review: AMB Date: 2-24-15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Place label here

WO# : 92238690

92238690

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1911762

Section A Required Client Information:
- Company: Emerald Inc.
- Address: 2520 Tahoe Dr. Sumter, SC 29150
- Email To:
- Phone: (803) 469-5454 Fax:
- Requested Due Date/TAT: Standard

Section B Required Project Information:
- Report To: Ronny Lowder
- Copy To:
- Purchase Order No.:
- Project Name: HW Detwiler
- Project Number: 15729

Section C Invoice Information:
- Attention:
- Company Name:
- Address:
- Pace Quote Reference:
- Pace Project Manager: A. Baioni
- Pace Profile #: 387615

REGULATORY AGENCY
- ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
- ☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTex, N, M	1,2 DCA 8260B	Oxy's	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	15729 MW-5	WT	G			2/20/15	1320		6				6						X	X	X	X		001
2	" MW-6						1515																	2
3	" MW-17R						1310																	3
4	" MW-18R						1245																	4
5	" MW-36						1350																	5
6	" MW-59						1225																	6
7	" MW-60						1430																	7
8	" MW-61						1410																	8
9	" MW-63						1545																	9
10	" MW-64						1500																	10
11	" Field Blank #1						1555		6				6						X	X	X	X		11
12	" Trip Blank #1						—		2				2						X	X	X			12

92238690

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Robbie Robertson	2/23/15	0800	[signature]	2-23-15	1700				
	Beaver			G Moody-Pace	02-24-15	16:00				
	G Moody	02-24-15	17:30	P. [signature] / PACE	2/24	1730	1-2	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
- PRINT Name of SAMPLER: Robbie Robertson
- SIGNATURE of SAMPLER: Robbie Robertson
- DATE Signed (MM/DD/YY): 2/23/15

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical Services, Inc.
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Huntersville, NC 28078
(704)875-9092

March 10, 2015

Ms. Robbin Boykin
Emerald, Inc.
2520 Tahoe Drive
Sumter, SC 29150

RE: Project: H.W DETWILER 15729
Pace Project No.: 92238913

Dear Ms. Boykin:
Enclosed are the analytical results for sample(s) received by the laboratory on February 25, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

The laboratory report is being resubmitted on March 10, 2015, to correct a laboratory log in error.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angela M. Baioni

Angela Baioni
angela.baioni@pacelabs.com
Project Manager

Enclosures

cc: Nicole Christopher, Emerald, Inc.
Mr. Chad McClary, Emerald, Inc.

Pace Analytical Services, Inc.
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Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92238913001	15729 MW-7	Water	02/23/15 13:25	02/25/15 17:00
92238913002	15729 MW-14	Water	02/23/15 12:30	02/25/15 17:00
92238913003	15729 MW-19	Water	02/23/15 13:00	02/25/15 17:00
92238913004	15729 MW-20	Water	02/23/15 16:30	02/25/15 17:00
92238913005	15729 MW-25	Water	02/23/15 11:30	02/25/15 17:00
92238913006	15729 MW-26	Water	02/23/15 14:45	02/25/15 17:00
92238913007	15729 MW-32	Water	02/23/15 15:50	02/25/15 17:00
92238913008	15729 MW-33	Water	02/23/15 13:45	02/25/15 17:00
92238913009	15729 MW-34D	Water	02/23/15 14:20	02/25/15 17:00
92238913010	15729 MW-35I	Water	02/23/15 15:35	02/25/15 17:00
92238913011	15729 MW-38	Water	02/23/15 11:10	02/25/15 17:00
92238913012	15729 MW-44	Water	02/23/15 09:50	02/25/15 17:00
92238913013	15729 MW-44DUP	Water	02/23/15 09:53	02/25/15 17:00
92238913014	15729 MW-57	Water	02/23/15 15:00	02/25/15 17:00
92238913015	15729 MW-58	Water	02/23/15 12:10	02/25/15 17:00
92238913016	15729 MW-66	Water	02/23/15 10:25	02/25/15 17:00
92238913017	15729 WSW-1	Water	02/23/15 14:00	02/25/15 17:00
92238913018	15729 WSW-2	Water	02/23/15 15:45	02/25/15 17:00
92238913019	15729 WSW-3	Water	02/23/15 14:45	02/25/15 17:00
92238913020	15729 WSW-4	Water	02/23/15 14:25	02/25/15 17:00
92238913021	15729 PS-1	Water	02/23/15 14:35	02/25/15 17:00
92238913022	15729 SW-1	Water	02/23/15 12:00	02/25/15 17:00
92238913023	15729 CS-1	Water	02/23/15 12:35	02/25/15 17:00
92238913024	15729 CS-2	Water	02/23/15 12:45	02/25/15 17:00
92238913025	15729 CS-3	Water	02/23/15 13:30	02/25/15 17:00
92238913026	15729 CS-4	Water	02/23/15 13:40	02/25/15 17:00
92238913027	15729 FIELD BLANK #2	Water	02/23/15 16:30	02/25/15 17:00
92238913028	15729 TRIP BLANK #2	Water	02/23/15 00:00	02/25/15 17:00
92238913029	15729 TRIP BLANK #3	Water	02/23/15 00:00	02/25/15 17:00

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SAMPLE ANALYTE COUNT

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92238913001	15729 MW-7	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238913002	15729 MW-14	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238913003	15729 MW-19	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238913004	15729 MW-20	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238913005	15729 MW-25	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238913006	15729 MW-26	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238913007	15729 MW-32	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238913008	15729 MW-33	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238913009	15729 MW-34D	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238913010	15729 MW-35I	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238913011	15729 MW-38	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238913012	15729 MW-44	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238913013	15729 MW-44DUP	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238913014	15729 MW-57	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238913015	15729 MW-58	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238913016	15729 MW-66	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238913017	15729 WSW-1	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92238913018	15729 WSW-2	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92238913019	15729 WSW-3	EPA 8011	JMC	2	PASI-C

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SAMPLE ANALYTE COUNT

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260	GAW	20	PASI-C
92238913020	15729 WSW-4	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92238913021	15729 PS-1	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92238913022	15729 SW-1	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92238913023	15729 CS-1	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92238913024	15729 CS-2	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92238913025	15729 CS-3	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92238913026	15729 CS-4	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92238913027	15729 FIELD BLANK #2	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92238913028	15729 TRIP BLANK #2	EPA 8260	CCL	20	PASI-C
92238913029	15729 TRIP BLANK #3	EPA 8260	CCL	20	PASI-C

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ANALYTICAL RESULTS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Sample: 15729 MW-7 **Lab ID: 92238913001** Collected: 02/23/15 13:25 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:40	02/27/15 00:06	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	104	%	60-140		1	02/26/15 17:40	02/27/15 00:06	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/02/15 19:05	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/02/15 19:05	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/02/15 19:05	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/02/15 19:05	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/02/15 19:05	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/02/15 19:05	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/02/15 19:05	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/02/15 19:05	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/02/15 19:05	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/02/15 19:05	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/02/15 19:05	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/02/15 19:05	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/02/15 19:05	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/02/15 19:05	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/02/15 19:05	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/02/15 19:05	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/02/15 19:05	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		03/02/15 19:05	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		03/02/15 19:05	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		03/02/15 19:05	2037-26-5	

Sample: 15729 MW-14 **Lab ID: 92238913002** Collected: 02/23/15 12:30 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.57**	ug/L	0.020	0.020	1	02/26/15 17:40	02/27/15 00:25	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	117	%	60-140		1	02/26/15 17:40	02/27/15 00:25	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**3440**	ug/L	100	76.8	1		03/03/15 06:32	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/03/15 06:32	994-05-8	
Benzene	**1920**	ug/L	250	85.0	50		03/03/15 21:41	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/03/15 06:32	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/03/15 06:32	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/03/15 06:32	762-75-4	
1,2-Dichloroethane	**4.8J**	ug/L	5.0	1.8	1		03/03/15 06:32	107-06-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Sample: 15729 MW-14 **Lab ID: 92238913002** Collected: 02/23/15 12:30 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/03/15 06:32	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/03/15 06:32	64-17-5	
Ethylbenzene	**580**	ug/L	250	80.0	50		03/03/15 21:41	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/03/15 06:32	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/03/15 06:32	1634-04-4	
Naphthalene	**76.8**	ug/L	5.0	2.0	1		03/03/15 06:32	91-20-3	
Toluene	**3490**	ug/L	250	80.0	50		03/03/15 21:41	108-88-3	
Xylene (Total)	**1710**	ug/L	500	135	50		03/03/15 21:41	1330-20-7	
m&p-Xylene	**1140**	ug/L	500	155	50		03/03/15 21:41	179601-23-1	
o-Xylene	**572**	ug/L	250	80.0	50		03/03/15 21:41	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		03/03/15 06:32	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		03/03/15 06:32	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		03/03/15 06:32	2037-26-5	

Sample: 15729 MW-19 **Lab ID: 92238913003** Collected: 02/23/15 13:00 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.022	0.022	1	02/26/15 17:40	02/27/15 00:44	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	100	%	60-140		1	02/26/15 17:40	02/27/15 00:44	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/02/15 19:21	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/02/15 19:21	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/02/15 19:21	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/02/15 19:21	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/02/15 19:21	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/02/15 19:21	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/02/15 19:21	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/02/15 19:21	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/02/15 19:21	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/02/15 19:21	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/02/15 19:21	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/02/15 19:21	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/02/15 19:21	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/02/15 19:21	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/02/15 19:21	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/02/15 19:21	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/02/15 19:21	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		03/02/15 19:21	460-00-4	

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ANALYTICAL RESULTS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Sample: 15729 MW-19 **Lab ID: 92238913003** Collected: 02/23/15 13:00 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		03/02/15 19:21	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		03/02/15 19:21	2037-26-5	

Sample: 15729 MW-20 **Lab ID: 92238913004** Collected: 02/23/15 16:30 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:40	02/27/15 01:03	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	108	%	60-140		1	02/26/15 17:40	02/27/15 01:03	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/02/15 19:53	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/02/15 19:53	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/02/15 19:53	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/02/15 19:53	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/02/15 19:53	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/02/15 19:53	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/02/15 19:53	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/02/15 19:53	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/02/15 19:53	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/02/15 19:53	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/02/15 19:53	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/02/15 19:53	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/02/15 19:53	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/02/15 19:53	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/02/15 19:53	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/02/15 19:53	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/02/15 19:53	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		03/02/15 19:53	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		03/02/15 19:53	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		03/02/15 19:53	2037-26-5	

Sample: 15729 MW-25 **Lab ID: 92238913005** Collected: 02/23/15 11:30 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**18.8**	ug/L	0.48	0.48	25	02/26/15 17:41	02/27/15 19:41	106-93-4	

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ANALYTICAL RESULTS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Sample: 15729 MW-25 **Lab ID: 92238913005** Collected: 02/23/15 11:30 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		25	02/26/15 17:41	02/27/15 19:41	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**8400**	ug/L	500	384	5		03/02/15 21:29	75-85-4	
tert-Amylmethyl ether	**34.4J**	ug/L	50.0	17.0	5		03/02/15 21:29	994-05-8	
Benzene	**5310**	ug/L	250	85.0	50		03/03/15 13:59	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	500	160	5		03/02/15 21:29	624-95-3	
tert-Butyl Alcohol	**474J**	ug/L	500	288	5		03/02/15 21:29	75-65-0	
tert-Butyl Formate	ND	ug/L	250	36.5	5		03/02/15 21:29	762-75-4	
1,2-Dichloroethane	**35.0**	ug/L	25.0	9.0	5		03/02/15 21:29	107-06-2	
Diisopropyl ether	**88.3**	ug/L	25.0	8.5	5		03/02/15 21:29	108-20-3	
Ethanol	ND	ug/L	1000	689	5		03/02/15 21:29	64-17-5	
Ethylbenzene	**675**	ug/L	25.0	8.0	5		03/02/15 21:29	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	50.0	18.0	5		03/02/15 21:29	637-92-3	
Methyl-tert-butyl ether	**97.1**	ug/L	25.0	8.5	5		03/02/15 21:29	1634-04-4	
Naphthalene	**156**	ug/L	25.0	10.0	5		03/02/15 21:29	91-20-3	
Toluene	**6970**	ug/L	250	80.0	50		03/03/15 13:59	108-88-3	
Xylene (Total)	**2520**	ug/L	50.0	13.5	5		03/02/15 21:29	1330-20-7	
m&p-Xylene	**1650**	ug/L	50.0	15.5	5		03/02/15 21:29	179601-23-1	
o-Xylene	**875**	ug/L	25.0	8.0	5		03/02/15 21:29	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		5		03/02/15 21:29	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		5		03/02/15 21:29	17060-07-0	
Toluene-d8 (S)	101	%	70-130		5		03/02/15 21:29	2037-26-5	

Sample: 15729 MW-26 **Lab ID: 92238913006** Collected: 02/23/15 14:45 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:41	02/27/15 01:41	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	02/26/15 17:41	02/27/15 01:41	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**199**	ug/L	100	76.8	1		03/02/15 20:09	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/02/15 20:09	994-05-8	
Benzene	**104**	ug/L	5.0	1.7	1		03/02/15 20:09	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/02/15 20:09	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/02/15 20:09	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/02/15 20:09	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/02/15 20:09	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/02/15 20:09	108-20-3	

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ANALYTICAL RESULTS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Sample: 15729 MW-26 **Lab ID: 92238913006** Collected: 02/23/15 14:45 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Ethanol	ND	ug/L	200	138	1		03/02/15 20:09	64-17-5	
Ethylbenzene	**18.3**	ug/L	5.0	1.6	1		03/02/15 20:09	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/02/15 20:09	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/02/15 20:09	1634-04-4	
Naphthalene	**3.5J**	ug/L	5.0	2.0	1		03/02/15 20:09	91-20-3	
Toluene	**47.0**	ug/L	5.0	1.6	1		03/02/15 20:09	108-88-3	
Xylene (Total)	**30.1**	ug/L	10.0	2.7	1		03/02/15 20:09	1330-20-7	
m&p-Xylene	**20.8**	ug/L	10.0	3.1	1		03/02/15 20:09	179601-23-1	
o-Xylene	**9.3**	ug/L	5.0	1.6	1		03/02/15 20:09	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		03/02/15 20:09	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		03/02/15 20:09	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		03/02/15 20:09	2037-26-5	

Sample: 15729 MW-32 **Lab ID: 92238913007** Collected: 02/23/15 15:50 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:41	02/27/15 02:00	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	106	%	60-140		1	02/26/15 17:41	02/27/15 02:00	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/02/15 20:25	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/02/15 20:25	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/02/15 20:25	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/02/15 20:25	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/02/15 20:25	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/02/15 20:25	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/02/15 20:25	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/02/15 20:25	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/02/15 20:25	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/02/15 20:25	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/02/15 20:25	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/02/15 20:25	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/02/15 20:25	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/02/15 20:25	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/02/15 20:25	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/02/15 20:25	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/02/15 20:25	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		03/02/15 20:25	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		03/02/15 20:25	17060-07-0	

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ANALYTICAL RESULTS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Sample: 15729 MW-32 **Lab ID: 92238913007** Collected: 02/23/15 15:50 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
Toluene-d8 (S)	98	%	70-130		1		03/02/15 20:25	2037-26-5	

Sample: 15729 MW-33 **Lab ID: 92238913008** Collected: 02/23/15 13:45 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.40**	ug/L	0.020	0.020	1	02/26/15 17:41	02/27/15 02:57	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	132	%	60-140		1	02/26/15 17:41	02/27/15 02:57	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**2190**	ug/L	500	384	5		03/02/15 21:45	75-85-4	
tert-Amylmethyl ether	ND	ug/L	50.0	17.0	5		03/02/15 21:45	994-05-8	
Benzene	**502**	ug/L	25.0	8.5	5		03/02/15 21:45	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	500	160	5		03/02/15 21:45	624-95-3	
tert-Butyl Alcohol	ND	ug/L	500	288	5		03/02/15 21:45	75-65-0	
tert-Butyl Formate	ND	ug/L	250	36.5	5		03/02/15 21:45	762-75-4	
1,2-Dichloroethane	ND	ug/L	25.0	9.0	5		03/02/15 21:45	107-06-2	
Diisopropyl ether	ND	ug/L	25.0	8.5	5		03/02/15 21:45	108-20-3	
Ethanol	ND	ug/L	1000	689	5		03/02/15 21:45	64-17-5	
Ethylbenzene	**539**	ug/L	25.0	8.0	5		03/02/15 21:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	50.0	18.0	5		03/02/15 21:45	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	25.0	8.5	5		03/02/15 21:45	1634-04-4	
Naphthalene	**66.6**	ug/L	25.0	10.0	5		03/02/15 21:45	91-20-3	
Toluene	**3040**	ug/L	125	40.0	25		03/03/15 14:15	108-88-3	
Xylene (Total)	**1560**	ug/L	50.0	13.5	5		03/02/15 21:45	1330-20-7	
m&p-Xylene	**1020**	ug/L	50.0	15.5	5		03/02/15 21:45	179601-23-1	
o-Xylene	**542**	ug/L	25.0	8.0	5		03/02/15 21:45	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		5		03/02/15 21:45	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		5		03/02/15 21:45	17060-07-0	
Toluene-d8 (S)	101	%	70-130		5		03/02/15 21:45	2037-26-5	

Sample: 15729 MW-34D **Lab ID: 92238913009** Collected: 02/23/15 14:20 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:41	02/27/15 03:35	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	02/26/15 17:41	02/27/15 03:35	301-79-56	

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ANALYTICAL RESULTS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Sample: 15729 MW-34D **Lab ID: 92238913009** Collected: 02/23/15 14:20 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/02/15 20:41	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/02/15 20:41	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/02/15 20:41	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/02/15 20:41	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/02/15 20:41	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/02/15 20:41	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/02/15 20:41	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/02/15 20:41	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/02/15 20:41	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/02/15 20:41	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/02/15 20:41	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/02/15 20:41	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/02/15 20:41	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/02/15 20:41	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/02/15 20:41	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/02/15 20:41	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/02/15 20:41	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		03/02/15 20:41	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		03/02/15 20:41	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		03/02/15 20:41	2037-26-5	

Sample: 15729 MW-35I **Lab ID: 92238913010** Collected: 02/23/15 15:35 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:42	02/27/15 03:54	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	106	%	60-140		1	02/26/15 17:42	02/27/15 03:54	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/02/15 20:57	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/02/15 20:57	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/02/15 20:57	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/02/15 20:57	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/02/15 20:57	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/02/15 20:57	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/02/15 20:57	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/02/15 20:57	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/02/15 20:57	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/02/15 20:57	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/02/15 20:57	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/02/15 20:57	1634-04-4	

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ANALYTICAL RESULTS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Sample: 15729 MW-35I Lab ID: **92238913010** Collected: 02/23/15 15:35 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Naphthalene	ND	ug/L	5.0	2.0	1		03/02/15 20:57	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/02/15 20:57	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/02/15 20:57	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/02/15 20:57	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/02/15 20:57	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		03/02/15 20:57	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		03/02/15 20:57	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		03/02/15 20:57	2037-26-5	

Sample: 15729 MW-38 Lab ID: **92238913011** Collected: 02/23/15 11:10 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**19.4**	ug/L	0.49	0.49	25	02/26/15 17:42	02/27/15 20:00	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		25	02/26/15 17:42	02/27/15 20:00	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**7460**	ug/L	2500	1920	25		03/02/15 22:01	75-85-4	
tert-Amylmethyl ether	ND	ug/L	250	85.0	25		03/02/15 22:01	994-05-8	
Benzene	**2270**	ug/L	125	42.5	25		03/02/15 22:01	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2500	802	25		03/02/15 22:01	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2500	1440	25		03/02/15 22:01	75-65-0	
tert-Butyl Formate	ND	ug/L	1250	182	25		03/02/15 22:01	762-75-4	
1,2-Dichloroethane	ND	ug/L	125	45.0	25		03/02/15 22:01	107-06-2	
Diisopropyl ether	ND	ug/L	125	42.5	25		03/02/15 22:01	108-20-3	
Ethanol	ND	ug/L	5000	3440	25		03/02/15 22:01	64-17-5	
Ethylbenzene	**1460**	ug/L	125	40.0	25		03/02/15 22:01	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	250	90.0	25		03/02/15 22:01	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	125	42.5	25		03/02/15 22:01	1634-04-4	
Naphthalene	**401**	ug/L	125	50.0	25		03/02/15 22:01	91-20-3	
Toluene	**9020**	ug/L	500	160	100		03/03/15 14:31	108-88-3	
Xylene (Total)	**7290**	ug/L	250	67.5	25		03/02/15 22:01	1330-20-7	
m&p-Xylene	**4680**	ug/L	250	77.5	25		03/02/15 22:01	179601-23-1	
o-Xylene	**2610**	ug/L	125	40.0	25		03/02/15 22:01	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		25		03/02/15 22:01	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		25		03/02/15 22:01	17060-07-0	
Toluene-d8 (S)	102	%	70-130		25		03/02/15 22:01	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Sample: 15729 MW-44 **Lab ID: 92238913012** Collected: 02/23/15 09:50 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**58.1**	ug/L	2.0	2.0	100	02/26/15 17:42	02/27/15 20:19	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		100	02/26/15 17:42	02/27/15 20:19	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**13000**	ug/L	5000	3840	50		03/03/15 04:08	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	170	50		03/03/15 04:08	994-05-8	
Benzene	**3020**	ug/L	250	85.0	50		03/03/15 04:08	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	1600	50		03/03/15 04:08	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	2880	50		03/03/15 04:08	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	365	50		03/03/15 04:08	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	90.0	50		03/03/15 04:08	107-06-2	
Diisopropyl ether	ND	ug/L	250	85.0	50		03/03/15 04:08	108-20-3	
Ethanol	ND	ug/L	10000	6890	50		03/03/15 04:08	64-17-5	
Ethylbenzene	**1450**	ug/L	250	80.0	50		03/03/15 04:08	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	180	50		03/03/15 04:08	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	85.0	50		03/03/15 04:08	1634-04-4	
Naphthalene	**277**	ug/L	250	100	50		03/03/15 04:08	91-20-3	
Toluene	**9370**	ug/L	250	80.0	50		03/03/15 04:08	108-88-3	
Xylene (Total)	**7200**	ug/L	500	135	50		03/03/15 04:08	1330-20-7	
m&p-Xylene	**4790**	ug/L	500	155	50		03/03/15 04:08	179601-23-1	
o-Xylene	**2410**	ug/L	250	80.0	50		03/03/15 04:08	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		50		03/03/15 04:08	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		50		03/03/15 04:08	17060-07-0	
Toluene-d8 (S)	99	%	70-130		50		03/03/15 04:08	2037-26-5	

Sample: 15729 MW-44DUP **Lab ID: 92238913013** Collected: 02/23/15 09:53 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**50.1**	ug/L	1.9	1.9	100	02/26/15 17:42	02/27/15 20:39	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		100	02/26/15 17:42	02/27/15 20:39	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**6640**	ug/L	5000	3840	50		03/04/15 12:50	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	170	50		03/04/15 12:50	994-05-8	
Benzene	**2500**	ug/L	250	85.0	50		03/04/15 12:50	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	1600	50		03/04/15 12:50	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	2880	50		03/04/15 12:50	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	365	50		03/04/15 12:50	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	90.0	50		03/04/15 12:50	107-06-2	

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ANALYTICAL RESULTS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Sample: 15729 MW-44DUP **Lab ID: 92238913013** Collected: 02/23/15 09:53 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Diisopropyl ether	ND	ug/L	250	85.0	50		03/04/15 12:50	108-20-3	
Ethanol	ND	ug/L	10000	6890	50		03/04/15 12:50	64-17-5	
Ethylbenzene	**1250**	ug/L	250	80.0	50		03/04/15 12:50	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	180	50		03/04/15 12:50	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	85.0	50		03/04/15 12:50	1634-04-4	
Naphthalene	ND	ug/L	250	100	50		03/04/15 12:50	91-20-3	
Toluene	**7980**	ug/L	250	80.0	50		03/04/15 12:50	108-88-3	
Xylene (Total)	**5980**	ug/L	500	135	50		03/04/15 12:50	1330-20-7	
m&p-Xylene	**4000**	ug/L	500	155	50		03/04/15 12:50	179601-23-1	
o-Xylene	**1980**	ug/L	250	80.0	50		03/04/15 12:50	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		50		03/04/15 12:50	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		50		03/04/15 12:50	17060-07-0	
Toluene-d8 (S)	98	%	70-130		50		03/04/15 12:50	2037-26-5	

Sample: 15729 MW-57 **Lab ID: 92238913014** Collected: 02/23/15 15:00 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.090**	ug/L	0.020	0.020	1	02/26/15 17:42	02/27/15 05:10	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	116	%	60-140		1	02/26/15 17:42	02/27/15 05:10	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**2510**	ug/L	1000	768	10		03/03/15 04:40	75-85-4	
tert-Amylmethyl ether	ND	ug/L	100	34.0	10		03/03/15 04:40	994-05-8	
Benzene	**1050**	ug/L	50.0	17.0	10		03/03/15 04:40	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	321	10		03/03/15 04:40	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1000	577	10		03/03/15 04:40	75-65-0	
tert-Butyl Formate	ND	ug/L	500	73.0	10		03/03/15 04:40	762-75-4	
1,2-Dichloroethane	ND	ug/L	50.0	18.0	10		03/03/15 04:40	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	17.0	10		03/03/15 04:40	108-20-3	
Ethanol	ND	ug/L	2000	1380	10		03/03/15 04:40	64-17-5	
Ethylbenzene	**304**	ug/L	50.0	16.0	10		03/03/15 04:40	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	36.0	10		03/03/15 04:40	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	50.0	17.0	10		03/03/15 04:40	1634-04-4	
Naphthalene	**51.6**	ug/L	50.0	20.0	10		03/03/15 04:40	91-20-3	
Toluene	**61.2**	ug/L	50.0	16.0	10		03/03/15 04:40	108-88-3	
Xylene (Total)	ND	ug/L	100	27.0	10		03/03/15 04:40	1330-20-7	
m&p-Xylene	**77.0J**	ug/L	100	31.0	10		03/03/15 04:40	179601-23-1	
o-Xylene	**39.2J**	ug/L	50.0	16.0	10		03/03/15 04:40	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		10		03/03/15 04:40	460-00-4	

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ANALYTICAL RESULTS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Sample: 15729 MW-57 **Lab ID: 92238913014** Collected: 02/23/15 15:00 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%	70-130		10		03/03/15 04:40	17060-07-0	
Toluene-d8 (S)	98	%	70-130		10		03/03/15 04:40	2037-26-5	

Sample: 15729 MW-58 **Lab ID: 92238913015** Collected: 02/23/15 12:10 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.22**	ug/L	0.020	0.020	1	02/26/15 17:42	02/27/15 05:29	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	134	%	60-140		1	02/26/15 17:42	02/27/15 05:29	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**1580**	ug/L	250	192	2.5		03/04/15 13:07	75-85-4	
tert-Amylmethyl ether	ND	ug/L	25.0	8.5	2.5		03/04/15 13:07	994-05-8	
Benzene	**849**	ug/L	50.0	17.0	10		03/04/15 13:24	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	250	80.2	2.5		03/04/15 13:07	624-95-3	
tert-Butyl Alcohol	ND	ug/L	250	144	2.5		03/04/15 13:07	75-65-0	
tert-Butyl Formate	ND	ug/L	125	18.2	2.5		03/04/15 13:07	762-75-4	
1,2-Dichloroethane	**4.9J**	ug/L	12.5	4.5	2.5		03/04/15 13:07	107-06-2	
Diisopropyl ether	ND	ug/L	12.5	4.2	2.5		03/04/15 13:07	108-20-3	
Ethanol	ND	ug/L	500	344	2.5		03/04/15 13:07	64-17-5	
Ethylbenzene	**180**	ug/L	12.5	4.0	2.5		03/04/15 13:07	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	25.0	9.0	2.5		03/04/15 13:07	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	12.5	4.2	2.5		03/04/15 13:07	1634-04-4	
Naphthalene	ND	ug/L	12.5	5.0	2.5		03/04/15 13:07	91-20-3	
Toluene	**1580**	ug/L	50.0	16.0	10		03/04/15 13:24	108-88-3	
Xylene (Total)	**653**	ug/L	25.0	6.8	2.5		03/04/15 13:07	1330-20-7	
m&p-Xylene	**419**	ug/L	25.0	7.8	2.5		03/04/15 13:07	179601-23-1	
o-Xylene	**234**	ug/L	12.5	4.0	2.5		03/04/15 13:07	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		2.5		03/04/15 13:07	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130		2.5		03/04/15 13:07	17060-07-0	
Toluene-d8 (S)	99	%	70-130		2.5		03/04/15 13:07	2037-26-5	

Sample: 15729 MW-66 **Lab ID: 92238913016** Collected: 02/23/15 10:25 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**16.2**	ug/L	0.50	0.50	25	02/26/15 17:44	02/27/15 18:43	106-93-4	

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ANALYTICAL RESULTS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Sample: 15729 MW-66 **Lab ID: 92238913016** Collected: 02/23/15 10:25 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		25	02/26/15 17:44	02/27/15 18:43	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**6820**	ug/L	5000	3840	50		03/03/15 05:12	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	170	50		03/03/15 05:12	994-05-8	
Benzene	**3140**	ug/L	250	85.0	50		03/03/15 05:12	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	1600	50		03/03/15 05:12	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	2880	50		03/03/15 05:12	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	365	50		03/03/15 05:12	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	90.0	50		03/03/15 05:12	107-06-2	
Diisopropyl ether	ND	ug/L	250	85.0	50		03/03/15 05:12	108-20-3	
Ethanol	ND	ug/L	10000	6890	50		03/03/15 05:12	64-17-5	
Ethylbenzene	**924**	ug/L	250	80.0	50		03/03/15 05:12	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	180	50		03/03/15 05:12	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	85.0	50		03/03/15 05:12	1634-04-4	
Naphthalene	**177J**	ug/L	250	100	50		03/03/15 05:12	91-20-3	
Toluene	**8050**	ug/L	250	80.0	50		03/03/15 05:12	108-88-3	
Xylene (Total)	**3750**	ug/L	500	135	50		03/03/15 05:12	1330-20-7	
m&p-Xylene	**2440**	ug/L	500	155	50		03/03/15 05:12	179601-23-1	
o-Xylene	**1310**	ug/L	250	80.0	50		03/03/15 05:12	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		50		03/03/15 05:12	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		50		03/03/15 05:12	17060-07-0	
Toluene-d8 (S)	98	%	70-130		50		03/03/15 05:12	2037-26-5	

Sample: 15729 WSW-1 **Lab ID: 92238913017** Collected: 02/23/15 14:00 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	02/26/15 17:44	02/27/15 07:23	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	122	%	60-140		1	02/26/15 17:44	02/27/15 07:23	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		02/28/15 03:50	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		02/28/15 03:50	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		02/28/15 03:50	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		02/28/15 03:50	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		02/28/15 03:50	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		02/28/15 03:50	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		02/28/15 03:50	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		02/28/15 03:50	108-20-3	

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ANALYTICAL RESULTS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Sample: 15729 WSW-1 **Lab ID: 92238913017** Collected: 02/23/15 14:00 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260								
Ethanol	ND	ug/L	200	33.0	1		02/28/15 03:50	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/28/15 03:50	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		02/28/15 03:50	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		02/28/15 03:50	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		02/28/15 03:50	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		02/28/15 03:50	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		02/28/15 03:50	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		02/28/15 03:50	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		02/28/15 03:50	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		02/28/15 03:50	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		02/28/15 03:50	17060-07-0	
Toluene-d8 (S)	94	%	70-130		1		02/28/15 03:50	2037-26-5	

Sample: 15729 WSW-2 **Lab ID: 92238913018** Collected: 02/23/15 15:45 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:44	02/27/15 08:20	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	114	%	60-140		1	02/26/15 17:44	02/27/15 08:20	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		02/28/15 04:07	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		02/28/15 04:07	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		02/28/15 04:07	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		02/28/15 04:07	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		02/28/15 04:07	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		02/28/15 04:07	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		02/28/15 04:07	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		02/28/15 04:07	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		02/28/15 04:07	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/28/15 04:07	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		02/28/15 04:07	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		02/28/15 04:07	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		02/28/15 04:07	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		02/28/15 04:07	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		02/28/15 04:07	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		02/28/15 04:07	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		02/28/15 04:07	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		02/28/15 04:07	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		02/28/15 04:07	17060-07-0	

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ANALYTICAL RESULTS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Sample: 15729 WSW-2 **Lab ID: 92238913018** Collected: 02/23/15 15:45 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260								
Surrogates									
Toluene-d8 (S)	92	%	70-130		1		02/28/15 04:07	2037-26-5	

Sample: 15729 WSW-3 **Lab ID: 92238913019** Collected: 02/23/15 14:45 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:44	02/27/15 08:58	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	117	%	60-140		1	02/26/15 17:44	02/27/15 08:58	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		02/28/15 04:24	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		02/28/15 04:24	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		02/28/15 04:24	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		02/28/15 04:24	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		02/28/15 04:24	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		02/28/15 04:24	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		02/28/15 04:24	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		02/28/15 04:24	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		02/28/15 04:24	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/28/15 04:24	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		02/28/15 04:24	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		02/28/15 04:24	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		02/28/15 04:24	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		02/28/15 04:24	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		02/28/15 04:24	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		02/28/15 04:24	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		02/28/15 04:24	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		02/28/15 04:24	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		02/28/15 04:24	17060-07-0	
Toluene-d8 (S)	94	%	70-130		1		02/28/15 04:24	2037-26-5	

Sample: 15729 WSW-4 **Lab ID: 92238913020** Collected: 02/23/15 14:25 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:44	02/27/15 09:17	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	105	%	60-140		1	02/26/15 17:44	02/27/15 09:17	301-79-56	

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ANALYTICAL RESULTS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Sample: 15729 WSW-4 **Lab ID: 92238913020** Collected: 02/23/15 14:25 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		02/28/15 04:41	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		02/28/15 04:41	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		02/28/15 04:41	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		02/28/15 04:41	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		02/28/15 04:41	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		02/28/15 04:41	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		02/28/15 04:41	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		02/28/15 04:41	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		02/28/15 04:41	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/28/15 04:41	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		02/28/15 04:41	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		02/28/15 04:41	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		02/28/15 04:41	91-20-3	
Toluene	**2.0**	ug/L	1.0	0.26	1		02/28/15 04:41	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		02/28/15 04:41	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		02/28/15 04:41	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		02/28/15 04:41	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		02/28/15 04:41	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		02/28/15 04:41	17060-07-0	
Toluene-d8 (S)	93	%	70-130		1		02/28/15 04:41	2037-26-5	

Sample: 15729 PS-1 **Lab ID: 92238913021** Collected: 02/23/15 14:35 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:44	02/27/15 09:36	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	114	%	60-140		1	02/26/15 17:44	02/27/15 09:36	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		02/28/15 04:58	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		02/28/15 04:58	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		02/28/15 04:58	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		02/28/15 04:58	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		02/28/15 04:58	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		02/28/15 04:58	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		02/28/15 04:58	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		02/28/15 04:58	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		02/28/15 04:58	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/28/15 04:58	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		02/28/15 04:58	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		02/28/15 04:58	1634-04-4	

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ANALYTICAL RESULTS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Sample: 15729 PS-1 **Lab ID: 92238913021** Collected: 02/23/15 14:35 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260								
Naphthalene	ND	ug/L	1.0	0.24	1		02/28/15 04:58	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		02/28/15 04:58	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		02/28/15 04:58	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		02/28/15 04:58	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		02/28/15 04:58	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		02/28/15 04:58	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		02/28/15 04:58	17060-07-0	
Toluene-d8 (S)	93	%	70-130		1		02/28/15 04:58	2037-26-5	

Sample: 15729 SW-1 **Lab ID: 92238913022** Collected: 02/23/15 12:00 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:44	02/27/15 09:55	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	107	%	60-140		1	02/26/15 17:44	02/27/15 09:55	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		02/28/15 05:14	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		02/28/15 05:14	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		02/28/15 05:14	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		02/28/15 05:14	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		02/28/15 05:14	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		02/28/15 05:14	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		02/28/15 05:14	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		02/28/15 05:14	108-20-3	
Ethanol	**3680**	ug/L	200	33.0	1		02/28/15 05:14	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/28/15 05:14	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		02/28/15 05:14	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		02/28/15 05:14	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		02/28/15 05:14	91-20-3	
Toluene	**12.6**	ug/L	1.0	0.26	1		02/28/15 05:14	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		02/28/15 05:14	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		02/28/15 05:14	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		02/28/15 05:14	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		02/28/15 05:14	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		02/28/15 05:14	17060-07-0	
Toluene-d8 (S)	94	%	70-130		1		02/28/15 05:14	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Sample: 15729 CS-1 **Lab ID: 92238913023** Collected: 02/23/15 12:35 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:44	02/27/15 10:14	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	104	%	60-140		1	02/26/15 17:44	02/27/15 10:14	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		02/28/15 07:13	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		02/28/15 07:13	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		02/28/15 07:13	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		02/28/15 07:13	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		02/28/15 07:13	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		02/28/15 07:13	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		02/28/15 07:13	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		02/28/15 07:13	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		02/28/15 07:13	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/28/15 07:13	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		02/28/15 07:13	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		02/28/15 07:13	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		02/28/15 07:13	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		02/28/15 07:13	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		02/28/15 07:13	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		02/28/15 07:13	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		02/28/15 07:13	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		02/28/15 07:13	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		02/28/15 07:13	17060-07-0	
Toluene-d8 (S)	94	%	70-130		1		02/28/15 07:13	2037-26-5	

Sample: 15729 CS-2 **Lab ID: 92238913024** Collected: 02/23/15 12:45 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:45	02/27/15 10:33	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	104	%	60-140		1	02/26/15 17:45	02/27/15 10:33	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		02/28/15 07:30	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		02/28/15 07:30	994-05-8	
Benzene	**3.7**	ug/L	1.0	0.25	1		02/28/15 07:30	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		02/28/15 07:30	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		02/28/15 07:30	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		02/28/15 07:30	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		02/28/15 07:30	107-06-2	

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ANALYTICAL RESULTS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Sample: 15729 CS-2 **Lab ID: 92238913024** Collected: 02/23/15 12:45 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260								
Diisopropyl ether	**0.18J**	ug/L	1.0	0.12	1		02/28/15 07:30	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		02/28/15 07:30	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/28/15 07:30	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		02/28/15 07:30	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		02/28/15 07:30	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		02/28/15 07:30	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		02/28/15 07:30	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		02/28/15 07:30	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		02/28/15 07:30	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		02/28/15 07:30	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		02/28/15 07:30	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		02/28/15 07:30	17060-07-0	
Toluene-d8 (S)	94	%	70-130		1		02/28/15 07:30	2037-26-5	

Sample: 15729 CS-3 **Lab ID: 92238913025** Collected: 02/23/15 13:30 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:45	02/27/15 10:53	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	111	%	60-140		1	02/26/15 17:45	02/27/15 10:53	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		02/28/15 07:47	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		02/28/15 07:47	994-05-8	
Benzene	**1.8**	ug/L	1.0	0.25	1		02/28/15 07:47	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		02/28/15 07:47	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		02/28/15 07:47	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		02/28/15 07:47	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		02/28/15 07:47	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		02/28/15 07:47	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		02/28/15 07:47	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/28/15 07:47	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		02/28/15 07:47	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		02/28/15 07:47	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		02/28/15 07:47	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		02/28/15 07:47	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		02/28/15 07:47	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		02/28/15 07:47	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		02/28/15 07:47	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		02/28/15 07:47	460-00-4	

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ANALYTICAL RESULTS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Sample: 15729 CS-3 **Lab ID: 92238913025** Collected: 02/23/15 13:30 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260								
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		02/28/15 07:47	17060-07-0	
Toluene-d8 (S)	94	%	70-130		1		02/28/15 07:47	2037-26-5	

Sample: 15729 CS-4 **Lab ID: 92238913026** Collected: 02/23/15 13:40 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:45	02/27/15 11:12	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	107	%	60-140		1	02/26/15 17:45	02/27/15 11:12	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		02/28/15 08:21	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		02/28/15 08:21	994-05-8	
Benzene	**2.1**	ug/L	1.0	0.25	1		02/28/15 08:21	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		02/28/15 08:21	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		02/28/15 08:21	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		02/28/15 08:21	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		02/28/15 08:21	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		02/28/15 08:21	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		02/28/15 08:21	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		02/28/15 08:21	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		02/28/15 08:21	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		02/28/15 08:21	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		02/28/15 08:21	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		02/28/15 08:21	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		02/28/15 08:21	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		02/28/15 08:21	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		02/28/15 08:21	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		02/28/15 08:21	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		02/28/15 08:21	17060-07-0	
Toluene-d8 (S)	93	%	70-130		1		02/28/15 08:21	2037-26-5	

Sample: 15729 FIELD BLANK #2 **Lab ID: 92238913027** Collected: 02/23/15 16:30 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	02/26/15 17:45	02/27/15 11:31	106-93-4	

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ANALYTICAL RESULTS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Sample: 15729 FIELD BLANK #2 **Lab ID: 92238913027** Collected: 02/23/15 16:30 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
Surrogates									
1-Chloro-2-bromopropane (S)	109	%	60-140		1	02/26/15 17:45	02/27/15 11:31	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/03/15 01:12	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/03/15 01:12	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/03/15 01:12	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/03/15 01:12	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/03/15 01:12	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/03/15 01:12	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/03/15 01:12	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/03/15 01:12	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/03/15 01:12	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/03/15 01:12	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/03/15 01:12	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/03/15 01:12	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/03/15 01:12	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/03/15 01:12	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/03/15 01:12	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/03/15 01:12	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/03/15 01:12	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	106	%	70-130		1		03/03/15 01:12	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		03/03/15 01:12	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		03/03/15 01:12	2037-26-5	

Sample: 15729 TRIP BLANK #2 **Lab ID: 92238913028** Collected: 02/23/15 00:00 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/03/15 01:28	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/03/15 01:28	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/03/15 01:28	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/03/15 01:28	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/03/15 01:28	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/03/15 01:28	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/03/15 01:28	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/03/15 01:28	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/03/15 01:28	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/03/15 01:28	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/03/15 01:28	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/03/15 01:28	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/03/15 01:28	91-20-3	

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ANALYTICAL RESULTS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Sample: 15729 TRIP BLANK #2 **Lab ID: 92238913028** Collected: 02/23/15 00:00 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Toluene	ND	ug/L	5.0	1.6	1		03/03/15 01:28	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/03/15 01:28	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/03/15 01:28	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/03/15 01:28	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		03/03/15 01:28	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		03/03/15 01:28	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		03/03/15 01:28	2037-26-5	

Sample: 15729 TRIP BLANK #3 **Lab ID: 92238913029** Collected: 02/23/15 00:00 Received: 02/25/15 17:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/03/15 01:44	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/03/15 01:44	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/03/15 01:44	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/03/15 01:44	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/03/15 01:44	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/03/15 01:44	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/03/15 01:44	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/03/15 01:44	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/03/15 01:44	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/03/15 01:44	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/03/15 01:44	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/03/15 01:44	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/03/15 01:44	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/03/15 01:44	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/03/15 01:44	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/03/15 01:44	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/03/15 01:44	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		03/03/15 01:44	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		03/03/15 01:44	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		03/03/15 01:44	2037-26-5	

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QUALITY CONTROL DATA

Project: H.W DETWILER 15729
Pace Project No.: 92238913

QC Batch: MSV/30524 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 92238913017, 92238913018, 92238913019, 92238913020, 92238913021, 92238913022, 92238913023, 92238913024, 92238913025, 92238913026

METHOD BLANK: 1399701 Matrix: Water
Associated Lab Samples: 92238913017, 92238913018, 92238913019, 92238913020, 92238913021, 92238913022, 92238913023, 92238913024, 92238913025, 92238913026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	0.21J	1.0	02/27/15 22:46	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	02/27/15 22:46	
Benzene	ug/L	ND	1.0	02/27/15 22:46	
Diisopropyl ether	ug/L	ND	1.0	02/27/15 22:46	
Ethanol	ug/L	ND	200	02/27/15 22:46	
Ethyl-tert-butyl ether	ug/L	ND	10.0	02/27/15 22:46	
Ethylbenzene	ug/L	ND	1.0	02/27/15 22:46	
m&p-Xylene	ug/L	ND	2.0	02/27/15 22:46	
Methyl-tert-butyl ether	ug/L	ND	1.0	02/27/15 22:46	
Naphthalene	ug/L	ND	1.0	02/27/15 22:46	
o-Xylene	ug/L	ND	1.0	02/27/15 22:46	
tert-Amyl Alcohol	ug/L	ND	100	02/27/15 22:46	
tert-Amylmethyl ether	ug/L	ND	10.0	02/27/15 22:46	
tert-Butyl Alcohol	ug/L	ND	100	02/27/15 22:46	
tert-Butyl Formate	ug/L	ND	50.0	02/27/15 22:46	
Toluene	ug/L	ND	1.0	02/27/15 22:46	
Xylene (Total)	ug/L	ND	2.0	02/27/15 22:46	
1,2-Dichloroethane-d4 (S)	%	100	70-130	02/27/15 22:46	
4-Bromofluorobenzene (S)	%	100	70-130	02/27/15 22:46	
Toluene-d8 (S)	%	94	70-130	02/27/15 22:46	

LABORATORY CONTROL SAMPLE: 1399702

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	49.0	98	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	732	73	70-130	
Benzene	ug/L	50	48.0	96	70-130	
Diisopropyl ether	ug/L	50	46.2	92	70-130	
Ethanol	ug/L	2000	2110	106	70-130	
Ethyl-tert-butyl ether	ug/L	100	96.6	97	70-130	
Ethylbenzene	ug/L	50	46.7	93	70-130	
m&p-Xylene	ug/L	100	92.6	93	70-130	
Methyl-tert-butyl ether	ug/L	50	40.3	81	70-130	
Naphthalene	ug/L	50	44.1	88	70-130	
o-Xylene	ug/L	50	45.7	91	70-130	
tert-Amyl Alcohol	ug/L	1000	815	82	70-130	
tert-Amylmethyl ether	ug/L	100	83.8	84	70-130	
tert-Butyl Alcohol	ug/L	500	437	87	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: H.W DETWILER 15729
Pace Project No.: 92238913

LABORATORY CONTROL SAMPLE: 1399702

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Formate	ug/L	400	270	67	70-130	L0
Toluene	ug/L	50	46.1	92	70-130	
Xylene (Total)	ug/L	150	138	92	70-130	
1,2-Dichloroethane-d4 (S)	%			95	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE SAMPLE: 1399704

Parameter	Units	92238913026 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	20.1	101	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	229	57	70-130	M0
Benzene	ug/L	2.1	20	22.0	99	70-130	
Diisopropyl ether	ug/L	ND	20	16.7	83	70-130	
Ethanol	ug/L	ND	800	834	104	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	35.0	87	70-130	
Ethylbenzene	ug/L	ND	20	19.6	98	70-130	
m&p-Xylene	ug/L	ND	40	39.1	98	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	14.2	71	70-130	
Naphthalene	ug/L	ND	20	14.5	72	70-130	
o-Xylene	ug/L	ND	20	17.8	89	70-130	
tert-Amyl Alcohol	ug/L	ND	400	272	67	70-130	M0
tert-Amylmethyl ether	ug/L	ND	40	30.2	76	70-130	
tert-Butyl Alcohol	ug/L	ND	200	219	109	70-130	
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	19.0	95	70-130	
1,2-Dichloroethane-d4 (S)	%				99	70-130	
4-Bromofluorobenzene (S)	%				93	70-130	
Toluene-d8 (S)	%				94	70-130	

SAMPLE DUPLICATE: 1399703

Parameter	Units	92238913025 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	1.8	1.9	6	30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: H.W DETWILER 15729
Pace Project No.: 92238913

SAMPLE DUPLICATE: 1399703

Parameter	Units	92238913025 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	99	102	2		
4-Bromofluorobenzene (S)	%	97	96	1		
Toluene-d8 (S)	%	94	93	0		

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QUALITY CONTROL DATA

Project: H.W DETWILER 15729
Pace Project No.: 92238913

QC Batch: MSV/30539 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92238913001, 92238913003, 92238913004, 92238913005, 92238913006, 92238913007, 92238913008, 92238913009, 92238913010, 92238913011

METHOD BLANK: 1400397 Matrix: Water
Associated Lab Samples: 92238913001, 92238913003, 92238913004, 92238913005, 92238913006, 92238913007, 92238913008, 92238913009, 92238913010, 92238913011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	5.0	03/02/15 12:27	
Ethylbenzene	ug/L	ND	5.0	03/02/15 12:27	
m&p-Xylene	ug/L	ND	10.0	03/02/15 12:27	
Methyl-tert-butyl ether	ug/L	ND	5.0	03/02/15 12:27	
Naphthalene	ug/L	ND	5.0	03/02/15 12:27	
o-Xylene	ug/L	ND	5.0	03/02/15 12:27	
Toluene	ug/L	ND	5.0	03/02/15 12:27	
Xylene (Total)	ug/L	ND	10.0	03/02/15 12:27	
1,2-Dichloroethane-d4 (S)	%	109	70-130	03/02/15 12:27	
4-Bromofluorobenzene (S)	%	106	70-130	03/02/15 12:27	
Toluene-d8 (S)	%	99	70-130	03/02/15 12:27	

LABORATORY CONTROL SAMPLE: 1400398

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	50.5	101	70-130	
Ethylbenzene	ug/L	50	48.4	97	70-130	
m&p-Xylene	ug/L	100	96.9	97	70-130	
Methyl-tert-butyl ether	ug/L	50	44.4	89	70-130	
Naphthalene	ug/L	50	50.4	101	70-130	
o-Xylene	ug/L	50	49.0	98	70-130	
Toluene	ug/L	50	49.3	99	70-130	
Xylene (Total)	ug/L	150	146	97	70-130	
1,2-Dichloroethane-d4 (S)	%			102	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 1400399

Parameter	Units	92238913001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	ND	20	21.6	108	70-130	
Ethylbenzene	ug/L	ND	20	21.2	106	70-130	
m&p-Xylene	ug/L	ND	40	42.8	107	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	19.0	93	70-130	
Naphthalene	ug/L	ND	20	21.0	105	70-130	
o-Xylene	ug/L	ND	20	20.7	104	70-130	
Toluene	ug/L	ND	20	20.4	102	70-130	

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QUALITY CONTROL DATA

Project: H.W DETWILER 15729
Pace Project No.: 92238913

MATRIX SPIKE SAMPLE: 1400399

Parameter	Units	92238913001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%				98	70-130	
4-Bromofluorobenzene (S)	%				97	70-130	
Toluene-d8 (S)	%				96	70-130	

SAMPLE DUPLICATE: 1400400

Parameter	Units	92238913003 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	103	104	0		
4-Bromofluorobenzene (S)	%	101	101	0		
Toluene-d8 (S)	%	99	98	1		

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QUALITY CONTROL DATA

Project: H.W DETWILER 15729
Pace Project No.: 92238913

QC Batch: MSV/30548 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92238913002, 92238913012, 92238913013, 92238913014, 92238913015, 92238913016, 92238913027, 92238913028, 92238913029

METHOD BLANK: 1400472 Matrix: Water
Associated Lab Samples: 92238913002, 92238913012, 92238913013, 92238913014, 92238913015, 92238913016, 92238913027, 92238913028, 92238913029

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	03/03/15 00:40	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	03/03/15 00:40	
Benzene	ug/L	ND	5.0	03/03/15 00:40	
Diisopropyl ether	ug/L	ND	5.0	03/03/15 00:40	
Ethanol	ug/L	ND	200	03/03/15 00:40	
Ethyl-tert-butyl ether	ug/L	ND	10.0	03/03/15 00:40	
Ethylbenzene	ug/L	ND	5.0	03/03/15 00:40	
m&p-Xylene	ug/L	ND	10.0	03/03/15 00:40	
Methyl-tert-butyl ether	ug/L	ND	5.0	03/03/15 00:40	
Naphthalene	ug/L	ND	5.0	03/03/15 00:40	
o-Xylene	ug/L	ND	5.0	03/03/15 00:40	
tert-Amyl Alcohol	ug/L	ND	100	03/03/15 00:40	
tert-Amylmethyl ether	ug/L	ND	10.0	03/03/15 00:40	
tert-Butyl Alcohol	ug/L	ND	100	03/03/15 00:40	
tert-Butyl Formate	ug/L	ND	50.0	03/03/15 00:40	
Toluene	ug/L	ND	5.0	03/03/15 00:40	
Xylene (Total)	ug/L	ND	10.0	03/03/15 00:40	
1,2-Dichloroethane-d4 (S)	%	102	70-130	03/03/15 00:40	
4-Bromofluorobenzene (S)	%	97	70-130	03/03/15 00:40	
Toluene-d8 (S)	%	98	70-130	03/03/15 00:40	

LABORATORY CONTROL SAMPLE: 1400473

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.8	98	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1190	119	70-130	
Benzene	ug/L	50	51.4	103	70-130	
Diisopropyl ether	ug/L	50	53.6	107	70-130	
Ethanol	ug/L	2000	2050	102	70-130	
Ethyl-tert-butyl ether	ug/L	100	113	113	70-130	
Ethylbenzene	ug/L	50	50.1	100	70-130	
m&p-Xylene	ug/L	100	100	100	70-130	
Methyl-tert-butyl ether	ug/L	50	49.7	99	70-130	
Naphthalene	ug/L	50	54.7	109	70-130	
o-Xylene	ug/L	50	50.9	102	70-130	
tert-Amyl Alcohol	ug/L	1000	1140	114	70-130	
tert-Amylmethyl ether	ug/L	100	101	101	70-130	
tert-Butyl Alcohol	ug/L	500	577	115	70-130	

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QUALITY CONTROL DATA

Project: H.W DETWILER 15729
Pace Project No.: 92238913

LABORATORY CONTROL SAMPLE: 1400473

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Formate	ug/L	400	430	107	70-130	
Toluene	ug/L	50	50.3	101	70-130	
Xylene (Total)	ug/L	150	151	101	70-130	
1,2-Dichloroethane-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			97	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE SAMPLE: 1400474

Parameter	Units	92238914002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	19.6	98	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	483	121	70-130	
Benzene	ug/L	ND	20	22.1	111	70-130	
Diisopropyl ether	ug/L	ND	20	21.3	107	70-130	
Ethanol	ug/L	ND	800	1140	143	70-130	M0
Ethyl-tert-butyl ether	ug/L	ND	40	44.5	111	70-130	
Ethylbenzene	ug/L	ND	20	21.8	109	70-130	
m&p-Xylene	ug/L	ND	40	43.3	108	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	19.2	96	70-130	
Naphthalene	ug/L	ND	20	22.8	114	70-130	
o-Xylene	ug/L	ND	20	21.1	106	70-130	
tert-Amyl Alcohol	ug/L	ND	400	460	115	70-130	
tert-Amylmethyl ether	ug/L	ND	40	42.7	107	70-130	
tert-Butyl Alcohol	ug/L	ND	200	351	175	70-130	M0
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	21.2	106	70-130	
1,2-Dichloroethane-d4 (S)	%				95	70-130	
4-Bromofluorobenzene (S)	%				97	70-130	
Toluene-d8 (S)	%				98	70-130	

SAMPLE DUPLICATE: 1400475

Parameter	Units	92238914003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: H.W DETWILER 15729
Pace Project No.: 92238913

SAMPLE DUPLICATE: 1400475

Parameter	Units	92238914003 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	106	107	1		
4-Bromofluorobenzene (S)	%	101	104	2		
Toluene-d8 (S)	%	99	98	1		

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QUALITY CONTROL DATA

Project: H.W DETWILER 15729
Pace Project No.: 92238913

QC Batch: OEXT/33215 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92238913001, 92238913002, 92238913003, 92238913004, 92238913005, 92238913006, 92238913007, 92238913008, 92238913009, 92238913010, 92238913011, 92238913012, 92238913013, 92238913014, 92238913015

METHOD BLANK: 1398577 Matrix: Water
Associated Lab Samples: 92238913001, 92238913002, 92238913003, 92238913004, 92238913005, 92238913006, 92238913007, 92238913008, 92238913009, 92238913010, 92238913011, 92238913012, 92238913013, 92238913014, 92238913015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	02/26/15 21:33	
1-Chloro-2-bromopropane (S)	%	111	60-140	02/26/15 21:33	

LABORATORY CONTROL SAMPLE & LCSD: 1398578 1398579

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.3	0.30	0.31	102	112	60-140	3	20	
1-Chloro-2-bromopropane (S)	%				101	114	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1398580 1398582

Parameter	Units	92238913007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.29	.29	0.28	0.28	98	98	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						102	104	60-140			

SAMPLE DUPLICATE: 1398583

Parameter	Units	92238913008 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.40	0.39	2	20	
1-Chloro-2-bromopropane (S)	%	132	124	6		

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QUALITY CONTROL DATA

Project: H.W DETWILER 15729
Pace Project No.: 92238913

QC Batch: OEXT/33217 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92238913016, 92238913017, 92238913018, 92238913019, 92238913020, 92238913021, 92238913022, 92238913023, 92238913024, 92238913025, 92238913026, 92238913027

METHOD BLANK: 1398597 Matrix: Water
Associated Lab Samples: 92238913016, 92238913017, 92238913018, 92238913019, 92238913020, 92238913021, 92238913022, 92238913023, 92238913024, 92238913025, 92238913026, 92238913027

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	02/27/15 06:07	
1-Chloro-2-bromopropane (S)	%	108	60-140	02/27/15 06:07	

LABORATORY CONTROL SAMPLE & LCSD: 1398598 1398599

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.31	0.31	106	112	60-140	1	20	
1-Chloro-2-bromopropane (S)	%				107	116	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1398600 1398601

Parameter	Units	92238913017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.34	0.34	124	124	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						126	127	60-140			

SAMPLE DUPLICATE: 1398602

Parameter	Units	92238913018 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	114	108	8		

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QUALIFIERS

Project: H.W DETWILER 15729
Pace Project No.: 92238913

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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TNI - The NELAC Institute.

LABORATORIES

PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92238913001	15729 MW-7	EPA 8011	OEXT/33215	EPA 8011	GCSV/20477
92238913002	15729 MW-14	EPA 8011	OEXT/33215	EPA 8011	GCSV/20477
92238913003	15729 MW-19	EPA 8011	OEXT/33215	EPA 8011	GCSV/20477
92238913004	15729 MW-20	EPA 8011	OEXT/33215	EPA 8011	GCSV/20477
92238913005	15729 MW-25	EPA 8011	OEXT/33215	EPA 8011	GCSV/20477
92238913006	15729 MW-26	EPA 8011	OEXT/33215	EPA 8011	GCSV/20477
92238913007	15729 MW-32	EPA 8011	OEXT/33215	EPA 8011	GCSV/20477
92238913008	15729 MW-33	EPA 8011	OEXT/33215	EPA 8011	GCSV/20477
92238913009	15729 MW-34D	EPA 8011	OEXT/33215	EPA 8011	GCSV/20477
92238913010	15729 MW-35I	EPA 8011	OEXT/33215	EPA 8011	GCSV/20477
92238913011	15729 MW-38	EPA 8011	OEXT/33215	EPA 8011	GCSV/20477
92238913012	15729 MW-44	EPA 8011	OEXT/33215	EPA 8011	GCSV/20477
92238913013	15729 MW-44DUP	EPA 8011	OEXT/33215	EPA 8011	GCSV/20477
92238913014	15729 MW-57	EPA 8011	OEXT/33215	EPA 8011	GCSV/20477
92238913015	15729 MW-58	EPA 8011	OEXT/33215	EPA 8011	GCSV/20477
92238913016	15729 MW-66	EPA 8011	OEXT/33217	EPA 8011	GCSV/20476
92238913017	15729 WSW-1	EPA 8011	OEXT/33217	EPA 8011	GCSV/20476
92238913018	15729 WSW-2	EPA 8011	OEXT/33217	EPA 8011	GCSV/20476
92238913019	15729 WSW-3	EPA 8011	OEXT/33217	EPA 8011	GCSV/20476
92238913020	15729 WSW-4	EPA 8011	OEXT/33217	EPA 8011	GCSV/20476
92238913021	15729 PS-1	EPA 8011	OEXT/33217	EPA 8011	GCSV/20476
92238913022	15729 SW-1	EPA 8011	OEXT/33217	EPA 8011	GCSV/20476
92238913023	15729 CS-1	EPA 8011	OEXT/33217	EPA 8011	GCSV/20476
92238913024	15729 CS-2	EPA 8011	OEXT/33217	EPA 8011	GCSV/20476
92238913025	15729 CS-3	EPA 8011	OEXT/33217	EPA 8011	GCSV/20476
92238913026	15729 CS-4	EPA 8011	OEXT/33217	EPA 8011	GCSV/20476
92238913027	15729 FIELD BLANK #2	EPA 8011	OEXT/33217	EPA 8011	GCSV/20476
92238913017	15729 WSW-1	EPA 8260	MSV/30524		
92238913018	15729 WSW-2	EPA 8260	MSV/30524		
92238913019	15729 WSW-3	EPA 8260	MSV/30524		
92238913020	15729 WSW-4	EPA 8260	MSV/30524		
92238913021	15729 PS-1	EPA 8260	MSV/30524		
92238913022	15729 SW-1	EPA 8260	MSV/30524		
92238913023	15729 CS-1	EPA 8260	MSV/30524		
92238913024	15729 CS-2	EPA 8260	MSV/30524		
92238913025	15729 CS-3	EPA 8260	MSV/30524		
92238913026	15729 CS-4	EPA 8260	MSV/30524		
92238913001	15729 MW-7	EPA 8260	MSV/30539		
92238913002	15729 MW-14	EPA 8260	MSV/30548		
92238913003	15729 MW-19	EPA 8260	MSV/30539		
92238913004	15729 MW-20	EPA 8260	MSV/30539		
92238913005	15729 MW-25	EPA 8260	MSV/30539		
92238913006	15729 MW-26	EPA 8260	MSV/30539		
92238913007	15729 MW-32	EPA 8260	MSV/30539		
92238913008	15729 MW-33	EPA 8260	MSV/30539		
92238913009	15729 MW-34D	EPA 8260	MSV/30539		

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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: H.W DETWILER 15729
Pace Project No.: 92238913

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92238913010	15729 MW-35I	EPA 8260	MSV/30539		
92238913011	15729 MW-38	EPA 8260	MSV/30539		
92238913012	15729 MW-44	EPA 8260	MSV/30548		
92238913013	15729 MW-44DUP	EPA 8260	MSV/30548		
92238913014	15729 MW-57	EPA 8260	MSV/30548		
92238913015	15729 MW-58	EPA 8260	MSV/30548		
92238913016	15729 MW-66	EPA 8260	MSV/30548		
92238913027	15729 FIELD BLANK #2	EPA 8260	MSV/30548		
92238913028	15729 TRIP BLANK #2	EPA 8260	MSV/30548		
92238913029	15729 TRIP BLANK #3	EPA 8260	MSV/30548		

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Pace Analytical	Sample Condition Upon Receipt (SCUR) Document Number: F-CHR-CS-003-rev.15	Page 1 of 2 Issuing Authority: Pace Huntersville Quality Office

Client Name: Emerald

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other _____

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals Intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____

Thermometer Used: IR Gun T1401 Type of Ice: Wet Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor T1401 No Correction

Corrected Cooler Temp.: 2.3 °C Biological Tissue is Frozen: Yes No N/A

Date and Initials of person examining contents: AC 2-25-15

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:		
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: TC Date: 2/25/15

SRF Review: AMB Date: 2-26-15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Place label here

WO#: 92238913

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Page: 1 of 3

1901556

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Emerald Inc.	Report To: Randy Lowder	Attention:
Address: 2520 Tahoe Dr. Sumter, SC 29150	Copy To:	Company Name:
Email To:	Purchase Order No.:	Address: Pace Quote Reference:
Phone: (803) 469-5454 Fax:	Project Name: H.W. Detwiler	Pace Project Manager: A. Baioni
Requested Due Date/TAT: Standard	Project Number: 15729	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information: SAMPLE ID (A-Z, 0-9 / ,) Sample IDs MUST BE UNIQUE	Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT	MATRIX CODE (use valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N	Analysis Test: BTEX, 1,2 DCA (8260 B)	Oxy's (8011)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	15729 MW-7	WT	G			2/23/15	1325		6				6					X	X	X	X			001
2	MW-14						1230																	002
3	MW-19						1300																	003
4	MW-20						1630																	004
5	MW-25						1130																	005
6	MW-26						1445																	006
7	MW-32						1550																	007
8	MW-33						1345																	008
9	MW-34D						1420																	009
10	MW-35i						1535																	010
11	MW-38						1110																	011
12	MW-44						0950		6				6					X	X	X	X			012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Robbie Roberts	2/24/15	0800		2-24-15	1638				
	Pearce			[illegible] Pace	02-25-15	14:55				
	[illegible]	02-25-15	17:00	[illegible]	2-25-15	1700	2.7	V	N	V

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robbie Roberts

SIGNATURE of SAMPLER: Robbie Roberts DATE Signed (MM/DD/YY): 2/24/15

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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Page: 2 of 3

1901557

Section A Required Client Information:
Company: Emerald Inc.
Address: 2520 Tahoe Dr. Sumter, SC 29150
Email To:
Phone: (803) 469-5454 Fax:
Requested Due Date/TAT: Standard

Section B Required Project Information:
Report To: Ronny Lowder
Copy To:
Purchase Order No.:
Project Name: H.W. Detwiler
Project Number: 15729

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: A. Baioni
Pace Profile #:

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Btex, N, M	1,2 DCA	Oxy's	EDB	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	15729 MW-44Dup	WT	G			2/23/15	0953		6				6						X	X	X	X		013
2	MW-57						1500																	014
3	MW-58						1210																	015
4	MW-66						1025																	016
5	WSW-1						1400																*	Use low detection 017
6	WSW-2						1545																*	" " 018
7	WSW-3						1445																*	" " 019
8	WSW-4						1425																*	" " 020
9	PS-1						1435																*	" " 021
10	SW-1						1200																*	" " 022
11	CS-1						1235																*	" " 023
12	CS-2						1245		6				6						X	X	X	X	*	Use low detection 024

92238913

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Robbie Robertson	2/24/15	0800	[signature]	2-24-15	1678				
	Beaver			D. Moody Pace	02-25-15	14:55				
	D. Moody	02-25-15	17:00	[signature]	2.255	1700	0.3	V	N	V

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Robbie Robertson
SIGNATURE of SAMPLER: Robbie Robertson
DATE Signed (MM/DD/YY): 2/24/15

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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Page: 3 of 3

1901558

Section A Required Client Information:

Company:	Emerald Inc.
Address:	2520 Tahoe Dr. Sumter, SC 29150
Email To:	
Phone:	803 469-5454
Fax:	
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Ronny Lowder
Copy To:	
Purchase Order No.:	
Project Name:	HW Detwiler
Project Number:	15729

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	A. Baioni
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Btex, N, M (8260B)	1,2 DCA (8260B)	Oxys (8011)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	15729 CS-3	WT	G			2/23/15	1330		6				6						X	X	X	X	*	use low detection 025
2	" CS-4	↓	↓			↓	1340		6				6						↓	↓	↓	↓	*	use low detection 026
3	" Field Blank #2	↓	↓			↓	1630		6				6						X	X	X	X		027
4	" Trip Blank #2	↓	↓			↓	—		2				2						X	X	X			028
5	" Trip Blank #3	↓	↓			↓	—		2				2						X	X	X			029
6																								
7																								
8																								
9																								
10																								
11																								
12																								

92238913

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Robbie Robertson	2/24/15	0800	[signature]	2-24-15	1638				
	Beaver			G Moody - Pace	02-25-15	14:55				
	G Moody	02-25-15	17:00	[signature] Pace	2-25-15	17:00	2.3	V	N	V

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robbie Robertson

SIGNATURE of SAMPLER: Robbie Robertson DATE Signed (MM/DD/YY): 2/24/15

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical Services, Inc.
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Huntersville, NC 28078
(704)875-9092

March 06, 2015

Ms. Robbin Boykin
Emerald, Inc.
2520 Tahoe Drive
Sumter, SC 29150

RE: Project: HW DETWILER 15729
Pace Project No.: 92239001

Dear Ms. Boykin:
Enclosed are the analytical results for sample(s) received by the laboratory on February 26, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angela M. Baioni

Angela Baioni
angela.baioni@pacelabs.com
Project Manager

Enclosures

cc: Nicole Christopher, Emerald, Inc.
Mr. Chad McClary, Emerald, Inc.

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: HW DETWILER 15729
Pace Project No.: 92239001

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: HW DETWILER 15729
Pace Project No.: 92239001

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92239001001	15729 MW-8	Water	02/24/15 11:30	02/26/15 18:10
92239001002	15729 MW-9	Water	02/24/15 11:05	02/26/15 18:10
92239001003	15729 MW-10	Water	02/24/15 09:45	02/26/15 18:10
92239001004	15729 MW-11	Water	02/24/15 14:30	02/26/15 18:10
92239001005	15729 MW-21	Water	02/24/15 10:00	02/26/15 18:10
92239001006	15729 MW-22	Water	02/24/15 11:45	02/26/15 18:10
92239001007	15729 MW-27	Water	02/24/15 13:20	02/26/15 18:10
92239001008	15729 MW-31	Water	02/24/15 13:00	02/26/15 18:10
92239001009	15729 MW-42	Water	02/24/15 14:55	02/26/15 18:10
92239001010	15729 MW-52	Water	02/24/15 15:15	02/26/15 18:10
92239001011	15729 MW-53	Water	02/24/15 14:10	02/26/15 18:10
92239001012	15729 MW-53 DUP	Water	02/24/15 14:13	02/26/15 18:10
92239001013	15729 MW-54	Water	02/24/15 13:40	02/26/15 18:10
92239001014	15729 MW-55	Water	02/24/15 12:15	02/26/15 18:10
92239001015	15729 MW-56	Water	02/24/15 12:35	02/26/15 18:10
92239001016	15729 MW-56 DUP	Water	02/24/15 12:38	02/26/15 18:10
92239001017	15729 MW-73	Water	02/24/15 10:45	02/26/15 18:10
92239001018	15729 FIELD BLANK #3	Water	02/24/15 16:00	02/26/15 18:10
92239001019	15729 TRIP BLANK #4	Water	02/24/15 00:00	02/26/15 18:10
92239001020	15729 TRIP BLANK #5	Water	02/24/15 00:00	02/26/15 18:10

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SAMPLE ANALYTE COUNT

Project: HW DETWILER 15729
Pace Project No.: 92239001

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92239001001	15729 MW-8	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92239001002	15729 MW-9	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92239001003	15729 MW-10	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92239001004	15729 MW-11	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92239001005	15729 MW-21	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92239001006	15729 MW-22	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92239001007	15729 MW-27	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92239001008	15729 MW-31	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92239001009	15729 MW-42	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92239001010	15729 MW-52	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92239001011	15729 MW-53	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92239001012	15729 MW-53 DUP	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92239001013	15729 MW-54	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92239001014	15729 MW-55	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92239001015	15729 MW-56	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92239001016	15729 MW-56 DUP	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92239001017	15729 MW-73	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92239001018	15729 FIELD BLANK #3	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92239001019	15729 TRIP BLANK #4	EPA 8260	CCL	20	PASI-C

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Huntersville, NC 28078
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SAMPLE ANALYTE COUNT

Project: HW DETWILER 15729
Pace Project No.: 92239001

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92239001020	**15729 TRIP BLANK #5**	EPA 8260	CCL	20	PASI-C

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Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92239001

Sample: 15729 MW-8 **Lab ID: 92239001001** Collected: 02/24/15 11:30 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/02/15 12:26	03/02/15 16:52	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	74	%	60-140		1	03/02/15 12:26	03/02/15 16:52	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/03/15 16:54	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/03/15 16:54	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/03/15 16:54	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/03/15 16:54	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/03/15 16:54	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/03/15 16:54	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/03/15 16:54	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/03/15 16:54	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/03/15 16:54	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/03/15 16:54	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/03/15 16:54	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/03/15 16:54	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/03/15 16:54	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/03/15 16:54	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/03/15 16:54	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/03/15 16:54	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/03/15 16:54	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		03/03/15 16:54	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		03/03/15 16:54	17060-07-0	
Toluene-d8 (S)	96	%	70-130		1		03/03/15 16:54	2037-26-5	

Sample: 15729 MW-9 **Lab ID: 92239001002** Collected: 02/24/15 11:05 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/02/15 12:26	03/02/15 17:12	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	91	%	60-140		1	03/02/15 12:26	03/02/15 17:12	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/03/15 17:10	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/03/15 17:10	994-05-8	
Benzene	1.7J	ug/L	5.0	1.7	1		03/03/15 17:10	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/03/15 17:10	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/03/15 17:10	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/03/15 17:10	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/03/15 17:10	107-06-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92239001

Sample: 15729 MW-9 **Lab ID: 92239001002** Collected: 02/24/15 11:05 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/03/15 17:10	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/03/15 17:10	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/03/15 17:10	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/03/15 17:10	637-92-3	
Methyl-tert-butyl ether	**16.8**	ug/L	5.0	1.7	1		03/03/15 17:10	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/03/15 17:10	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/03/15 17:10	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/03/15 17:10	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/03/15 17:10	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/03/15 17:10	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		03/03/15 17:10	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		03/03/15 17:10	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		03/03/15 17:10	2037-26-5	

Sample: 15729 MW-10 **Lab ID: 92239001003** Collected: 02/24/15 09:45 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/02/15 12:26	03/02/15 17:33	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	101	%	60-140		1	03/02/15 12:26	03/02/15 17:33	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**2830**	ug/L	100	76.8	1		03/03/15 20:21	75-85-4	
tert-Amylmethyl ether	**5.8J**	ug/L	10.0	3.4	1		03/03/15 20:21	994-05-8	
Benzene	**301**	ug/L	20.0	6.8	4		03/04/15 15:23	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/03/15 20:21	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/03/15 20:21	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/03/15 20:21	762-75-4	
1,2-Dichloroethane	**19.3**	ug/L	5.0	1.8	1		03/03/15 20:21	107-06-2	
Diisopropyl ether	**32.4**	ug/L	5.0	1.7	1		03/03/15 20:21	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/03/15 20:21	64-17-5	
Ethylbenzene	**26.6**	ug/L	5.0	1.6	1		03/03/15 20:21	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/03/15 20:21	637-92-3	
Methyl-tert-butyl ether	**46.6**	ug/L	5.0	1.7	1		03/03/15 20:21	1634-04-4	
Naphthalene	**8.6**	ug/L	5.0	2.0	1		03/03/15 20:21	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/03/15 20:21	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/03/15 20:21	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/03/15 20:21	179601-23-1	
o-Xylene	**1.7J**	ug/L	5.0	1.6	1		03/03/15 20:21	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		03/03/15 20:21	460-00-4	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92239001

Sample: 15729 MW-10 Lab ID: **92239001003** Collected: 02/24/15 09:45 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		03/03/15 20:21	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		03/03/15 20:21	2037-26-5	

Sample: 15729 MW-11 Lab ID: **92239001004** Collected: 02/24/15 14:30 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/02/15 12:26	03/02/15 17:53	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	101	%	60-140		1	03/02/15 12:26	03/02/15 17:53	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**790**	ug/L	100	76.8	1		03/03/15 17:26	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/03/15 17:26	994-05-8	
Benzene	**173**	ug/L	25.0	8.5	5		03/04/15 13:41	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/03/15 17:26	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/03/15 17:26	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/03/15 17:26	762-75-4	
1,2-Dichloroethane	**6.2**	ug/L	5.0	1.8	1		03/03/15 17:26	107-06-2	
Diisopropyl ether	**8.4**	ug/L	5.0	1.7	1		03/03/15 17:26	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/03/15 17:26	64-17-5	
Ethylbenzene	**4.0J**	ug/L	5.0	1.6	1		03/03/15 17:26	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/03/15 17:26	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/03/15 17:26	1634-04-4	
Naphthalene	**3.7J**	ug/L	5.0	2.0	1		03/03/15 17:26	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/03/15 17:26	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/03/15 17:26	1330-20-7	
m&p-Xylene	**3.2J**	ug/L	10.0	3.1	1		03/03/15 17:26	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/03/15 17:26	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		03/03/15 17:26	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		03/03/15 17:26	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		03/03/15 17:26	2037-26-5	

Sample: 15729 MW-21 Lab ID: **92239001005** Collected: 02/24/15 10:00 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/02/15 12:26	03/02/15 18:13	106-93-4	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92239001

Sample: 15729 MW-21 **Lab ID: 92239001005** Collected: 02/24/15 10:00 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
Surrogates									
1-Chloro-2-bromopropane (S)	94	%	60-140		1	03/02/15 12:26	03/02/15 18:13	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/03/15 17:58	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/03/15 17:58	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/03/15 17:58	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/03/15 17:58	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/03/15 17:58	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/03/15 17:58	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/03/15 17:58	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/03/15 17:58	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/03/15 17:58	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/03/15 17:58	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/03/15 17:58	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/03/15 17:58	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/03/15 17:58	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/03/15 17:58	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/03/15 17:58	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/03/15 17:58	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/03/15 17:58	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		03/03/15 17:58	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		03/03/15 17:58	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		03/03/15 17:58	2037-26-5	

Sample: 15729 MW-22 **Lab ID: 92239001006** Collected: 02/24/15 11:45 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/02/15 12:26	03/02/15 18:33	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	87	%	60-140		1	03/02/15 12:26	03/02/15 18:33	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/03/15 18:14	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/03/15 18:14	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/03/15 18:14	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/03/15 18:14	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/03/15 18:14	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/03/15 18:14	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/03/15 18:14	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/03/15 18:14	108-20-3	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92239001

Sample: 15729 MW-22 **Lab ID: 92239001006** Collected: 02/24/15 11:45 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Ethanol	ND	ug/L	200	138	1		03/03/15 18:14	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/03/15 18:14	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/03/15 18:14	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/03/15 18:14	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/03/15 18:14	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/03/15 18:14	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/03/15 18:14	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/03/15 18:14	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/03/15 18:14	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		03/03/15 18:14	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		03/03/15 18:14	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		03/03/15 18:14	2037-26-5	

Sample: 15729 MW-27 **Lab ID: 92239001007** Collected: 02/24/15 13:20 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/02/15 12:26	03/02/15 18:53	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	101	%	60-140		1	03/02/15 12:26	03/02/15 18:53	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**413**	ug/L	250	192	2.5		03/04/15 17:22	75-85-4	
tert-Amylmethyl ether	ND	ug/L	25.0	8.5	2.5		03/04/15 17:22	994-05-8	
Benzene	**332**	ug/L	12.5	4.2	2.5		03/04/15 17:22	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	250	80.2	2.5		03/04/15 17:22	624-95-3	
tert-Butyl Alcohol	ND	ug/L	250	144	2.5		03/04/15 17:22	75-65-0	
tert-Butyl Formate	ND	ug/L	125	18.2	2.5		03/04/15 17:22	762-75-4	
1,2-Dichloroethane	ND	ug/L	12.5	4.5	2.5		03/04/15 17:22	107-06-2	
Diisopropyl ether	**5.4J**	ug/L	12.5	4.2	2.5		03/04/15 17:22	108-20-3	
Ethanol	ND	ug/L	500	344	2.5		03/04/15 17:22	64-17-5	
Ethylbenzene	**22.8**	ug/L	12.5	4.0	2.5		03/04/15 17:22	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	25.0	9.0	2.5		03/04/15 17:22	637-92-3	
Methyl-tert-butyl ether	**7.1J**	ug/L	12.5	4.2	2.5		03/04/15 17:22	1634-04-4	
Naphthalene	ND	ug/L	12.5	5.0	2.5		03/04/15 17:22	91-20-3	
Toluene	**5.1J**	ug/L	12.5	4.0	2.5		03/04/15 17:22	108-88-3	
Xylene (Total)	ND	ug/L	25.0	6.8	2.5		03/04/15 17:22	1330-20-7	
m&p-Xylene	ND	ug/L	25.0	7.8	2.5		03/04/15 17:22	179601-23-1	
o-Xylene	ND	ug/L	12.5	4.0	2.5		03/04/15 17:22	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		2.5		03/04/15 17:22	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		2.5		03/04/15 17:22	17060-07-0	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92239001

Sample: 15729 MW-27 **Lab ID: 92239001007** Collected: 02/24/15 13:20 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
Toluene-d8 (S)	98	%	70-130		2.5		03/04/15 17:22	2037-26-5	

Sample: 15729 MW-31 **Lab ID: 92239001008** Collected: 02/24/15 13:00 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/02/15 12:27	03/02/15 19:54	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	95	%	60-140		1	03/02/15 12:27	03/02/15 19:54	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/03/15 18:30	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/03/15 18:30	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/03/15 18:30	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/03/15 18:30	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/03/15 18:30	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/03/15 18:30	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/03/15 18:30	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/03/15 18:30	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/03/15 18:30	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/03/15 18:30	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/03/15 18:30	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/03/15 18:30	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/03/15 18:30	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/03/15 18:30	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/03/15 18:30	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/03/15 18:30	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/03/15 18:30	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	106	%	70-130		1		03/03/15 18:30	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		03/03/15 18:30	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		03/03/15 18:30	2037-26-5	

Sample: 15729 MW-42 **Lab ID: 92239001009** Collected: 02/24/15 14:55 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.75**	ug/L	0.020	0.020	1	03/02/15 12:27	03/02/15 20:34	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	97	%	60-140		1	03/02/15 12:27	03/02/15 20:34	301-79-56	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92239001

Sample: 15729 MW-42 **Lab ID: 92239001009** Collected: 02/24/15 14:55 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**3070**	ug/L	500	384	5		03/03/15 19:02	75-85-4	
tert-Amylmethyl ether	ND	ug/L	50.0	17.0	5		03/03/15 19:02	994-05-8	
Benzene	**1150**	ug/L	125	42.5	25		03/04/15 14:15	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	500	160	5		03/03/15 19:02	624-95-3	
tert-Butyl Alcohol	ND	ug/L	500	288	5		03/03/15 19:02	75-65-0	
tert-Butyl Formate	ND	ug/L	250	36.5	5		03/03/15 19:02	762-75-4	
1,2-Dichloroethane	**12.7J**	ug/L	25.0	9.0	5		03/03/15 19:02	107-06-2	
Diisopropyl ether	ND	ug/L	25.0	8.5	5		03/03/15 19:02	108-20-3	
Ethanol	ND	ug/L	1000	689	5		03/03/15 19:02	64-17-5	
Ethylbenzene	**554**	ug/L	25.0	8.0	5		03/03/15 19:02	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	50.0	18.0	5		03/03/15 19:02	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	25.0	8.5	5		03/03/15 19:02	1634-04-4	
Naphthalene	**98.9**	ug/L	25.0	10.0	5		03/03/15 19:02	91-20-3	
Toluene	**2620**	ug/L	125	40.0	25		03/04/15 14:15	108-88-3	
Xylene (Total)	**1220**	ug/L	50.0	13.5	5		03/03/15 19:02	1330-20-7	
m&p-Xylene	**825**	ug/L	50.0	15.5	5		03/03/15 19:02	179601-23-1	
o-Xylene	**395**	ug/L	25.0	8.0	5		03/03/15 19:02	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	92	%	70-130		5		03/03/15 19:02	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		5		03/03/15 19:02	17060-07-0	
Toluene-d8 (S)	100	%	70-130		5		03/03/15 19:02	2037-26-5	

Sample: 15729 MW-52 **Lab ID: 92239001010** Collected: 02/24/15 15:15 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/02/15 12:27	03/02/15 20:54	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	105	%	60-140		1	03/02/15 12:27	03/02/15 20:54	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**582**	ug/L	250	192	2.5		03/03/15 19:17	75-85-4	
tert-Amylmethyl ether	ND	ug/L	25.0	8.5	2.5		03/03/15 19:17	994-05-8	
Benzene	**208**	ug/L	12.5	4.2	2.5		03/03/15 19:17	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	250	80.2	2.5		03/03/15 19:17	624-95-3	
tert-Butyl Alcohol	ND	ug/L	250	144	2.5		03/03/15 19:17	75-65-0	
tert-Butyl Formate	ND	ug/L	125	18.2	2.5		03/03/15 19:17	762-75-4	
1,2-Dichloroethane	ND	ug/L	12.5	4.5	2.5		03/03/15 19:17	107-06-2	
Diisopropyl ether	ND	ug/L	12.5	4.2	2.5		03/03/15 19:17	108-20-3	
Ethanol	ND	ug/L	500	344	2.5		03/03/15 19:17	64-17-5	
Ethylbenzene	**402**	ug/L	12.5	4.0	2.5		03/03/15 19:17	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	25.0	9.0	2.5		03/03/15 19:17	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	12.5	4.2	2.5		03/03/15 19:17	1634-04-4	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92239001

Sample: 15729 MW-52 **Lab ID: 92239001010** Collected: 02/24/15 15:15 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Naphthalene	**72.2**	ug/L	12.5	5.0	2.5		03/03/15 19:17	91-20-3	
Toluene	**37.9**	ug/L	12.5	4.0	2.5		03/03/15 19:17	108-88-3	
Xylene (Total)	**373**	ug/L	25.0	6.8	2.5		03/03/15 19:17	1330-20-7	
m&p-Xylene	**270**	ug/L	25.0	7.8	2.5		03/03/15 19:17	179601-23-1	
o-Xylene	**103**	ug/L	12.5	4.0	2.5		03/03/15 19:17	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		2.5		03/03/15 19:17	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		2.5		03/03/15 19:17	17060-07-0	
Toluene-d8 (S)	103	%	70-130		2.5		03/03/15 19:17	2037-26-5	

Sample: 15729 MW-53 **Lab ID: 92239001011** Collected: 02/24/15 14:10 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**8.2**	ug/L	0.19	0.19	10	03/02/15 12:27	03/04/15 13:17	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		10	03/02/15 12:27	03/04/15 13:17	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**7770**	ug/L	2000	1540	20		03/03/15 19:33	75-85-4	
tert-Amylmethyl ether	ND	ug/L	200	68.0	20		03/03/15 19:33	994-05-8	
Benzene	**4420**	ug/L	250	85.0	50		03/04/15 14:32	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2000	642	20		03/03/15 19:33	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2000	1150	20		03/03/15 19:33	75-65-0	
tert-Butyl Formate	ND	ug/L	1000	146	20		03/03/15 19:33	762-75-4	
1,2-Dichloroethane	**63.8J**	ug/L	100	36.0	20		03/03/15 19:33	107-06-2	
Diisopropyl ether	ND	ug/L	100	34.0	20		03/03/15 19:33	108-20-3	
Ethanol	ND	ug/L	4000	2760	20		03/03/15 19:33	64-17-5	
Ethylbenzene	**743**	ug/L	100	32.0	20		03/03/15 19:33	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	200	72.0	20		03/03/15 19:33	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	100	34.0	20		03/03/15 19:33	1634-04-4	
Naphthalene	**114**	ug/L	100	40.0	20		03/03/15 19:33	91-20-3	
Toluene	**5540**	ug/L	250	80.0	50		03/04/15 14:32	108-88-3	
Xylene (Total)	**2020**	ug/L	200	54.0	20		03/03/15 19:33	1330-20-7	
m&p-Xylene	**1340**	ug/L	200	62.0	20		03/03/15 19:33	179601-23-1	
o-Xylene	**682**	ug/L	100	32.0	20		03/03/15 19:33	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		20		03/03/15 19:33	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		20		03/03/15 19:33	17060-07-0	
Toluene-d8 (S)	99	%	70-130		20		03/03/15 19:33	2037-26-5	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92239001

Sample: 15729 MW-53 DUP **Lab ID: 92239001012** Collected: 02/24/15 14:13 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**8.6**	ug/L	0.20	0.20	10	03/02/15 12:27	03/04/15 13:37	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		10	03/02/15 12:27	03/04/15 13:37	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**8140**	ug/L	2000	1540	20		03/03/15 19:49	75-85-4	
tert-Amylmethyl ether	ND	ug/L	200	68.0	20		03/03/15 19:49	994-05-8	
Benzene	**4640**	ug/L	250	85.0	50		03/04/15 14:49	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2000	642	20		03/03/15 19:49	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2000	1150	20		03/03/15 19:49	75-65-0	
tert-Butyl Formate	ND	ug/L	1000	146	20		03/03/15 19:49	762-75-4	
1,2-Dichloroethane	**70.9J**	ug/L	100	36.0	20		03/03/15 19:49	107-06-2	
Diisopropyl ether	**102**	ug/L	100	34.0	20		03/03/15 19:49	108-20-3	
Ethanol	ND	ug/L	4000	2760	20		03/03/15 19:49	64-17-5	
Ethylbenzene	**792**	ug/L	100	32.0	20		03/03/15 19:49	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	200	72.0	20		03/03/15 19:49	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	100	34.0	20		03/03/15 19:49	1634-04-4	
Naphthalene	**103**	ug/L	100	40.0	20		03/03/15 19:49	91-20-3	
Toluene	**5940**	ug/L	250	80.0	50		03/04/15 14:49	108-88-3	
Xylene (Total)	**2210**	ug/L	200	54.0	20		03/03/15 19:49	1330-20-7	
m&p-Xylene	**1460**	ug/L	200	62.0	20		03/03/15 19:49	179601-23-1	
o-Xylene	**743**	ug/L	100	32.0	20		03/03/15 19:49	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		20		03/03/15 19:49	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		20		03/03/15 19:49	17060-07-0	
Toluene-d8 (S)	100	%	70-130		20		03/03/15 19:49	2037-26-5	

Sample: 15729 MW-54 **Lab ID: 92239001013** Collected: 02/24/15 13:40 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/02/15 12:27	03/02/15 21:54	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	100	%	60-140		1	03/02/15 12:27	03/02/15 21:54	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	400	307	4		03/05/15 17:53	75-85-4	
tert-Amylmethyl ether	ND	ug/L	40.0	13.6	4		03/05/15 17:53	994-05-8	
Benzene	ND	ug/L	20.0	6.8	4		03/05/15 17:53	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	400	128	4		03/05/15 17:53	624-95-3	
tert-Butyl Alcohol	ND	ug/L	400	231	4		03/05/15 17:53	75-65-0	
tert-Butyl Formate	ND	ug/L	200	29.2	4		03/05/15 17:53	762-75-4	
1,2-Dichloroethane	ND	ug/L	20.0	7.2	4		03/05/15 17:53	107-06-2	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92239001

Sample: 15729 MW-54 **Lab ID: 92239001013** Collected: 02/24/15 13:40 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Diisopropyl ether	ND	ug/L	20.0	6.8	4		03/05/15 17:53	108-20-3	
Ethanol	ND	ug/L	800	551	4		03/05/15 17:53	64-17-5	
Ethylbenzene	**360**	ug/L	20.0	6.4	4		03/05/15 17:53	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	40.0	14.4	4		03/05/15 17:53	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	20.0	6.8	4		03/05/15 17:53	1634-04-4	
Naphthalene	**154**	ug/L	20.0	8.0	4		03/05/15 17:53	91-20-3	
Toluene	**8.4J**	ug/L	20.0	6.4	4		03/05/15 17:53	108-88-3	
Xylene (Total)	**743**	ug/L	40.0	10.8	4		03/05/15 17:53	1330-20-7	
m&p-Xylene	**674**	ug/L	40.0	12.4	4		03/05/15 17:53	179601-23-1	
o-Xylene	**69.4**	ug/L	20.0	6.4	4		03/05/15 17:53	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		4		03/05/15 17:53	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		4		03/05/15 17:53	17060-07-0	
Toluene-d8 (S)	101	%	70-130		4		03/05/15 17:53	2037-26-5	

Sample: 15729 MW-55 **Lab ID: 92239001014** Collected: 02/24/15 12:15 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.33**	ug/L	0.020	0.020	1	03/02/15 12:27	03/02/15 22:14	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	92	%	60-140		1	03/02/15 12:27	03/02/15 22:14	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**1060**	ug/L	100	76.8	1		03/04/15 08:08	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/04/15 08:08	994-05-8	
Benzene	**162**	ug/L	5.0	1.7	1		03/04/15 08:08	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/04/15 08:08	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/04/15 08:08	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/04/15 08:08	762-75-4	
1,2-Dichloroethane	**7.7**	ug/L	5.0	1.8	1		03/04/15 08:08	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/04/15 08:08	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/04/15 08:08	64-17-5	
Ethylbenzene	**7.3**	ug/L	5.0	1.6	1		03/04/15 08:08	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/04/15 08:08	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/04/15 08:08	1634-04-4	
Naphthalene	**6.3**	ug/L	5.0	2.0	1		03/04/15 08:08	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/04/15 08:08	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/04/15 08:08	1330-20-7	
m&p-Xylene	**3.6J**	ug/L	10.0	3.1	1		03/04/15 08:08	179601-23-1	
o-Xylene	**3.5J**	ug/L	5.0	1.6	1		03/04/15 08:08	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		03/04/15 08:08	460-00-4	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92239001

Sample: 15729 MW-55 **Lab ID: 92239001014** Collected: 02/24/15 12:15 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		03/04/15 08:08	17060-07-0	
Toluene-d8 (S)	106	%	70-130		1		03/04/15 08:08	2037-26-5	

Sample: 15729 MW-56 **Lab ID: 92239001015** Collected: 02/24/15 12:35 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.023**	ug/L	0.020	0.020	1	03/02/15 12:27	03/02/15 22:34	106-93-4	C3
Surrogates									
1-Chloro-2-bromopropane (S)	110	%	60-140		1	03/02/15 12:27	03/02/15 22:34	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**1120**	ug/L	1000	768	10		03/05/15 18:10	75-85-4	
tert-Amylmethyl ether	ND	ug/L	100	34.0	10		03/05/15 18:10	994-05-8	
Benzene	**1220**	ug/L	50.0	17.0	10		03/05/15 18:10	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	321	10		03/05/15 18:10	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1000	577	10		03/05/15 18:10	75-65-0	
tert-Butyl Formate	ND	ug/L	500	73.0	10		03/05/15 18:10	762-75-4	
1,2-Dichloroethane	ND	ug/L	50.0	18.0	10		03/05/15 18:10	107-06-2	
Diisopropyl ether	**17.6J**	ug/L	50.0	17.0	10		03/05/15 18:10	108-20-3	
Ethanol	ND	ug/L	2000	1380	10		03/05/15 18:10	64-17-5	
Ethylbenzene	**114**	ug/L	50.0	16.0	10		03/05/15 18:10	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	36.0	10		03/05/15 18:10	637-92-3	
Methyl-tert-butyl ether	**19.7J**	ug/L	50.0	17.0	10		03/05/15 18:10	1634-04-4	
Naphthalene	ND	ug/L	50.0	20.0	10		03/05/15 18:10	91-20-3	
Toluene	**49.3J**	ug/L	50.0	16.0	10		03/05/15 18:10	108-88-3	
Xylene (Total)	ND	ug/L	100	27.0	10		03/05/15 18:10	1330-20-7	
m&p-Xylene	**46.6J**	ug/L	100	31.0	10		03/05/15 18:10	179601-23-1	
o-Xylene	ND	ug/L	50.0	16.0	10		03/05/15 18:10	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		10		03/05/15 18:10	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		10		03/05/15 18:10	17060-07-0	
Toluene-d8 (S)	99	%	70-130		10		03/05/15 18:10	2037-26-5	

Sample: 15729 MW-56 DUP **Lab ID: 92239001016** Collected: 02/24/15 12:38 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.034**	ug/L	0.020	0.020	1	03/02/15 12:27	03/02/15 22:54	106-93-4	C3

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92239001

Sample: 15729 MW-56 DUP **Lab ID: 92239001016** Collected: 02/24/15 12:38 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
Surrogates									
1-Chloro-2-bromopropane (S)	108	%	60-140		1	03/02/15 12:27	03/02/15 22:54	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**1280**	ug/L	1000	768	10		03/05/15 18:27	75-85-4	
tert-Amylmethyl ether	ND	ug/L	100	34.0	10		03/05/15 18:27	994-05-8	
Benzene	**1260**	ug/L	50.0	17.0	10		03/05/15 18:27	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	321	10		03/05/15 18:27	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1000	577	10		03/05/15 18:27	75-65-0	
tert-Butyl Formate	ND	ug/L	500	73.0	10		03/05/15 18:27	762-75-4	
1,2-Dichloroethane	ND	ug/L	50.0	18.0	10		03/05/15 18:27	107-06-2	
Diisopropyl ether	**18.4J**	ug/L	50.0	17.0	10		03/05/15 18:27	108-20-3	
Ethanol	ND	ug/L	2000	1380	10		03/05/15 18:27	64-17-5	
Ethylbenzene	**113**	ug/L	50.0	16.0	10		03/05/15 18:27	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	36.0	10		03/05/15 18:27	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	50.0	17.0	10		03/05/15 18:27	1634-04-4	
Naphthalene	ND	ug/L	50.0	20.0	10		03/05/15 18:27	91-20-3	
Toluene	**47.5J**	ug/L	50.0	16.0	10		03/05/15 18:27	108-88-3	
Xylene (Total)	ND	ug/L	100	27.0	10		03/05/15 18:27	1330-20-7	
m&p-Xylene	**42.4J**	ug/L	100	31.0	10		03/05/15 18:27	179601-23-1	
o-Xylene	ND	ug/L	50.0	16.0	10		03/05/15 18:27	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		10		03/05/15 18:27	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		10		03/05/15 18:27	17060-07-0	
Toluene-d8 (S)	98	%	70-130		10		03/05/15 18:27	2037-26-5	

Sample: 15729 MW-73 **Lab ID: 92239001017** Collected: 02/24/15 10:45 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/02/15 12:28	03/02/15 23:14	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	91	%	60-140		1	03/02/15 12:28	03/02/15 23:14	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/03/15 18:46	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/03/15 18:46	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/03/15 18:46	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/03/15 18:46	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/03/15 18:46	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/03/15 18:46	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/03/15 18:46	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/03/15 18:46	108-20-3	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92239001

Sample: 15729 MW-73 **Lab ID: 92239001017** Collected: 02/24/15 10:45 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Ethanol	ND	ug/L	200	138	1		03/03/15 18:46	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/03/15 18:46	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/03/15 18:46	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/03/15 18:46	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/03/15 18:46	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/03/15 18:46	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/03/15 18:46	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/03/15 18:46	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/03/15 18:46	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		03/03/15 18:46	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		03/03/15 18:46	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		03/03/15 18:46	2037-26-5	

Sample: 15729 FIELD BLANK #3 **Lab ID: 92239001018** Collected: 02/24/15 16:00 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	03/02/15 12:28	03/02/15 23:34	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	95	%	60-140		1	03/02/15 12:28	03/02/15 23:34	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/03/15 15:19	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/03/15 15:19	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/03/15 15:19	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/03/15 15:19	624-95-3	
tert-Butyl Alcohol	**80.4J**	ug/L	100	57.7	1		03/03/15 15:19	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/03/15 15:19	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/03/15 15:19	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/03/15 15:19	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/03/15 15:19	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/03/15 15:19	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/03/15 15:19	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/03/15 15:19	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/03/15 15:19	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/03/15 15:19	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/03/15 15:19	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/03/15 15:19	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/03/15 15:19	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		03/03/15 15:19	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		03/03/15 15:19	17060-07-0	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92239001

Sample: 15729 FIELD BLANK #3 **Lab ID: 92239001018** Collected: 02/24/15 16:00 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
Toluene-d8 (S)	97	%	70-130		1		03/03/15 15:19	2037-26-5	

Sample: 15729 TRIP BLANK #4 **Lab ID: 92239001019** Collected: 02/24/15 00:00 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/03/15 15:35	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/03/15 15:35	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/03/15 15:35	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/03/15 15:35	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/03/15 15:35	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/03/15 15:35	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/03/15 15:35	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/03/15 15:35	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/03/15 15:35	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/03/15 15:35	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/03/15 15:35	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/03/15 15:35	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/03/15 15:35	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/03/15 15:35	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/03/15 15:35	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/03/15 15:35	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/03/15 15:35	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		03/03/15 15:35	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		03/03/15 15:35	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		03/03/15 15:35	2037-26-5	

Sample: 15729 TRIP BLANK #5 **Lab ID: 92239001020** Collected: 02/24/15 00:00 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/03/15 15:51	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/03/15 15:51	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/03/15 15:51	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/03/15 15:51	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/03/15 15:51	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/03/15 15:51	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/03/15 15:51	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/03/15 15:51	108-20-3	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92239001

Sample: 15729 TRIP BLANK #5 **Lab ID: 92239001020** Collected: 02/24/15 00:00 Received: 02/26/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Ethanol	ND	ug/L	200	138	1		03/03/15 15:51	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/03/15 15:51	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/03/15 15:51	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/03/15 15:51	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/03/15 15:51	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/03/15 15:51	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/03/15 15:51	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/03/15 15:51	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/03/15 15:51	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	106	%	70-130		1		03/03/15 15:51	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		03/03/15 15:51	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		03/03/15 15:51	2037-26-5	

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239001

QC Batch: MSV/30560 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92239001001, 92239001002, 92239001003, 92239001004, 92239001005, 92239001006, 92239001008, 92239001009, 92239001010, 92239001011, 92239001012, 92239001017, 92239001018, 92239001019, 92239001020

METHOD BLANK: 1401030 Matrix: Water
Associated Lab Samples: 92239001001, 92239001002, 92239001003, 92239001004, 92239001005, 92239001006, 92239001008, 92239001009, 92239001010, 92239001011, 92239001012, 92239001017, 92239001018, 92239001019, 92239001020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	03/03/15 15:03	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	03/03/15 15:03	
Benzene	ug/L	ND	5.0	03/03/15 15:03	
Diisopropyl ether	ug/L	ND	5.0	03/03/15 15:03	
Ethanol	ug/L	ND	200	03/03/15 15:03	
Ethyl-tert-butyl ether	ug/L	ND	10.0	03/03/15 15:03	
Ethylbenzene	ug/L	ND	5.0	03/03/15 15:03	
m&p-Xylene	ug/L	ND	10.0	03/03/15 15:03	
Methyl-tert-butyl ether	ug/L	ND	5.0	03/03/15 15:03	
Naphthalene	ug/L	ND	5.0	03/03/15 15:03	
o-Xylene	ug/L	ND	5.0	03/03/15 15:03	
tert-Amyl Alcohol	ug/L	ND	100	03/03/15 15:03	
tert-Amylmethyl ether	ug/L	ND	10.0	03/03/15 15:03	
tert-Butyl Alcohol	ug/L	ND	100	03/03/15 15:03	
tert-Butyl Formate	ug/L	ND	50.0	03/03/15 15:03	
Toluene	ug/L	ND	5.0	03/03/15 15:03	
Xylene (Total)	ug/L	ND	10.0	03/03/15 15:03	
1,2-Dichloroethane-d4 (S)	%	106	70-130	03/03/15 15:03	
4-Bromofluorobenzene (S)	%	98	70-130	03/03/15 15:03	
Toluene-d8 (S)	%	98	70-130	03/03/15 15:03	

LABORATORY CONTROL SAMPLE: 1401031

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	45.9	92	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1080	108	70-130	
Benzene	ug/L	50	48.6	97	70-130	
Diisopropyl ether	ug/L	50	50.3	101	70-130	
Ethanol	ug/L	2000	2090	105	70-130	
Ethyl-tert-butyl ether	ug/L	100	107	107	70-130	
Ethylbenzene	ug/L	50	46.5	93	70-130	
m&p-Xylene	ug/L	100	93.9	94	70-130	
Methyl-tert-butyl ether	ug/L	50	45.8	92	70-130	
Naphthalene	ug/L	50	50.3	101	70-130	
o-Xylene	ug/L	50	47.8	96	70-130	
tert-Amyl Alcohol	ug/L	1000	1040	104	70-130	

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239001

LABORATORY CONTROL SAMPLE: 1401031

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Amylmethyl ether	ug/L	100	96.4	96	70-130	
tert-Butyl Alcohol	ug/L	500	529	106	70-130	
tert-Butyl Formate	ug/L	400	412	103	70-130	
Toluene	ug/L	50	47.0	94	70-130	
Xylene (Total)	ug/L	150	142	94	70-130	
1,2-Dichloroethane-d4 (S)	%			101	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 1401032

Parameter	Units	92239001002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	19.2	96	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	438	110	70-130	
Benzene	ug/L	1.7J	20	23.6	109	70-130	
Diisopropyl ether	ug/L	ND	20	21.2	106	70-130	
Ethanol	ug/L	ND	800	661	83	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	44.1	110	70-130	
Ethylbenzene	ug/L	ND	20	21.5	107	70-130	
m&p-Xylene	ug/L	ND	40	43.4	109	70-130	
Methyl-tert-butyl ether	ug/L	16.8	20	36.9	101	70-130	
Naphthalene	ug/L	ND	20	19.9	99	70-130	
o-Xylene	ug/L	ND	20	21.8	108	70-130	
tert-Amyl Alcohol	ug/L	ND	400	433	107	70-130	
tert-Amylmethyl ether	ug/L	ND	40	41.7	103	70-130	
tert-Butyl Alcohol	ug/L	ND	200	328	164	70-130	M0
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	20.5	102	70-130	
1,2-Dichloroethane-d4 (S)	%				98	70-130	
4-Bromofluorobenzene (S)	%				101	70-130	
Toluene-d8 (S)	%				98	70-130	

SAMPLE DUPLICATE: 1401033

Parameter	Units	92239001004 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	6.2	6.1	1	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	173	156	10	30	
Diisopropyl ether	ug/L	8.4	8.0	5	30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	4.0J	3.9J		30	
m&p-Xylene	ug/L	3.2J	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239001

SAMPLE DUPLICATE: 1401033

Parameter	Units	92239001004 Result	Dup Result	RPD	Max RPD	Qualifiers
Naphthalene	ug/L	3.7J	3.9J		30	
o-Xylene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	790	823	4	30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	97	99	2		
4-Bromofluorobenzene (S)	%	100	97	3		
Toluene-d8 (S)	%	99	99	0		

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239001

QC Batch: MSV/30561 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92239001014

METHOD BLANK: 1401041 Matrix: Water
Associated Lab Samples: 92239001014

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	03/04/15 00:37	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	03/04/15 00:37	
Benzene	ug/L	ND	5.0	03/04/15 00:37	
Diisopropyl ether	ug/L	ND	5.0	03/04/15 00:37	
Ethanol	ug/L	ND	200	03/04/15 00:37	
Ethyl-tert-butyl ether	ug/L	ND	10.0	03/04/15 00:37	
Ethylbenzene	ug/L	ND	5.0	03/04/15 00:37	
m&p-Xylene	ug/L	ND	10.0	03/04/15 00:37	
Methyl-tert-butyl ether	ug/L	ND	5.0	03/04/15 00:37	
Naphthalene	ug/L	ND	5.0	03/04/15 00:37	
o-Xylene	ug/L	ND	5.0	03/04/15 00:37	
tert-Amyl Alcohol	ug/L	ND	100	03/04/15 00:37	
tert-Amylmethyl ether	ug/L	ND	10.0	03/04/15 00:37	
tert-Butyl Alcohol	ug/L	ND	100	03/04/15 00:37	
tert-Butyl Formate	ug/L	ND	50.0	03/04/15 00:37	
Toluene	ug/L	ND	5.0	03/04/15 00:37	
Xylene (Total)	ug/L	ND	10.0	03/04/15 00:37	
1,2-Dichloroethane-d4 (S)	%	104	70-130	03/04/15 00:37	
4-Bromofluorobenzene (S)	%	100	70-130	03/04/15 00:37	
Toluene-d8 (S)	%	98	70-130	03/04/15 00:37	

LABORATORY CONTROL SAMPLE: 1401042

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	47.2	94	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1090	109	70-130	
Benzene	ug/L	50	51.5	103	70-130	
Diisopropyl ether	ug/L	50	52.8	106	70-130	
Ethanol	ug/L	2000	2050	102	70-130	
Ethyl-tert-butyl ether	ug/L	100	110	110	70-130	
Ethylbenzene	ug/L	50	49.2	98	70-130	
m&p-Xylene	ug/L	100	98.8	99	70-130	
Methyl-tert-butyl ether	ug/L	50	49.7	99	70-130	
Naphthalene	ug/L	50	51.1	102	70-130	
o-Xylene	ug/L	50	50.6	101	70-130	
tert-Amyl Alcohol	ug/L	1000	1060	106	70-130	
tert-Amylmethyl ether	ug/L	100	99.3	99	70-130	
tert-Butyl Alcohol	ug/L	500	535	107	70-130	
tert-Butyl Formate	ug/L	400	419	105	70-130	
Toluene	ug/L	50	49.3	99	70-130	

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239001

LABORATORY CONTROL SAMPLE: 1401042

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	149	100	70-130	
1,2-Dichloroethane-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 1401043

Parameter	Units	92239004004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	19.1	95	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	504	126	70-130	
Benzene	ug/L	ND	20	21.8	109	70-130	
Diisopropyl ether	ug/L	ND	20	21.6	108	70-130	
Ethanol	ug/L	ND	800	1390	174	70-130	M0
Ethyl-tert-butyl ether	ug/L	ND	40	44.7	112	70-130	
Ethylbenzene	ug/L	ND	20	21.4	107	70-130	
m&p-Xylene	ug/L	ND	40	42.8	106	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	18.9	94	70-130	
Naphthalene	ug/L	ND	20	23.1	111	70-130	
o-Xylene	ug/L	ND	20	20.9	105	70-130	
tert-Amyl Alcohol	ug/L	ND	400	475	119	70-130	
tert-Amylmethyl ether	ug/L	ND	40	41.6	104	70-130	
tert-Butyl Alcohol	ug/L	ND	200	369	184	70-130	M0
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	21.0	105	70-130	
1,2-Dichloroethane-d4 (S)	%				95	70-130	
4-Bromofluorobenzene (S)	%				99	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 1401044

Parameter	Units	92239004005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239001

SAMPLE DUPLICATE: 1401044

Parameter	Units	92239004005 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	103	106	4		
4-Bromofluorobenzene (S)	%	103	104	1		
Toluene-d8 (S)	%	97	98	1		

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239001

QC Batch: MSV/30578 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92239001007

METHOD BLANK: 1402165 Matrix: Water
Associated Lab Samples: 92239001007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	03/04/15 11:59	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	03/04/15 11:59	
Benzene	ug/L	ND	5.0	03/04/15 11:59	
Diisopropyl ether	ug/L	ND	5.0	03/04/15 11:59	
Ethanol	ug/L	ND	200	03/04/15 11:59	
Ethyl-tert-butyl ether	ug/L	ND	10.0	03/04/15 11:59	
Ethylbenzene	ug/L	ND	5.0	03/04/15 11:59	
m&p-Xylene	ug/L	ND	10.0	03/04/15 11:59	
Methyl-tert-butyl ether	ug/L	ND	5.0	03/04/15 11:59	
Naphthalene	ug/L	ND	5.0	03/04/15 11:59	
o-Xylene	ug/L	ND	5.0	03/04/15 11:59	
tert-Amyl Alcohol	ug/L	ND	100	03/04/15 11:59	
tert-Amylmethyl ether	ug/L	ND	10.0	03/04/15 11:59	
tert-Butyl Alcohol	ug/L	ND	100	03/04/15 11:59	
tert-Butyl Formate	ug/L	ND	50.0	03/04/15 11:59	
Toluene	ug/L	ND	5.0	03/04/15 11:59	
Xylene (Total)	ug/L	ND	10.0	03/04/15 11:59	
1,2-Dichloroethane-d4 (S)	%	100	70-130	03/04/15 11:59	
4-Bromofluorobenzene (S)	%	99	70-130	03/04/15 11:59	
Toluene-d8 (S)	%	98	70-130	03/04/15 11:59	

LABORATORY CONTROL SAMPLE: 1402166

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	42.8	86	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1020	102	70-130	
Benzene	ug/L	50	49.9	100	70-130	
Diisopropyl ether	ug/L	50	47.0	94	70-130	
Ethanol	ug/L	2000	2500	125	70-130	
Ethyl-tert-butyl ether	ug/L	100	98.5	98	70-130	
Ethylbenzene	ug/L	50	49.2	98	70-130	
m&p-Xylene	ug/L	100	98.7	99	70-130	
Methyl-tert-butyl ether	ug/L	50	43.0	86	70-130	
Naphthalene	ug/L	50	49.8	100	70-130	
o-Xylene	ug/L	50	49.3	99	70-130	
tert-Amyl Alcohol	ug/L	1000	1110	111	70-130	
tert-Amylmethyl ether	ug/L	100	101	101	70-130	
tert-Butyl Alcohol	ug/L	500	539	108	70-130	
tert-Butyl Formate	ug/L	400	410	102	70-130	
Toluene	ug/L	50	48.4	97	70-130	

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239001

LABORATORY CONTROL SAMPLE: 1402166

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	148	99	70-130	
1,2-Dichloroethane-d4 (S)	%			92	70-130	
4-Bromofluorobenzene (S)	%			97	70-130	
Toluene-d8 (S)	%			99	70-130	

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239001

QC Batch: MSV/30591 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92239001013, 92239001015, 92239001016

METHOD BLANK: 1403209 Matrix: Water
Associated Lab Samples: 92239001013, 92239001015, 92239001016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	03/05/15 17:18	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	03/05/15 17:18	
Benzene	ug/L	ND	5.0	03/05/15 17:18	
Diisopropyl ether	ug/L	ND	5.0	03/05/15 17:18	
Ethanol	ug/L	ND	200	03/05/15 17:18	
Ethyl-tert-butyl ether	ug/L	ND	10.0	03/05/15 17:18	
Ethylbenzene	ug/L	ND	5.0	03/05/15 17:18	
m&p-Xylene	ug/L	ND	10.0	03/05/15 17:18	
Methyl-tert-butyl ether	ug/L	ND	5.0	03/05/15 17:18	
Naphthalene	ug/L	ND	5.0	03/05/15 17:18	
o-Xylene	ug/L	ND	5.0	03/05/15 17:18	
tert-Amyl Alcohol	ug/L	ND	100	03/05/15 17:18	
tert-Amylmethyl ether	ug/L	ND	10.0	03/05/15 17:18	
tert-Butyl Alcohol	ug/L	ND	100	03/05/15 17:18	
tert-Butyl Formate	ug/L	ND	50.0	03/05/15 17:18	
Toluene	ug/L	ND	5.0	03/05/15 17:18	
Xylene (Total)	ug/L	ND	10.0	03/05/15 17:18	
1,2-Dichloroethane-d4 (S)	%	102	70-130	03/05/15 17:18	
4-Bromofluorobenzene (S)	%	102	70-130	03/05/15 17:18	
Toluene-d8 (S)	%	99	70-130	03/05/15 17:18	

LABORATORY CONTROL SAMPLE: 1403210

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	45.4	91	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	821	82	70-130	
Benzene	ug/L	50	52.0	104	70-130	
Diisopropyl ether	ug/L	50	49.2	98	70-130	
Ethanol	ug/L	2000	1150	57	70-130	L0
Ethyl-tert-butyl ether	ug/L	100	104	104	70-130	
Ethylbenzene	ug/L	50	51.3	103	70-130	
m&p-Xylene	ug/L	100	103	103	70-130	
Methyl-tert-butyl ether	ug/L	50	44.8	90	70-130	
Naphthalene	ug/L	50	48.6	97	70-130	
o-Xylene	ug/L	50	51.4	103	70-130	
tert-Amyl Alcohol	ug/L	1000	863	86	70-130	
tert-Amylmethyl ether	ug/L	100	105	105	70-130	
tert-Butyl Alcohol	ug/L	500	412	82	70-130	
tert-Butyl Formate	ug/L	400	441	110	70-130	
Toluene	ug/L	50	50.2	100	70-130	

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239001

LABORATORY CONTROL SAMPLE: 1403210

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	155	103	70-130	
1,2-Dichloroethane-d4 (S)	%			93	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 1403211

Parameter	Units	92239083011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	18.7	93	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	391	98	70-130	
Benzene	ug/L	ND	20	22.4	112	70-130	
Diisopropyl ether	ug/L	ND	20	19.4	97	70-130	
Ethanol	ug/L	ND	800	945	118	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	41.0	102	70-130	
Ethylbenzene	ug/L	ND	20	21.9	110	70-130	
m&p-Xylene	ug/L	ND	40	44.9	112	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	17.6	88	70-130	
Naphthalene	ug/L	ND	20	20.9	105	70-130	
o-Xylene	ug/L	ND	20	21.8	109	70-130	
tert-Amyl Alcohol	ug/L	ND	400	388	97	70-130	
tert-Amylmethyl ether	ug/L	ND	40	39.4	99	70-130	
tert-Butyl Alcohol	ug/L	ND	200	326	163	70-130	M0
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	21.6	108	70-130	
1,2-Dichloroethane-d4 (S)	%				96	70-130	
4-Bromofluorobenzene (S)	%				100	70-130	
Toluene-d8 (S)	%				98	70-130	

SAMPLE DUPLICATE: 1403212

Parameter	Units	92239083012 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239001

SAMPLE DUPLICATE: 1403212

Parameter	Units	92239083012 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	103	103	0		
4-Bromofluorobenzene (S)	%	107	106	1		
Toluene-d8 (S)	%	101	100	1		

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239001

QC Batch: OEXT/33258 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92239001001, 92239001002, 92239001003, 92239001004, 92239001005, 92239001006, 92239001007, 92239001008, 92239001009, 92239001010, 92239001011, 92239001012, 92239001013, 92239001014, 92239001015, 92239001016, 92239001017, 92239001018

METHOD BLANK: 1400303 Matrix: Water
Associated Lab Samples: 92239001001, 92239001002, 92239001003, 92239001004, 92239001005, 92239001006, 92239001007, 92239001008, 92239001009, 92239001010, 92239001011, 92239001012, 92239001013, 92239001014, 92239001015, 92239001016, 92239001017, 92239001018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.021	03/02/15 13:17	
1-Chloro-2-bromopropane (S)	%	93	60-140	03/02/15 13:17	

LABORATORY CONTROL SAMPLE & LCSD: 1400304 1400305

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.23	0.25	80	86	60-140	8	20	
1-Chloro-2-bromopropane (S)	%				94	93	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1400306 1400307

Parameter	Units	92239001007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.30	0.30	106	106	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						101	101	60-140			

SAMPLE DUPLICATE: 1400308

Parameter	Units	92239001008 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	95	95	0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: HW DETWILER 15729
Pace Project No.: 92239001

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

C3	Relative percent difference between results from each column was greater than 40%. The higher of the two results was reported.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HW DETWILER 15729
Pace Project No.: 92239001

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92239001001	15729 MW-8	EPA 8011	OEXT/33258	EPA 8011	GCSV/20495
92239001002	15729 MW-9	EPA 8011	OEXT/33258	EPA 8011	GCSV/20495
92239001003	15729 MW-10	EPA 8011	OEXT/33258	EPA 8011	GCSV/20495
92239001004	15729 MW-11	EPA 8011	OEXT/33258	EPA 8011	GCSV/20495
92239001005	15729 MW-21	EPA 8011	OEXT/33258	EPA 8011	GCSV/20495
92239001006	15729 MW-22	EPA 8011	OEXT/33258	EPA 8011	GCSV/20495
92239001007	15729 MW-27	EPA 8011	OEXT/33258	EPA 8011	GCSV/20495
92239001008	15729 MW-31	EPA 8011	OEXT/33258	EPA 8011	GCSV/20495
92239001009	15729 MW-42	EPA 8011	OEXT/33258	EPA 8011	GCSV/20495
92239001010	15729 MW-52	EPA 8011	OEXT/33258	EPA 8011	GCSV/20495
92239001011	15729 MW-53	EPA 8011	OEXT/33258	EPA 8011	GCSV/20495
92239001012	15729 MW-53 DUP	EPA 8011	OEXT/33258	EPA 8011	GCSV/20495
92239001013	15729 MW-54	EPA 8011	OEXT/33258	EPA 8011	GCSV/20495
92239001014	15729 MW-55	EPA 8011	OEXT/33258	EPA 8011	GCSV/20495
92239001015	15729 MW-56	EPA 8011	OEXT/33258	EPA 8011	GCSV/20495
92239001016	15729 MW-56 DUP	EPA 8011	OEXT/33258	EPA 8011	GCSV/20495
92239001017	15729 MW-73	EPA 8011	OEXT/33258	EPA 8011	GCSV/20495
92239001018	15729 FIELD BLANK #3	EPA 8011	OEXT/33258	EPA 8011	GCSV/20495
92239001001	15729 MW-8	EPA 8260	MSV/30560		
92239001002	15729 MW-9	EPA 8260	MSV/30560		
92239001003	15729 MW-10	EPA 8260	MSV/30560		
92239001004	15729 MW-11	EPA 8260	MSV/30560		
92239001005	15729 MW-21	EPA 8260	MSV/30560		
92239001006	15729 MW-22	EPA 8260	MSV/30560		
92239001007	15729 MW-27	EPA 8260	MSV/30578		
92239001008	15729 MW-31	EPA 8260	MSV/30560		
92239001009	15729 MW-42	EPA 8260	MSV/30560		
92239001010	15729 MW-52	EPA 8260	MSV/30560		
92239001011	15729 MW-53	EPA 8260	MSV/30560		
92239001012	15729 MW-53 DUP	EPA 8260	MSV/30560		
92239001013	15729 MW-54	EPA 8260	MSV/30591		
92239001014	15729 MW-55	EPA 8260	MSV/30561		
92239001015	15729 MW-56	EPA 8260	MSV/30591		
92239001016	15729 MW-56 DUP	EPA 8260	MSV/30591		
92239001017	15729 MW-73	EPA 8260	MSV/30560		
92239001018	15729 FIELD BLANK #3	EPA 8260	MSV/30560		
92239001019	15729 TRIP BLANK #4	EPA 8260	MSV/30560		
92239001020	15729 TRIP BLANK #5	EPA 8260	MSV/30560		

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Pace Analytical	Sample Condition Upon Receipt (SCUR) Document Number: F-CHR-CS-003-rev.15	Page 1 of 2 Issuing Authority: Pace Huntersville Quality Office

Client Name: Emerald

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☑ Other _____

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals Intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____

Thermometer Used: IR Gun T1401 Type of Ice: Wet Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor T1401 No Correction

Corrected Cooler Temp.: 2.6 °C Biological Tissue is Frozen: Yes No N/A

Date and Initials of person examining contents: AP 2-27-15

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☐No ☑N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☐Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☐Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☐Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:		
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☐Yes ☑No ☐N/A	16.
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: AMB Date: 2-27-15

SRF Review: AMB Date: 2-27-15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Place label here

WO# : 92239001

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 2

1901566

Section A Required Client Information:

Company:	Emerald Inc
Address:	2520 Tahoe Dr. Sumter, SC 29150
Email To:	
Phone:	(803) 469-5454
Fax:	
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Ronny Lowder
Copy To:	
Purchase Order No.:	
Project Name:	HW Detwiler
Project Number:	15729

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	A. Baioni
Pace Profile #:	3876-15

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Brex, N, Mg	1,2 DCA 8260B	Oxy's	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92239001
1	15729 MW-8	WT	G			2/24/15	1130		6				6						X	X	X	X		001
2	MW-9						1105																	2
3	MW-10						0945																	3
4	MW-11						1430																	4
5	MW-21						1000																	5
6	MW-22						1145																	6
7	MW-27						1320																	7
8	MW-31						1300																	8
9	MW-42						1455																	9
10	MW-52						1515																	10
11	MW-53						1410																	11
12	MW-53 DUP						1413		6				6						X	X	X	X		12

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Robbie Robertson	2/25/15	0800	[signature]	2-25-15	1700				
	Beaver			B Moody-Pace	02-26-15	17:20				
	B Moody	02-26-15	19:10	[signature]	2-26-15	18:10	2.6	V	N	V

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robbie Robertson

SIGNATURE of SAMPLER: Robbie Robertson DATE Signed (MM/DD/YY): 2/25/15

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of 2

1901567

Section A Required Client Information:

Company: Emerald Inc.
Address: 2520 Tahoe Dr.
Sumter, SC 29150
Email To:
Phone: (803) 469-5454 Fax:
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: Ronny Lowder
Copy To:
Purchase Order No.:
Project Name: HW Detwiler
Project Number: 15729

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: A. Baioni
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other QT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Btex, N, M	1,2 DCA (8260B)	Oxy's	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	15729 MW-54	WT	G			2/24/15	1340		6				6						X	X	X	X		13
2	MW-55						1215																	14
3	MW-56						1235																	15
4	MW-56 Dup						1238																	16
5	MW-73						1045																	17
6	Field Blank #3						1600		6				6						X	X	X	X		18
7	Trip Blank #4						—		2				2						X	X	X			19
8	Trip Blank #5						—		2				2						X	X	X			20
9																								
10																								
11																								
12																								

92239001

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Robbie Robertson	2/25/15	0800	[signature]	2-25-15	1700				
	Beavers			[signature] Pace	02-26-15	17:20				
	[signature]	02-26-15	18:10	[signature] Pace	2-26-15	18:10	26	V	N	V

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robbie Robertson

SIGNATURE of SAMPLER: Robbie Robertson

DATE Signed (MM/DD/YY): 2/25/15

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

March 06, 2015

Ms. Robbin Boykin
Emerald, Inc.
2520 Tahoe Drive
Sumter, SC 29150

RE: Project: HW Detwiler 15729
Pace Project No.: 92239148

Dear Ms. Boykin:
Enclosed are the analytical results for sample(s) received by the laboratory on February 27, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angela M. Baioni

Angela Baioni
angela.baioni@pacelabs.com
Project Manager

Enclosures

cc: Nicole Christopher, Emerald, Inc.
Mr. Chad McClary, Emerald, Inc.

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: HW Detwiler 15729
Pace Project No.: 92239148

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: HW Detwiler 15729
Pace Project No.: 92239148

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92239148001	15729 MW-2D	Water	02/25/15 16:30	02/27/15 18:10
92239148002	15729 MW-12	Water	02/25/15 15:15	02/27/15 18:10
92239148003	15729 MW-16D	Water	02/25/15 16:00	02/27/15 18:10
92239148004	15729 MW-24	Water	02/25/15 14:55	02/27/15 18:10
92239148005	15729 MW-24DUP	Water	02/25/15 14:58	02/27/15 18:10
92239148006	15729 MW-30	Water	02/25/15 12:20	02/27/15 18:10
92239148007	15729 MW-37	Water	02/25/15 14:10	02/27/15 18:10
92239148008	15729 MW-47	Water	02/25/15 13:35	02/27/15 18:10
92239148009	15729 MW-48	Water	02/25/15 13:10	02/27/15 18:10
92239148010	15729 MW-50	Water	02/25/15 12:50	02/27/15 18:10
92239148011	15729 MW-67	Water	02/25/15 11:45	02/27/15 18:10
92239148012	15729 MW-68	Water	02/25/15 09:40	02/27/15 18:10
92239148013	15729 MW-69	Water	02/25/15 10:10	02/27/15 18:10
92239148014	15729 MW-70	Water	02/25/15 10:40	02/27/15 18:10
92239148015	15729 MW-71	Water	02/25/15 11:10	02/27/15 18:10
92239148016	15729 MW-72	Water	02/25/15 11:40	02/27/15 18:10
92239148017	15729 Field Blank #4	Water	02/25/15 16:45	02/27/15 18:10
92239148018	15729 Trip Blank #6	Water	02/25/15 00:00	02/27/15 18:10

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Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: HW Detwiler 15729
Pace Project No.: 92239148

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92239148001	15729 MW-2D	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239148002	15729 MW-12	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239148003	15729 MW-16D	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239148004	15729 MW-24	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239148005	15729 MW-24DUP	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239148006	15729 MW-30	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239148007	15729 MW-37	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239148008	15729 MW-47	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239148009	15729 MW-48	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239148010	15729 MW-50	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92239148011	15729 MW-67	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239148012	15729 MW-68	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239148013	15729 MW-69	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239148014	15729 MW-70	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239148015	15729 MW-71	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239148016	15729 MW-72	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239148017	15729 Field Blank #4	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239148018	15729 Trip Blank #6	EPA 8260	GAW	20	PASI-C

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92239148

Sample: 15729 MW-2D **Lab ID: 92239148001** Collected: 02/25/15 16:30 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/03/15 15:55	03/04/15 03:34	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	102	%	60-140		1	03/03/15 15:55	03/04/15 03:34	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/05/15 03:05	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/05/15 03:05	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/05/15 03:05	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/05/15 03:05	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/05/15 03:05	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/05/15 03:05	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/05/15 03:05	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/05/15 03:05	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/05/15 03:05	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/05/15 03:05	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/05/15 03:05	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/05/15 03:05	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/05/15 03:05	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/05/15 03:05	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/05/15 03:05	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/05/15 03:05	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/05/15 03:05	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		03/05/15 03:05	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		03/05/15 03:05	17060-07-0	
Toluene-d8 (S)	94	%	70-130		1		03/05/15 03:05	2037-26-5	

Sample: 15729 MW-12 **Lab ID: 92239148002** Collected: 02/25/15 15:15 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/03/15 15:55	03/04/15 03:53	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	99	%	60-140		1	03/03/15 15:55	03/04/15 03:53	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/05/15 03:22	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/05/15 03:22	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/05/15 03:22	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/05/15 03:22	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/05/15 03:22	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/05/15 03:22	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/05/15 03:22	107-06-2	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92239148

Sample: 15729 MW-12 **Lab ID: 92239148002** Collected: 02/25/15 15:15 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/05/15 03:22	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/05/15 03:22	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/05/15 03:22	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/05/15 03:22	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/05/15 03:22	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/05/15 03:22	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/05/15 03:22	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/05/15 03:22	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/05/15 03:22	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/05/15 03:22	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		03/05/15 03:22	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		03/05/15 03:22	17060-07-0	
Toluene-d8 (S)	92	%	70-130		1		03/05/15 03:22	2037-26-5	

Sample: 15729 MW-16D **Lab ID: 92239148003** Collected: 02/25/15 16:00 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/03/15 15:55	03/04/15 04:51	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	111	%	60-140		1	03/03/15 15:55	03/04/15 04:51	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/05/15 03:39	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/05/15 03:39	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/05/15 03:39	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/05/15 03:39	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/05/15 03:39	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/05/15 03:39	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/05/15 03:39	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/05/15 03:39	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/05/15 03:39	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/05/15 03:39	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/05/15 03:39	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/05/15 03:39	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/05/15 03:39	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/05/15 03:39	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/05/15 03:39	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/05/15 03:39	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/05/15 03:39	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		03/05/15 03:39	460-00-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92239148

Sample: 15729 MW-16D **Lab ID: 92239148003** Collected: 02/25/15 16:00 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		03/05/15 03:39	17060-07-0	
Toluene-d8 (S)	92	%	70-130		1		03/05/15 03:39	2037-26-5	

Sample: 15729 MW-24 **Lab ID: 92239148004** Collected: 02/25/15 14:55 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**68.7**	ug/L	2.0	2.0	100	03/03/15 15:55	03/05/15 04:23	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		100	03/03/15 15:55	03/05/15 04:23	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	12500	9600	125		03/05/15 07:02	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1250	425	125		03/05/15 07:02	994-05-8	
Benzene	**4230**	ug/L	625	212	125		03/05/15 07:02	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	12500	4010	125		03/05/15 07:02	624-95-3	
tert-Butyl Alcohol	ND	ug/L	12500	7210	125		03/05/15 07:02	75-65-0	
tert-Butyl Formate	ND	ug/L	6250	912	125		03/05/15 07:02	762-75-4	
1,2-Dichloroethane	ND	ug/L	625	225	125		03/05/15 07:02	107-06-2	
Diisopropyl ether	ND	ug/L	625	212	125		03/05/15 07:02	108-20-3	
Ethanol	ND	ug/L	25000	17200	125		03/05/15 07:02	64-17-5	
Ethylbenzene	**909**	ug/L	625	200	125		03/05/15 07:02	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1250	450	125		03/05/15 07:02	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	625	212	125		03/05/15 07:02	1634-04-4	
Naphthalene	ND	ug/L	625	250	125		03/05/15 07:02	91-20-3	
Toluene	**7590**	ug/L	625	200	125		03/05/15 07:02	108-88-3	
Xylene (Total)	**4010**	ug/L	1250	338	125		03/05/15 07:02	1330-20-7	
m&p-Xylene	**2920**	ug/L	1250	388	125		03/05/15 07:02	179601-23-1	
o-Xylene	**1090**	ug/L	625	200	125		03/05/15 07:02	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		125		03/05/15 07:02	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		125		03/05/15 07:02	17060-07-0	
Toluene-d8 (S)	92	%	70-130		125		03/05/15 07:02	2037-26-5	

Sample: 15729 MW-24DUP **Lab ID: 92239148005** Collected: 02/25/15 14:58 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**64.9**	ug/L	2.0	2.0	100	03/03/15 15:55	03/05/15 04:42	106-93-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92239148

Sample: 15729 MW-24DUP **Lab ID: 92239148005** Collected: 02/25/15 14:58 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		100	03/03/15 15:55	03/05/15 04:42	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**5510**	ug/L	5000	3840	50		03/05/15 09:52	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	170	50		03/05/15 09:52	994-05-8	
Benzene	**4820**	ug/L	250	85.0	50		03/05/15 09:52	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	1600	50		03/05/15 09:52	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	2880	50		03/05/15 09:52	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	365	50		03/05/15 09:52	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	90.0	50		03/05/15 09:52	107-06-2	
Diisopropyl ether	ND	ug/L	250	85.0	50		03/05/15 09:52	108-20-3	
Ethanol	ND	ug/L	10000	6890	50		03/05/15 09:52	64-17-5	
Ethylbenzene	**1130**	ug/L	250	80.0	50		03/05/15 09:52	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	180	50		03/05/15 09:52	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	85.0	50		03/05/15 09:52	1634-04-4	
Naphthalene	**122J**	ug/L	250	100	50		03/05/15 09:52	91-20-3	
Toluene	**8410**	ug/L	250	80.0	50		03/05/15 09:52	108-88-3	
Xylene (Total)	**4820**	ug/L	500	135	50		03/05/15 09:52	1330-20-7	
m&p-Xylene	**3530**	ug/L	500	155	50		03/05/15 09:52	179601-23-1	
o-Xylene	**1290**	ug/L	250	80.0	50		03/05/15 09:52	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		50		03/05/15 09:52	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		50		03/05/15 09:52	17060-07-0	
Toluene-d8 (S)	93	%	70-130		50		03/05/15 09:52	2037-26-5	

Sample: 15729 MW-30 **Lab ID: 92239148006** Collected: 02/25/15 12:20 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/03/15 15:55	03/04/15 06:08	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	112	%	60-140		1	03/03/15 15:55	03/04/15 06:08	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/05/15 03:56	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/05/15 03:56	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/05/15 03:56	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/05/15 03:56	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/05/15 03:56	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/05/15 03:56	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/05/15 03:56	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/05/15 03:56	108-20-3	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92239148

Sample: 15729 MW-30 **Lab ID: 92239148006** Collected: 02/25/15 12:20 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Ethanol	ND	ug/L	200	138	1		03/05/15 03:56	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/05/15 03:56	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/05/15 03:56	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/05/15 03:56	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/05/15 03:56	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/05/15 03:56	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/05/15 03:56	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/05/15 03:56	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/05/15 03:56	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		03/05/15 03:56	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		03/05/15 03:56	17060-07-0	
Toluene-d8 (S)	93	%	70-130		1		03/05/15 03:56	2037-26-5	

Sample: 15729 MW-37 **Lab ID: 92239148007** Collected: 02/25/15 14:10 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**11.6**	ug/L	0.40	0.40	20	03/03/15 15:55	03/05/15 05:01	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		20	03/03/15 15:55	03/05/15 05:01	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**4280**	ug/L	500	384	5		03/05/15 10:08	75-85-4	
tert-Amylmethyl ether	ND	ug/L	50.0	17.0	5		03/05/15 10:08	994-05-8	
Benzene	**2590**	ug/L	125	42.5	25		03/05/15 13:14	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	500	160	5		03/05/15 10:08	624-95-3	
tert-Butyl Alcohol	ND	ug/L	500	288	5		03/05/15 10:08	75-65-0	
tert-Butyl Formate	ND	ug/L	250	36.5	5		03/05/15 10:08	762-75-4	
1,2-Dichloroethane	**57.1**	ug/L	25.0	9.0	5		03/05/15 10:08	107-06-2	
Diisopropyl ether	**80.3**	ug/L	25.0	8.5	5		03/05/15 10:08	108-20-3	
Ethanol	ND	ug/L	1000	689	5		03/05/15 10:08	64-17-5	
Ethylbenzene	**487**	ug/L	25.0	8.0	5		03/05/15 10:08	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	50.0	18.0	5		03/05/15 10:08	637-92-3	
Methyl-tert-butyl ether	**32.4**	ug/L	25.0	8.5	5		03/05/15 10:08	1634-04-4	
Naphthalene	**79.6**	ug/L	25.0	10.0	5		03/05/15 10:08	91-20-3	
Toluene	**1960**	ug/L	125	40.0	25		03/05/15 13:14	108-88-3	
Xylene (Total)	**881**	ug/L	50.0	13.5	5		03/05/15 10:08	1330-20-7	
m&p-Xylene	**617**	ug/L	50.0	15.5	5		03/05/15 10:08	179601-23-1	
o-Xylene	**264**	ug/L	25.0	8.0	5		03/05/15 10:08	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130		5		03/05/15 10:08	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		5		03/05/15 10:08	17060-07-0	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92239148

Sample: 15729 MW-37 **Lab ID: 92239148007** Collected: 02/25/15 14:10 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
Toluene-d8 (S)	94	%	70-130		5		03/05/15 10:08	2037-26-5	

Sample: 15729 MW-47 **Lab ID: 92239148008** Collected: 02/25/15 13:35 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**1.4**	ug/L	0.040	0.040	2	03/03/15 15:55	03/05/15 05:21	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	111	%	60-140		2	03/03/15 15:55	03/05/15 05:21	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**4370**	ug/L	2000	1540	20		03/05/15 10:25	75-85-4	
tert-Amylmethyl ether	ND	ug/L	200	68.0	20		03/05/15 10:25	994-05-8	
Benzene	**2040**	ug/L	100	34.0	20		03/05/15 10:25	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2000	642	20		03/05/15 10:25	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2000	1150	20		03/05/15 10:25	75-65-0	
tert-Butyl Formate	ND	ug/L	1000	146	20		03/05/15 10:25	762-75-4	
1,2-Dichloroethane	**52.2J**	ug/L	100	36.0	20		03/05/15 10:25	107-06-2	
Diisopropyl ether	**73.3J**	ug/L	100	34.0	20		03/05/15 10:25	108-20-3	
Ethanol	ND	ug/L	4000	2760	20		03/05/15 10:25	64-17-5	
Ethylbenzene	**67.3J**	ug/L	100	32.0	20		03/05/15 10:25	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	200	72.0	20		03/05/15 10:25	637-92-3	
Methyl-tert-butyl ether	**45.6J**	ug/L	100	34.0	20		03/05/15 10:25	1634-04-4	
Naphthalene	**51.4J**	ug/L	100	40.0	20		03/05/15 10:25	91-20-3	
Toluene	**130**	ug/L	100	32.0	20		03/05/15 10:25	108-88-3	
Xylene (Total)	ND	ug/L	200	54.0	20		03/05/15 10:25	1330-20-7	
m&p-Xylene	**92.5J**	ug/L	200	62.0	20		03/05/15 10:25	179601-23-1	
o-Xylene	ND	ug/L	100	32.0	20		03/05/15 10:25	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		20		03/05/15 10:25	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		20		03/05/15 10:25	17060-07-0	
Toluene-d8 (S)	92	%	70-130		20		03/05/15 10:25	2037-26-5	

Sample: 15729 MW-48 **Lab ID: 92239148009** Collected: 02/25/15 13:10 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.22**	ug/L	0.020	0.020	1	03/03/15 15:55	03/04/15 07:06	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	104	%	60-140		1	03/03/15 15:55	03/04/15 07:06	301-79-56	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92239148

Sample: 15729 MW-48 **Lab ID: 92239148009** Collected: 02/25/15 13:10 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**3810**	ug/L	100	76.8	1		03/05/15 04:13	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/05/15 04:13	994-05-8	
Benzene	**677**	ug/L	50.0	17.0	10		03/05/15 12:57	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/05/15 04:13	624-95-3	
tert-Butyl Alcohol	**58.4J**	ug/L	100	57.7	1		03/05/15 04:13	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/05/15 04:13	762-75-4	
1,2-Dichloroethane	**54.2**	ug/L	5.0	1.8	1		03/05/15 04:13	107-06-2	
Diisopropyl ether	**70.2**	ug/L	5.0	1.7	1		03/05/15 04:13	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/05/15 04:13	64-17-5	
Ethylbenzene	**38.3**	ug/L	5.0	1.6	1		03/05/15 04:13	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/05/15 04:13	637-92-3	
Methyl-tert-butyl ether	**21.7**	ug/L	5.0	1.7	1		03/05/15 04:13	1634-04-4	
Naphthalene	**49.5**	ug/L	5.0	2.0	1		03/05/15 04:13	91-20-3	
Toluene	**20.3**	ug/L	5.0	1.6	1		03/05/15 04:13	108-88-3	
Xylene (Total)	**11.6**	ug/L	10.0	2.7	1		03/05/15 04:13	1330-20-7	
m&p-Xylene	**11.6**	ug/L	10.0	3.1	1		03/05/15 04:13	179601-23-1	
o-Xylene	**2.7J**	ug/L	5.0	1.6	1		03/05/15 04:13	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130		1		03/05/15 04:13	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		03/05/15 04:13	17060-07-0	
Toluene-d8 (S)	96	%	70-130		1		03/05/15 04:13	2037-26-5	

Sample: 15729 MW-50 **Lab ID: 92239148010** Collected: 02/25/15 12:50 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**17.9**	ug/L	0.50	0.50	25	03/03/15 15:56	03/05/15 05:40	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		25	03/03/15 15:56	03/05/15 05:40	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**1490**	ug/L	1250	960	12.5		03/05/15 23:33	75-85-4	
tert-Amylmethyl ether	ND	ug/L	125	42.5	12.5		03/05/15 23:33	994-05-8	
Benzene	**1060**	ug/L	62.5	21.2	12.5		03/05/15 23:33	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1250	401	12.5		03/05/15 23:33	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1250	721	12.5		03/05/15 23:33	75-65-0	
tert-Butyl Formate	ND	ug/L	625	91.2	12.5		03/05/15 23:33	762-75-4	
1,2-Dichloroethane	ND	ug/L	62.5	22.5	12.5		03/05/15 23:33	107-06-2	
Diisopropyl ether	ND	ug/L	62.5	21.2	12.5		03/05/15 23:33	108-20-3	
Ethanol	ND	ug/L	2500	1720	12.5		03/05/15 23:33	64-17-5	
Ethylbenzene	**372**	ug/L	62.5	20.0	12.5		03/05/15 23:33	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	125	45.0	12.5		03/05/15 23:33	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	62.5	21.2	12.5		03/05/15 23:33	1634-04-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92239148

Sample: 15729 MW-50 **Lab ID: 92239148010** Collected: 02/25/15 12:50 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Naphthalene	**81.0**	ug/L	62.5	25.0	12.5		03/05/15 23:33	91-20-3	
Toluene	**1830**	ug/L	62.5	20.0	12.5		03/05/15 23:33	108-88-3	
Xylene (Total)	**1200**	ug/L	125	33.8	12.5		03/05/15 23:33	1330-20-7	
m&p-Xylene	**812**	ug/L	125	38.8	12.5		03/05/15 23:33	179601-23-1	
o-Xylene	**390**	ug/L	62.5	20.0	12.5		03/05/15 23:33	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		12.5		03/05/15 23:33	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		12.5		03/05/15 23:33	17060-07-0	
Toluene-d8 (S)	98	%	70-130		12.5		03/05/15 23:33	2037-26-5	

Sample: 15729 MW-67 **Lab ID: 92239148011** Collected: 02/25/15 11:45 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/03/15 15:56	03/04/15 07:44	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	114	%	60-140		1	03/03/15 15:56	03/04/15 07:44	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**170**	ug/L	100	76.8	1		03/05/15 04:29	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/05/15 04:29	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/05/15 04:29	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/05/15 04:29	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/05/15 04:29	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/05/15 04:29	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/05/15 04:29	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/05/15 04:29	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/05/15 04:29	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/05/15 04:29	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/05/15 04:29	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/05/15 04:29	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/05/15 04:29	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/05/15 04:29	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/05/15 04:29	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/05/15 04:29	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/05/15 04:29	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		1		03/05/15 04:29	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		03/05/15 04:29	17060-07-0	
Toluene-d8 (S)	92	%	70-130		1		03/05/15 04:29	2037-26-5	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92239148

Sample: 15729 MW-68 **Lab ID: 92239148012** Collected: 02/25/15 09:40 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.062**	ug/L	0.020	0.020	1	03/03/15 15:56	03/04/15 08:04	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	105	%	60-140		1	03/03/15 15:56	03/04/15 08:04	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**1440**	ug/L	400	307	4		03/05/15 10:59	75-85-4	
tert-Amylmethyl ether	ND	ug/L	40.0	13.6	4		03/05/15 10:59	994-05-8	
Benzene	**499**	ug/L	20.0	6.8	4		03/05/15 10:59	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	400	128	4		03/05/15 10:59	624-95-3	
tert-Butyl Alcohol	ND	ug/L	400	231	4		03/05/15 10:59	75-65-0	
tert-Butyl Formate	ND	ug/L	200	29.2	4		03/05/15 10:59	762-75-4	
1,2-Dichloroethane	**17.5J**	ug/L	20.0	7.2	4		03/05/15 10:59	107-06-2	
Diisopropyl ether	**20.3**	ug/L	20.0	6.8	4		03/05/15 10:59	108-20-3	
Ethanol	ND	ug/L	800	551	4		03/05/15 10:59	64-17-5	
Ethylbenzene	**47.9**	ug/L	20.0	6.4	4		03/05/15 10:59	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	40.0	14.4	4		03/05/15 10:59	637-92-3	
Methyl-tert-butyl ether	**39.9**	ug/L	20.0	6.8	4		03/05/15 10:59	1634-04-4	
Naphthalene	ND	ug/L	20.0	8.0	4		03/05/15 10:59	91-20-3	
Toluene	**9.9J**	ug/L	20.0	6.4	4		03/05/15 10:59	108-88-3	
Xylene (Total)	ND	ug/L	40.0	10.8	4		03/05/15 10:59	1330-20-7	
m&p-Xylene	ND	ug/L	40.0	12.4	4		03/05/15 10:59	179601-23-1	
o-Xylene	ND	ug/L	20.0	6.4	4		03/05/15 10:59	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		4		03/05/15 10:59	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		4		03/05/15 10:59	17060-07-0	
Toluene-d8 (S)	93	%	70-130		4		03/05/15 10:59	2037-26-5	

Sample: 15729 MW-69 **Lab ID: 92239148013** Collected: 02/25/15 10:10 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/03/15 15:56	03/04/15 08:23	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	102	%	60-140		1	03/03/15 15:56	03/04/15 08:23	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**141**	ug/L	100	76.8	1		03/05/15 04:46	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/05/15 04:46	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/05/15 04:46	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/05/15 04:46	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/05/15 04:46	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/05/15 04:46	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/05/15 04:46	107-06-2	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92239148

Sample: 15729 MW-69 **Lab ID: 92239148013** Collected: 02/25/15 10:10 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/05/15 04:46	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/05/15 04:46	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/05/15 04:46	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/05/15 04:46	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/05/15 04:46	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/05/15 04:46	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/05/15 04:46	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/05/15 04:46	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/05/15 04:46	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/05/15 04:46	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		03/05/15 04:46	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		03/05/15 04:46	17060-07-0	
Toluene-d8 (S)	93	%	70-130		1		03/05/15 04:46	2037-26-5	

Sample: 15729 MW-70 **Lab ID: 92239148014** Collected: 02/25/15 10:40 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.18**	ug/L	0.020	0.020	1	03/03/15 15:56	03/04/15 08:43	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	94	%	60-140		1	03/03/15 15:56	03/04/15 08:43	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**369**	ug/L	100	76.8	1		03/05/15 05:54	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/05/15 05:54	994-05-8	
Benzene	**92.5**	ug/L	5.0	1.7	1		03/05/15 05:54	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/05/15 05:54	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/05/15 05:54	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/05/15 05:54	762-75-4	
1,2-Dichloroethane	**10.2**	ug/L	5.0	1.8	1		03/05/15 05:54	107-06-2	
Diisopropyl ether	**8.9**	ug/L	5.0	1.7	1		03/05/15 05:54	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/05/15 05:54	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/05/15 05:54	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/05/15 05:54	637-92-3	
Methyl-tert-butyl ether	**3.8J**	ug/L	5.0	1.7	1		03/05/15 05:54	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/05/15 05:54	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/05/15 05:54	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/05/15 05:54	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/05/15 05:54	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/05/15 05:54	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		03/05/15 05:54	460-00-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92239148

Sample: 15729 MW-70 **Lab ID: 92239148014** Collected: 02/25/15 10:40 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		03/05/15 05:54	17060-07-0	
Toluene-d8 (S)	90	%	70-130		1		03/05/15 05:54	2037-26-5	

Sample: 15729 MW-71 **Lab ID: 92239148015** Collected: 02/25/15 11:10 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.11**	ug/L	0.020	0.020	1	03/03/15 15:56	03/04/15 09:02	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	94	%	60-140		1	03/03/15 15:56	03/04/15 09:02	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/05/15 05:03	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/05/15 05:03	994-05-8	
Benzene	**23.1**	ug/L	5.0	1.7	1		03/05/15 05:03	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/05/15 05:03	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/05/15 05:03	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/05/15 05:03	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/05/15 05:03	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/05/15 05:03	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/05/15 05:03	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/05/15 05:03	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/05/15 05:03	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/05/15 05:03	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/05/15 05:03	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/05/15 05:03	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/05/15 05:03	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/05/15 05:03	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/05/15 05:03	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		03/05/15 05:03	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		03/05/15 05:03	17060-07-0	
Toluene-d8 (S)	92	%	70-130		1		03/05/15 05:03	2037-26-5	

Sample: 15729 MW-72 **Lab ID: 92239148016** Collected: 02/25/15 11:40 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/03/15 15:56	03/04/15 09:21	106-93-4	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92239148

Sample: 15729 MW-72 **Lab ID: 92239148016** Collected: 02/25/15 11:40 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
Surrogates									
1-Chloro-2-bromopropane (S)	97	%	60-140		1	03/03/15 15:56	03/04/15 09:21	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/05/15 05:37	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/05/15 05:37	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/05/15 05:37	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/05/15 05:37	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/05/15 05:37	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/05/15 05:37	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/05/15 05:37	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/05/15 05:37	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/05/15 05:37	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/05/15 05:37	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/05/15 05:37	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/05/15 05:37	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/05/15 05:37	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/05/15 05:37	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/05/15 05:37	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/05/15 05:37	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/05/15 05:37	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		03/05/15 05:37	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		03/05/15 05:37	17060-07-0	
Toluene-d8 (S)	92	%	70-130		1		03/05/15 05:37	2037-26-5	

Sample: 15729 Field Blank #4 **Lab ID: 92239148017** Collected: 02/25/15 16:45 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/03/15 15:56	03/04/15 09:41	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	101	%	60-140		1	03/03/15 15:56	03/04/15 09:41	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/05/15 01:57	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/05/15 01:57	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/05/15 01:57	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/05/15 01:57	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/05/15 01:57	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/05/15 01:57	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/05/15 01:57	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/05/15 01:57	108-20-3	

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ANALYTICAL RESULTS

Project: HW Detwiler 15729
Pace Project No.: 92239148

Sample: 15729 Field Blank #4 **Lab ID: 92239148017** Collected: 02/25/15 16:45 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Ethanol	ND	ug/L	200	138	1		03/05/15 01:57	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/05/15 01:57	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/05/15 01:57	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/05/15 01:57	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/05/15 01:57	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/05/15 01:57	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/05/15 01:57	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/05/15 01:57	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/05/15 01:57	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		03/05/15 01:57	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		1		03/05/15 01:57	17060-07-0	
Toluene-d8 (S)	93	%	70-130		1		03/05/15 01:57	2037-26-5	

Sample: 15729 Trip Blank #6 **Lab ID: 92239148018** Collected: 02/25/15 00:00 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/05/15 02:14	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/05/15 02:14	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/05/15 02:14	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/05/15 02:14	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/05/15 02:14	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/05/15 02:14	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/05/15 02:14	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/05/15 02:14	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/05/15 02:14	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/05/15 02:14	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/05/15 02:14	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/05/15 02:14	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/05/15 02:14	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/05/15 02:14	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/05/15 02:14	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/05/15 02:14	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/05/15 02:14	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		03/05/15 02:14	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		03/05/15 02:14	17060-07-0	
Toluene-d8 (S)	93	%	70-130		1		03/05/15 02:14	2037-26-5	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92239148

QC Batch: MSV/30583 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92239148001, 92239148002, 92239148003, 92239148004, 92239148006, 92239148009, 92239148011, 92239148013, 92239148014, 92239148015, 92239148016, 92239148017, 92239148018

METHOD BLANK: 1402780 Matrix: Water
Associated Lab Samples: 92239148001, 92239148002, 92239148003, 92239148004, 92239148006, 92239148009, 92239148011, 92239148013, 92239148014, 92239148015, 92239148016, 92239148017, 92239148018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	03/05/15 00:50	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	03/05/15 00:50	
Benzene	ug/L	ND	5.0	03/05/15 00:50	
Diisopropyl ether	ug/L	ND	5.0	03/05/15 00:50	
Ethanol	ug/L	183J	200	03/05/15 00:50	
Ethyl-tert-butyl ether	ug/L	ND	10.0	03/05/15 00:50	
Ethylbenzene	ug/L	ND	5.0	03/05/15 00:50	
m&p-Xylene	ug/L	ND	10.0	03/05/15 00:50	
Methyl-tert-butyl ether	ug/L	ND	5.0	03/05/15 00:50	
Naphthalene	ug/L	ND	5.0	03/05/15 00:50	
o-Xylene	ug/L	ND	5.0	03/05/15 00:50	
tert-Amyl Alcohol	ug/L	ND	100	03/05/15 00:50	
tert-Amylmethyl ether	ug/L	ND	10.0	03/05/15 00:50	
tert-Butyl Alcohol	ug/L	ND	100	03/05/15 00:50	
tert-Butyl Formate	ug/L	ND	50.0	03/05/15 00:50	
Toluene	ug/L	ND	5.0	03/05/15 00:50	
Xylene (Total)	ug/L	ND	10.0	03/05/15 00:50	
1,2-Dichloroethane-d4 (S)	%	100	70-130	03/05/15 00:50	
4-Bromofluorobenzene (S)	%	100	70-130	03/05/15 00:50	
Toluene-d8 (S)	%	93	70-130	03/05/15 00:50	

LABORATORY CONTROL SAMPLE: 1402781

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	49.7	99	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	714	71	70-130	
Benzene	ug/L	50	48.1	96	70-130	
Diisopropyl ether	ug/L	50	50.7	101	70-130	
Ethanol	ug/L	2000	2120	106	70-130	
Ethyl-tert-butyl ether	ug/L	100	99.0	99	70-130	
Ethylbenzene	ug/L	50	46.3	93	70-130	
m&p-Xylene	ug/L	100	92.6	93	70-130	
Methyl-tert-butyl ether	ug/L	50	43.8	88	70-130	
Naphthalene	ug/L	50	40.7	81	70-130	
o-Xylene	ug/L	50	44.7	89	70-130	
tert-Amyl Alcohol	ug/L	1000	775	78	70-130	
tert-Amylmethyl ether	ug/L	100	87.9	88	70-130	
tert-Butyl Alcohol	ug/L	500	411	82	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92239148

LABORATORY CONTROL SAMPLE: 1402781

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Formate	ug/L	400	296	74	70-130	
Toluene	ug/L	50	46.4	93	70-130	
Xylene (Total)	ug/L	150	137	91	70-130	
1,2-Dichloroethane-d4 (S)	%			95	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE SAMPLE: 1402783

Parameter	Units	92239148016 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	21.5	108	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	262	65	70-130	M0
Benzene	ug/L	ND	20	21.6	108	70-130	
Diisopropyl ether	ug/L	ND	20	19.9	99	70-130	
Ethanol	ug/L	ND	800	796	100	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	40.6	102	70-130	
Ethylbenzene	ug/L	ND	20	20.5	102	70-130	
m&p-Xylene	ug/L	ND	40	41.4	104	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	17.3	87	70-130	
Naphthalene	ug/L	ND	20	14.5	73	70-130	
o-Xylene	ug/L	ND	20	18.9	94	70-130	
tert-Amyl Alcohol	ug/L	ND	400	295	74	70-130	
tert-Amylmethyl ether	ug/L	ND	40	35.1	88	70-130	
tert-Butyl Alcohol	ug/L	ND	200	242	121	70-130	
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	19.8	99	70-130	
1,2-Dichloroethane-d4 (S)	%				92	70-130	
4-Bromofluorobenzene (S)	%				97	70-130	
Toluene-d8 (S)	%				93	70-130	

SAMPLE DUPLICATE: 1402782

Parameter	Units	92239148015 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	23.1	15.4	40	30	R1
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92239148

SAMPLE DUPLICATE: 1402782

Parameter	Units	92239148015 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	100	98	2		
4-Bromofluorobenzene (S)	%	98	102	4		
Toluene-d8 (S)	%	92	92	0		

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92239148

QC Batch: MSV/30585 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92239148005, 92239148007, 92239148008, 92239148012

METHOD BLANK: 1402818 Matrix: Water
Associated Lab Samples: 92239148005, 92239148007, 92239148008, 92239148012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	03/05/15 01:07	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	03/05/15 01:07	
Benzene	ug/L	ND	5.0	03/05/15 01:07	
Diisopropyl ether	ug/L	ND	5.0	03/05/15 01:07	
Ethanol	ug/L	ND	200	03/05/15 01:07	
Ethyl-tert-butyl ether	ug/L	ND	10.0	03/05/15 01:07	
Ethylbenzene	ug/L	ND	5.0	03/05/15 01:07	
m&p-Xylene	ug/L	ND	10.0	03/05/15 01:07	
Methyl-tert-butyl ether	ug/L	ND	5.0	03/05/15 01:07	
Naphthalene	ug/L	ND	5.0	03/05/15 01:07	
o-Xylene	ug/L	ND	5.0	03/05/15 01:07	
tert-Amyl Alcohol	ug/L	ND	100	03/05/15 01:07	
tert-Amylmethyl ether	ug/L	ND	10.0	03/05/15 01:07	
tert-Butyl Alcohol	ug/L	ND	100	03/05/15 01:07	
tert-Butyl Formate	ug/L	ND	50.0	03/05/15 01:07	
Toluene	ug/L	ND	5.0	03/05/15 01:07	
Xylene (Total)	ug/L	ND	10.0	03/05/15 01:07	
1,2-Dichloroethane-d4 (S)	%	98	70-130	03/05/15 01:07	
4-Bromofluorobenzene (S)	%	103	70-130	03/05/15 01:07	
Toluene-d8 (S)	%	93	70-130	03/05/15 01:07	

LABORATORY CONTROL SAMPLE: 1402819

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	49.5	99	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	733	73	70-130	
Benzene	ug/L	50	49.3	99	70-130	
Diisopropyl ether	ug/L	50	51.0	102	70-130	
Ethanol	ug/L	2000	1990	99	70-130	
Ethyl-tert-butyl ether	ug/L	100	99.5	99	70-130	
Ethylbenzene	ug/L	50	46.4	93	70-130	
m&p-Xylene	ug/L	100	93.8	94	70-130	
Methyl-tert-butyl ether	ug/L	50	44.2	88	70-130	
Naphthalene	ug/L	50	41.7	83	70-130	
o-Xylene	ug/L	50	45.7	91	70-130	
tert-Amyl Alcohol	ug/L	1000	815	81	70-130	
tert-Amylmethyl ether	ug/L	100	91.2	91	70-130	
tert-Butyl Alcohol	ug/L	500	419	84	70-130	
tert-Butyl Formate	ug/L	400	297	74	70-130	
Toluene	ug/L	50	47.1	94	70-130	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92239148

LABORATORY CONTROL SAMPLE: 1402819

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	139	93	70-130	
1,2-Dichloroethane-d4 (S)	%			94	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE SAMPLE: 1402821

Parameter	Units	92239149008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	20.8	104	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	214	53	70-130	M1
Benzene	ug/L	ND	20	20.3	102	70-130	
Diisopropyl ether	ug/L	ND	20	19.0	95	70-130	
Ethanol	ug/L	ND	800	553	69	70-130	M1
Ethyl-tert-butyl ether	ug/L	ND	40	37.2	93	70-130	
Ethylbenzene	ug/L	ND	20	19.9	100	70-130	
m&p-Xylene	ug/L	ND	40	40.2	101	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	16.0	80	70-130	
Naphthalene	ug/L	ND	20	13.1	66	70-130	M1
o-Xylene	ug/L	ND	20	18.2	91	70-130	
tert-Amyl Alcohol	ug/L	ND	400	270	67	70-130	M1
tert-Amylmethyl ether	ug/L	ND	40	33.9	85	70-130	
tert-Butyl Alcohol	ug/L	ND	200	190	95	70-130	
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	19.5	98	70-130	
1,2-Dichloroethane-d4 (S)	%				94	70-130	
4-Bromofluorobenzene (S)	%				96	70-130	
Toluene-d8 (S)	%				94	70-130	

SAMPLE DUPLICATE: 1402820

Parameter	Units	92239149007 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92239148

SAMPLE DUPLICATE: 1402820

Parameter	Units	92239149007 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	101	99	1		
4-Bromofluorobenzene (S)	%	103	102	1		
Toluene-d8 (S)	%	92	92	1		

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92239148

QC Batch: MSV/30600
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV SC
Associated Lab Samples: 92239148010

METHOD BLANK: 1404042
Matrix: Water
Associated Lab Samples: 92239148010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	03/05/15 17:35	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	03/05/15 17:35	
Benzene	ug/L	ND	5.0	03/05/15 17:35	
Diisopropyl ether	ug/L	ND	5.0	03/05/15 17:35	
Ethanol	ug/L	ND	200	03/05/15 17:35	
Ethyl-tert-butyl ether	ug/L	ND	10.0	03/05/15 17:35	
Ethylbenzene	ug/L	ND	5.0	03/05/15 17:35	
m&p-Xylene	ug/L	ND	10.0	03/05/15 17:35	
Methyl-tert-butyl ether	ug/L	ND	5.0	03/05/15 17:35	
Naphthalene	ug/L	ND	5.0	03/05/15 17:35	
o-Xylene	ug/L	ND	5.0	03/05/15 17:35	
tert-Amyl Alcohol	ug/L	ND	100	03/05/15 17:35	
tert-Amylmethyl ether	ug/L	ND	10.0	03/05/15 17:35	
tert-Butyl Alcohol	ug/L	ND	100	03/05/15 17:35	
tert-Butyl Formate	ug/L	ND	50.0	03/05/15 17:35	
Toluene	ug/L	ND	5.0	03/05/15 17:35	
Xylene (Total)	ug/L	ND	10.0	03/05/15 17:35	
1,2-Dichloroethane-d4 (S)	%	101	70-130	03/05/15 17:35	
4-Bromofluorobenzene (S)	%	101	70-130	03/05/15 17:35	
Toluene-d8 (S)	%	99	70-130	03/05/15 17:35	

LABORATORY CONTROL SAMPLE: 1404043

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	45.0	90	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	819	82	70-130	
Benzene	ug/L	50	50.2	100	70-130	
Diisopropyl ether	ug/L	50	48.9	98	70-130	
Ethanol	ug/L	2000	1140	57	70-130	L3
Ethyl-tert-butyl ether	ug/L	100	105	105	70-130	
Ethylbenzene	ug/L	50	50.2	100	70-130	
m&p-Xylene	ug/L	100	101	101	70-130	
Methyl-tert-butyl ether	ug/L	50	45.1	90	70-130	
Naphthalene	ug/L	50	48.4	97	70-130	
o-Xylene	ug/L	50	50.6	101	70-130	
tert-Amyl Alcohol	ug/L	1000	860	86	70-130	
tert-Amylmethyl ether	ug/L	100	106	106	70-130	
tert-Butyl Alcohol	ug/L	500	410	82	70-130	
tert-Butyl Formate	ug/L	400	442	110	70-130	
Toluene	ug/L	50	48.6	97	70-130	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92239148

LABORATORY CONTROL SAMPLE: 1404043

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	152	101	70-130	
1,2-Dichloroethane-d4 (S)	%			93	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE SAMPLE: 1404053

Parameter	Units	92239146015 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	18.0	90	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	399	100	70-130	
Benzene	ug/L	ND	20	21.8	109	70-130	
Diisopropyl ether	ug/L	ND	20	19.0	95	70-130	
Ethanol	ug/L	ND	800	1020	121	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	40.1	100	70-130	
Ethylbenzene	ug/L	ND	20	21.2	106	70-130	
m&p-Xylene	ug/L	ND	40	43.1	107	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	17.3	87	70-130	
Naphthalene	ug/L	ND	20	20.8	104	70-130	
o-Xylene	ug/L	ND	20	20.6	103	70-130	
tert-Amyl Alcohol	ug/L	ND	400	391	98	70-130	
tert-Amylmethyl ether	ug/L	ND	40	39.0	97	70-130	
tert-Butyl Alcohol	ug/L	ND	200	298	149	70-130	M0
tert-Butyl Formate	ug/L	ND	160	ND	1	70-130	P5
Toluene	ug/L	2.1J	20	22.8	103	70-130	
1,2-Dichloroethane-d4 (S)	%				95	70-130	
4-Bromofluorobenzene (S)	%				100	70-130	
Toluene-d8 (S)	%				98	70-130	

SAMPLE DUPLICATE: 1404054

Parameter	Units	92239146016 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92239148

SAMPLE DUPLICATE: 1404054

Parameter	Units	92239146016 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	103	103	0		
4-Bromofluorobenzene (S)	%	108	107	0		
Toluene-d8 (S)	%	99	101	1		

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QUALITY CONTROL DATA

Project: HW Detwiler 15729
Pace Project No.: 92239148

QC Batch: OEXT/33292 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92239148001, 92239148002, 92239148003, 92239148004, 92239148005, 92239148006, 92239148007, 92239148008, 92239148009, 92239148010, 92239148011, 92239148012, 92239148013, 92239148014, 92239148015, 92239148016, 92239148017

METHOD BLANK: 1401103 Matrix: Water
Associated Lab Samples: 92239148001, 92239148002, 92239148003, 92239148004, 92239148005, 92239148006, 92239148007, 92239148008, 92239148009, 92239148010, 92239148011, 92239148012, 92239148013, 92239148014, 92239148015, 92239148016, 92239148017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	03/04/15 01:57	
1-Chloro-2-bromopropane (S)	%	99	60-140	03/04/15 01:57	

LABORATORY CONTROL SAMPLE & LCSD: 1401104 1401105

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.3	0.30	0.34	98	118	60-140	13	20	
1-Chloro-2-bromopropane (S)	%				101	120	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1401106 1401107

Parameter	Units	92239148002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.28	0.28	100	100	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						100	100	60-140			

SAMPLE DUPLICATE: 1401108

Parameter	Units	92239148003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	111	120	6		

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QUALIFIERS

Project: HW Detwiler 15729
Pace Project No.: 92239148

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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TNI - The NELAC Institute.

LABORATORIES

PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.
R1	RPD value was outside control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HW Detwiler 15729
Pace Project No.: 92239148

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92239148001	15729 MW-2D	EPA 8011	OEXT/33292	EPA 8011	GCSV/20512
92239148002	15729 MW-12	EPA 8011	OEXT/33292	EPA 8011	GCSV/20512
92239148003	15729 MW-16D	EPA 8011	OEXT/33292	EPA 8011	GCSV/20512
92239148004	15729 MW-24	EPA 8011	OEXT/33292	EPA 8011	GCSV/20512
92239148005	15729 MW-24DUP	EPA 8011	OEXT/33292	EPA 8011	GCSV/20512
92239148006	15729 MW-30	EPA 8011	OEXT/33292	EPA 8011	GCSV/20512
92239148007	15729 MW-37	EPA 8011	OEXT/33292	EPA 8011	GCSV/20512
92239148008	15729 MW-47	EPA 8011	OEXT/33292	EPA 8011	GCSV/20512
92239148009	15729 MW-48	EPA 8011	OEXT/33292	EPA 8011	GCSV/20512
92239148010	15729 MW-50	EPA 8011	OEXT/33292	EPA 8011	GCSV/20512
92239148011	15729 MW-67	EPA 8011	OEXT/33292	EPA 8011	GCSV/20512
92239148012	15729 MW-68	EPA 8011	OEXT/33292	EPA 8011	GCSV/20512
92239148013	15729 MW-69	EPA 8011	OEXT/33292	EPA 8011	GCSV/20512
92239148014	15729 MW-70	EPA 8011	OEXT/33292	EPA 8011	GCSV/20512
92239148015	15729 MW-71	EPA 8011	OEXT/33292	EPA 8011	GCSV/20512
92239148016	15729 MW-72	EPA 8011	OEXT/33292	EPA 8011	GCSV/20512
92239148017	15729 Field Blank #4	EPA 8011	OEXT/33292	EPA 8011	GCSV/20512
92239148001	15729 MW-2D	EPA 8260	MSV/30583		
92239148002	15729 MW-12	EPA 8260	MSV/30583		
92239148003	15729 MW-16D	EPA 8260	MSV/30583		
92239148004	15729 MW-24	EPA 8260	MSV/30583		
92239148005	15729 MW-24DUP	EPA 8260	MSV/30585		
92239148006	15729 MW-30	EPA 8260	MSV/30583		
92239148007	15729 MW-37	EPA 8260	MSV/30585		
92239148008	15729 MW-47	EPA 8260	MSV/30585		
92239148009	15729 MW-48	EPA 8260	MSV/30583		
92239148010	15729 MW-50	EPA 8260	MSV/30600		
92239148011	15729 MW-67	EPA 8260	MSV/30583		
92239148012	15729 MW-68	EPA 8260	MSV/30585		
92239148013	15729 MW-69	EPA 8260	MSV/30583		
92239148014	15729 MW-70	EPA 8260	MSV/30583		
92239148015	15729 MW-71	EPA 8260	MSV/30583		
92239148016	15729 MW-72	EPA 8260	MSV/30583		
92239148017	15729 Field Blank #4	EPA 8260	MSV/30583		
92239148018	15729 Trip Blank #6	EPA 8260	MSV/30583		

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Pace Analytical	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: September 22, 2014 Page 1 of 2
	Document Number: F-CHR-CS-003-rev.15	Issuing Authority: Pace Huntersville Quality Office

Client Name: Encell

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other _____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☑ yes ☐ no

Optional: Proj.Due Date: Proj.Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other _____

Thermometer Used: IR Gun T1401 Type of Ice: Wet Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor T1401 No Correction

Corrected Cooler Temp.: 3.7 °C Biological Tissue is Frozen: Yes No N/A

Temp should be above freezing to 6°C Comments:

Date and initials of person examining contents: AMB 2/27/15

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:		
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes ☐No	
Samples checked for dechlorination:	☐Yes ☑No ☐N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☑Yes ☐No ☐N/A	16.
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: AMB Date: 2-27-15

SRF Review: AMB Date: 2-27-15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Place label here

WO# : 92239148

92239148

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 2

1901569

Section A Required Client Information:

Company:	Emerald Inc.
Address:	2520 Tahoe Dr. Sumter, SC 29150
Email To:	
Phone: (803) 469-5454	Fax:
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Ronny Lowder
Copy To:	
Purchase Order No.:	
Project Name:	HW Detwiler
Project Number:	15729

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	A. Baioni
Pace Profile #:	3876-15

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Brex, N, Mi	1,2 DCA 8260B	Oxy's	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	15729 MW-2D	SOI	G			2/25/15	1630		6				6						X	X	X	X		001
2	MW-12						1515																	002
3	MW-16D						1600																	003
4	MW-24						1455																	004
5	MW-24 Dup						1458																	005
6	MW-30						1220																	006
7	MW-37						1410																	007
8	MW-47						1335																	008
9	MW-48						1310																	009
10	MW-50						1250																	010
11	MW-67						1145																	011
12	MW-68						0940		6				6						X	X	X	X		012

92239148

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Robbie Robertson	2/26/15	0800	[signature]	2-26-15	1645				
	[signature]	2/27/15	1624	[signature]	2-27	1624				
	[signature]	2/27/15	1810	[signature]	2/27	1810	3.2	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robbie Robertson

SIGNATURE of SAMPLER: Robbie Robertson

DATE Signed (MM/DD/YY): 2/26/15

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of 2

1901570

Section A Required Client Information:

Company:	Emerald Inc.
Address:	2520 Tahoe Dr. Sumter, SC 29150
Email To:	
Phone:	(803) 469-5854
Fax:	
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Ronny Lowder
Copy To:	
Purchase Order No.:	
Project Name:	HW Detwiler
Project Number:	15729

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	A. Baioni
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Bromide, N,M	1,2 DCA 8260B	Oxy's	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92239148
1	15729 MW-69	WT	G			2/25/15	1010		6				6						X	X	X	X		013
2	MW-70						1040																	014
3	MW-71						1110																	015
4	MW-72						1140																	016
5	Field Blank #4						1645		6				6						X	X	X	X		017
6	Trip Blank #6						—		2				2						X	X	X			018
7																								
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Robbie Robertson	2/26/16	0800	[signature]	2-26-15	1645				
		2/27	1624	[signature]	2-27-15	1624				
	[signature] Pace	2/27/15	1810	[signature]	2-27/15	1810	3.2	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robbie Robertson

SIGNATURE of SAMPLER: Robbie Robertson DATE Signed (MM/DD/YY): 2/26/16

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

March 06, 2015

Ms. Robbin Boykin
Emerald, Inc.
2520 Tahoe Drive
Sumter, SC 29150

RE: Project: HW DETWILER 15729
Pace Project No.: 92239143

Dear Ms. Boykin:
Enclosed are the analytical results for sample(s) received by the laboratory on February 27, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Angela M. Baioni

Angela Baioni
angela.baioni@pacelabs.com
Project Manager

Enclosures

cc: Nicole Christopher, Emerald, Inc.
Mr. Chad McClary, Emerald, Inc.

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: HW DETWILER 15729
Pace Project No.: 92239143

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

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SAMPLE SUMMARY

Project: HW DETWILER 15729
Pace Project No.: 92239143

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92239143002	15729 MW-3	Water	02/26/15 10:50	02/27/15 18:10
92239143003	15729 MW-4	Water	02/26/15 10:20	02/27/15 18:10
92239143004	15729 MW-29	Water	02/26/15 10:40	02/27/15 18:10
92239143005	15729 MW-61	Water	02/26/15 10:10	02/27/15 18:10
92239143006	15729 MW-61DUP	Water	02/26/15 10:13	02/27/15 18:10
92239143007	15729 MW-62	Water	02/26/15 09:40	02/27/15 18:10
92239143008	15729 FIELD BLANK 5	Water	02/26/15 11:20	02/27/15 18:10
92239143009	15729 TRIP BLANK 7	Water	02/26/15 00:00	02/27/15 18:10

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SAMPLE ANALYTE COUNT

Project: HW DETWILER 15729
Pace Project No.: 92239143

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92239143002	15729 MW-3	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92239143003	15729 MW-4	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239143004	15729 MW-29	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239143005	15729 MW-61	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239143006	15729 MW-61DUP	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239143007	15729 MW-62	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239143008	15729 FIELD BLANK 5	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92239143009	15729 TRIP BLANK 7	EPA 8260	GAW	20	PASI-C

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92239143

Sample: 15729 MW-3 **Lab ID: 92239143002** Collected: 02/26/15 10:50 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/03/15 15:48	03/04/15 00:01	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	91	%	60-140		1	03/03/15 15:48	03/04/15 00:01	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/06/15 14:38	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/06/15 14:38	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/06/15 14:38	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/06/15 14:38	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/06/15 14:38	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/06/15 14:38	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/06/15 14:38	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/06/15 14:38	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/06/15 14:38	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/06/15 14:38	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/06/15 14:38	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/06/15 14:38	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/06/15 14:38	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/06/15 14:38	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/06/15 14:38	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/06/15 14:38	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/06/15 14:38	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		03/06/15 14:38	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		03/06/15 14:38	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		03/06/15 14:38	2037-26-5	

Sample: 15729 MW-4 **Lab ID: 92239143003** Collected: 02/26/15 10:20 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.044**	ug/L	0.019	0.019	1	03/03/15 15:48	03/04/15 00:21	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	100	%	60-140		1	03/03/15 15:48	03/04/15 00:21	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/05/15 19:25	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/05/15 19:25	994-05-8	
Benzene	**39.4**	ug/L	5.0	1.7	1		03/05/15 19:25	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/05/15 19:25	624-95-3	L2
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/05/15 19:25	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/05/15 19:25	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/05/15 19:25	107-06-2	

REPORT OF LABORATORY ANALYSIS

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Huntersville, NC 28078
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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92239143

Sample: 15729 MW-4 **Lab ID: 92239143003** Collected: 02/26/15 10:20 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/05/15 19:25	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/05/15 19:25	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/05/15 19:25	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/05/15 19:25	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/05/15 19:25	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/05/15 19:25	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/05/15 19:25	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/05/15 19:25	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/05/15 19:25	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/05/15 19:25	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		03/05/15 19:25	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		03/05/15 19:25	17060-07-0	
Toluene-d8 (S)	93	%	70-130		1		03/05/15 19:25	2037-26-5	

Sample: 15729 MW-29 **Lab ID: 92239143004** Collected: 02/26/15 10:40 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/03/15 15:49	03/04/15 00:40	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	94	%	60-140		1	03/03/15 15:49	03/04/15 00:40	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/05/15 02:31	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/05/15 02:31	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/05/15 02:31	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/05/15 02:31	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/05/15 02:31	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/05/15 02:31	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/05/15 02:31	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/05/15 02:31	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/05/15 02:31	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/05/15 02:31	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/05/15 02:31	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/05/15 02:31	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/05/15 02:31	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/05/15 02:31	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/05/15 02:31	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/05/15 02:31	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/05/15 02:31	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		03/05/15 02:31	460-00-4	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92239143

Sample: 15729 MW-29 **Lab ID: 92239143004** Collected: 02/26/15 10:40 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		03/05/15 02:31	17060-07-0	
Toluene-d8 (S)	92	%	70-130		1		03/05/15 02:31	2037-26-5	

Sample: 15729 MW-61 **Lab ID: 92239143005** Collected: 02/26/15 10:10 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**76.2**	ug/L	2.0	2.0	100	03/03/15 15:49	03/05/15 03:44	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		100	03/03/15 15:49	03/05/15 03:44	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	20000	15400	200		03/05/15 06:28	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2000	680	200		03/05/15 06:28	994-05-8	
Benzene	**7740**	ug/L	1000	340	200		03/05/15 06:28	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	20000	6420	200		03/05/15 06:28	624-95-3	
tert-Butyl Alcohol	ND	ug/L	20000	11500	200		03/05/15 06:28	75-65-0	
tert-Butyl Formate	ND	ug/L	10000	1460	200		03/05/15 06:28	762-75-4	
1,2-Dichloroethane	ND	ug/L	1000	360	200		03/05/15 06:28	107-06-2	
Diisopropyl ether	ND	ug/L	1000	340	200		03/05/15 06:28	108-20-3	
Ethanol	ND	ug/L	40000	27600	200		03/05/15 06:28	64-17-5	
Ethylbenzene	**1730**	ug/L	1000	320	200		03/05/15 06:28	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2000	720	200		03/05/15 06:28	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1000	340	200		03/05/15 06:28	1634-04-4	
Naphthalene	ND	ug/L	1000	400	200		03/05/15 06:28	91-20-3	
Toluene	**17300**	ug/L	1000	320	200		03/05/15 06:28	108-88-3	
Xylene (Total)	**8340**	ug/L	2000	540	200		03/05/15 06:28	1330-20-7	
m&p-Xylene	**5710**	ug/L	2000	620	200		03/05/15 06:28	179601-23-1	
o-Xylene	**2630**	ug/L	1000	320	200		03/05/15 06:28	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		200		03/05/15 06:28	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		200		03/05/15 06:28	17060-07-0	
Toluene-d8 (S)	92	%	70-130		200		03/05/15 06:28	2037-26-5	

Sample: 15729 MW-61DUP **Lab ID: 92239143006** Collected: 02/26/15 10:13 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**114**	ug/L	4.0	4.0	200	03/03/15 15:49	03/05/15 04:03	106-93-4	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92239143

Sample: 15729 MW-61DUP **Lab ID: 92239143006** Collected: 02/26/15 10:13 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		200	03/03/15 15:49	03/05/15 04:03	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	20000	15400	200		03/05/15 06:45	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2000	680	200		03/05/15 06:45	994-05-8	
Benzene	**10600**	ug/L	1000	340	200		03/05/15 06:45	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	20000	6420	200		03/05/15 06:45	624-95-3	
tert-Butyl Alcohol	ND	ug/L	20000	11500	200		03/05/15 06:45	75-65-0	
tert-Butyl Formate	ND	ug/L	10000	1460	200		03/05/15 06:45	762-75-4	
1,2-Dichloroethane	ND	ug/L	1000	360	200		03/05/15 06:45	107-06-2	
Diisopropyl ether	ND	ug/L	1000	340	200		03/05/15 06:45	108-20-3	
Ethanol	ND	ug/L	40000	27600	200		03/05/15 06:45	64-17-5	
Ethylbenzene	**7450**	ug/L	1000	320	200		03/05/15 06:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2000	720	200		03/05/15 06:45	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1000	340	200		03/05/15 06:45	1634-04-4	
Naphthalene	**1350**	ug/L	1000	400	200		03/05/15 06:45	91-20-3	
Toluene	**34800**	ug/L	1000	320	200		03/05/15 06:45	108-88-3	
Xylene (Total)	**35100**	ug/L	2000	540	200		03/05/15 06:45	1330-20-7	
m&p-Xylene	**24500**	ug/L	2000	620	200		03/05/15 06:45	179601-23-1	
o-Xylene	**10600**	ug/L	1000	320	200		03/05/15 06:45	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		200		03/05/15 06:45	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		200		03/05/15 06:45	17060-07-0	
Toluene-d8 (S)	95	%	70-130		200		03/05/15 06:45	2037-26-5	

Sample: 15729 MW-62 **Lab ID: 92239143007** Collected: 02/26/15 09:40 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/03/15 15:55	03/04/15 02:55	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	108	%	60-140		1	03/03/15 15:55	03/04/15 02:55	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/05/15 02:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/05/15 02:48	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/05/15 02:48	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/05/15 02:48	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/05/15 02:48	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/05/15 02:48	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/05/15 02:48	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/05/15 02:48	108-20-3	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92239143

Sample: 15729 MW-62 **Lab ID: 92239143007** Collected: 02/26/15 09:40 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Ethanol	ND	ug/L	200	138	1		03/05/15 02:48	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/05/15 02:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/05/15 02:48	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/05/15 02:48	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/05/15 02:48	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/05/15 02:48	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/05/15 02:48	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/05/15 02:48	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/05/15 02:48	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		03/05/15 02:48	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		03/05/15 02:48	17060-07-0	
Toluene-d8 (S)	92	%	70-130		1		03/05/15 02:48	2037-26-5	

Sample: 15729 FIELD BLANK 5 **Lab ID: 92239143008** Collected: 02/26/15 11:20 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/03/15 15:55	03/04/15 03:14	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	98	%	60-140		1	03/03/15 15:55	03/04/15 03:14	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/05/15 01:23	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/05/15 01:23	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/05/15 01:23	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/05/15 01:23	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/05/15 01:23	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/05/15 01:23	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/05/15 01:23	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/05/15 01:23	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/05/15 01:23	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/05/15 01:23	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/05/15 01:23	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/05/15 01:23	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/05/15 01:23	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/05/15 01:23	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/05/15 01:23	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/05/15 01:23	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/05/15 01:23	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		03/05/15 01:23	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		03/05/15 01:23	17060-07-0	

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ANALYTICAL RESULTS

Project: HW DETWILER 15729
Pace Project No.: 92239143

Sample: 15729 FIELD BLANK 5 **Lab ID: 92239143008** Collected: 02/26/15 11:20 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
Toluene-d8 (S)	94	%	70-130		1		03/05/15 01:23	2037-26-5	

Sample: 15729 TRIP BLANK 7 **Lab ID: 92239143009** Collected: 02/26/15 00:00 Received: 02/27/15 18:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/05/15 01:40	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/05/15 01:40	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/05/15 01:40	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/05/15 01:40	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/05/15 01:40	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/05/15 01:40	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/05/15 01:40	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/05/15 01:40	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/05/15 01:40	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/05/15 01:40	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/05/15 01:40	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/05/15 01:40	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/05/15 01:40	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/05/15 01:40	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/05/15 01:40	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/05/15 01:40	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/05/15 01:40	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		03/05/15 01:40	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		03/05/15 01:40	17060-07-0	
Toluene-d8 (S)	94	%	70-130		1		03/05/15 01:40	2037-26-5	

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239143

QC Batch: MSV/30580
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV SC
Associated Lab Samples: 92239143002

METHOD BLANK: 1402266
Matrix: Water
Associated Lab Samples: 92239143002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	03/06/15 06:22	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	03/06/15 06:22	
Benzene	ug/L	ND	5.0	03/06/15 06:22	
Diisopropyl ether	ug/L	ND	5.0	03/06/15 06:22	
Ethanol	ug/L	ND	200	03/06/15 06:22	
Ethyl-tert-butyl ether	ug/L	ND	10.0	03/06/15 06:22	
Ethylbenzene	ug/L	ND	5.0	03/06/15 06:22	
m&p-Xylene	ug/L	ND	10.0	03/06/15 06:22	
Methyl-tert-butyl ether	ug/L	ND	5.0	03/06/15 06:22	
Naphthalene	ug/L	ND	5.0	03/06/15 06:22	
o-Xylene	ug/L	ND	5.0	03/06/15 06:22	
tert-Amyl Alcohol	ug/L	ND	100	03/06/15 06:22	
tert-Amylmethyl ether	ug/L	ND	10.0	03/06/15 06:22	
tert-Butyl Alcohol	ug/L	ND	100	03/06/15 06:22	
tert-Butyl Formate	ug/L	ND	50.0	03/06/15 06:22	
Toluene	ug/L	ND	5.0	03/06/15 06:22	
Xylene (Total)	ug/L	ND	10.0	03/06/15 06:22	
1,2-Dichloroethane-d4 (S)	%	102	70-130	03/06/15 06:22	
4-Bromofluorobenzene (S)	%	100	70-130	03/06/15 06:22	
Toluene-d8 (S)	%	100	70-130	03/06/15 06:22	

LABORATORY CONTROL SAMPLE: 1402267

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	43.6	87	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1020	102	70-130	
Benzene	ug/L	50	49.8	100	70-130	
Diisopropyl ether	ug/L	50	48.1	96	70-130	
Ethanol	ug/L	2000	2370	119	70-130	
Ethyl-tert-butyl ether	ug/L	100	102	102	70-130	
Ethylbenzene	ug/L	50	47.8	96	70-130	
m&p-Xylene	ug/L	100	96.6	97	70-130	
Methyl-tert-butyl ether	ug/L	50	44.0	88	70-130	
Naphthalene	ug/L	50	48.0	96	70-130	
o-Xylene	ug/L	50	48.7	97	70-130	
tert-Amyl Alcohol	ug/L	1000	1150	115	70-130	
tert-Amylmethyl ether	ug/L	100	105	105	70-130	
tert-Butyl Alcohol	ug/L	500	553	111	70-130	
tert-Butyl Formate	ug/L	400	429	107	70-130	
Toluene	ug/L	50	47.8	96	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239143

LABORATORY CONTROL SAMPLE: 1402267

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	145	97	70-130	
1,2-Dichloroethane-d4 (S)	%			93	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 1402268

Parameter	Units	92239087026 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	19.5	97	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	418	105	70-130	
Benzene	ug/L	ND	20	22.9	114	70-130	
Diisopropyl ether	ug/L	ND	20	20.6	103	70-130	
Ethanol	ug/L	ND	800	1010	127	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	42.8	107	70-130	
Ethylbenzene	ug/L	ND	20	22.2	111	70-130	
m&p-Xylene	ug/L	ND	40	44.7	112	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	18.7	93	70-130	
Naphthalene	ug/L	ND	20	20.3	101	70-130	
o-Xylene	ug/L	ND	20	21.9	109	70-130	
tert-Amyl Alcohol	ug/L	ND	400	405	101	70-130	
tert-Amylmethyl ether	ug/L	ND	40	41.1	103	70-130	
tert-Butyl Alcohol	ug/L	ND	200	312	156	70-130	M0
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	21.6	108	70-130	
1,2-Dichloroethane-d4 (S)	%				96	70-130	
4-Bromofluorobenzene (S)	%				99	70-130	
Toluene-d8 (S)	%				98	70-130	

SAMPLE DUPLICATE: 1402269

Parameter	Units	92239087029 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239143

SAMPLE DUPLICATE: 1402269

Parameter	Units	92239087029 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	101	101	0		
4-Bromofluorobenzene (S)	%	104	106	2		
Toluene-d8 (S)	%	100	100	1		

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239143

QC Batch: MSV/30583 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92239143004, 92239143005, 92239143006, 92239143007, 92239143008, 92239143009

METHOD BLANK: 1402780 Matrix: Water
Associated Lab Samples: 92239143004, 92239143005, 92239143006, 92239143007, 92239143008, 92239143009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	03/05/15 00:50	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	03/05/15 00:50	
Benzene	ug/L	ND	5.0	03/05/15 00:50	
Diisopropyl ether	ug/L	ND	5.0	03/05/15 00:50	
Ethanol	ug/L	183J	200	03/05/15 00:50	
Ethyl-tert-butyl ether	ug/L	ND	10.0	03/05/15 00:50	
Ethylbenzene	ug/L	ND	5.0	03/05/15 00:50	
m&p-Xylene	ug/L	ND	10.0	03/05/15 00:50	
Methyl-tert-butyl ether	ug/L	ND	5.0	03/05/15 00:50	
Naphthalene	ug/L	ND	5.0	03/05/15 00:50	
o-Xylene	ug/L	ND	5.0	03/05/15 00:50	
tert-Amyl Alcohol	ug/L	ND	100	03/05/15 00:50	
tert-Amylmethyl ether	ug/L	ND	10.0	03/05/15 00:50	
tert-Butyl Alcohol	ug/L	ND	100	03/05/15 00:50	
tert-Butyl Formate	ug/L	ND	50.0	03/05/15 00:50	
Toluene	ug/L	ND	5.0	03/05/15 00:50	
Xylene (Total)	ug/L	ND	10.0	03/05/15 00:50	
1,2-Dichloroethane-d4 (S)	%	100	70-130	03/05/15 00:50	
4-Bromofluorobenzene (S)	%	100	70-130	03/05/15 00:50	
Toluene-d8 (S)	%	93	70-130	03/05/15 00:50	

LABORATORY CONTROL SAMPLE: 1402781

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	49.7	99	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	714	71	70-130	
Benzene	ug/L	50	48.1	96	70-130	
Diisopropyl ether	ug/L	50	50.7	101	70-130	
Ethanol	ug/L	2000	2120	106	70-130	
Ethyl-tert-butyl ether	ug/L	100	99.0	99	70-130	
Ethylbenzene	ug/L	50	46.3	93	70-130	
m&p-Xylene	ug/L	100	92.6	93	70-130	
Methyl-tert-butyl ether	ug/L	50	43.8	88	70-130	
Naphthalene	ug/L	50	40.7	81	70-130	
o-Xylene	ug/L	50	44.7	89	70-130	
tert-Amyl Alcohol	ug/L	1000	775	78	70-130	
tert-Amylmethyl ether	ug/L	100	87.9	88	70-130	
tert-Butyl Alcohol	ug/L	500	411	82	70-130	
tert-Butyl Formate	ug/L	400	296	74	70-130	
Toluene	ug/L	50	46.4	93	70-130	

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239143

LABORATORY CONTROL SAMPLE: 1402781

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	137	91	70-130	
1,2-Dichloroethane-d4 (S)	%			95	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE SAMPLE: 1402783

Parameter	Units	92239148016 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	21.5	108	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	262	65	70-130	M0
Benzene	ug/L	ND	20	21.6	108	70-130	
Diisopropyl ether	ug/L	ND	20	19.9	99	70-130	
Ethanol	ug/L	ND	800	796	100	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	40.6	102	70-130	
Ethylbenzene	ug/L	ND	20	20.5	102	70-130	
m&p-Xylene	ug/L	ND	40	41.4	104	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	17.3	87	70-130	
Naphthalene	ug/L	ND	20	14.5	73	70-130	
o-Xylene	ug/L	ND	20	18.9	94	70-130	
tert-Amyl Alcohol	ug/L	ND	400	295	74	70-130	
tert-Amylmethyl ether	ug/L	ND	40	35.1	88	70-130	
tert-Butyl Alcohol	ug/L	ND	200	242	121	70-130	
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	19.8	99	70-130	
1,2-Dichloroethane-d4 (S)	%				92	70-130	
4-Bromofluorobenzene (S)	%				97	70-130	
Toluene-d8 (S)	%				93	70-130	

SAMPLE DUPLICATE: 1402782

Parameter	Units	92239148015 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	23.1	15.4	40	30	R1
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239143

SAMPLE DUPLICATE: 1402782

Parameter	Units	92239148015 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	100	98	2		
4-Bromofluorobenzene (S)	%	98	102	4		
Toluene-d8 (S)	%	92	92	0		

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239143

QC Batch: MSV/30592
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV SC
Associated Lab Samples: 92239143003

METHOD BLANK: 1403321
Matrix: Water
Associated Lab Samples: 92239143003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	03/05/15 13:48	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	03/05/15 13:48	
Benzene	ug/L	ND	5.0	03/05/15 13:48	
Diisopropyl ether	ug/L	ND	5.0	03/05/15 13:48	
Ethanol	ug/L	ND	200	03/05/15 13:48	
Ethyl-tert-butyl ether	ug/L	ND	10.0	03/05/15 13:48	
Ethylbenzene	ug/L	ND	5.0	03/05/15 13:48	
m&p-Xylene	ug/L	ND	10.0	03/05/15 13:48	
Methyl-tert-butyl ether	ug/L	ND	5.0	03/05/15 13:48	
Naphthalene	ug/L	ND	5.0	03/05/15 13:48	
o-Xylene	ug/L	ND	5.0	03/05/15 13:48	
tert-Amyl Alcohol	ug/L	ND	100	03/05/15 13:48	
tert-Amylmethyl ether	ug/L	ND	10.0	03/05/15 13:48	
tert-Butyl Alcohol	ug/L	ND	100	03/05/15 13:48	
tert-Butyl Formate	ug/L	ND	50.0	03/05/15 13:48	
Toluene	ug/L	ND	5.0	03/05/15 13:48	
Xylene (Total)	ug/L	ND	10.0	03/05/15 13:48	
1,2-Dichloroethane-d4 (S)	%	100	70-130	03/05/15 13:48	
4-Bromofluorobenzene (S)	%	100	70-130	03/05/15 13:48	
Toluene-d8 (S)	%	92	70-130	03/05/15 13:48	

LABORATORY CONTROL SAMPLE: 1403322

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	51.4	103	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	691	69	70-130	L0
Benzene	ug/L	50	48.4	97	70-130	
Diisopropyl ether	ug/L	50	49.9	100	70-130	
Ethanol	ug/L	2000	1970	98	70-130	
Ethyl-tert-butyl ether	ug/L	100	98.5	98	70-130	
Ethylbenzene	ug/L	50	45.9	92	70-130	
m&p-Xylene	ug/L	100	92.7	93	70-130	
Methyl-tert-butyl ether	ug/L	50	43.7	87	70-130	
Naphthalene	ug/L	50	39.5	79	70-130	
o-Xylene	ug/L	50	44.7	89	70-130	
tert-Amyl Alcohol	ug/L	1000	765	76	70-130	
tert-Amylmethyl ether	ug/L	100	88.6	89	70-130	
tert-Butyl Alcohol	ug/L	500	411	82	70-130	
tert-Butyl Formate	ug/L	400	297	74	70-130	
Toluene	ug/L	50	46.5	93	70-130	

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239143

LABORATORY CONTROL SAMPLE: 1403322

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	137	92	70-130	
1,2-Dichloroethane-d4 (S)	%			91	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE SAMPLE: 1403324

Parameter	Units	92239146005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	20.6	103	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	296	74	70-130	
Benzene	ug/L	ND	20	21.0	105	70-130	
Diisopropyl ether	ug/L	ND	20	20.1	100	70-130	
Ethanol	ug/L	ND	800	1260	158	70-130	M1
Ethyl-tert-butyl ether	ug/L	ND	40	40.2	99	70-130	
Ethylbenzene	ug/L	ND	20	20.2	101	70-130	
m&p-Xylene	ug/L	ND	40	40.4	100	70-130	
Methyl-tert-butyl ether	ug/L	2.6J	20	21.3	94	70-130	
Naphthalene	ug/L	ND	20	16.9	84	70-130	
o-Xylene	ug/L	ND	20	18.8	93	70-130	
tert-Amyl Alcohol	ug/L	ND	400	385	85	70-130	
tert-Amylmethyl ether	ug/L	ND	40	34.7	87	70-130	
tert-Butyl Alcohol	ug/L	451	200	783	166	70-130	M1
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	M1
Toluene	ug/L	ND	20	19.8	99	70-130	
1,2-Dichloroethane-d4 (S)	%				93	70-130	
4-Bromofluorobenzene (S)	%				95	70-130	
Toluene-d8 (S)	%				94	70-130	

SAMPLE DUPLICATE: 1403323

Parameter	Units	92239146004 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239143

SAMPLE DUPLICATE: 1403323

Parameter	Units	92239146004 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	100	97	3		
4-Bromofluorobenzene (S)	%	99	100	1		
Toluene-d8 (S)	%	93	93	0		

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239143

QC Batch: OEXT/33291 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92239143002, 92239143003, 92239143004, 92239143005, 92239143006

METHOD BLANK: 1401074 Matrix: Water
Associated Lab Samples: 92239143002, 92239143003, 92239143004, 92239143005, 92239143006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	03/03/15 17:15	
1-Chloro-2-bromopropane (S)	%	93	60-140	03/03/15 17:15	

LABORATORY CONTROL SAMPLE & LCSD: 1401075 1401076

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.26	0.28	92	96	60-140	6	20	
1-Chloro-2-bromopropane (S)	%				94	95	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1401077 1401078

Parameter	Units	92239087039 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.26	0.26	94	94	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						97	97	60-140			

SAMPLE DUPLICATE: 1401079

Parameter	Units	92239087040 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	109	103	6		

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QUALITY CONTROL DATA

Project: HW DETWILER 15729
Pace Project No.: 92239143

QC Batch: OEXT/33292 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92239143007, 92239143008

METHOD BLANK: 1401103 Matrix: Water
Associated Lab Samples: 92239143007, 92239143008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	03/04/15 01:57	
1-Chloro-2-bromopropane (S)	%	99	60-140	03/04/15 01:57	

LABORATORY CONTROL SAMPLE & LCSD: 1401104 1401105

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.3	0.30	0.34	98	118	60-140	13	20	
1-Chloro-2-bromopropane (S)	%				101	120	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1401106 1401107

Parameter	Units	92239148002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.28	0.28	100	100	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						100	100	60-140			

SAMPLE DUPLICATE: 1401108

Parameter	Units	92239148003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	111	120	6		

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QUALIFIERS

Project: HW DETWILER 15729
Pace Project No.: 92239143

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.
R1	RPD value was outside control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HW DETWILER 15729
Pace Project No.: 92239143

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92239143002	15729 MW-3	EPA 8011	OEXT/33291	EPA 8011	GCSV/20511
92239143003	15729 MW-4	EPA 8011	OEXT/33291	EPA 8011	GCSV/20511
92239143004	15729 MW-29	EPA 8011	OEXT/33291	EPA 8011	GCSV/20511
92239143005	15729 MW-61	EPA 8011	OEXT/33291	EPA 8011	GCSV/20511
92239143006	15729 MW-61DUP	EPA 8011	OEXT/33291	EPA 8011	GCSV/20511
92239143007	15729 MW-62	EPA 8011	OEXT/33292	EPA 8011	GCSV/20512
92239143008	15729 FIELD BLANK 5	EPA 8011	OEXT/33292	EPA 8011	GCSV/20512
92239143002	15729 MW-3	EPA 8260	MSV/30580		
92239143003	15729 MW-4	EPA 8260	MSV/30592		
92239143004	15729 MW-29	EPA 8260	MSV/30583		
92239143005	15729 MW-61	EPA 8260	MSV/30583		
92239143006	15729 MW-61DUP	EPA 8260	MSV/30583		
92239143007	15729 MW-62	EPA 8260	MSV/30583		
92239143008	15729 FIELD BLANK 5	EPA 8260	MSV/30583		
92239143009	15729 TRIP BLANK 7	EPA 8260	MSV/30583		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1901571

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Emerald Inc	Report To: Ronny Lowder	Attention:
Address: 2520 Tahoe Dr. Sumter, SC 29150	Copy To:	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: (803) 469-5454 Fax:	Project Name: HW Detwiler	Pace Project Manager: A. Baioni
Requested Due Date/TAT: Standard	Project Number: 15729	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Btex, N, M	1,2-DCA 8260B	Oxy's	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92239143
1	15729 MW-1	WT	G			2/26/15	1115		6				6						X	X	X	X		~~001~~
2	MW-3						1050																	002
3	MW-4						1020																	003
4	MW-29						1040																	004
5	MW-61						1010																	005
6	MW-61 Dup						1013																	006
7	MW-62						0940																	007
8	Field Blank 5						1120		6				6						X	X	X	X		008
9	Trip Blank 7						—		2				2						X	X	X			009
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Robbie Robertson	2/26/15	1600	[signature]	2-26-15	1645				
		2/27	1624	[signature]	2/27	1624				
	[signature] Pace	2/27	1810	[signature]	2-27-15	1810	2.6	✓	N	✓

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robbie Robertson

SIGNATURE of SAMPLER: Robbie Robertson

DATE Signed (MM/DD/YY): 2/26/15

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: September 22, 2014 Page 1 of 2
	Document Number: F-CHR-CS-003-rev.16	Issuing Authority: Pace Huntersville Quality Office

Client Name: Emerald

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☐ no Seals intact: ☐ yes ☐ no

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1401 Type of Ice: Wet Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor T1401 No Correction

Corrected Cooler Temp.: 2.6 °C Biological Tissue is Frozen: Yes No N/A

Date and Initials of person examining contents: AF 2-27-15

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☐Yes ☑No ☐N/A	8. Missing item #1
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☐Yes ☑No ☐N/A	12. Missing item #1
-Includes date/time/ID/Analysis Matrix:		
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☐Yes ☐No ☐N/A	16.
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Chad McClary Date/Time: 3-4-15

Comments/ Resolution: Let him know MW-1 not received. MW-1 contained Free product and was not sampled.

SCURF Review: AMB Date: 2/27/15

SRF Review: AMB Date: 2/27/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

per email response 3-4-15

WO#: 92239143

APPENDIX C

DISPOSAL MANIFESTS

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

March 10, 2015

Ms. Ashleigh Thrash, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Program
Bureau of Land and Waste Management
SCDHEC
2600 Bull Street
Columbia, SC 29201-1708

RE: Purge Water Treatment
H.W. Detwiler Company
37 S. Church Street
Summerton, South Carolina
Clarendon County
UST Permit #15729

Dear Ms. Thrash,

Emerald, Inc. is providing this letter to certify the on-site treatment of purge water at the subject site. This purge water was treated in compliance with the conditions set forth in "Proposed Conditions for use of Portable Activated Carbon Units for the Treatment of Small Volumes of Petroleum Hydrocarbon Contaminated Groundwater".

Applicability:

Groundwater to be treated is generated from well development and sampling.

Conditions:

1. The purge and development water is mixed prior to treatment by the activated carbon unit.
2. Free product was not detected in the purge water.

3. Groundwater analytical results from monitoring wells indicate average concentrations of hydrocarbons to be less than 5,000 parts per billion (ppb) Benzene and less than 20,000 ppb total BTEX.
4. The carbon filter material will be replaced after 5,000 gallons of treatment.
5. A record of usage will be maintained by the Contractor.
6. The manufacturer's recommendations have been adhered to.
7. Any SCDHEC recommendations and any conditions set forth by SCDHEC will be adhered to.

Purge waters were treated on-site by Emerald, Inc. personnel using a treatment drum loaded with approximately 50 pounds of activated carbon. This carbon will be loaded to a maximum amount of 3 pounds of total organic carbon or 5,000 gallons of development/purge water, whichever occurs first. Cumulative organic compounds absorbed by the activated carbon is tracked to ensure the capacity of the carbon is not exceeded.

Origin of Water	Treatment Date	Amount
Purge Water	2/20/15 through 2/26/15	367.5 Gallons

If you have any additional questions please contact Emerald, Inc. at your convenience. Emerald, Inc. can be reached at 803-469-5454.

Yours very truly,
EMERALD, INC.

William C. McClary, P.G.
Project Geologist

APPENDIX D

SURROUNDING PROPERTY OWNER NOTIFICATIONS

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

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www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

March 10, 2015

Charlie and Jean Johnson
PO Box 698
Summerton, SC 29102

Surrounding the:
HW Detwiler Company
37 South Church Street
Summerton, SC
SCDHEC Site ID #15729

Charlie and Jean Johnson,

Enclosed is an abbreviated copy of the Report of Groundwater Sampling prepared by Emerald, Inc. to obtain current groundwater quality data for the HW Detwiler Company site, as requested by the South Carolina Department of Health and Environmental Control. This report details the work conducted by Emerald, Inc. at the subject site, including analytical results for samples collected from the water supply well (WSW-1) on your property at 35 South Church Street, Summerton, SC.

We appreciate your cooperation throughout this assessment. If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454 or SCDHEC at 803-898-0589.

Sincerely,

William C. McClary, P.G.
Project Manager

Attachments
Abbreviated Report of Groundwater Sampling for HW Detwiler Company

Celebrating 25 Years

1990-2015

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

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WEBSITE:
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TELEPHONE (803) 469-5454
FAX (803) 469-5465

March 10, 2015

Daulton & Kathy Dubose
24 South Cantey Street
Summerton, SC 29148

Surrounding the:
HW Detwiler Company
37 South Church Street
Summerton, SC
SCDHEC Site ID #15729

Daulton & Kathy Dubose,

Enclosed is an abbreviated copy of the Report of Groundwater Sampling prepared by Emerald, Inc. to obtain current groundwater quality data for the HW Detwiler Company site, as requested by the South Carolina Department of Health and Environmental Control. This report details the work conducted by Emerald, Inc. at the subject site, including analytical results for samples collected from the water supply well (WSW-2) on your property at South Cantey Street, Summerton, SC.

We appreciate your cooperation throughout this assessment. If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454 or SCDHEC at 803-898-0589.

Sincerely,

William C. McClary, P.G.
Project Manager

Attachments
Abbreviated Report of Groundwater Sampling for HW Detwiler Company

Celebrating 25 Years

1990-2015

Emerald, Inc.

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WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

March 10, 2015

David Van Wynsberghe
1021 Gipp Street
Summerton, SC 29148

Surrounding the:
HW Detwiler Company
37 South Church Street
Summerton, SC
SCDHEC Site ID #15729

Mr. Van Wynsberghe,

Enclosed is an abbreviated copy of the Report of Groundwater Sampling prepared by Emerald, Inc. to obtain current groundwater quality data for the HW Detwiler Company site, as requested by the South Carolina Department of Health and Environmental Control. This report details the work conducted by Emerald, Inc. at the subject site, including analytical results for samples collected from the water supply wells (WSW-3 & WSW-4) on your property at 1021 Gipp Street, Summerton, SC.

We appreciate your cooperation throughout this assessment. If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454 or SCDHEC at 803-898-0589.

Sincerely,

William C. McClary, P.G.
Project Manager

Attachments
Abbreviated Report of Groundwater Sampling for HW Detwiler Company

Celebrating 25 Years

1990-2015

Emerald, Inc.

CONSULTING AND ENGINEERING
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TELEPHONE (803) 469-5454
FAX (803) 469-5465

March 10, 2015

Cynthia L. Burbage
117 Haleswood Circle
Goose Creek, SC 29445

Surrounding the:
H.W. Detwiler Company
37 South Church Street
Summerton, South Carolina
SCDHEC Site ID# 15729

Ms. Burbage,

Thank you for allowing Emerald, Inc. access to your property as part of the environmental assessment work being conducted at the H.W. Detwiler Company site. Enclosed is an abbreviated copy of the Report of Groundwater Sampling prepared by Emerald, Inc. documenting the environmental work conducted on and surrounding your property. This assessment was requested by the South Carolina Department of Health and Environmental Control to determine the severity and extent of groundwater contamination.

We appreciate your cooperation throughout this assessment. If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454 or SCDHEC at 803-898-0589.

Sincerely,

William C. McClary, P.G.
Project Manager

Attachments
Abbreviated Report of Groundwater Sampling for H.W. Detwiler Company

Celebrating 25 Years

1990-2015

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

March 10, 2015

Henry Dingle & Elaine Wood
PO Box 524
Summerton, SC 29148

Surrounding the:
H.W. Detwiler Company
37 South Church Street
Summerton, South Carolina
SCDHEC Site ID# 15729

Henry Dingle & Elaine Wood,

Thank you for allowing Emerald, Inc. access to your property as part of the environmental assessment work being conducted at the H.W. Detwiler Company site. Enclosed is an abbreviated copy of the Report of Groundwater Sampling prepared by Emerald, Inc. documenting the environmental work conducted on and surrounding your property. This assessment was requested by the South Carolina Department of Health and Environmental Control to determine the severity and extent of groundwater contamination.

We appreciate your cooperation throughout this assessment. If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454 or SCDHEC at 803-898-0589.

Sincerely,

William C. McClary, P.G.
Project Manager

Attachments
Abbreviated Report of Groundwater Sampling for H.W. Detwiler Company

Celebrating 25 Years

1990-2015

APPENDIX E

QAPP CONTRACTOR'S CHECKLIST

South Carolina
Underground Storage Tank Program

HW Detwiler Company
SCDHEC ID #15729
March 10, 2015

Contractor Checklist

For each report submitted to the UST Management Division, the contractor will be required to verify that all data elements for the required scope of work have been provided. For items not required for the scope of work, the N/A box should be checked. For items required and not completed or provided, the No box should be checked and a thorough description of the reason must be provided.

Item #	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?	X		
3	Is name, address, & phone number of current property owner provided?	X		
4	Is the DHEC Certified UST Site Rehabilitation contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed boring/monitoring wells provided?			X
6	Is the name, address, telephone number, and certification number of the certified laboratory(ies) performing analytical analyses provided?	X		
7	Has the facility history been summarized?	X		
8	Has the regional geology and hydrogeology been described?			X
9	Are the receptor survey results provided as required?			X
10	Has current use of the site and adjacent land been described?	X		
11	Has the site-specific geology and hydrogeology been described?			X
12	Has the primary soil type been described?			X
13	Have field screening results been described?			X
14	Has a description of the soil sample collection and preservation been detailed?			X
15	Has the field screening methodology and procedure been detailed?			X
16	Has the monitoring well installation and development dates been provided?			X
17	Has the method of well development been detailed?			X
18	Has justification been provided for the locations of the monitoring wells?			X
19	Have the monitoring wells been labeled in accordance with the UST QAPP guidelines?	X		
20	Has the groundwater sampling methodology been detailed?	X		
21	Have the groundwater sampling dates and groundwater measurements been provided?	X		
22	Has the purging methodology been detailed?	X		
23	Has the volume of water purged from each well provided along with measurements to verify that purging is complete? (Appendix A)	X		
24	If free-product is present, has the thickness been provided?	X		
25	Does the report include a brief discussion of the assessment done and the results?	X		
26	Does the report include a brief discussion of the aquifer evaluation and results?			X
27	Does the report include a brief discussion of the fate & transport models used?			X

Item #	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			X
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			X
30	Have the SSTLs for each compund and pathway been calculated? (Tier 2 Risk Evaluation)			X
31	Have recommendations for further action been provided and explained?	X		
32	Has the soil analytical data for the site been provided in tabular format?			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 1)	X		
34	Has the current and historical laboratory data been provided in tabular format? (Table 2 & 3)	X		
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			X
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			X
37	Has the topographic map been provided with all required elements? (Figure 2)	X		
38	Has the site base map been provided with all required elements? (Figure 3)	X		
39	Have the CoC site maps been provided? (Figure 5)	X		
40	Has the site potentiometric map been provided? (Figure 4)	X		
41	Have the geologic cross-sections been provided?			X
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			X
43	Has the site survey been provided and include all necessary elements?			X
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	X		
45	Is the laboratory performing the analyses properly certified?	X		
46	Has the tax map been included with all necessary elements?			X
47	Have the soil boring/field screening logs been provided?			X
48	Have the well completion logs and SCDHEC Form 1903 been provided?			X
49	Have the aquifer evaluation forms, data, graphs, equation, etc. been provided?			X
50	Have the disposal manifests been provided? (Appendix C)	X		
51	Has a copy of the local zoning regulations been provided?			X
52	Has all fate and transport modeling been provided?			X
53	Have copies of all access agreements obtained by the contractor been provided?			X
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided? (Appendix E)	X		

H.W. Detwiler
UST Permit #15729

	IGWA	Tier II	AR	MR	AR
MW-1	7/14/00	3/10/02	4/12/03	12/22/09	11/19/10
DTW	**FP**	**FP**	**FP**	**FP**	**FP**
Benzene	(1.51')	(1.78')	(3.69')	(0.51')	(0.88')
Toluene					
Ethylbenzene					
Xylenes					
MTBE					
Naphthalene					
DCA					
EDB					
Lead					

MW-2D		3/10/02	4/12/03	12/22/09	11/19/10
DTW		18.29	14.80	16.68	17.96
Benzene		**160**	**23**	<1	<5
Toluene		163	20	<1	<5
Ethylbenzene		91	28	2	<5
Xylenes		444	48	2	<10
MTBE		nd	<1	<1	<5
Naphthalene		**27**	10	1	<5
DCA		na	na	<1	<5
EDB		**4.19**	**0.15**	<0.02	<0.02
Lead		**17**	na	8	<5

MW-3		3/10/02	4/12/03	12/22/09	11/19/10
DTW		18.09	13.45	16.53	17.75
Benzene		nd	<1	<1	<5
Toluene		nd	1	<1	<5
Ethylbenzene		nd	<1	<1	<5
Xylenes		nd	<1	<3	<10
MTBE		nd	<1	<1	<5
Naphthalene		nd	<5	<1	<5
DCA		na	na	<1	<5
EDB		nd	<0.02	<0.02	<0.02
Lead		**295**	na	3	<5

MW-4		3/10/02	4/12/03	12/22/09	11/19/10
DTW		17.39	11.98	15.95	17.02
Benzene		**1050**	**2860**	**114**	**169**
Toluene		163	**1330**	6	3
Ethylbenzene		125	581	22	3
Xylenes		345	1490	6	<10
MTBE		**84**	**198**	3	5
Naphthalene		**51**	**146**	10	7
DCA		na	na	<1	**5**
EDB		**2.96**	**13.60**	**0.17**	**0.13**
Lead		**31**	na	14	<5

MW-5		3/10/02	4/12/03	12/22/09	11/19/10
DTW		15.52	10.66	14.13	15.25
Benzene		**382**	**1650**	**2610**	**64**
Toluene		801	**3000**	**5820**	154
Ethylbenzene		168	372	**735**	22
Xylenes		848	1640	3370	107
MTBE		**66**	**246**	**65**	<5
Naphthalene		**66**	**95**	**156**	6
DCA		na	na	<1	<5
EDB		**3.57**	**22.00**	**34.78**	**0.91**
Lead		**152**	na	**84**	<5

MW-6		3/10/02	4/12/03	12/22/09	11/19/10
DTW		18.56	15.70	17.74	18.51
Benzene		nd	<1	<1	<5
Toluene		nd	2	<1	<5
Ethylbenzene		nd	<1	<1	<5
Xylenes		nd	2	<3	<10
MTBE		nd	7	3	<5
Naphthalene		nd	<5	<5	<5
DCA		na	na	<1	<5
EDB		nd	<0.02	<0.02	<0.02
Lead		**138**	na	**33**	<5

UST PROGRAM
DOCKETING # 3A Tech

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MW-7		3/10/02	4/12/03	?/09	11/19/10
DTW		14.55	12.09	3.85	14.57
Benzene		nd	<1	<1	<5
Toluene		nd	<1	<1	<5
Ethylbenzene		nd	<1	<1	<5
Xylenes		nd	<1	<3	<10
MTBE		**55**	15	3	3
Naphthalene		nd	<5	<5	<5
DCA		na	na	<1	<5
EDB		nd	<0.02	<0.02	<0.02
Lead		**100**	na	**31**	<5

MW-8		3/10/02	4/12/03	12/22/09	11/19/10
DTW		8.35	3.10	3.70	8.36
Benzene		nd	<1	<1	<5
Toluene		nd	<1	<1	<5
Ethylbenzene		nd	<1	<1	<5
Xylenes		nd	<1	<3	<10
MTBE		**83**	3	<1	<5
Naphthalene		nd	<5	<5	<5
DCA		na	na	<1	<5
EDB		nd	<0.02	<0.02	<0.02
Lead		**275**	na	**21**	<5

MW-9		3/10/02	4/12/03	12/22/09	11/19/10
DTW		8.21	5.40	7.37	8.14
Benzene		nd	1	<1	<5
Toluene		nd	<1	<1	<5
Ethylbenzene		nd	<1	<1	<5
Xylenes		nd	<1	<3	<10
MTBE		**342**	**181**	7	6
Naphthalene		nd	<5	<5	<5
DCA		na	na	<1	<5
EDB		nd	<0.02	<0.02	<0.02
Lead		**32**	na	**136**	**18**

MW-10		3/10/02	4/12/03	12/22/09	11/19/10
DTW		12.81	10.02	11.88	12.75
Benzene		**1780**	**2000**	**1250**	**42**
Toluene		18	34	20	<5
Ethylbenzene		30	169	45	4
Xylenes		5	25	15	<10
MTBE		37	39	58	38
Naphthalene		7	23	12	<5
DCA		na	na	<1	14
EDB		**0.24**	<0.02	**0.17**	<0.02
Lead		**50**	na	**44**	<5

MW-11		3/10/02	4/12/03	12/22/09	11/19/10
DTW		20.61	13.66	19.46	20.36
Benzene		**1060**	**1100**	**181**	**64**
Toluene		5	4	32	<5
Ethylbenzene		9	11	20	1
Xylenes		6	3	7	<10
MTBE		nd	<1	1	2
Naphthalene		6	9	9	4
DCA		nd	na	<1	<5
EDB		**0.48**	**0.23**	<0.02	<0.02
Lead		**122**	na	**34**	<5

MW-12		3/10/02	4/12/03	12/22/09	11/19/10
DTW		20.29	13.52	18.57	19.75
Benzene		nd	<1	<1	<5
Toluene		nd	1	<1	<5
Ethylbenzene		nd	<1	<1	<5
Xylenes		nd	1	<3	<10
MTBE		nd	<1	<1	6
Naphthalene		nd	<5	2	<5
DCA		na	na	<1	<5
EDB		nd	<0.02	<0.02	<0.02
Lead		**17**	na	**18**	<5

MW-13		3/10/02	4/12/03	2/09	
DTW		**FP**	**FP**	ll	
Benzene		(1.28')	(0.48')	destroyed	
Toluene					
Ethylbenzene					
Xylenes					
MTBE					
Naphthalene					
DCA					
EDB					
Lead					

MW-13R					11/19/10
DTW					**FP**
Benzene					(1.23')
Toluene					
Ethylbenzene					
Xylenes					
MTBE					
Naphthalene					
DCA					
EDB					
Lead					

MW-14		3/10/02	4/12/03	12/22/09	11/19/10
DTW		17.33	12.39	16.40	17.20
Benzene		**2900**	**1190**	**1720**	<5
Toluene		**1660**	501	**2730**	<5
Ethylbenzene		**986**	390	633	<5
Xylenes		1020	344	1640	<10
MTBE		**440**	**2110**	**93**	6
Naphthalene		**163**	**41**	**93**	<5
DCA		na	na	<1	<5
EDB		**0.56**	**0.12**	**0.11**	<0.02
Lead		14	na	**30**	<5

MW-15		3/10/02	4/12/03	12/22/09	11/19/10
DTW		19.75	12.94	18.61	**FP**
Benzene		**2070**	**7160**	**6690**	(0.21')
Toluene		**1500**	**15300**	**18000**	
Ethylbenzene		300	**1850**	**3700**	
Xylenes		344	8350	**13700**	
MTBE		nd	<10	6	
Naphthalene		**46**	**282**	**844**	
DCA		na	na	<1	
EDB		**11.10**	**152.00**	**46.78**	
Lead		**605**	na	**244**	

MW-16D			4/12/03	12/22/09	11/19/10
DTW			12.10	16.93	18.18
Benzene			4	<1	<5
Toluene			17	1	<5
Ethylbenzene			5	2	<5
Xylenes			20	4	<10
MTBE			<1	<1	6
Naphthalene			<5	<1	<5
DCA			na	<1	<5
EDB			<0.02	<0.02	<0.02
Lead			na	4	<5

MW-17			4/12/03	12/22/09	
DTW			9.50	well	
Benzene			**200**	destroyed	
Toluene			700		
Ethylbenzene			<200		
Xylenes			720		
MTBE			**<200**		
Naphthalene			**<1000**		
DCA			na		
EDB			0.04		
Lead			na		

MW-17R					11/19/10
DTW					13.40
Benzene					<5
Toluene					<5
Ethylbenzene					<5
Xylenes					<10
MTBE					<5
Naphthalene					<5
DCA					<5
EDB					<0.02
Lead					<5

MW-18			4/12/03	12/22/09	
DTW			13.45	well	
Benzene			**6**	destroyed	
Toluene			426		
Ethylbenzene			327		
Xylenes			978		
MTBE			**71**		
Naphthalene			**49**		
DCA			na		
EDB			<0.02		
Lead			na		

MW-18R					11/19/10
DTW					14.38
Benzene					<5
Toluene					<5
Ethylbenzene					<5
Xylenes					<10
MTBE					4
Naphthalene					<5
DCA					<5
EDB					<0.02
Lead					<5

MW-19			4/12/03	12/22/09	11/19/10
DTW			7.60	9.90	10.58
Benzene			<1	<1	<5
Toluene			<1	<1	<5
Ethylbenzene			<1	<1	<5
Xylenes			<1	<3	<10
MTBE			2	2	4
Naphthalene			<5	<5	<5
DCA			na	<1	<5
EDB			<0.02	<0.02	<0.02
Lead			na	**210**	<5

MW-20			4/12/03	12/22/09	11/19/10
DTW			3.52	4.89	5.47
Benzene			<1	<1	<5
Toluene			<1	<1	<5
Ethylbenzene			<1	<1	<5
Xylenes			<1	<3	<10
MTBE			2	<1	<5
Naphthalene			<5	<5	<5
DCA			na	<1	<5
EDB			<0.02	<0.02	<0.02
Lead			na	**214**	7

MW-21			4/12/03	12/22/09	11/19/10
DTW			5.05	8.67	9.90
Benzene			<1	<1	<5
Toluene			<1	<1	<5
Ethylbenzene			<1	<1	<5
Xylenes			<1	<3	<10
MTBE			2	<1	<5
Naphthalene			<5	<5	<5
DCA			na	<1	<5
EDB			<0.02	<0.02	<0.02
Lead			na	**63**	<5

MW-22			4/12/03	2/09	11/19/10
DTW			11.96	9.87	20.77
Benzene			<1	<1	<5
Toluene			<1	<1	<5
Ethylbenzene			<1	<1	<5
Xylenes			<1	<3	<10
MTBE			2	<1	<5
Naphthalene			<5	<5	<5
DCA			na	<1	<5
EDB			<0.02	<0.02	<0.02
Lead			na	**49**	<5

MW-23			4/12/03	12/22/09	
DTW			13.87	well	
Benzene			<1	destroyed	
Toluene			<1		
Ethylbenzene			<1		
Xylenes			<1		
MTBE			2		
Naphthalene			<5		
DCA			na		
EDB			<0.02		
Lead			na		

MW-24					11/19/10
DTW					19.48
Benzene					**6830**
Toluene					**17300**
Ethylbenzene					**2320**
Xylenes					**10400**
MTBE					**<500**
Naphthalene					**397**
DCA					**<500**
EDB					**87.80**
Lead					**65**

MW-25					11/19/10
DTW					18.26
Benzene					**4060**
Toluene					**5550**
Ethylbenzene					471
Xylenes					1720
MTBE					**266**
Naphthalene					**<500**
DCA					**<500**
EDB					**54.90**
Lead					**17**

MW-26					11/19/10
DTW					16.49
Benzene					**211**
Toluene					11
Ethylbenzene					15
Xylenes					18
MTBE					12
Naphthalene					4
DCA					2
EDB					<0.02
Lead					<5

MW-27					11/19/10
DTW					17.89
Benzene					**177**
Toluene					2
Ethylbenzene					8
Xylenes					<10
MTBE					9
Naphthalene					<5
DCA					4
EDB					<0.02
Lead					<5

MW-28					11/19/10
DTW					17.33
Benzene					**3410**
Toluene					**5070**
Ethylbenzene					698
Xylenes					3250
MTBE					**164**
Naphthalene					**173**
DCA					**<250**
EDB					**22.80**
Lead					**52**

MW-29					11/19/10
DTW					16.39
Benzene					<5
Toluene					<5
Ethylbenzene					<5
Xylenes					<10
MTBE					<5
Naphthalene					<5
DCA					<5
EDB					<0.02
Lead					<5

MW-30					11/19/10
DTW					20.49
Benzene					<5
Toluene					<5
Ethylbenzene					<5
Xylenes					<10
MTBE					<5
Naphthalene					<5
DCA					<5
EDB					<0.02
Lead					<5

MW-31					11/19/10
DTW					18.80
Benzene					<5
Toluene					<5
Ethylbenzene					<5
Xylenes					<10
MTBE					<5
Naphthalene					<5
DCA					<5
EDB					**0.18**
Lead					<5

MW-32					11/19/10
DTW					4.24
Benzene					<5
Toluene					<5
Ethylbenzene					<5
Xylenes					<10
MTBE					<5
Naphthalene					<5
DCA					<5
EDB					<0.02
Lead					<5

MW-33					11/19/10
DTW					16.31
Benzene					**144**
Toluene					714
Ethylbenzene					152
Xylenes					419
MTBE					**<50**
Naphthalene					**<50**
DCA					**<50**
EDB					**0.20**
Lead					<5

MW-34D					11/19/10
DTW					16.68
Benzene					<5
Toluene					<5
Ethylbenzene					<5
Xylenes					<10
MTBE					4
Naphthalene					<5
DCA					<5
EDB					<0.02
Lead					<5

MW-35i					11/19/10
DTW					4.07
Benzene					<5
Toluene					<5
Ethylbenzene					<5
Xylenes					<10
MTBE					<5
Naphthalene					<5
DCA					<5
EDB					<0.02
Lead					<5

CS-1	7/14/00	3/10/02	4/12/03	12/22/09	11/19/10
DTW					
Benzene	ns	ns	ns	<1	<1
Toluene				<1	<1
Ethylbenzene				<1	<1
Xylenes				<3	<3
MTBE				<1	<1
Naphthalene				<5	<1
DCA				na	<1
EDB				na	<0.02
Lead				na	na

CS-2	7/14/00	3/10/02	4/12/03	12/22/09	11/19/10
DTW					
Benzene	ns	ns	ns	<1	<1
Toluene				<1	<1
Ethylbenzene				<1	<1
Xylenes				<3	<3
MTBE				<1	<1
Naphthalene				<5	<1
DCA				na	<1
EDB				na	<0.02
Lead				na	na

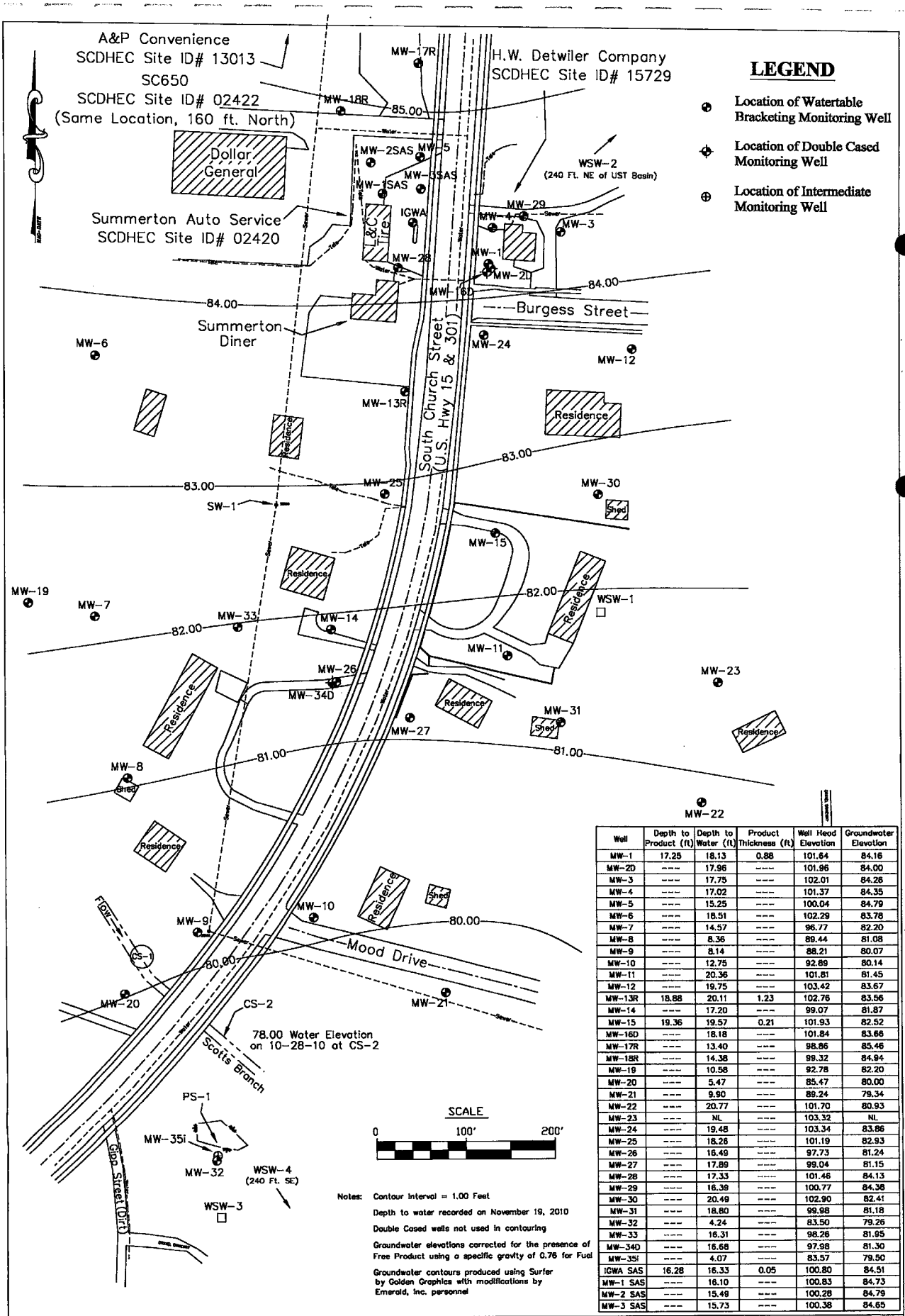
WSW-1	7/14/00	3/10/02	4/12/03	12/22/09	11/19/10
DTW					
Benzene	ns	nd	ns	<1	<1
Toluene		nd		<1	<1
Ethylbenzene		nd		<1	<1
Xylenes		nd		<3	<3
MTBE		nd		<1	<1
Naphthalene		nd		<5	<1
DCA		na		<1	<1
EDB		na		<0.02	<0.02
Lead		na		na	na

WSW-2	7/14/00	3/10/02	4/12/03	12/22/09	11/19/10
DTW					
Benzene	ns	ns	ns	<1	ns
Toluene				<1	
Ethylbenzene				<1	
Xylenes				<3	
MTBE				<1	
Naphthalene				<5	
DCA				<1	
EDB				<0.02	
Lead				na	

WSW-3	7/14/00	3/10/02	4/12/03	12/22/09	11/19/10
DTW					
Benzene	ns	ns	ns	ns	<1
Toluene					<1
Ethylbenzene					<1
Xylenes					<3
MTBE					<1
Naphthalene					<1
DCA					<1
EDB					<0.02
Lead					na

WSW-4	7/14/00	3/10/02	4/12/03	12/22/09	11/19/10
DTW					
Benzene	ns	ns	ns	ns	<1
Toluene					<1
Ethylbenzene					<1
Xylenes					<3
MTBE					<1
Naphthalene					<1
DCA					<1
EDB					<0.02
Lead					na

FP- free-phase product
na- not analyzed
ns- not sampled
nm- not measured
unk- unknown



LEGEND

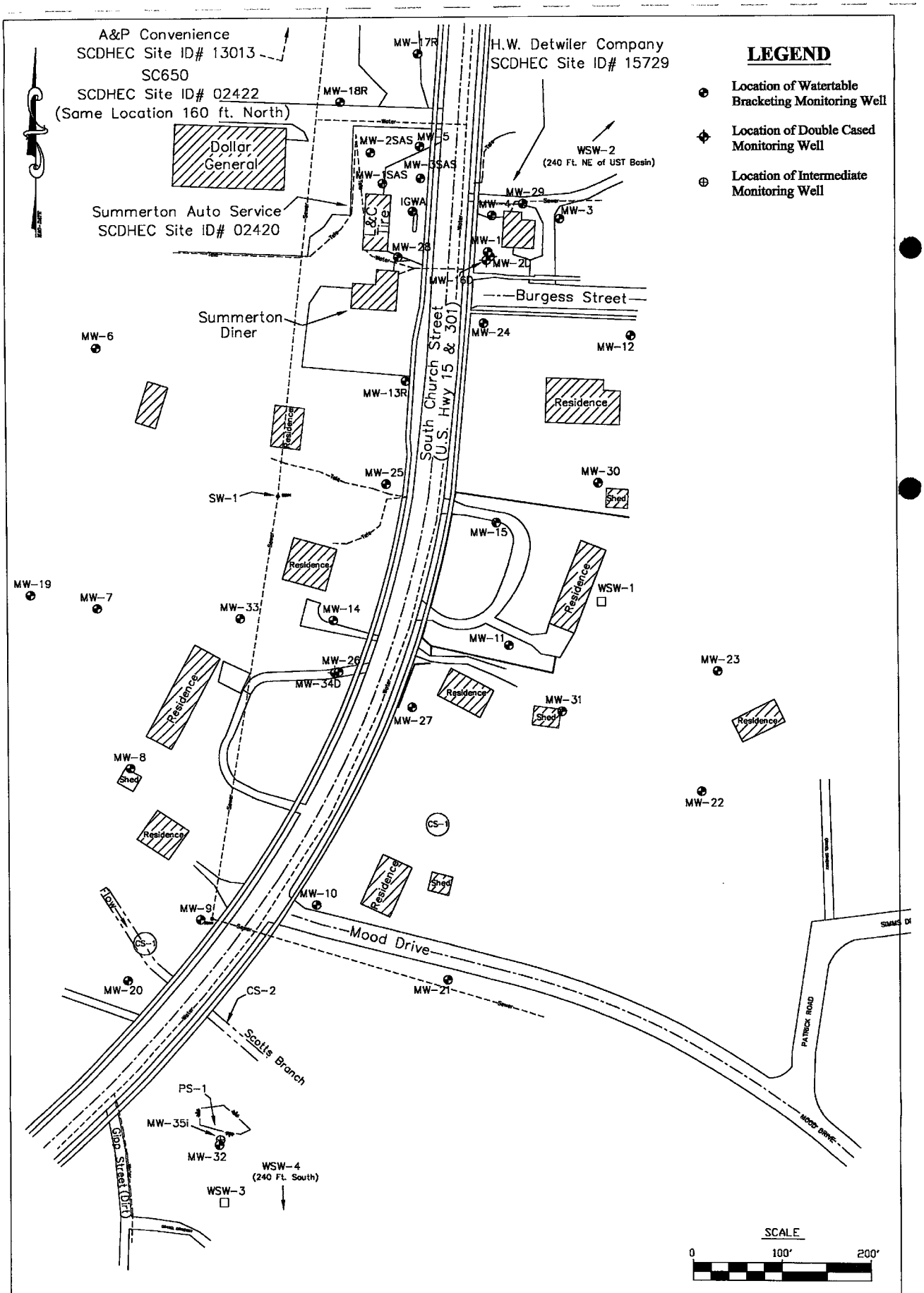
- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased Monitoring Well
- Location of Intermediate Monitoring Well

Well	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Well Head Elevation	Groundwater Elevation
MW-1	17.25	18.13	0.88	101.64	84.16
MW-2D	---	17.96	---	101.96	84.00
MW-3	---	17.75	---	102.01	84.26
MW-4	---	17.02	---	101.37	84.35
MW-5	---	15.25	---	100.04	84.79
MW-6	---	18.51	---	102.29	83.78
MW-7	---	14.57	---	96.77	82.20
MW-8	---	8.36	---	89.44	81.08
MW-9	---	8.14	---	88.21	80.07
MW-10	---	12.75	---	92.89	80.14
MW-11	---	20.36	---	101.81	81.45
MW-12	---	19.75	---	103.42	83.67
MW-13R	18.88	20.11	1.23	102.76	83.56
MW-14	---	17.20	---	99.07	81.87
MW-15	19.36	19.57	0.21	101.93	82.52
MW-16D	---	18.18	---	101.84	83.66
MW-17R	---	13.40	---	98.86	85.46
MW-18R	---	14.38	---	99.32	84.94
MW-19	---	10.58	---	92.78	82.20
MW-20	---	5.47	---	85.47	80.00
MW-21	---	9.90	---	89.24	79.34
MW-22	---	20.77	---	101.70	80.93
MW-23	---	NL	---	103.32	NL
MW-24	---	19.48	---	103.34	83.86
MW-25	---	18.26	---	101.19	82.93
MW-26	---	16.49	---	97.73	81.24
MW-27	---	17.89	---	99.04	81.15
MW-28	---	17.33	---	101.46	84.13
MW-29	---	16.39	---	100.77	84.38
MW-30	---	20.49	---	102.90	82.41
MW-31	---	18.80	---	99.98	81.18
MW-32	---	4.24	---	83.50	79.26
MW-33	---	16.31	---	98.26	81.95
MW-34D	---	16.68	---	97.98	81.30
MW-35I	---	4.07	---	83.57	79.50
IGWA SAS	16.28	16.33	0.05	100.80	84.51
MW-1 SAS	---	16.10	---	100.83	84.73
MW-2 SAS	---	15.49	---	100.28	84.79
MW-3 SAS	---	15.73	---	100.38	84.65

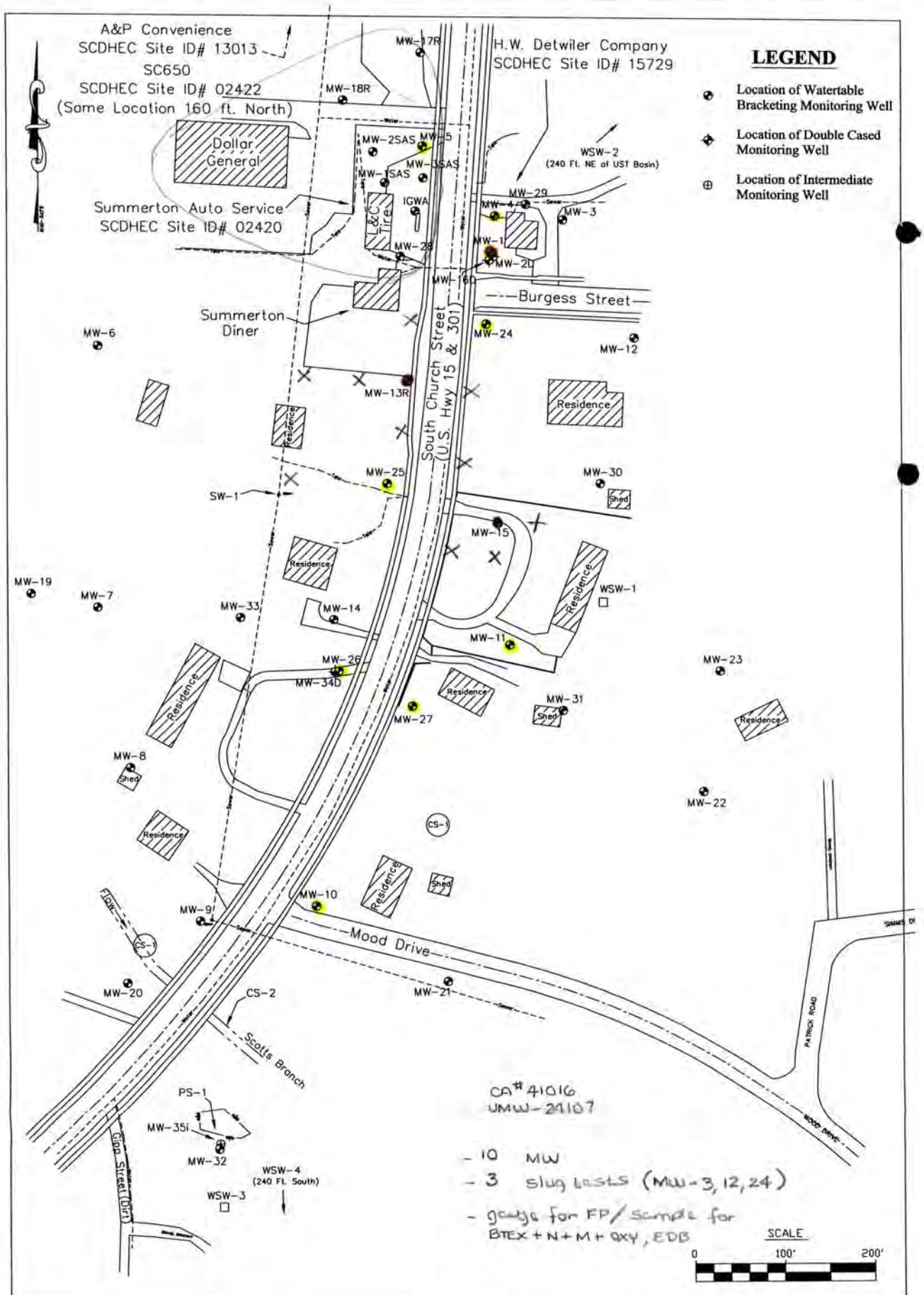
Notes:
Contour Interval = 1.00 Feet
Depth to water recorded on November 19, 2010
Double Cased wells not used in contouring
Groundwater elevations corrected for the presence of Free Product using a specific gravity of 0.76 for Fuel
Groundwater contours produced using Surfer by Golden Graphics with modifications by Emerald, Inc. personnel

PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 4 GROUNDWATER CONTOUR MAP	E1258DWLO WORK DATE(S): 9/17/10 - 10/12/10	SUMTER, SOUTH CAROLINA

SCANNED VERIFIED
UST PROGRAM
DOCKETING # 3B Tech



PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 SITE MAP	E1257DWLO WORK DATE(S): 9/17/10 - 10/12/10	SUMTER, SOUTH CAROLINA



PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 SITE MAP	E1257DWLO WORK DATE(S): 9/17/10 - 10/12/10	SUMTER, SOUTH CAROLINA

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

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January 7, 2011

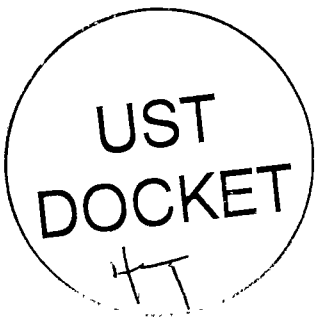
Minda Johnson, Hydrogeologist
Assessment Section
UST Management Division
Underground Storage Tank Program
Bureau of Land and Waste Management
SCDHEC
2600 Bull Street
Columbia, S.C. 29201

Re: H.W. Detwiler Co., 37 S. Church St., Summerton, SC
UST Permit #15729; CA #39530
Additional Assessment & AFVR Event Report
Clarendon County

Dear Ms. Johnson:

On behalf of Mr. Harold Detwiler, Emerald, Inc. is providing you with one copy of the completed Additional Assessment & AFVR Report for the Detwiler site. As the report states, the horizontal and vertical extent of the groundwater contamination appears to be reasonably defined. Free phase product was detected in three monitoring wells, i.e., MW-1, MW-13R, and MW-15 (first time) as well as the IGWA monitoring well located at the Summerton Auto Service directly across the street from the Detwiler site. We have recommended AFVR events to remove free phase product on and around the site along with the installation of additional monitoring wells to determine the possible petroleum impact to the sewer line and Scotts Branch.

If you have any questions regarding the report and its findings, please contact either Chad McClary or myself at (803)469-5454.



Celebrating 20 Years
1990-2010

Yours very truly,
Emerald, Inc.

Ronny L. Lowder
President

RLL/jrb

Enclosure

cc: Mr. Harold W. Detwiler, Jr.

Emerald, Inc.

CONSULTING AND ENGINEERING
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REPORT OF ADDITIONAL ASSESSMENT
AND AFVR EVENT
H.W. DETWILER COMPANY
37 SOUTH CHURCH STREET
SUMMERTON, SOUTH CAROLINA
Site ID # 15729
COST AGREEMENT # 39530

Prepared For:

South Carolina Department of Health and Environmental Control
Bureau of Land & Waste Management
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

Prepared By:

Emerald, Inc.
UST Site Rehabilitation Contractor #67
P.O. Box 3050
2520 Tahoe Drive
Sumter, South Carolina 29151

December 30, 2010

Celebrating 20 Years
1990-2010

Signature Page

This document entitled "Report of Additional Assessment and AFVR Event", has been prepared for the South Carolina Department of Health and Environmental Control to describe investigative activities initiated at the H.W. Detwiler Company site located in Summerton, South Carolina. It has been prepared under the direct supervision of William C. McClary in accordance with accepted quality control practices. All questions or comments concerning this report should be directed to Ronny L. Lowder or William C. McClary, P.G., Emerald, Inc., at 803-469-5454.

Emerald, Inc.

Ronny L. Lowder
President

Emerald, Inc.

William C. McClary, P.G.
South Carolina Registration #2386

Report of Additional Assessment
and AFVR Event
H.W. Detwiler Company
37 South Church Street
Summerton, South Carolina

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A) Boring Logs & Water Well Records
B) Monitoring Well Purge Forms
C) Analytical Data Sheets
D) Disposal Manifests
E) Site Survey Map

1.0 Introduction

The H.W. Detwiler (Detwiler) site is located within the City of Summerton on the northeastern corner of the intersection of S. Church Street (S.C. Hwy. 15) and Burgess Street. The subject site is currently used as an office building. Formerly, the site was used by a construction company which stored gasoline in two (2) underground storage tanks (USTs) for its fleet of vehicles. The two (2) USTs, 1000 gallons each, were permanently closed by removal in June 1993 by G&K Tank Services. The Detwiler site is located within an area of mixed use. Commercial activities including a restaurant, a former gasoline service station (Summerton Auto Service SCDHEC Site ID# 02420) and a convenience store with gasoline USTs (A&P Convenience SCDHEC Site ID# 13013 and SC650 SCDHEC Site ID# 02422) are located west and northwest of the subject site respectively. The areas north, east and south of the subject site are used for residential purposes. According to local sources, a former gasoline station was located approximately 300 feet south of the Detwiler site (along the eastern side of S. Church Street) in the 1940s and 1950s. (This area is near MW15 as seen in Figure 3). A general site location map and a site topographic map are provided in Figures 1 and 2 respectively.

A site assessment was conducted by Duncan Environmental Associates, Inc. at the time of closure and a release notification was sent to SCDHEC on June 22, 1993. This assessment indicated soil contamination above the reporting limits for BTEX and TPH compounds.

In July of 2000, an Initial Ground Water Assessment (IGWA) was conducted by Emerald, Inc at the subject site. This assessment included the installation of one groundwater monitoring well. Gauging of this well indicated the presence of free product

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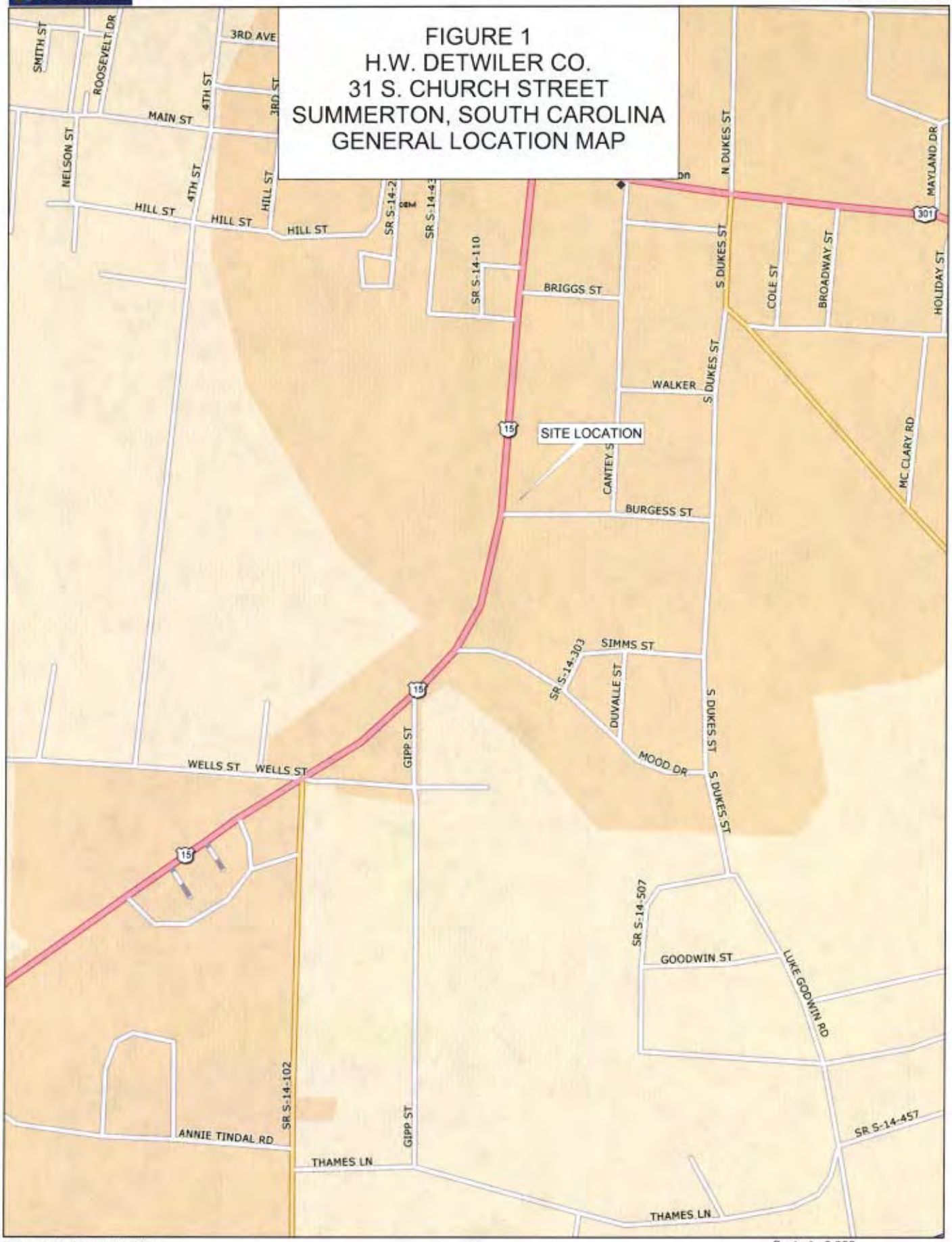
FIGURE 1
H.W. DETWILER CO.
31 S. CHURCH STREET
SUMMERTON, SOUTH CAROLINA
GENERAL LOCATION MAP



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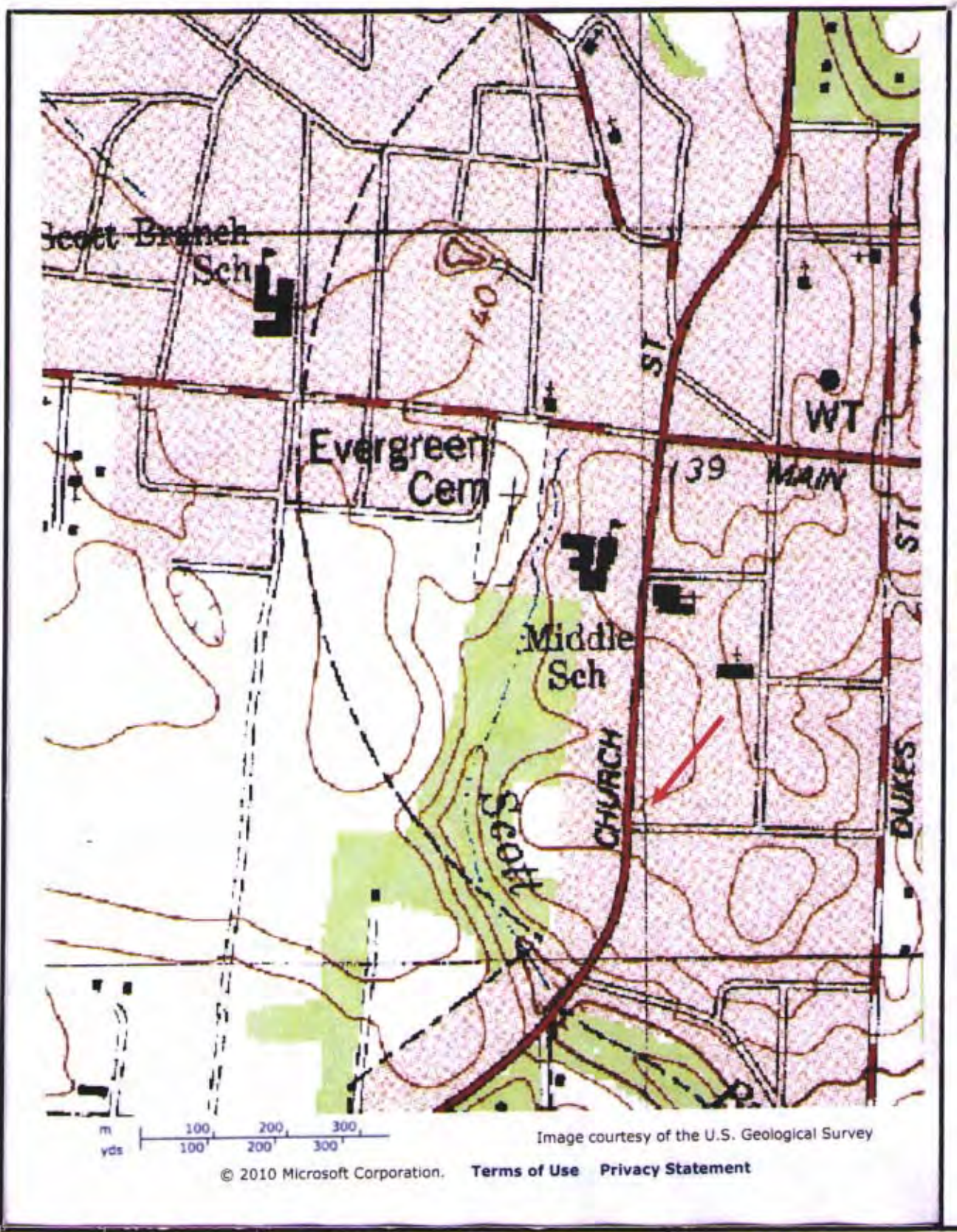
TN
MN (7.3°W)

Scale 1 : 8,000

1" = 666.7 ft

Data Zoom 14-6



H.W. DETWILER CO.
31 S. CHURCH STREET
SUMMERTON, SC
SITE ID #15729

FIGURE 2
USGS TOPOGRAPHIC MAP
7.5 MINUTE SERIES
"SUMMERTON, SC" QUADRANGLE
SCALE: 1:24 000

Emerald, Inc.
Sumter, SC

adjacent to the former UST basin. In April of 2002 Emerald, Inc. submitted a Tier II assessment report for the subject site. This assessment included field screening, the installation of fourteen additional monitoring wells, aquifer testing, and monitoring well sampling. Groundwater sampling indicated the groundwater contaminant plume was not fully defined. In April of 2003, Emerald, Inc submitted a Tier II Assessment Report (Addendum 01). This assessment included field screening, monitoring well installation, monitoring well sampling and surface water sampling. This assessment was conducted to better define the horizontal and vertical extent of the contaminant plume. In December 2009, SCDHEC requested a comprehensive groundwater sampling event (report dated February 26, 2010) for the site. This sampling event was conducted to provide current groundwater quality data for the subject site. During this sampling event, four monitoring wells were not located and possibly destroyed.

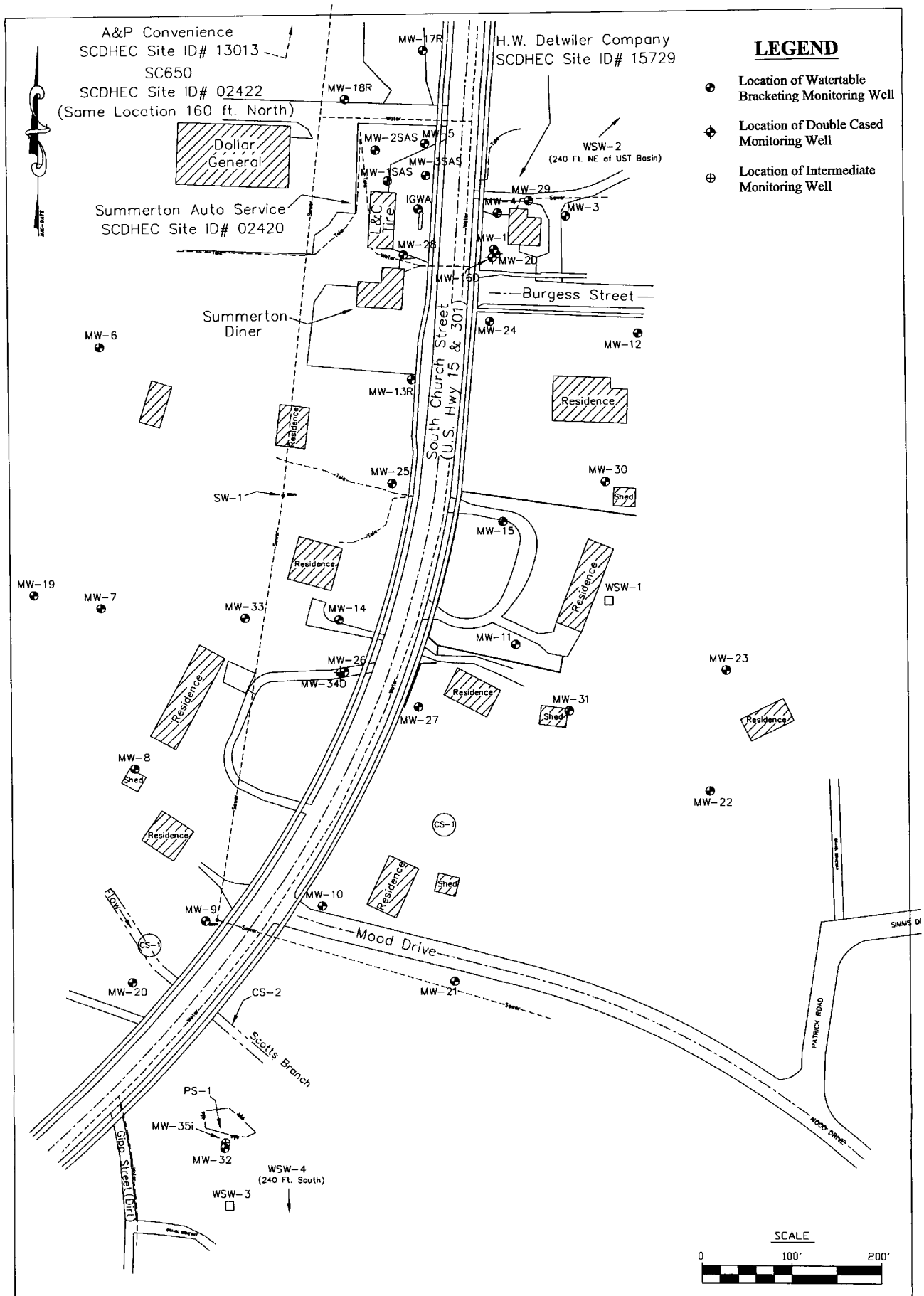
In August of 2010, SCDHEC requested Aggressive Fluid Vapor Recovery Event (AFVR), additional monitoring well installation and monitoring well sampling at the subject site. This report represents the findings of this event.

2.0 Site Activities

Emerald, Inc. personnel conducted this additional assessment at the H.W. Detwiler Company site to conduct an AFVR event to remove free product, install additional monitoring wells, sample nearby receptors and conduct a comprehensive sampling event of monitoring wells on and surrounding the site. Field activities required to generate site-specific information for the H.W. Detwiler site are described in detail within this section. Figure 3 contains a site map for H.W. Detwiler Company site presenting well locations, water supply well locations, relevant structures and utilities.

2.1 AFVR Event

On September 8, 2010, Emerald, Inc. personnel, assisted by vacuum equipment from TK Tank Services, Inc., performed an Agressive Fluid Vapor Recovery (AFVR) event on monitoring well MW-1 at the H.W. Detwiler Company site. This event was conducted to remove free phase petroleum product detected in this well during prior gauging events. Prior to the beginning of the AFVR event, MW-1 contained 0.56 feet of free phase petroleum product. Table 1 shows the recorded data for the event which includes off gas concentrations, off gas velocities, and magnehelic readings for nearby monitoring wells. Free phase product was not detected in MW-1 at the end of the event. Emerald, Inc. field personnel collected data at thirty minute intervals until the event was terminated after eight hours. A total of 800 gallons of liquid hydrocarbons and water were removed and delivered to TK Tank Services, Inc., in Sumter, SC, for disposal. Free product was not detected in the holding tank at the completion of the AFVR event. Appendix C contains a copy of the disposal manifest for the event.



PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 SITE MAP	E1257DWLO WORK DATE(S): 9/17/10 - 10/12/10	SUMTER, SOUTH CAROLINA

TABLE 1
AFVR MONITORING DATA

SITE: H. W. Detwiler Company
LOCATION: 37 South Church Street, Summerton, SC
SCDHEC SITE ID NUMBER: 15729

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Vacuum (in. Hg)	Vacuum Truck Exhaust: Off-Gas Concentration (PPM) *	Offgas Velocity (ft/min)	Flow Rate (CFM)	CG:M (mg/dsm^3)	Cg (Lb/Dscf)	Removal Rate (Lbs/Hr)	Interval Removal (Lbs)	Magnehelic Gauge Readings: MW-4			
MW-1	9/8/2010	8:00	Start	16	977.3	345	21.58	5,197	3.24E-04	0.42	-	NR			
		8:30	0.5	17	896.0	293	18.32	4,765	2.97E-04	0.33	0.37	0.20			
		9:00	0.5		759.6	281	17.57	4,039	2.52E-04	0.27	0.30	0.07			
		9:30	0.5		785.1	640	40.03	4,175	2.61E-04	0.63	0.45	0			
		10:00	0.5		1,296	1,024	64.04	6,892	4.30E-04	1.65	1.14	0			
		10:30	0.5		1,304	960	60.04	6,934	4.33E-04	1.56	1.61	0			
		11:00	0.5		989.4	974	60.91	5,261	3.28E-04	1.20	1.38	0			
		12:00	1.0		965.7	1,218	76.17	5,135	3.21E-04	1.47	1.47	0			
		12:30	0.5	17	968.9	348	21.76	5,152	3.22E-04	0.42	0.94	0			
		13:00	0.5		959.6	1,173	73.36	5,103	3.19E-04	1.40	0.91	0			
		13:30	0.5		1,064	1,251	78.24	5,658	3.53E-04	1.66	1.53	0			
		14:00	0.5		1,015	1,119	69.98	5,397	3.37E-04	1.41	1.54	0			
		14:30	0.5		919	1,161	72.61	4,887	3.05E-04	1.33	1.37	0			
		15:00	0.5		934	904	56.54	4,967	3.10E-04	1.05	1.19	0			
		15:30	0.5		921	900	56.29	4,898	3.06E-04	1.03	1.04	0			
		16:00	0.5		1,188	930	58.16	6,317	3.94E-04	1.38	1.20	0			

Well Gauging Data:

Well No.	Diameter (in)	Screened Interval (ft)	Before AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	After AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)
MW-1	2	13-23	16.73	17.29	0.56	---	16.87	---

AFVR Information		Well ID	Stinger Depth (FT)
Subcontractor:	TK Tank	MW-1	16.80
Operator:	R. Smoot		
Stack I.D. (feet)	0.25		

Recovery / Disposal Information		
Hydrocarbons Removed (vapor):	15.23	Pounds
Hydrocarbons Removed (liquid):		Gallons
Total Hydrocarbons Removed:	2.436	Equivalent Gallons
Molecular Weight Utilized:	128	mg/mg-mole
Disposal Facility:	TK Tank Services	
Total Liquids Removed:	800	Gallons

Notes:

PPM = Part per Million (by PID)

Cg:m = mg/dsm3 (mass concentration of gasoline emission)

Mg = 128mg/mg-mole, molecular weight of gasoline

K3 = 24.07 dsm^3/1E6 mg-mole, mass to volume conversion

Cg = lb/dcsf, mass concentration of gasoline by emission

Removal Rate = lb/hr, pollutant mass removal rate of emission

Equations

Cg;m = PPMg*(Mg/K3)

Cg = Cg;m * 62.43 E-9 lb-m^3/mg-ft^3

Removal Rate = Cg * Flow Rate * 60Min/Hr

Interval Removal = $(T_1 + T_2)/2$

General Weather Conditions:

85^0 F

Partly Cloudy and Humid

2.2 Monitoring Well Installation

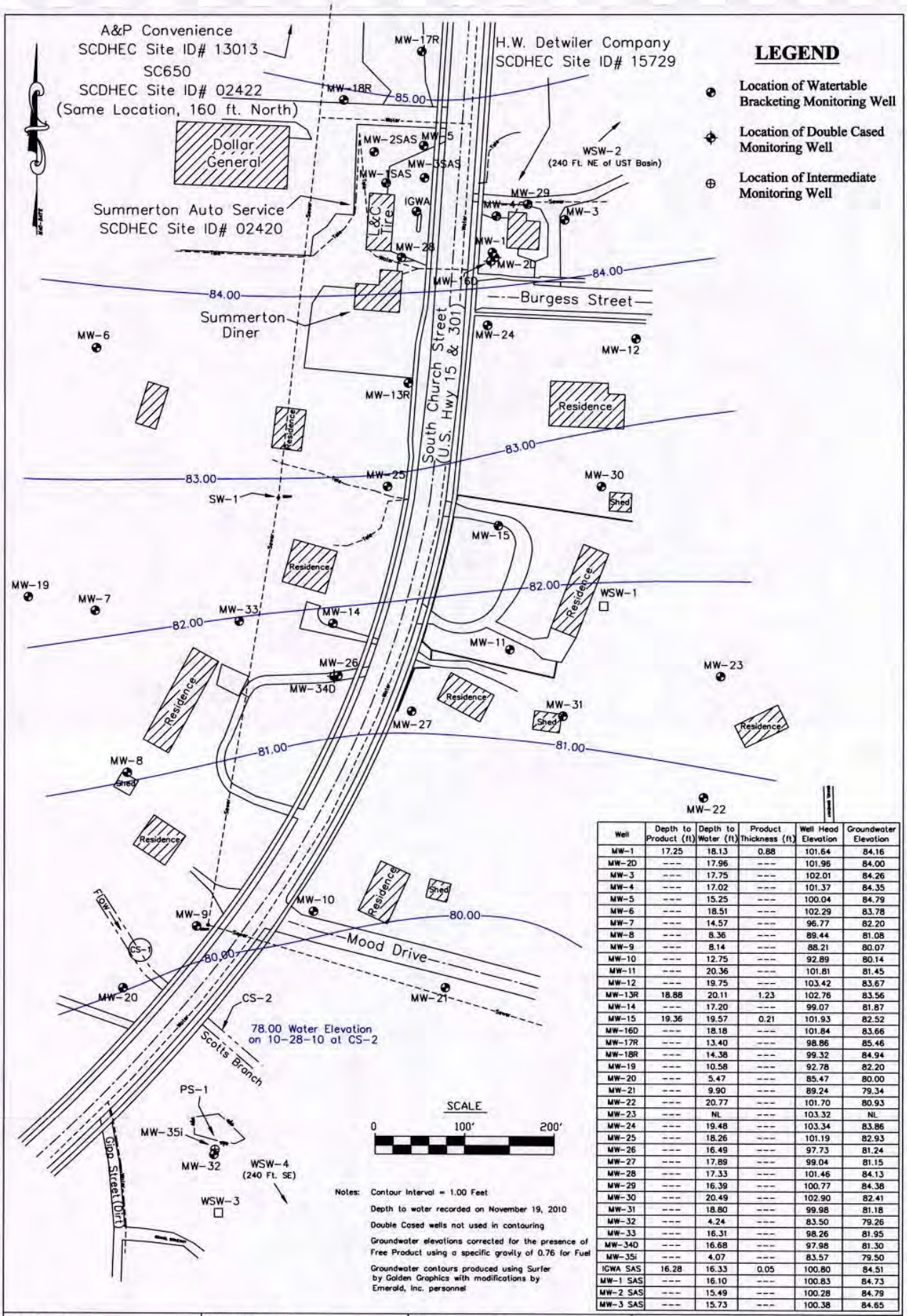
Well drilling activities were performed using an ATV-mounted and truck-mounted drilling rig equipped with hollow-stem augers. Personnel from Geologic Exploration (Brian Thomas (B) # 01465 and Vincent Federle (D) # 1930) performed the monitoring well installation under the supervision of Emerald, Inc. personnel. During the installation of the groundwater monitoring wells, the soil in each boring was field screened at five foot intervals using a PID (Photoionization Detector).

During this event, thirteen watertable bracketing monitoring wells (MW-13R, MW-17R, MW-18R and MW-24 through 33), one double cased well (MW-34D) and one single cased well with a submerged screen (MW-35i) were installed at the site. Monitoring wells denoted with a "R" were replacement wells installed in the general location of the previously installed well. The Boring Logs and Water Well Records can be found in Appendix A. The attached Figure 6 (Appendix A) presents the cross section profile lines for the site. Cross sections A-A' and B-B' (Appendix A) present generalized subsurface conditions encountered at the site. Soil cuttings, drilling mud and development water produced during drilling activities were placed in 55 gallon drums and shipped to TK Tank Services in Sumter, SC for disposal (See Appendix C for copies of the disposal manifests).

2.3 Static Water Level Measurement

Prior to well purging or sample collection from each of the 34 monitoring wells located at the subject site, water levels were taken to the nearest 0.01 foot using a graduated electronic indicator. Three monitoring wells (MW-1, MW-13R and MW-15) contained measurable free product at the time of sampling and were gauged and not sampled. Four monitoring wells installed in association with work being conducted at the

Summerton Auto Service (SCDHEC Site ID# 02420) were also gauged to measure possible free phase product. These wells are labeled "SAS" on the attached figures. Measurements were taken from the surveyed top of the well casing so they could be referenced to a common datum. Water levels and groundwater elevations are summarized in Table 2. Based upon the groundwater elevations recorded during this sampling event, groundwater flow in the shallow aquifer appears to be to the south, towards Scotts Branch. See Figure 4 for a Groundwater Potentiometric Surface Map for the shallow aquifer.



LEGEND

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased Monitoring Well
- Location of Intermediate Monitoring Well

Well	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Well Head Elevation	Groundwater Elevation
MW-1	17.25	18.13	0.88	101.64	84.16
MW-2D	---	17.96	---	101.96	84.00
MW-3	---	17.75	---	102.01	84.26
MW-4	---	17.02	---	101.37	84.35
MW-5	---	15.25	---	100.04	84.79
MW-6	---	18.51	---	102.29	83.78
MW-7	---	14.57	---	96.77	82.20
MW-8	---	8.36	---	89.44	81.08
MW-9	---	8.14	---	88.21	80.07
MW-10	---	12.75	---	92.89	80.14
MW-11	---	20.36	---	101.81	81.45
MW-12	---	19.75	---	103.42	83.67
MW-13R	18.88	20.11	1.23	102.76	83.56
MW-14	---	17.20	---	99.07	81.87
MW-15	19.36	19.57	0.21	101.93	82.52
MW-16D	---	18.18	---	101.84	83.66
MW-17R	---	13.40	---	98.86	85.46
MW-18R	---	14.38	---	99.32	84.94
MW-19	---	10.58	---	92.78	82.20
MW-20	---	5.47	---	85.47	80.00
MW-21	---	9.90	---	89.24	79.34
MW-22	---	20.77	---	101.70	80.93
MW-23	---	NL	---	103.32	NL
MW-24	---	19.48	---	103.34	83.86
MW-25	---	18.26	---	101.19	82.93
MW-26	---	16.49	---	97.73	81.24
MW-27	---	17.89	---	99.04	81.15
MW-28	---	17.33	---	101.46	84.13
MW-29	---	16.39	---	100.77	84.38
MW-30	---	20.49	---	102.90	82.41
MW-31	---	18.80	---	99.98	81.18
MW-32	---	4.24	---	83.50	79.26
MW-33	---	16.31	---	98.26	81.95
MW-34D	---	16.68	---	97.98	81.30
MW-35i	---	4.07	---	83.57	79.50
IGWA SAS	16.28	16.33	0.05	100.80	84.51
MW-1 SAS	---	16.10	---	100.83	84.73
MW-2 SAS	---	15.49	---	100.28	84.79
MW-3 SAS	---	15.73	---	100.38	84.65

Notes:
Contour Interval = 1.00 Feet
Depth to water recorded on November 19, 2010
Double Cased wells not used in contouring
Groundwater elevations corrected for the presence of Free Product using a specific gravity of 0.76 for Fuel
Groundwater contours produced using Surfer by Golden Graphics with modifications by Emerald, Inc. personnel

PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 4 GROUNDWATER CONTOUR MAP	E1258DWLO WORK DATE(S): 9/17/10 - 10/12/10	SUMTER, SOUTH CAROLINA

TABLE 2
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
(PAGE 1 OF 2)

Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	pH			Conductivity			Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
				1 St Vol.	2 nd Vol.	3 rd Vol.	1 St Vol.	2 nd Vol.	3 rd Vol.						
MW-1	3/10/02	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	13-23	19.44	21.22	1.78	101.64	81.74
	4/12/03	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD		11.40	15.09	3.69	101.64	89.28
	11/11/04	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD		16.88	17.78	0.90	101.64	84.53
	12/21/09	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD		16.34	16.85	0.51	101.64	85.17
	9/8/10	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD		16.73	17.29	0.56	101.64	84.76
	11/19/10	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD		17.25	18.13	0.88	101.64	84.16
MW-2D	3/10/02	--	--	--	--	--	--	--	--	42-47	--	18.29	--	101.96	83.67
	4/12/03	--	--	--	--	--	--	--	--		--	14.80	--	101.96	87.16
	12/21/09	--	--	--	--	--	--	--	--		--	16.68	--	101.96	85.28
	11/22/10	3.51	24.3	6.65	6.41	6.43	145.8	117.3	117.8		--	17.96	--	101.96	84.00
MW-3	3/10/02	--	--	--	--	--	--	--	--	13-23	--	18.09	--	102.01	83.92
	4/2/03	--	--	--	--	--	--	--	--		--	13.45	--	102.01	88.56
	12/21/09	--	--	--	--	--	--	--	--		--	16.53	--	102.01	85.48
	11/22/10	--	--	--	--	--	--	--	--		--	17.75	--	102.01	84.26
MW-4	3/10/02	--	--	--	--	--	--	--	--	15-25	--	17.39	--	101.37	83.98
	4/2/03	--	--	--	--	--	--	--	--		--	11.98	--	101.37	89.39
	12/21/09	--	--	--	--	--	--	--	--		--	15.95	--	101.37	85.42
	11/22/10	--	--	--	--	--	--	--	--		--	17.02	--	101.37	84.35
MW-5	3/10/02	--	--	--	--	--	--	--	--	15-25	--	15.52	--	100.04	84.52
	4/2/03	--	--	--	--	--	--	--	--		--	14.34	--	100.04	85.70
	12/21/09	--	--	--	--	--	--	--	--		--	14.13	--	100.04	85.91
	11/22/10	--	--	--	--	--	--	--	--		--	15.25	--	100.04	84.79
MW-6	3/10/02	--	--	--	--	--	--	--	--	15-25	--	18.56	--	102.29	83.73
	4/2/03	--	--	--	--	--	--	--	--		--	15.70	--	102.29	86.59
	12/22/09	--	--	--	--	--	--	--	--		--	17.74	--	102.29	84.55
	11/22/10	--	--	--	--	--	--	--	--		--	18.51	--	102.29	83.78
MW-7	3/10/02	--	--	--	--	--	--	--	--	10-20	--	14.55	--	96.77	82.22
	4/12/03	--	--	--	--	--	--	--	--		--	12.09	--	96.77	84.68
	12/22/09	--	--	--	--	--	--	--	--		--	13.85	--	96.77	82.92
	11/19/10	--	--	--	--	--	--	--	--		--	14.57	--	96.77	82.20
MW-8	3/10/02	--	--	--	--	--	--	--	--	5-15	--	8.35	--	89.44	81.09
	4/12/03	--	--	--	--	--	--	--	--		--	3.10	--	89.44	86.34
	12/22/09	--	--	--	--	--	--	--	--		--	3.70	--	89.44	85.74
	11/19/10	--	--	--	--	--	--	--	--		--	8.36	--	89.44	81.08
MW-9	3/10/02	--	--	--	--	--	--	--	--	5-15	--	8.21	--	88.21	80.00
	4/12/03	--	--	--	--	--	--	--	--		--	5.40	--	88.21	82.81
	12/22/09	--	--	--	--	--	--	--	--		--	7.37	--	88.21	80.84
	11/19/10	--	--	--	--	--	--	--	--		--	8.14	--	88.21	80.07
MW-10	3/10/02	--	--	--	--	--	--	--	--	8-18	--	12.81	--	92.89	80.08
	4/12/03	--	--	--	--	--	--	--	--		--	10.02	--	92.89	82.87
	12/22/09	--	--	--	--	--	--	--	--		--	11.88	--	92.89	81.01
	11/19/10	--	--	--	--	--	--	--	--		--	12.75	--	92.89	80.14
MW-11	3/10/02	--	--	--	--	--	--	--	--	15-25	--	20.61	--	101.81	81.20
	4/12/03	--	--	--	--	--	--	--	--		--	13.66	--	101.81	88.15
	12/21/09	--	--	--	--	--	--	--	--		--	19.46	--	101.81	82.35
	11/19/10	--	--	--	--	--	--	--	--		--	20.36	--	101.81	81.45
MW-12	3/10/02	--	--	--	--	--	--	--	--	15-25	--	20.29	--	103.42	83.13
	4/2/03	--	--	--	--	--	--	--	--		--	13.52	--	103.42	89.90
	12/21/09	--	--	--	--	--	--	--	--		--	18.57	--	103.42	84.85
	11/22/10	--	--	--	--	--	--	--	--		--	19.75	--	103.42	83.67
MW-13	3/10/02	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	15-25	19.10	20.38	1.28	102.69	83.26
	4/2/03	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD		14.45	14.93	0.48	102.69	88.12
	11/11/04	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD		18.40	19.10	0.70	102.69	84.11
	12/22/09	NL	NL	NL	NL	NL	NL	NL	NL						
MW-13R	11/19/10	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	12-22	18.88	20.11	1.23	102.76	83.56
MW-14	3/10/02	--	--	--	--	--	--	--	--	15-25	--	17.33	--	99.07	81.74
	4/12/03	--	--	--	--	--	--	--	--		--	12.39	--	99.07	86.68
	12/22/09	--	--	--	--	--	--	--	--		--	16.40	--	99.07	82.67
	11/19/10	--	--	--	--	--	--	--	--		--	17.20	--	99.07	81.87

Notes
1 ug/l = micrograms per liter
2 mg/l = milligrams per liter
3 NT = Not Tested
4 NS = Not Sampled
5. Conductivity measured in *m*ohms
6 NL = Not Located
7 Well Head Elevations from RLS Survey
8 Static Water Levels measured on 11/19/10
9 Wells labeled SAS installed for Summerton Auto Service
10 Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline

TABLE 2
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
(PAGE 2 OF 2)

Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	pH			Conductivity			Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
				1 St Vol.	2 nd Vol.	3 rd Vol.	1 St Vol.	2 nd Vol.	3 rd Vol.						
MW-15	3/10/02	--	--	--	--	--	--	--	--	15-25	--	19.75	--	101.93	82.18
	4/12/03	--	--	--	--	--	--	--	--		--	12.94	--	101.93	88.99
	12/21/09	--	--	--	--	--	--	--	--		--	18.61	--	101.93	83.32
	11/19/10	--	--	--	--	--	--	--	--		19.36	19.57	0.21	101.93	82.52
MW-16D	4/2/03	--	--	--	--	--	--	--	--	65-75	--	12.10	--	101.84	89.74
	12/21/09	--	--	--	--	--	--	--	--		--	16.93	--	101.84	84.91
	11/22/10	4.21	24.4	7.14	7.17	7.17	218	205	198		--	18.18	--	101.84	83.66
MW-17	4/2/03	--	--	--	--	--	--	--	--	8-18	--	9.50	--	98.81	89.31
	12/22/09	NL	NL	NL	NL	NL	NL	NL	NL					98.81	
MW-17R	11/22/10	4.03	22.5	6.29	5.82	5.70	91.8	80.1	78.7	10-20	--	13.40	--	98.86	85.46
MW-18	4/2/03	--	--	--	--	--	--	--	--	13-23	--	13.45	--	100.86	87.41
	12/22/09	NL	NL	NL	NL	NL	NL	NL	NL					100.86	
MW-18R	11/22/10	4.18	20.5	6.13	5.99	5.93	129.6	116.7	116.3	12-22	--	14.38	--	99.32	84.94
MW-19	4/12/03	--	--	--	--	--	--	--	--	5-15	--	7.60	--	92.78	85.18
	12/22/09	--	--	--	--	--	--	--	--		--	9.90	--	92.78	82.88
	11/19/10	--	--	--	--	--	--	--	--		--	10.58	--	92.78	82.20
MW-20	4/12/03	--	--	--	--	--	--	--	--	3-13	--	3.52	--	85.47	81.95
	12/22/09	--	--	--	--	--	--	--	--		--	4.89	--	85.47	80.58
	11/19/10	--	--	--	--	--	--	--	--		--	5.47	--	85.47	80.00
MW-21	4/12/03	--	--	--	--	--	--	--	--	3-13	--	5.05	--	89.24	84.19
	12/22/09	--	--	--	--	--	--	--	--		--	8.67	--	89.24	80.57
	11/19/10	--	--	--	--	--	--	--	--		--	9.90	--	89.24	79.34
MW-22	4/12/03	--	--	--	--	--	--	--	--	10-25	--	11.96	--	101.70	89.74
	12/22/09	--	--	--	--	--	--	--	--		--	19.87	--	101.70	81.83
	11/19/10	--	--	--	--	--	--	--	--		--	20.77	--	101.70	80.93
MW-23	4/12/03	--	--	--	--	--	--	--	--	10-25	--	13.87	--	103.32	89.45
	12/22/09	NL	NL	NL	NL	NL	NL	NL	NL					103.32	
MW-24	11/22/10	4.40	21.4	5.81	DRY	DRY	141.9	DRY	DRY	13-23	--	19.48	--	103.34	83.86
MW-25	11/22/10	4.01	21.6	6.85	DRY	DRY	201	DRY	DRY	12-22	--	18.26	--	101.19	82.93
MW-26	11/19/10	6.41	19.4	5.57	5.53	5.52	50.9	63.4	67.2	12-22	--	16.49	--	97.73	81.24
MW-27	11/19/10	5.40	21.0	5.43	DRY	DRY	63.1	DRY	DRY	12-22	--	17.89	--	99.04	81.15
MW-28	11/22/10	3.51	24.7	6.03	6.11	DRY	180.1	166.6	DRY	12-22	--	17.33	--	101.46	84.13
MW-29	11/22/10	4.39	20.7	5.40	5.35	5.34	79.6	81.6	84.2	13-23	--	16.39	--	100.77	84.38
MW-30	11/22/10	5.83	20.3	5.90	DRY	DRY	126.4	DRY	DRY	13-23	--	20.49	--	102.90	82.41
MW-31	11/19/10	6.20	20.9	5.81	5.80	DRY	55	53.1	DRY	12-22	--	18.80	--	99.98	81.18
MW-32	11/19/10	6.89	20.5	5.13	5.03	4.98	86.3	88.1	87.5	2-12	--	4.24	--	83.50	79.26
MW-33	11/19/10	5.70	21.5	6.13	6.24	6.35	169.1	174.9	195.3	14-24	--	16.31	--	98.26	81.95
MW-34D	11/19/10	4.11	21.2	6.76	DRY	DRY	180.5	DRY	DRY	45-50	--	16.68	--	97.98	81.30
MW-35i	11/19/10	6.44	21.4	6.23	6.15	DRY	71.0	62.6	DRY	26-31	--	4.07	--	83.57	79.50
GWA SAS	11/19/10	--	--	--	--	--	--	--	--	10-20	16.28	16.33	0.05	100.80	84.51
MW-1 SAS	11/19/10	--	--	--	--	--	--	--	--	10-20	--	16.10	--	100.83	84.73
MW-2 SAS	11/19/10	--	--	--	--	--	--	--	--	10-20	--	15.49	--	100.28	84.79
MW-3 SAS	11/19/10	--	--	--	--	--	--	--	--	10-20	--	15.73	--	100.38	84.65

Notes
1 ug/l = micrograms per liter
2 mg/l = milligrams per liter
3 NT = Not Tested
4 NS = Not Sampled
5 Conductivity measured in mohms
6 NL = Not Located
7 Well Head Elevations from RLS Survey
8. Static Water Levels measured on 11/19/10
9. Wells labeled SAS installed for Summerton Auto Service
7 Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline

2.4 Groundwater Sampling

Groundwater samples were collected from monitoring wells MW-2D, MW-3 through MW-12, MW-14, MW-16D, MW-17R, MW-18R, MW-19 through MW-22, MW-24 through MW-33, MW-34D and MW-35i from November 19th through 22th, 2010. Monitoring wells MW-1, MW-13R and MW-15 contained free phase product and were guaged and not sampled. Stabilized water level measurements were recorded on November 19, 2010. Prior to sampling, newly installed monitoring wells were purged in order to collect a representative sample of the aquifer (see Well Purge Logs in Appendix A). Pre-existing wells where the screened interval bracketed the watertable were not purged prior to sample collection. Following well purging activities, a groundwater sample was collected from each well, and placed into appropriate laboratory supplied containers. These wells were sampled with a disposable PVC bailer. Purge water was placed in a 55 gallon drum and delivered to TK Tank Services in Sumter, SC, for disposal (See Appendix C for a copy of the disposal manifest).

Samples were packed in crushed ice in the field ice chest and shipped to Pace Analytical for laboratory analysis. Each sample was analyzed for BTEX, Naphthalene, MTBE, EDB, 1-2 DCA, and Total Lead, as appropriate.

2.5 Water Supply Well Sampling

On November 19, 2010, water samples were collected from three nearby water supply wells. WSW-1 is an irrigation well located at 35 South Church Street (Property Owner - Jean and Charlie Johnson P.O. Box 698, Summerton, SC). According to the property owner, this well is drilled to approx. 175 ft. and used for irrigation. This sample was collected from a sprinkler head in the front yard of the residence. WSW-3 and WSW-4 are located at 1021 Gipp Street (David Van Wynsberghe Rt. 1 Box 521, Summerton,

SC). WSW-3 is a water supply well supplying water to the residence and was sampled at the well pump. WSW-4 is an irrigation well located at the rear of the same residence. This well does not currently have a well pump and was sampled by lowering a bailer into the well. WSW-2 is an irrigation well located at 24 South Cantey Street (Dubose Residence). This well was not sampled during this sampling event. Water supply well locations are presented on Figure 3.

Samples were collected after allowing the well pump to run for approximately 10 minutes or until the well pump turned on. Samples were placed in laboratory supplied containers and placed in a field chest containing crushed ice for transport to the laboratory. These samples were shipped to Pace Analytical, Inc. for laboratory analysis. Each sample was analyzed for BTEX, Naphthalene, MTBE 1,2 DCA (EPA Method 8260B) and EDB (EPA Method 8011).

2.6 Surface Water Sampling

On November 19 and 22, 2010, three surface water samples were collected at the subject site. PS-1 was collected from a small pond located at 1021 Gipp Street. This sample was collected at the request of the property owner from a man made pond located south of Scotts Branch. SW-1 was collected from a sanitary sewer manhole located west of MW-25. This sewer line may intersect the watertable and act as a point of groundwater discharge. CS-2 was collected from Scotts Branch, east of South Church Street. This sample was collected from the area surveyed for the stream cross section. Sampling locations are presented on Figure 3.

Samples were placed in laboratory supplied containers and placed in a field chest containing crushed ice for transport to the laboratory. These samples were shipped to

Pace Analytical, Inc. for laboratory analysis. Each sample was analyzed for BTEX, Naphthalene, MTBE and 1,2 DCA by EPA Method 8260B.

2.7 Site Survey

A site survey was performed by Construction Support Services of Columbia, S.C. (Jay S. Joshi PLS# 14811). This comprehensive survey was conducted to locate monitoring wells, buildings, roadways and utilities on and surrounding the subject site. Appendix D contains a copy of the site survey map.

3.0 Analytical Results

Groundwater samples were collected from thirty-one monitoring wells and free product was gauged in four monitoring wells during this assessment. Measurable free product was detected in MW-1, MW-13R, MW-15 and IGWA SAS. Concentrations of chemicals of concern have generally decreased since the last sampling event.

Samples collected from several nearby water supply wells indicate chemicals of concern at levels below detection limits. SW-1, collected from the sanitary sewer running west of South Church Street, contained detectable concentrations of toluene (4.4 ug/l) during this sampling event. This sewer line may act as a point of groundwater discharge. PS-1 was collected from a pond located south of Scotts Branch and laboratory reports indicate chemicals of concern at levels below detection limits. CS-2 was collected from Scotts Branch, east of South Church Street. Analytical results from all Monitoring Wells, Surface Water Supply, and Water Supply Wells are presented in Table 3. Attached Figure 5 presents the Groundwater CoC Map.

TABLE 3
GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
(Page 1 of 2)

Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
MW-1	4/2/03	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
	12/21/09	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-2D	4/12/03	22.6	19.8	28.3	47.9	ND	9.90	NT	0.15	NT
	12/21/09	ND	0.470	1.90	2.41	0.660	1.07	ND	ND	8.20
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
MW-3	4/2/03	ND	1.0	ND	ND	ND	ND	NT	ND	NT
	12/21/09	ND	ND	ND	ND	ND	0.610	ND	ND	3.20
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
MW-4	7/13/01	2,860	1,330	581	1,490	198	146	NT	13.6	NT
	12/21/09	114	5.91	22.4	5.97	2.98	9.72	ND	0.1709	13.6
	11/22/10	169	3.5J	3.5J	<10.0	4.9J	6.7	5.5	0.13	<5.0
MW-5	4/2/03	1,650	3,000	372	1,640	246	94.7	NT	22.0	NT
	12/21/09	2,610	5,820	735	3,370	64.6	156	ND	34.78	84.5
	11/22/10	63.9	154	22.1	107	<5.0	6.3	<5.0	0.91	<5.0
MW-6	4/2/03	ND	2.0	ND	2.2	6.8	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	2.61	ND	ND	ND	33.3
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
MW-7	4/12/03	ND	ND	ND	ND	15.3	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	3.10	ND	ND	ND	31.2
	11/19/10	<5.0	<5.0	<5.0	<10.0	3.1J	<5.0	<5.0	<0.020	<5.0
MW-8	4/12/03	ND	ND	ND	ND	3.3	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	21.4
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
MW-9	4/12/03	1.4	ND	ND	ND	181	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	6.86	ND	ND	ND	136
	11/19/10	<5.0	<5.0	<5.0	<10.0	6.5	<5.0	<5.0	<0.020	17.9
MW-10	4/12/03	2,000	34.4	169	25.0	38.6	22.6	NT	ND	NT
	12/22/09	1,250	20.3	44.8	15.0	58.1	12.0	ND	0.1719	43.6
	11/19/10	42.3	<5.0	3.8J	<10.0	38.3	<5.0	13.6	<0.020	<5.0
MW-11	4/12/03	1,100	4.2	11.2	3.2	ND	8.80	NT	0.23	NT
	12/21/09	181	32.3	20.2	6.90	1.28	8.65	ND	ND	34.1
	11/19/10	63.6	<5.0	1.1J	<10.0	2.3J	4.0J	<5.0	<0.020	<5.0
MW-12	4/2/03	ND	1.3	ND	1.5	ND	ND	NT	ND	NT
	12/21/09	ND	0.530	ND	ND	ND	1.54	ND	ND	17.6
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
MW-13	4/2/03	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
	12/21/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-13R	11/19/10	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-14	4/12/03	1,190	501	390	344	2,110	41.3	NT	0.12	NT
	12/22/09	1,250	20.3	44.8	15.0	58.1	12.0	ND	0.1719	43.6
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
MW-15	4/12/03	7,160	15,300	1,850	8,350	ND	282	NT	152	NT
	12/21/09	6,690	18,000	3,700	13,700	5.66	844	ND	46.78	244
	11/19/10	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-16D	4/2/03	4.4	16.9	5.2	19.6	ND	ND	NT	ND	NT
	12/21/09	0.870	1.37	2.00	4.48	ND	0.890	ND	ND	4.00
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
MW-17	4/2/03	200	700	ND	720	ND	ND	NT	0.04	NT
	12/21/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-17R	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
MW-18	4/2/03	6.5	426	327	978	70.8	49.0	NT	ND	NT
	12/21/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-18R	11/22/10	<5.0	<5.0	<5.0	<10.0	4.1J	<5.0	<5.0	<0.019	<5.0

Notes:
1. ug/l = micrograms per liter
2. ND = Not detected
3. mg/l = milligrams per liter
4. NT = Not Tested
5. NL = Not Located
6. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

TABLE 3
GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
(Page 2 of 2)

Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
MW-19	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	**2.35**	ND	ND	ND	**210**
	11/19/10	<5.0	<5.0	<5.0	<10.0	**3.9J**	<5.0	<5.0	<0.020	<5.0
MW-20	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	NT	ND	**214**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	**7.5**
MW-21	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	**63.0**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
MW-22	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	**49.1**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
MW-23	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
	11/19/10	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-24	11/22/10	**6,830**	**17,300**	**2,320**	**10,400**	<500	**397J**	<500	**87.8**	**65.4**
MW-25	11/22/10	**4,060**	**5,550**	**471J**	**1,720**	**266J**	<500	<500	**54.9**	**17.0**
MW-26	11/19/10	**211**	**10.7**	**15.2**	**17.7**	**11.8**	**4.4J**	**1.7J**	<0.020	<5.0
MW-27	11/19/10	**177**	**2.2J**	**8.4**	<10.0	**9.1**	<5.0	**4.3J**	<0.020	<5.0
MW-28	11/22/10	**3,410**	**5,070**	**698**	**3,250**	**164J**	**173J**	<250	**22.8**	**52.1**
MW-29	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
MW-30	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
MW-31	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	**0.18**	<5.0
MW-32	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
MW-33	11/19/10	**144**	**714**	**152**	**419**	<50.0	<50.0	<50.0	**0.20**	<5.0
MW-34D	11/19/10	<5.0	<5.0	<5.0	<10.0	**4.1J**	<5.0	<5.0	<0.020	<5.0
MW-35i	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
WSW-1	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	NT
	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
WSW-2	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	NT
WSW-3	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.019	NT
WSW-4	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
PS-1	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
SW-1	11/19/10	<1.0	**4.4**	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
CS-1	12/22/09	ND	ND	ND	ND	ND	ND	ND	NT	NT
	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
CS-2	12/22/09	ND	ND	ND	ND	ND	ND	ND	NT	NT

Notes:
1. ug/l = micrograms per liter
2. ND = Not detected
3. mg/l = milligrams per liter
4. NT = Not Tested
5. NL = Not Located
6. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

4.0 Conclusions and Recommendations

During this assessment, thirteen watertable bracketing monitoring wells, one single cased deep well, and one double-cased well were installed in association with the H.W. Detwiler Company site. Data collected during the event indicates that the direction of groundwater flow beneath this site is to the south, towards Scotts Branch. Based upon the information found during this assessment, the horizontal and vertical extent of the groundwater contamination appears to be reasonably defined. Free phase product was detected in monitoring well MW-1, MW-13R, MW-15 and IGWA SAS during this assessment. Free product thickness in MW-1 has generally decreased with the initiation of several AFVR events. Free product was detected for the first time in MW-15, located downgradient of the former H. W. Detwiler UST basin. This well is reportedly located on the property of a possible former UST site. Three water supply well samples, one pond sample, and one creek sample were collected during this sampling event. Laboratory reports indicate chemicals of concern at levels below detection limits in these samples. One surface water sample, SW-1, did contain detectable concentrations of chemicals of concern. SW-1 was collected from a sanitary sewer manhole located west of MW-25. This sewer line may act a point of groundwater discharge.

Given the above findings during this Tier II Assessment, Emerald, Inc. recommends the initiation of a series of AFVR events to remove free phase product detected at the site and the installation of several 4-inch diameter monitoring wells to aid in recovery of free phase product. In addition, Emerald, Inc. recommends the installation of several additional monitoring wells to aid in determination of possible petroleum impact to the sewer line and Scotts Branch. Emerald, Inc. recommends one well be installed north of the CS-2 sample

location to monitor possible contamination reaching Scotts Branch. We also recommend the installation of four monitoring wells to monitor possible impact to the nearby receptors. Emerald, Inc. would propose one well to be located adjacent to the SW-1 sample location (sewer line), a well located at the intersection of Mood Drive and South Church Street (sewer line), one well east of MW-13R (sewer line) and one well adjacent to WSW-1. These wells would aid in determining possible impact to this sewer line and irrigation well. Appendix F contains a figure showing the proposed 4-inch monitoring well and shallow groundwater monitoring well locations.

5.0 Appendices

A) Boring Logs & Water Well Records

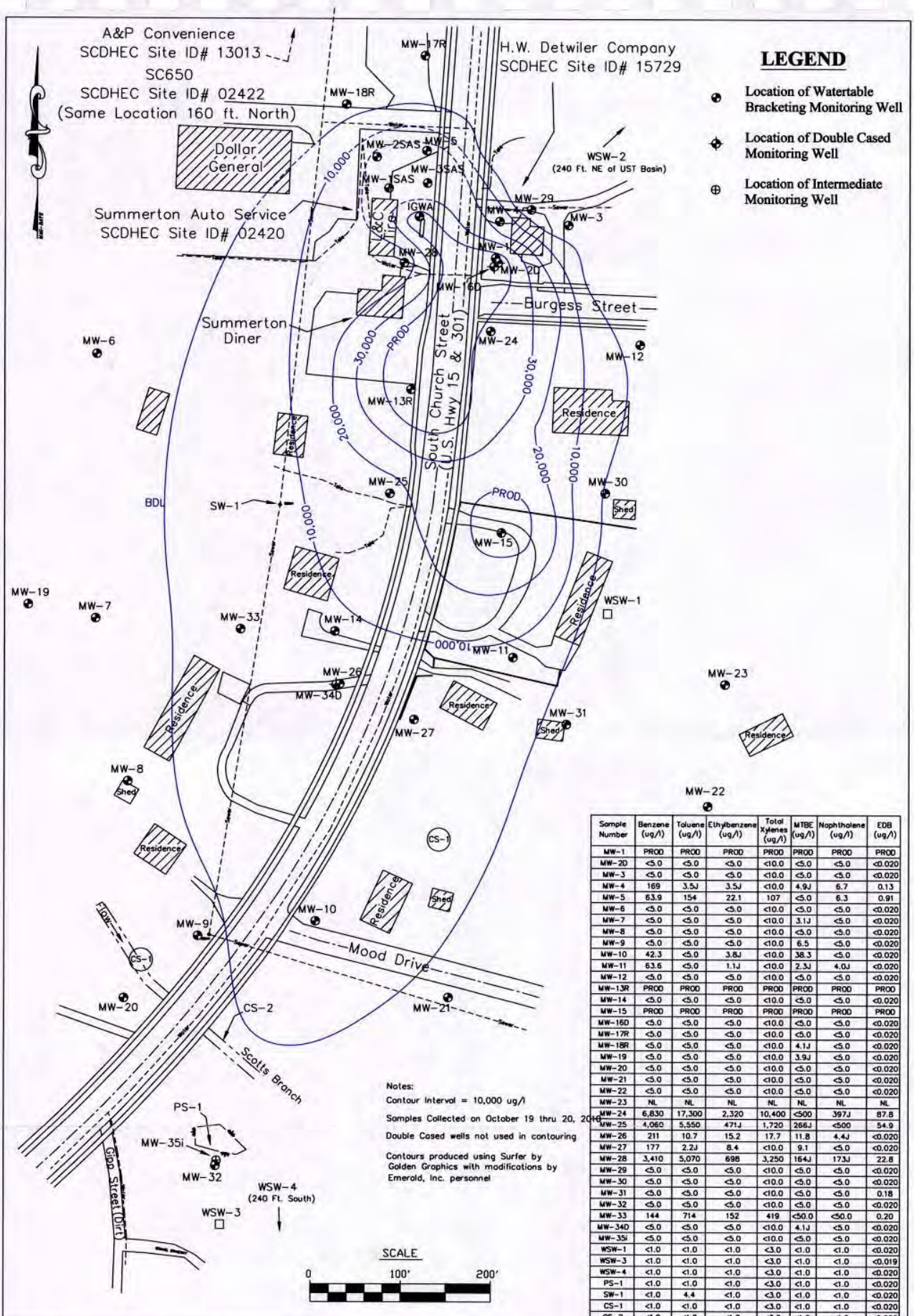
B) Monitoring Well Purge Forms

C) Analytical Data Sheets

D) Disposal Manifests

E) Site Survey Map

F) Proposed Well Locations



LEGEND

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased Monitoring Well
- Location of Intermediate Monitoring Well

Notes:

Contour Interval = 10,000 ug/l

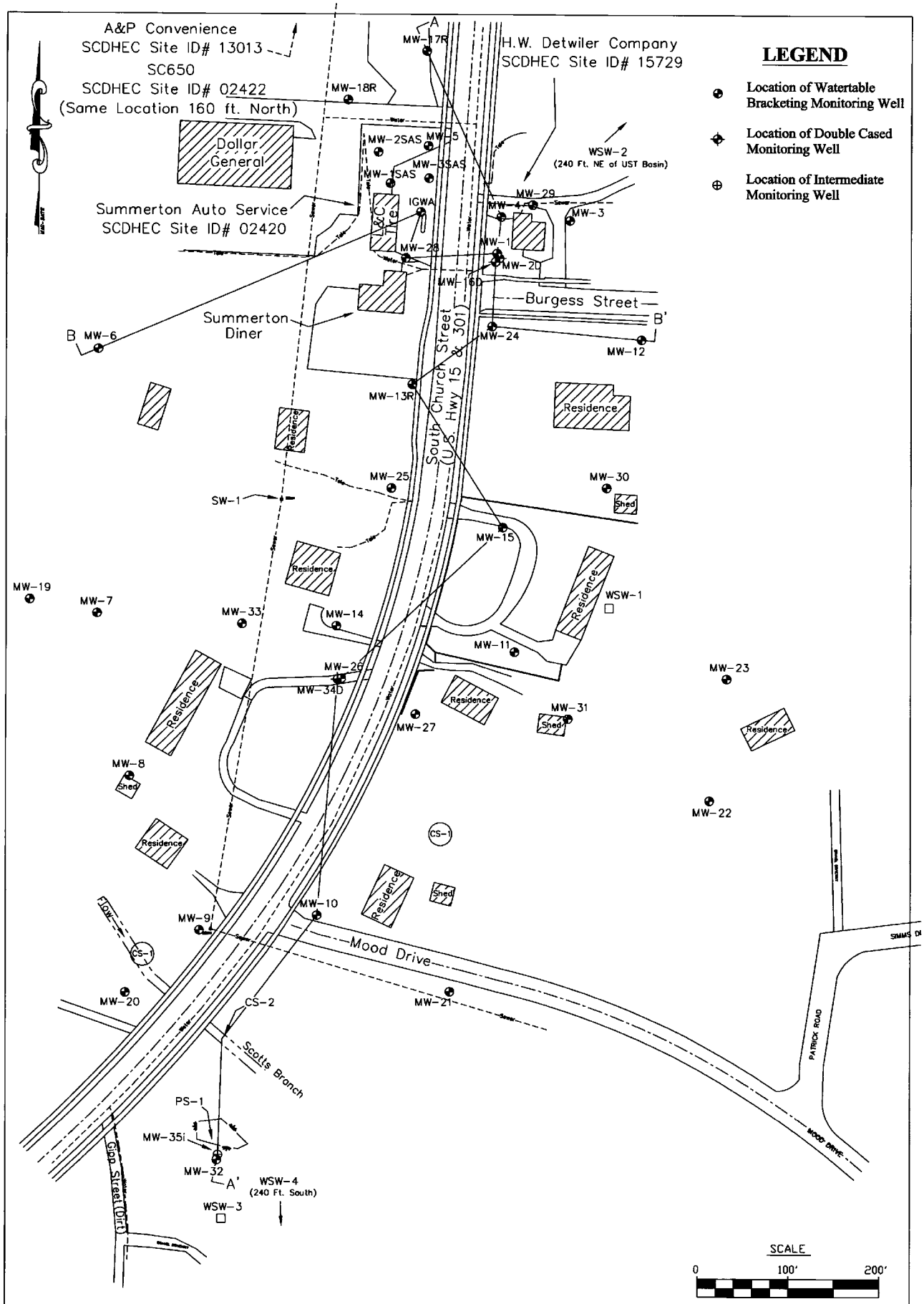
Samples Collected on October 19 thru 20, 2010

Double Cased wells not used in contouring

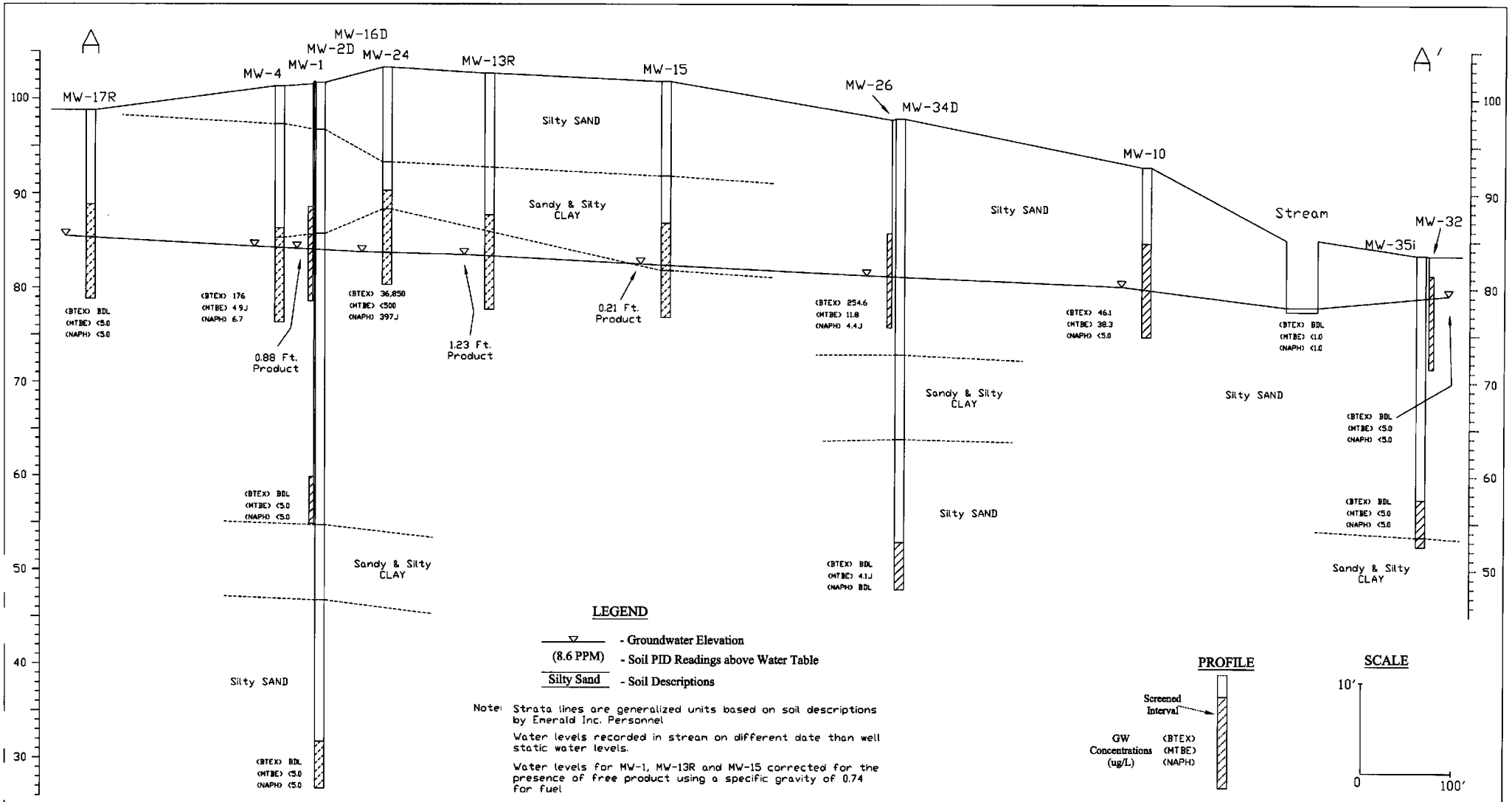
Contours produced using Surfer by Golden Graphics with modifications by Emerald, Inc. personnel

Sample Number	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphtholene (ug/l)	EDB (ug/l)
MW-1	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-2D	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020
MW-3	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020
MW-4	169	3.5J	3.5J	<10.0	4.9J	6.7	0.13
MW-5	63.9	154	22.1	107	<5.0	6.3	0.91
MW-6	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020
MW-7	<5.0	<5.0	<5.0	<10.0	3.1J	<5.0	<0.020
MW-8	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020
MW-9	<5.0	<5.0	<5.0	<10.0	6.5	<5.0	<0.020
MW-10	42.3	<5.0	3.8J	<10.0	38.3	<5.0	<0.020
MW-11	63.6	<5.0	1.1J	<10.0	2.3J	4.0J	<0.020
MW-12	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020
MW-13R	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020
MW-15	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-16D	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020
MW-17R	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020
MW-18R	<5.0	<5.0	<5.0	<10.0	4.1J	<5.0	<0.020
MW-19	<5.0	<5.0	<5.0	<10.0	3.9J	<5.0	<0.020
MW-20	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020
MW-21	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020
MW-22	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020
MW-23	NL	NL	NL	NL	NL	NL	NL
MW-24	6,830	17,300	2,320	10,400	<500	397J	87.8
MW-25	4,060	5,550	471J	1,720	266J	<500	54.9
MW-26	211	10.7	15.2	17.7	11.8	4.4J	<0.020
MW-27	177	2.2J	8.4	<10.0	9.1	<5.0	<0.020
MW-28	3,410	5,070	698	3,250	164J	173J	22.8
MW-29	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020
MW-30	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020
MW-31	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	0.18
MW-32	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020
MW-33	144	714	152	419	<50.0	<50.0	0.20
MW-34D	<5.0	<5.0	<5.0	<10.0	4.1J	<5.0	<0.020
MW-35i	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<0.020
WSW-1	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<0.020
WSW-3	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<0.019
WSW-4	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<0.020
PS-1	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<0.020
SW-1	<1.0	4.4	<1.0	<3.0	<1.0	<1.0	<0.020
CS-1	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<0.020
CS-2	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<0.020

PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 5 CoC Map	E1259DWLO WORK DATE(S): 9/17/10 - 10/12/10	SUMTER, SOUTH CAROLINA



PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 6 CROSS SECTION PROFILE LINES	E1260DWLO WORK DATE(S): 9/17/10 - 10/12/10	SUMTER, SOUTH CAROLINA



LEGEND

- ▽ — Groundwater Elevation
- (8.6 PPM) — Soil PID Readings above Water Table
- Silty Sand — Soil Descriptions

Note: Strata lines are generalized units based on soil descriptions by Emerald Inc. Personnel

Water levels recorded in stream on different date than well static water levels.

Water levels for MW-1, MW-13R and MW-15 corrected for the presence of free product using a specific gravity of 0.74 for fuel

PROFILE

Screened Interval

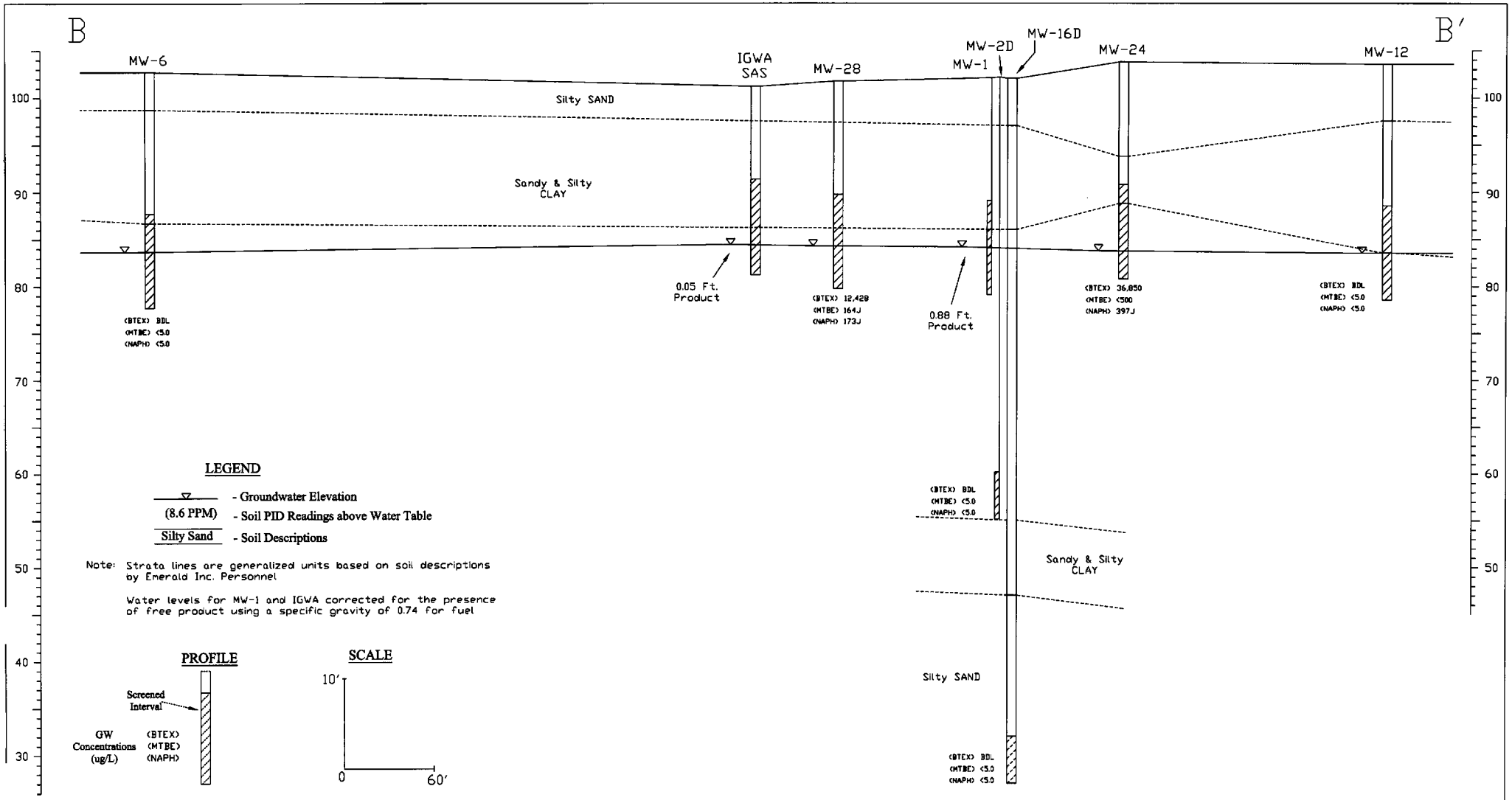
GW Concentrations (ug/L) (BTEX) (MTBE) (NAPH)

SCALE

10'

0 100'

PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT # 15729	Cross Section A-A'	E1261DWLO FIELD WORK DATE(S): 9/14/10 - 10/12/10	SUMTER, SOUTH CAROLINA



PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT # 15729	Cross Section B-B'	E1262DWLO FIELD WORK DATE(S): 9/17/10 - 10/12/10	SUMTER, SOUTH CAROLINA

APPENDIX A

BORING LOGS
&
WATER WELL RECORDS

MONITORING WELL INSTALLATION LOG

EMERALD, INC.

MONITORING WELL INSTALLATION LOG

Site: H. W. Detwiler Company

Date: 9/17 thru 10/12/10

Personnel: Emerald, Inc. CM- GEX Brian Thomas (B 01465), Vince Federle (D 01930)

LOCATION	DATE COMPLETED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-13R	9/23/10	5'	ND	Red, Clayey Fine to Medium SAND	Dry	Grass at Surface
		10'	ND	SAA	Dry	Posthole to 4 ft.
		15'	502	White, Fine to Medium SAND with some Clay	Dry	Very hard (Cemented?) Layers to 14'
		20'	<1,999	Red, Silty Fine to Medium SAND	Wet	
		22'	<1,999	SAA	Saturated	
				Well set at 22 ft. with 10 ft. of screen		
MW-17R	9/24/10	5'	ND	FILL: Sampled as Gray, Clayey Fine to Medium SAND	Dry	Gravel at Surface
		10'	ND	Red, Silty Fine to Medium SAND	Dry	Posthole to 4 ft.
		15'	ND	Tan, Silty Fine to Medium SAND with some coarse grains	Moist	
		20'	ND	SAA	Wet	
				Well set at 20 ft. with 10 ft. of screen		

EMERALD, INC.

MONITORING WELL INSTALLATION LOG

Site: H. W. Detwiler Company

Date: 9/17 thru 10/12/10

Personnel: Emerald, Inc. CM- GEX Brian Thomas (B 01465), Vince Federle (D 01930)

LOCATION	DATE COMPLETED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-18R	10/12/10	5'	ND	Red, Silty Clayey Fine to Medium SAND	Dry	Grass at Surface
		10'	ND	White, Fine to Medium Sandy CLAY	Dry	Posthole to 4 ft.
		15'	ND	Tan, Silty Fine to Medium SAND	Moist	
		20'	ND	White, Silty Fine to Medium SAND	Wet	
		22'	ND	SAA	Saturated	
				Well set at 22 ft. with 10 ft. of screen		
MW-24	9/17/10	5'	18.2	Red, Silty Fine to Medium SAND	Dry	Grass at Surface
		10'	29.0	Red, Clayey Fine to Medium SAND	Dry	Posthole to 4 ft.
		15'	31.3	White, Fine to Medium Sandy CLAY	Moist	Very hard (Cemented?) Layers to 14'
		20'	362	Red, Silty Fine to Medium SAND	Wet	
		23'	790	SAA	Saturated	
				Well set at 23 ft. with 10 ft. of screen		

EMERALD, INC.

MONITORING WELL INSTALLATION LOG

Site: H. W. Detwiler Company

Date: 9/17 thru 10/12/10

Personnel: Emerald, Inc. CM- GEX Brian Thomas (B 01465), Vince Federle (D 01930)

LOCATION	DATE COMPLETED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-25	9/23/10	5'	ND	Red, Silty Clayey Fine to Medium SAND	Dry	Grass at Surface
		10'	ND	Red, Silty Fine to Medium SAND	Dry	Posthole to 4 ft.
		15'	ND	Brown, Silty Fine to Medium SAND	Moist	
		20'	ND	SAA	Wet	Very hard (Cemented?) Layers to 14'
		22'	ND	SAA	Saturated	
				Well set at 22 ft. with 10 ft. of screen		
MW-26	9/24/10	5'	ND	Brown, Silty Fine to Medium SAND	Dry	Grass at Surface
		10'	ND	Red, Silty Fine to Medium SAND	Dry	Posthole to 4 ft.
		15'	ND	SAA	Moist	
		20'	ND	SAA	Wet	
		22'	ND	SAA	Saturated	
				Well set at 22 ft. with 10 ft. of screen		

EMERALD, INC.

MONITORING WELL INSTALLATION LOG

Site: H. W. Detwiler Company

Date: 9/17 thru 10/12/10

Personnel: Emerald, Inc. CM- GEX Brian Thomas (B 01465), Vince Federle (D 01930)

LOCATION	DATE COMPLETED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-27	9/23/10	5'	ND	Red, Clayey Fine to Medium SAND	Dry	Grass at Surface
		10'	ND	Red, Silty Fine to Medium SAND	Dry	Posthole to 4 ft.
		15'	ND	SAA	Moist	
		20'	ND	Red, Silty Fine to Medium SAND with some very Coarse SAND	Wet	
		22'	ND	SAA	Saturated	
				Well set at 22 ft. with 10 ft. of screen		
MW-28	10/12/10	5'	ND	Red, Clayey Fine to Medium SAND	Dry	Grass and Gravel at Surface
		10'	ND	SAA	Dry	Posthole to 4 ft.
		15'	205	White, Clayey Fine to Medium SAND	Moist	
		20'	64.7	Red, Silty Fine to Medium SAND	Wet	
		22'		SAA	Saturated	
				Well set at 22 ft. with 10 ft. of screen		

EMERALD, INC.

MONITORING WELL INSTALLATION LOG

Site: H. W. Detwiler Company

Date: 9/17 thru 10/12/10

Personnel: Emerald, Inc. CM- GEX Brian Thomas (B 01465), Vince Federle (D 01930)

LOCATION	DATE COMPLETED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-29	9/23/10	5'	ND	Brown, Clayey Fine to Medium SAND	Dry	Gravel at Surface
		10'	ND	Red, Silty Fine to Medium SAND	Dry	Posthole to 4 ft.
		15'	ND	White, Clayey Fine to Medium SAND	Moist	
		20'	ND	Brown, Silty Fine to Medium SAND	Wet	
		23'	ND	SAA	Saturated	
				Well set at 23 ft. with 10 ft. of screen		
MW-30	9/17/10	5'	ND	Brown, Silty Fine to Medium SAND	Dry	Grass at Surface
		10'	ND	Red, Silty Fine to Medium SAND	Dry	Posthole to 4 ft.
		15'	ND	Red, Silty Fine to Medium SAND with some White Clay	Moist	Very hard (Cemented?) Layers to 14'
		20'	ND	Red, Silty Fine to Medium SAND	Wet	
		23'	ND	Red, Clayey Silty Fine to Medium SAND	Saturated	
				Well set at 23 ft. with 10 ft. of screen		

EMERALD, INC.

FIELD ACTIVITY LOG - MW INSTALLATION

Site: H. W. Detwiler Company

Date: 9/17 thru 10/12/10

Personnel: Emerald, Inc. CM- GEX Brian Thomas (B 01465), Vince Federle (D 01930)

LOCATION	DATE COMPLETED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-31	9/23/10	5'	ND	Red, Silty Clayey Fine to Medium SAND	Dry	Grass at Surface
		10'	ND	Red, Silty Fine to Medium SAND	Dry	Posthole to 4 ft.
		15'	ND	SAA	Moist	
		20'	ND	Tan, Silty Fine to Medium SAND with some Coarse grains	Wet	
		22'	ND	SAA	Wet	
				Well set at 22 ft. with 10 ft. of screen		
MW-32	10/11/10	5'	ND	Black, Silty Fine to Medium SAND	Dry	Grass at Surface
		10'	ND	Orange, Silty Fine to Medium SAND	Dry	Posthole to 4 ft.
		12'	ND	SAA	Moist	
				Well set at 12 ft. with 10 ft. of screen		

EMERALD, INC.

FIELD ACTIVITY LOG - MW INSTALLATION

Site: H. W. Detwiler Company

Date: 9/17 thru 10/12/10

Personnel: Emerald, Inc. CM- GEX Brian Thomas (B 01465), Vince Federle (D 01930)

LOCATION	DATE COMPLETED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-33	9/24/10	5'	ND	Brown, Silty Fine to Medium SAND	Dry	Grass at Surface
		10'	ND	Red, Silty Fine to Medium SAND	Dry	Posthole to 4 ft.
		15'	ND	Red, Silty Clayey Fine to Medium SAND with some coarse grains	Moist	
		20'	ND	Tan, Silty Fine to Medium SAND with some coarse grains	Wet	
		24'	ND	SAA	Wet	
				Well set at 24 ft. with 10 ft. of screen		
MW-34D	9/24/10	5'	ND	Brown, Silty Fine to Medium SAND	Dry	Gravel at Surface
		10'	ND	Red, Silty Fine to Medium SAND	Dry	Posthole to 4 ft.
		15'	ND	SAA	Moist	
		20'	ND	SAA	Wet	
		25'	ND	Brown, Silty Clayey Fine to Medium SAND	Wet	
		30'	ND	White, Fine Sandy CLAY	Wet	
				Casing set at 30 ft. BGS and Grouted in place.		
		34'	ND	White, Fine Sandy CLAY		
		35'	ND	Tan, Silty Fine to Medium SAND		
		40'	ND	SAA		
		45'	ND	SAA		
		50'	ND	SAA		
				Well set at 50 ft. with 5 ft. of screen		

EMERALD, INC.

FIELD ACTIVITY LOG - MW INSTALLATION

Site: H. W. Detwiler Company

Date: 9/15 thru 9/22/10

Personnel: Emerald, Inc. CM- GEX Brian Thomas (B 01465), Vince Federle (D 01930)

LOCATION	DATE DRILLED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-35i	10/11/10	5'	ND	Black, Silty Fine to Medium SAND	Dry	Grass at Surface
		10'	ND	Orange, Silty Fine to Medium SAND	Wet	
		15'	ND	White, Silty Fine to Medium SAND	Saturated	
		20'	ND	SAA	Saturated	
		25'	ND	SAA	Saturated	
		30'	ND	Red, Silty CLAY	Saturated	
		31'	ND	SAA	Saturated	
				Well set at 31 ft. with 5 ft. of screen		

WATER WELL RECORDS - MONITORING WELL

D H E C
PROMOTF PROTFCT PROSPFR

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
BROWN/RED SANDY SILTY CLAY	14.0	15.0
TAN CLAYEY SAND	7.0	22.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-13R BENTONITE SEAL FROM 8.0 TO 10.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 22.0 ft. Date Started: 09/23/10 Date Completed: 09/23/10

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 12.0 ft. depth
_____ in. to _____ ft. depth
Height. Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 12.0 ft. and 22.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 19.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 10.0 ft. to 22.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 8.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name. _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No : 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed. Vincent R. Federle Well Driller Date: 09/28/10

If D Level Driller, provide supervising driller's name:
MARK GETTYS

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
GRAVEL	1.0	1.0
RED SILTY CLAY	12.0	13.0
TAN/WHITE SAND	7.0	20.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-17R BENTONITE SEAL FROM 6.0 TO 8.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 09/23/10
20.0 ft. Date Completed: 09/24/10

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 10.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 10.0 ft. and 20.0 ft.
_____ ft. and _____ ft
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 12.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 8.0 ft. to 20.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 6.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: BRIAN THOMAS **CERT. NO.:** 01465
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☑ C ☐ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Brian Thomas Date: 09/28/10
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone. Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SILTY CLAY	14.0	15.0
TAN SANDY SILTY CLAY	7.0	22.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-18R BENTONITE SEAL FROM 8.0 TO 10.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 22.0 ft. Date Started: 10/12/10 Date Completed: 10/12/10

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 12.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type. SCH 40 PVC Diam.: 2 INCH
Slot/Gauge. .010 Length: 10.0 FEET
Set Between: 12.0 ft. and 22.0 ft.
_____ ft and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 14.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 10.0 ft. to 22.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 8.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A B C D (circle one) ☐ ☐ ☐ ☑
Telephone No.: 704-872-7686 Fax No: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 10/14/10

If D Level Driller, provide supervising driller's name:
MARK GETTYS

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State. SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude. Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
BROWN/RED SANDY SILTY CLAY	14.0	15.0
TAN CLAYEY SAND	8.0	23.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-24 BENTONITE SEAL FROM 9.0 TO 11.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 23.0 ft. Date Started: 09/17/10 Date Completed: 09/17/10

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 13.0 ft. depth
_____ in to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 13.0 ft. and 23.0 ft. **NOTE: MULTIPLE SCREENS**
_____ ft. and _____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 19.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 11.0 ft. to 23.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 9.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name. _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 09/28/10

If D Level Driller, provide supervising driller's name:
MARK GETTYS

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
BROWN/RED SANDY SILTY CLAY	14.0	15.0
TAN CLAYEY SAND	7.0	22.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-25 BENTONITE SEAL FROM 8.0 TO 10.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 09/23/10
22.0 ft. Date Completed: 09/23/10

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 12.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge. .010 Length: 10.0 FEET
Set Between: 12.0 ft. and 22.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 19.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 10.0 ft. to 22.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 8.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Date: 09/28/10
Well Driller

If D Level Driller, provide supervising driller's name:
MARK GETTYS

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
GRAVEL	1.0	1.0
RED SILTY CLAY	12.0	13.0
TAN/WHITE SAND	9.0	22.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-26 BENTONITE SEAL FROM 8.0 TO 10.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 09/23/10
22.0 ft. Date Completed: 09/24/10

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 12.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 12.0 ft. and 22.0 ft. **NOTE: MULTIPLE SCREENS**
_____ ft. and _____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 16.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface
_____ ft. after _____ hrs Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 10.0 ft. to 22.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 8.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: BRIAN THOMAS **CERT. NO.:** 01465
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☑ C ☐ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Brian Thomas Date: 09/28/10
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
BROWN/RED SANDY SILTY CLAY	14.0	15.0
TAN CLAYEY SAND	7.0	22.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-27 BENTONITE SEAL FROM 8.0 TO 10.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 09/23/10
22.0 ft. Date Completed: 09/23/10

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 12.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 12.0 ft and 22.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 17.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 10.0 ft. to 22.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 8.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Date: 09/28/10
Well Driller

If D Level Driller, provide supervising driller's name:
MARK GETTYS

DHEC 1903 (07/2003)

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State. SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SILTY CLAY	14.0	15.0
TAN SANDY SILTY CLAY	7.0	22.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-28 BENTONITE SEAL FROM 8.0 TO 10.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 10/12/10
22.0 ft. Date Completed: 10/12/10

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 12.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 12.0 ft and 22.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 16.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 10.0 ft. to 22.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth. From 0.0 ft. to 8.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No : 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Date: 10/14/10
Well Driller

If D Level Driller, provide supervising driller's name:
MARK GETTYS

DHEC 1903 (07/2003)

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
BROWN/RED SANDY SILTY CLAY	14.0	15.0
TAN CLAYEY SAND	10.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-29 BENTONITE SEAL FROM 9.0 TO 11.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 09/23/10
23.0 ft. Date Completed: 09/23/10

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type. ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 13.0 ft. depth
_____ in to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 13.0 ft. and 23.0 ft. **NOTE: MULTIPLE SCREENS**
_____ ft. and _____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 16.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 11.0 ft. to 23.0 ft
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 9.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 09/28/10

If D Level Driller, provide supervising driller's name:
MARK GETTYS

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
BROWN/RED SANDY SILTY CLAY	14.0	15.0
TAN CLAYEY SAND	8.0	23.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-30 BENTONITE SEAL FROM 9.0 TO 11.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 23.0 ft. Date Started: 09/17/10 Date Completed: 09/17/10

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 13.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 13.0 ft. and 23.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 19.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 11.0 ft. to 23.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 9.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 09/28/10

If D Level Driller, provide supervising driller's name:
MARK GETTYS

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address. 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
BROWN/RED SANDY SILTY CLAY	14.0	15.0
TAN CLAYEY SAND	7.0	22.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-31 BENTONITE SEAL FROM 8.0 TO 10.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 09/23/10
22.0 ft. Date Completed: 09/23/10

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 12.0 ft. depth
_____ in. to _____ ft. depth
Height. Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 12.0 ft. and 22.0 ft. **NOTE: MULTIPLE SCREENS**
_____ ft. and _____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 18.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 10.0 ft. to 22.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 8.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount. _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.. 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: Vincent R. Federle Well Driller Date: 09/28/10

If D Level Driller, provide supervising driller's name:
MARK GETTYS

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
TAN SANDY CLAY	11.0	12.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-32 BENTONITE SEAL FROM 1.0 TO 1.5 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 10/11/10
12.0 ft. Date Completed: 10/11/10

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 2.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 2.0 ft. and 12.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 4.0 ft below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 1.5 ft. to 12.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 1.0 ft

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.. 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Date: 10/14/10
Well Driller

If D Level Driller, provide supervising driller's name:
MARK GETTYS

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
GRAVEL	1.0	1.0
RED SILTY CLAY	12.0	13.0
TAN/WHITE SAND	11.0	24.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-33 BENTONITE SEAL FROM 10.0 TO 12.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 24.0 ft. Date Started: 09/23/10 Date Completed: 09/24/10

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in to 14.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 14.0 ft. and 24.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 17.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 12.0 ft to 24.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth. From 0.0 ft. to 10.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: BRIAN THOMAS **CERT. NO.:** 01465
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☑ C ☐ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Brian Thomas Date: 09/28/10
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
GRAVEL	2.0	2.0
RED SILTY CLAY	14.0	16.0
WHITE SAND	11.0	27.0
WHITE CLAY	7.0	34.0
TAN SANDY CLAY	16.0	50.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-34D BENTONITE SEAL FROM 35.0 TO 43.0 FT. 6 INCH PVC CASING GROUTED FROM 0.0 TO 30.0 FT

6. TYPE: ☑ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 50.0 ft. Date Started: 09/23/10 Date Completed: 09/24/10

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH, 6 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 45.0 ft. depth
6.0 in. to 30.0 ft. depth
Height. Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 5.0 FEET
Set Between: 45.0 ft. and 50.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 17.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 43.0 ft. to 50.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 35.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: BRIAN THOMAS **CERT. NO.:** 01465
Address. (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☑ C ☐ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Brian Thomas Date: 09/28/10
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003)

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
TAN SANDY CLAY	9.0	10.0
TAN CLAYEY SAND	20.0	30.0
BROWN CLAY	1.0	31.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-351 (W-1) BENTONITE SEAL FROM 22.0 TO 24.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 31.0 ft. Date Started: 10/11/10 Date Completed: 10/11/10

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 26.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 5.0 FEET
Set Between: 26.0 ft. and 31.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 4.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield. _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 24.0 ft. to 31.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 22.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Vincent R. Federle
Signed: _____ Date: 10/14/10
Well Driller

If D Level Driller, provide supervising driller's name:
MARK GETTYS

APPENDIX B

MONITORING WELL PURGE FORMS

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-2D

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 42-47 Ft.

STATIC WATER LEVEL: 17.96 Ft.

WATER HEIGHT (Hw): 29.04 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 4.73352 x 3 = 14.20 Galllons

$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: 15 gallons

DATE: 11/22/10

EMERALD PERSONNEL: Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1459	5.0	20.9	145.8	6.65	Clear, No Petroleum Odor
	5.0	21.1	117.3	6.41	Cloudy, No Petroleum Odor
	5.0	20.8	117.8	6.43	Cloudy, No Petroleum Odor
1110	Sampled	-	-	-	Cloudy, No Petroleum Odor
					DO= 3.51 mg/l @ 24.3 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-13R

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 11/18/10

SCREENED INTERVAL 12-22 Ft.

Depth to Product: 18.88 Ft.

Depth to Water: 20.11 Ft.

WATER HEIGHT (Hw): Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0 x 3 = 0.00 Galllons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 0 gallons

EMERALD PERSONNEL: Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
					1.23 Ft. of Free Product
					No Sample Collected
					DO= mg/l @ °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-16D

PROJECT:	H.W. Detwiler Company	**SCREENED INTERVAL**	70-75 Ft.
STREET:	37 South Church Street	**STATIC WATER LEVEL:**	18.18 Ft.
CITY:	Summerton	**WATER HEIGHT (Hw):**	56.82 Ft.
COUNTY:	Clarendon	**WELL DIAMETER (Dw):**	0.166 Ft.
STATE:	South Carolina	**WELL VOLUME (Vw):**	9.26 x 3 = 27.78 Galllons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	28.25 gallons
DATE:	11/22/10	**EMERALD PERSONNEL:**	Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1540	9.5	21.5	218	7.14	Clear, No Petroleum Odor
	9.5	20.7	205	7.17	Cloudy, No Petroleum Odor
	9.25	20.9	198	7.17	Cloudy, No Petroleum Odor
1602	Sampled	-	-	-	Clear, No Petroleum Odor
					DO= 4.21 mg/l @ 24.4 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-17R

PROJECT:	H.W. Detwiler Company	**SCREENED INTERVAL**	10-20 Ft.
STREET:	37 South Church Street	**STATIC WATER LEVEL:**	13.40 Ft.
CITY:	Summerton	**WATER HEIGHT (Hw):**	6.60 Ft.
COUNTY:	Clarendon	**WELL DIAMETER (Dw):**	0.166 Ft.
STATE:	South Carolina	**WELL VOLUME (Vw):**	1.08 x 3 = 3.23 Galllons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	3.25 gallons
DATE:	11/22/10	**EMERALD PERSONNEL:**	Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
949	1.25	22.9	91.8	6.29	Clear, No Petroleum Odor
	1.0	23.5	80.1	5.82	Cloudy, No Petroleum Odor
	1.0	23.5	78.7	5.70	Cloudy, No Petroleum Odor
1140	Sampled	-	-	-	Clear, No Petroleum Odor
					DO= 4.03 mg/l @ 22.5 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-18R

PROJECT:	H.W. Detwiler Company	**SCREENED INTERVAL**	12-22 Ft.
STREET:	37 South Church Street	**STATIC WATER LEVEL:**	14.38 Ft.
CITY:	Summerton	**WATER HEIGHT (Hw):**	7.62 Ft.
COUNTY:	Clarendon	**WELL DIAMETER (Dw):**	0.166 Ft.
STATE:	South Carolina	**WELL VOLUME (Vw):**	1.24 x 3 = 3.73 Galllons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	3.75 gallons
DATE:	11/22/10	**EMERALD PERSONNEL:**	Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1005	1.25	23.1	129.6	6.13	Clear, No Petroleum Odor
	1.25	21.6	116.7	5.99	Cloudy, No Petroleum Odor
	1.25	21.3	116.3	5.93	Cloudy, No Petroleum Odor
1140	Sampled	-	-	-	Clear, No Petroleum Odor
					DO= 4.18 mg/l @ 20.5 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-24

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 13-23 Ft.

STATIC WATER LEVEL: 19.48 Ft.

WATER HEIGHT (Hw): 3.52 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.57 x 3 = 1.72 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: Dry @ 0.50 gallons

DATE: 11/22/10

EMERALD PERSONNEL: Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1425	0.50	20.3	141.9	5.81	Clear, Strong Petroleum Odor
					Dry at 0.50 Gal.
					DO= 4.4 mg/l @ 21.4 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-25

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 12-22 Ft.

STATIC WATER LEVEL: 18.26 Ft.

WATER HEIGHT (Hw): 3.74 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.61 x 3 = 1.83 Galllons

$Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)$

PURGE VOLUME: Dry @ 0.75 gallons

DATE: 11/22/10

EMERALD PERSONNEL: Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1640	0.75	19.6	201.0	6.85	Cloudy, Strong Petroleum Odor
					Dry at 0.75 Gal.
					DO= 4.01 mg/l @ 21.6 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-26

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 12-22 Ft.

STATIC WATER LEVEL: 16.49 Ft.

WATER HEIGHT (Hw): 5.51 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.90 x 3 = 2.69 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3.00 gallons

DATE: 11/19/10

EMERALD PERSONNEL: Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1221	1.0	20.0	50.9	5.57	Cloudy, Slight Petroleum Odor
	1.0	20.0	63.4	5.53	Cloudy, Slight Petroleum Odor
	1.0	20.0	67.2	5.52	Cloudy, Slight Petroleum Odor
					DO= 6.46 mg/l @ 19.4 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-27

PROJECT: H.W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

SCREENED INTERVAL 12-22 Ft.

STATIC WATER LEVEL: 17.89 Ft.

WATER HEIGHT (Hw): 4.11 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 0.67 x 3 = 2.01 Galllons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: Dry @ 0.75 gallons

DATE: 11/19/10

EMERALD PERSONNEL: Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1300	0.75	20.5	63.1	5.43	Cloudy, Slight Petroleum Odor
					Dry at 0.75 Gal.
					DO= 5.40 mg/l @ 21.0 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-28

PROJECT: H.W. Detwiler Company
STREET: 37 South Church Street
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

SCREENED INTERVAL 12-22 Ft.
STATIC WATER LEVEL: 17.33 Ft.
WATER HEIGHT (Hw): 4.67 Ft.
WELL DIAMETER (Dw): 0.166 Ft.
WELL VOLUME (Vw): 0.76 x 3 = 2.28 Galllons
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: Dry @ 1.25 gallons

DATE: 11/22/10
EMERALD PERSONNEL: Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1337	0.75	21.5	180.1	6.03	Cloudy, Mild Petroleum Odor
1340	0.50	21.5	166.6	6.11	Cloudy, Mild Petroleum Odor
					Dry @ 1.25 Gal.
					DO= 3.51 mg/l @ 24.7 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-29

PROJECT: H.W. Detwiler Company
STREET: 37 South Church Street
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

SCREENED INTERVAL: 13-23 Ft.
STATIC WATER LEVEL: 16.39 Ft.
WATER HEIGHT (Hw): 6.61 Ft.
WELL DIAMETER (Dw): 0.166 Ft.
WELL VOLUME (Vw): 1.08 x 3 = 3.23 Galllons
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3.25 gallons

DATE: 11/22/10
EMERALD PERSONNEL: Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1439	1.25	20.5	79.6	5.40	Cloudy, No Petroleum Odor
	1.0	19.5	81.6	5.35	Cloudy, No Petroleum Odor
	1.0	19.5	84.2	5.34	Cloudy, No Petroleum Odor
					DO= 4.39 mg/l @ 20.7 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-30

PROJECT: H.W. Detwiler Company
STREET: 37 South Church Street
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

SCREENED INTERVAL: 13-23 Ft.
STATIC WATER LEVEL: 20.49 Ft.
WATER HEIGHT (Hw): 2.51 Ft.
WELL DIAMETER (Dw): 0.166 Ft.
WELL VOLUME (Vw): 0.41 x 3 = 1.23 Galllons
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: Dry @ 0.50 gallons

DATE: 11/22/10
EMERALD PERSONNEL: Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1414	0.5	18.6	126.4	5.90	Cloudy, No Petroleum Odor
					Dry at 0.5 Gal.
					DO= 5.83 mg/l @ 20.3 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-31

PROJECT: H.W. Detwiler Company
SCREENED INTERVAL 12-22 Ft.

STREET: 37 South Church Street
STATIC WATER LEVEL: 18.80 Ft.

CITY: Summerton
WATER HEIGHT (Hw): 3.20 Ft.

COUNTY: Clarendon
WELL DIAMETER (Dw): 0.166 Ft.

STATE: South Carolina
WELL VOLUME (Vw): 0.52 x 3 = 1.56 Galllons
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: Dry @ 0.75 gallons

DATE: 11/19/10
EMERALD PERSONNEL: Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1250	0.5	20.0	55.0	5.81	Cloudy, No Petroleum Odor
	0.25	20.0	53.1	5.80	Cloudy, No Petroleum Odor
					Dry at 0.75 Gal.
					DO= 6.20 mg/l @ 20.9 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-32

PROJECT:	H.W. Detwiler Company	**SCREENED INTERVAL**		2-12	Ft.
STREET:	37 South Church Street	**STATIC WATER LEVEL:**		4.24	Ft.
CITY:	Summerton	**WATER HEIGHT (Hw):**		7.76	Ft.
COUNTY:	Clarendon	**WELL DIAMETER (Dw):**		0.166	Ft.
STATE:	South Carolina	**WELL VOLUME (Vw):**	1.26 x 3 =	3.79	Galllons

$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$

PURGE VOLUME: 3.75 gallons

DATE: 11/19/10 **EMERALD PERSONNEL:** Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1119	1.25	20.1	86.3	5.13	Cloudy, No Petroleum Odor
	1.25	19.3	88.1	5.03	Cloudy, No Petroleum Odor
	1.25	19.1	87.5	4.98	Cloudy, No Petroleum Odor
					DO= 6.89 mg/l @ 20.5 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-33

PROJECT: H.W. Detwiler Company
SCREENED INTERVAL 14-24 Ft.

STREET: 37 South Church Street
STATIC WATER LEVEL: 16.31 Ft.

CITY: Summerton
WATER HEIGHT (Hw): 7.69 Ft.

COUNTY: Clarendon
WELL DIAMETER (Dw): 0.166 Ft.

STATE: South Carolina
WELL VOLUME (Vw): 1.25 x 3 = 3.76 Galllons
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3.75 gallons

DATE: 11/19/10
EMERALD PERSONNEL: Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1138	1.25	19.8	169.1	6.13	Cloudy, Mild Petroleum Odor
	1.25	20.1	174.9	6.24	Cloudy, Mild Petroleum Odor
	1.25	20.0	195.3	6.35	Cloudy, Mild Petroleum Odor
					DO= 5.70 mg/l @ 21.5 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-34D

PROJECT:	H.W. Detwiler Company	**SCREENED INTERVAL**		45-50	Ft.
STREET:	37 South Church Street	**STATIC WATER LEVEL:**		16.68	Ft.
CITY:	Summerton	**WATER HEIGHT (Hw):**		33.32	Ft.
COUNTY:	Clarendon	**WELL DIAMETER (Dw):**		0.166	Ft.
STATE:	South Carolina	**WELL VOLUME (Vw):**	5.43 x 3 =	16.29	Galllons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$			
		PURGE VOLUME:	Dry @ 5.50	gallons	
DATE:	11/19/10	**EMERALD PERSONNEL:**		Dalton Reames	

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1216	5.5	19.2	180.5	6.76	Clear, No Petroleum Odor
					Dry at 5.5 Gallons
					DO= 4.11 mg/l @ 21.2 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-35i

PROJECT: H.W. Detwiler Company
SCREENED INTERVAL 26-31 Ft.

STREET: 37 South Church Street
STATIC WATER LEVEL: 4.07 Ft.

CITY: Summerton
WATER HEIGHT (Hw): 26.93 Ft.

COUNTY: Clarendon
WELL DIAMETER (Dw): 0.166 Ft.

STATE: South Carolina
WELL VOLUME (Vw): 4.39 x 3 = 13.17 Galllons
$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$

PURGE VOLUME: Dry @ 6.50 gallons

DATE: 11/19/10
EMERALD PERSONNEL: Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1105	4.5	19.6	71.0	6.23	Cloudy, No Petroleum Odor
	2.0	18.6	62.6	6.15	Cloudy, No Petroleum Odor
					Dry at 6.5 gallons.
					DO= 4.4 mg/l @ 21.4 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - WSW-1

PROJECT: H.W. Detwiler Company **SCREENED INTERVAL** Ft.

STREET: 37 South Church Street **STATIC WATER LEVEL:** Ft.

CITY: Summerton **WATER HEIGHT (Hw):** Ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** Ft.

STATE: South Carolina **WELL VOLUME (Vw):** 0.00 x 3 = 0.00 Gallons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: gallons

DATE: 11/19/10 **EMERALD PERSONNEL:** Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1605	Irrigaton well at 35 S. Church Street. Sample collected from sprinkler head in front yard.				
					DO= mg/l @ °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - WSW-3

PROJECT: H.W. Detwiler Company **SCREENED INTERVAL** Ft.

STREET: 37 South Church Street **STATIC WATER LEVEL:** Ft.

CITY: Summerton **WATER HEIGHT (Hw):** Ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** Ft.

STATE: South Carolina **WELL VOLUME (Vw):** 0.00 x 3 = 0.00 Galllons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: gallons

DATE: 11/19/10 **EMERALD PERSONNEL:** Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1130	Water supply well supplies water to home. Sample collected from spigot at well pump.				
					DO= mg/l @ °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - WSW-4

PROJECT: H.W. Detwiler Company **SCREENED INTERVAL** Ft.

STREET: 37 South Church Street **STATIC WATER LEVEL:** Ft.

CITY: Summerton **WATER HEIGHT (Hw):** Ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** Ft.

STATE: South Carolina **WELL VOLUME (Vw):** 0.00 x 3 = 0.00 Galllons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: gallons

DATE: 11/19/10 **EMERALD PERSONNEL:** Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1115	Out of service irrigation well located east of home. This well does not have a pump installed.				
	Sampled by lowering bailer into the well pipe.				
					DO= mg/l @ °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - PS-1

PROJECT: H.W. Detwiler Company **SCREENED INTERVAL** Ft.

STREET: 37 South Church Street **STATIC WATER LEVEL:** Ft.

CITY: Summerton **WATER HEIGHT (Hw):** Ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** Ft.

STATE: South Carolina **WELL VOLUME (Vw):** 0.00 x 3 = 0.00 Galllons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: gallons

DATE: 11/19/10 **EMERALD PERSONNEL:** Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1145	Sample collected from manmade pond south of Scotts Branch.				
					DO= mg/l @ °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - CS-2

PROJECT: H.W. Detwiler Company **SCREENED INTERVAL** Ft.

STREET: 37 South Church Street **STATIC WATER LEVEL:** Ft.

CITY: Summerton **WATER HEIGHT (Hw):** Ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** Ft.

STATE: South Carolina **WELL VOLUME (Vw):** 0.00 x 3 = 0.00 Galllons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: gallons

DATE: 11/19/10 **EMERALD PERSONNEL:** Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1200	Sample collected Scotts Branch east of South Church Street.				
					DO= mg/l @ °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - SW-1

PROJECT: H.W. Detwiler Company **SCREENED INTERVAL** Ft.

STREET: 37 South Church Street **STATIC WATER LEVEL:** Ft.

CITY: Summerton **WATER HEIGHT (Hw):** Ft.

COUNTY: Clarendon **WELL DIAMETER (Dw):** Ft.

STATE: South Carolina **WELL VOLUME (Vw):** 0.00 x 3 = 0.00 Galllons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: gallons

DATE: 1/22/10 **EMERALD PERSONNEL:** Dalton Reames

Conditions: Sunny, 73°F

TIME	VOLUME PURGED (gallons)	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
1245	Sample collected from sewer manhole west of MW-25. Depth of approx. 11 feet BGS.				
					DO= mg/l @ °C

APPENDIX C

DISPOSAL MANIFESTS

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

5. Generator's Name and Mailing Address

HW DETWILER
37 S. CHURCH STREET
SUMMERTON, SC

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name: T K TANK SERVICES INC.. — U.S. EPA ID Number: 803-418-2314

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address

T K TANK SERVICES INC
425 BOULEVARD ROAD
SUMTER, SC 29153

U.S. EPA ID Number: 803-418-2314

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON HAZARDOUS PETROLEUM CONTAMINATED WATER/PRODUCT			800	gal	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

EMERALD INCORPORATED
SUMTER SC

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Dalton Reames — Signature: Dalton Reames — Month: 9 — Day: 08 — Year: 10

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Tommy Keels — Signature: Tommy Keels — Month: 9 — Day: 08 — Year: 10

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Tommy Keels — Signature: Tommy Keels — Month: 9 — Day: 08 — Year: 10

169-BLC-O 5 11977 (Rev. 8/06)

DESIGNATED FACILITY TO GENERATOR

CERTIFICATE OF DISPOSAL

This certifies that

T K TANK SERVICES, INC

#Gallons 800 Contaminant PETROLEUM CONTAMINATED WATER/PRODUCT

This is to certify that the above water/product has been processed and disposed of

in accordance with and exceeding EPA regulations on petroleum contaminated water from

H W DETWILER SITE-SUMMERTON SC

9-08-10
Date

Tommy Keels
Signature

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 014

DETWILER
37 S. CHURCH STREET
SUMMERTON, SC 29706
UST PERMIT # 15729

EMERALD, INC.

Transporter 1 Phone 803-469-5454

TK TANK SERVICES
425 BOULEVARD ROAD
SUMTER, SC 29150

803-418-5314

NON-HAZARDOUS PETROLEUM CONTAMINATED WATER-PROFILE # 1484		3		
NON-HAZARDOUS PETROLEUM CONTAMINATED SOIL-PROFILE # 1548		7		

William McCloy 9 24 10

Joseph W. Stanton 9 23 10

NON-HAZARDOUS WASTE MANIFEST

Manifest Document No. 014

DETWILER
37 S. CHURCH STREET
SUMMERTON, SC 29706
UST PERMIT # 15729

EMERALD, INC.

803-469-5454

TK TANK SERVICES
425 BOULEVARD ROAD
SUMTER, SC 29150

803-418-5314

	No.	Type	Quantity
NON-HAZARDOUS PETROLEUM CONTAMINATED WATER-PROFILE # 1484		DM	2 drums
NON-HAZARDOUS PETROLEUM CONTAMINATED SOIL-PROFILE # 1548		DM	6 drums

William McClary

9/24/10

Joseph M. Stanton

9/24/10

CERTIFICATE OF DISPOSAL

This certifies that

T K TANK SERVICES, INC

 # Drums **13** **DRUMS** **Contaminant** **Virgin Petroleum**

This is to certify that the above soil has been processed and disposed of

in accordance with and exceeding EPA regulations on petroleum contaminated soils from

DETWILER SITE--SUMMERTON SC

9-24-10
Date

Signature

CERTIFICATE OF DISPOSAL

This certifies that

T K TANK SERVICES, INC

#DRUMS **5** **Contaminant PETROLEUM CONTAMINATED WATER**

This is to certify that the above water/product has been processed and disposed of

in accordance with and exceeding EPA regulations on petroleum contaminated water from

DETWILER SITE--SUMMERTONSC

9-24-2010
Date

Signature

NON-HAZARDOUS
WASTE MANIFEST

016

H.W. DETWILER CO.
37 S. CHURCH STREET
SUMMERTON, SC
UST PERMIT #15729

EMERALD, INC. 803-469-5454

TK TANK SERVICES
425 BOULEVARD ROAD
SUMTER, SC 29150 803-418-5314

NON-HAZARDOUS PETROLEUM CONTAMINATED WATER-PROFILE # 1484	drum	1
NON-HAZARDOUS PETROLEUM CONTAMINATED SOIL-PROFILE # 1548	drum	4

Jamie Bateman 10/12/10

William Mellory 10/12/10

Ronnie Metzger 10/13/10

CERTIFICATE OF DISPOSAL

This certifies that

T K TANK SERVICES, INC

#DRUMS **1** **Contaminant PETROLEUM CONTAMINATED WATER**

This is to certify that the above water/product has been processed and disposed of

in accordance with and exceeding EPA regulations on petroleum contaminated water from

H W DETWILLER CO. --SUMMERTON SC

10-12-2010
Date

Signature

CERTIFICATE OF DISPOSAL

This certifies that

T K TANK SERVICES, INC

 # Drums **4** **DRUMS** **Contaminant** **Virgin Petroleum**

This is to certify that the above soil has been processed and disposed of

in accordance with and exceeding EPA regulations on petroleum contaminated soils from

DETWILER SITE--SUMMERTON SC

10-12-10
Date

Signature

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 030

2. Page 1 of

3. Generator's Name and Mailing Address
H.W. DETWILER
37 S. CHURCH STREET
SUMMERTON, SC
UST PERMIT #15729

4. Generator's Phone ( )

5. Transporter 1 Company Name
EMERALD, INC.

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone 803-469-5454

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
TK TANK SERVICES
425 BOULEVARD ROAD
SUMTER, SC 29150

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone 803-418-5314

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER-PROFILE # 1484	1	DM	43.75	GAL
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name | Signature | Date: Month / Day / Year

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: William C McClary | Signature | Date: Month 11 / Day 23 / Year 10

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month / Day / Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: Steve A. Gamble | Signature | Date: Month 11 / Day 23 / Year 10

GENERATOR

TRANSPORTER

FACILITY

CERTIFICATE OF DISPOSAL

This certifies that

T K TANK SERVICES, INC

#55 GALLON DRUMS	**1**	**Contaminant Petroleum Contaminated Water/Product**

This is to certify that the above water/product has been processed and disposed of

in accordance with and exceeding EPA regulations on petroleum contaminated water/product from

H W DETWILER--SUMMERTON, SC

11-23-10
Date

Tommy Hart
Signature

APPENDIX D

ANALYTICAL DATA SHEETS

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

December 28, 2010

Mr. Ronny Lowder
Emerald, Inc.
2520 Tahoe Drive
Sumter, SC 29150

RE: Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Dear Mr. Lowder:
Enclosed are the analytical results for sample(s) received by the laboratory on November 23, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Report re-issued on 12/28/10 to include 1,2-Dichloroethane to samples 001-014, on the 8260 analysis.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Renee Spencer

Renee Spencer

renee.spencer@pacelabs.com
Project Manager

Enclosures

cc: Ms. Robbin Brown, Emerald, Inc.

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Pace Analytical Services, Inc.
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Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: H.W DETWILER CO. 15729
Pace Project No.: 9282778

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/LELAP Certification #: 04034
New Jersey Certification #: NC012
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
Pennsylvania Certification #: 68-00784
South Carolina Certification #: 99006001
South Carolina Drinking Water Cert. #: 99006003
Virginia Certification #: 00213
Connecticut Certification #: PH-0104
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Louisiana DHH Drinking Water # LA 100031
West Virginia Certification #: 357

Asheville Certification IDs
2225 Riverside Dr., Asheville, NC 28804
Connecticut Certification #: PH-0106
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
New Jersey Certification #: NC011
North Carolina Bioassay Certification #: 9
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
Pennsylvania Certification #: 68-03578
South Carolina Bioassay Certification #: 99030002
South Carolina Certification #: 99030001
Virginia Certification #: 00072
West Virginia Certification #: 356

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Asheville, NC 28804
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Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9282778001	MW-2D	Water	11/22/10 11:20	11/23/10 16:35
9282778002	MW-3	Water	11/22/10 10:30	11/23/10 16:35
9282778003	MW-4	Water	11/22/10 10:45	11/23/10 16:35
9282778004	MW-5	Water	11/22/10 12:00	11/23/10 16:35
9282778005	MW-6	Water	11/22/10 08:50	11/23/10 16:35
9282778006	MW-7	Water	11/19/10 14:40	11/23/10 16:35
9282778007	MW-8	Water	11/19/10 13:20	11/23/10 16:35
9282778008	MW-9	Water	11/19/10 13:10	11/23/10 16:35
9282778009	MW-10	Water	11/19/10 13:35	11/23/10 16:35
9282778010	MW-11	Water	11/19/10 16:50	11/23/10 16:35
9282778011	MW-12	Water	11/22/10 10:10	11/23/10 16:35
9282778012	MW-14	Water	11/19/10 15:40	11/23/10 16:35
9282778013	MW-16D	Water	11/22/10 11:20	11/23/10 16:35
9282778014	MW-17R	Water	11/22/10 11:40	11/23/10 16:35
9282778015	MW-18R	Water	11/22/10 11:50	11/23/10 16:35
9282778016	MW-19	Water	11/19/10 14:30	11/23/10 16:35
9282778017	MW-20	Water	11/19/10 13:00	11/23/10 16:35
9282778018	MW-21	Water	11/19/10 13:50	11/23/10 16:35
9282778019	MW-22	Water	11/19/10 14:05	11/23/10 16:35
9282778020	MW-24	Water	11/22/10 10:20	11/23/10 16:35
9282778021	MW-25	Water	11/22/10 09:10	11/23/10 16:35
9282778022	MW-26	Water	11/19/10 15:25	11/23/10 16:35
9282778023	MW-27	Water	11/19/10 16:35	11/23/10 16:35
9282778024	MW-28	Water	11/22/10 09:30	11/23/10 16:35
9282778025	MW-29	Water	11/22/10 10:55	11/23/10 16:35
9282778026	MW-30	Water	11/22/10 09:55	11/23/10 16:35
9282778027	MW-31	Water	11/19/10 16:15	11/23/10 16:35
9282778028	MW-32	Water	11/19/10 12:45	11/23/10 16:35
9282778029	MW-33	Water	11/19/10 15:00	11/23/10 16:35
9282778030	MW-34D	Water	11/19/10 15:15	11/23/10 16:35
9282778031	MW-35i	Water	11/19/10 12:25	11/23/10 16:35
9282778032	WSW-1	Water	11/19/10 16:05	11/23/10 16:35
9282778033	WSW-3	Water	11/19/10 11:30	11/23/10 16:35
9282778034	WSW-4	Water	11/19/10 11:15	11/23/10 16:35
9282778035	PS-1	Water	11/19/10 11:45	11/23/10 16:35
9282778036	SB-1	Water	11/19/10 12:00	11/23/10 16:35
9282778037	SW-1	Water	11/19/10 12:45	11/23/10 16:35

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Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9282778001	MW-2D	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778002	MW-3	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778003	MW-4	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778004	MW-5	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778005	MW-6	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778006	MW-7	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778007	MW-8	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778008	MW-9	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778009	MW-10	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778010	MW-11	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778011	MW-12	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778012	MW-14	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778013	MW-16D	EPA 8011	RES	2	PASI-C

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SAMPLE ANALYTE COUNT

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778014	MW-17R	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778015	MW-18R	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778016	MW-19	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778017	MW-20	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778018	MW-21	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778019	MW-22	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778020	MW-24	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	KJM	13	PASI-C
9282778021	MW-25	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	KJM	13	PASI-C
9282778022	MW-26	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778023	MW-27	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778024	MW-28	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778025	MW-29	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A

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SAMPLE ANALYTE COUNT

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260	MCK	13	PASI-C
9282778026	MW-30	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778027	MW-31	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778028	MW-32	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778029	MW-33	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	BLC	13	PASI-C
9282778030	MW-34D	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778031	MW-35I	EPA 8011	RES	2	PASI-C
		EPA 6010	SHB	1	PASI-A
		EPA 8260	MCK	13	PASI-C
9282778032	WSW-1	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9282778033	WSW-3	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9282778034	WSW-4	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9282778035	PS-1	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9282778036	SB-1	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9282778037	SW-1	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	12	PASI-C

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Sample: MW-2D **Lab ID: 9282778001** Collected: 11/22/10 11:20 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/30/10 12:40	11/30/10 18:43	106-93-4	
1-Chloro-2-bromopropane (S)	110	%	60-140		1	11/30/10 12:40	11/30/10 18:43	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	11/30/10 09:20	12/01/10 14:38	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		11/27/10 03:04	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		11/27/10 03:04	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		11/27/10 03:04	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		11/27/10 03.04	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/27/10 03:04	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/27/10 03:04	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/27/10 03:04	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/27/10 03:04	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/27/10 03:04	95-47-6	
4-Bromofluorobenzene (S)	94	%	70-130		1		11/27/10 03:04	460-00-4	
Dibromofluoromethane (S)	105	%	70-130		1		11/27/10 03:04	1868-53-7	
1,2-Dichloroethane-d4 (S)	110	%	70-130		1		11/27/10 03:04	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/27/10 03:04	2037-26-5	

Sample: MW-3 **Lab ID: 9282778002** Collected: 11/22/10 10:30 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method. EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/30/10 12:41	11/30/10 19:03	106-93-4	
1-Chloro-2-bromopropane (S)	108	%	60-140		1	11/30/10 12:41	11/30/10 19:03	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	11/30/10 09:20	12/01/10 14:41	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1 2	1		11/27/10 03:22	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		11/27/10 03:22	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		11/27/10 03:22	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		11/27/10 03:22	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/27/10 03:22	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/27/10 03:22	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/27/10 03:22	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/27/10 03:22	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/27/10 03:22	95-47-6	
4-Bromofluorobenzene (S)	98	%	70-130		1		11/27/10 03:22	460-00-4	
Dibromofluoromethane (S)	111	%	70-130		1		11/27/10 03:22	1868-53-7	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Sample: MW-3 **Lab ID: 9282778002** Collected: 11/22/10 10:30 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane-d4 (S)	113	%	70-130		1		11/27/10 03:22	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		11/27/10 03:22	2037-26-5	

Sample: MW-4 **Lab ID: 9282778003** Collected: 11/22/10 10:45 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.13**	ug/L	0.019	0.019	1	11/30/10 12:41	11/30/10 19:23	106-93-4	
1-Chloro-2-bromopropane (S)	109	%	60-140		1	11/30/10 12:41	11/30/10 19:23	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	11/30/10 09:20	12/01/10 20:25	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**169**	ug/L	5.0	1.2	1		11/27/10 03:40	71-43-2	
1,2-Dichloroethane	**5.5**	ug/L	5.0	1.3	1		11/27/10 03:40	107-06-2	
Ethylbenzene	**3.5J**	ug/L	5.0	1.1	1		11/27/10 03:40	100-41-4	
Methyl-tert-butyl ether	**4.9J**	ug/L	5.0	2.0	1		11/27/10 03:40	1634-04-4	
Naphthalene	**6.7**	ug/L	5.0	2.9	1		11/27/10 03:40	91-20-3	
Toluene	**3.5J**	ug/L	5.0	1.8	1		11/27/10 03:40	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/27/10 03:40	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/27/10 03:40	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/27/10 03:40	95-47-6	
4-Bromofluorobenzene (S)	99	%	70-130		1		11/27/10 03:40	460-00-4	
Dibromofluoromethane (S)	103	%	70-130		1		11/27/10 03:40	1868-53-7	
1,2-Dichloroethane-d4 (S)	113	%	70-130		1		11/27/10 03:40	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		11/27/10 03:40	2037-26-5	

Sample: MW-5 **Lab ID: 9282778004** Collected: 11/22/10 12:00 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.91**	ug/L	0.020	0.020	1	11/30/10 12:41	11/30/10 19:43	106-93-4	
1-Chloro-2-bromopropane (S)	109	%	60-140		1	11/30/10 12:41	11/30/10 19:43	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	11/30/10 09:20	12/01/10 20:40	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**63.9**	ug/L	5.0	1.2	1		12/01/10 14:05	71-43-2	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Sample: MW-5 **Lab ID: 9282778004** Collected: 11/22/10 12:00 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane	ND	ug/L	5 0	1.3	1		12/01/10 14:05	107-06-2	
Ethylbenzene	**22.1**	ug/L	5.0	1.1	1		12/01/10 14:05	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		12/01/10 14:05	1634-04-4	
Naphthalene	**6.3**	ug/L	5.0	2.9	1		12/01/10 14:05	91-20-3	
Toluene	**154**	ug/L	5.0	1.8	1		12/01/10 14:05	108-88-3	
Xylene (Total)	**107**	ug/L	10.0	2.7	1		12/01/10 14:05	1330-20-7	
m&p-Xylene	**72.8**	ug/L	10.0	2.7	1		12/01/10 14:05	179601-23-1	
o-Xylene	**34.3**	ug/L	5.0	1.7	1		12/01/10 14:05	95-47-6	
4-Bromofluorobenzene (S)	99	%	70-130		1		12/01/10 14:05	460-00-4	
Dibromofluoromethane (S)	108	%	70-130		1		12/01/10 14:05	1868-53-7	
1,2-Dichloroethane-d4 (S)	112	%	70-130		1		12/01/10 14:05	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		12/01/10 14:05	2037-26-5	

Sample: MW-6 **Lab ID: 9282778005** Collected: 11/22/10 08:50 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/30/10 12:41	11/30/10 20:03	106-93-4	
1-Chloro-2-bromopropane (S)	107	%	60-140		1	11/30/10 12:41	11/30/10 20:03	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method. EPA 3010								
Lead	ND	ug/L	5.0	4 0	1	11/30/10 09:20	12/01/10 20:47	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		11/27/10 04:17	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		11/27/10 04:17	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		11/27/10 04:17	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		11/27/10 04:17	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/27/10 04:17	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/27/10 04:17	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/27/10 04:17	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/27/10 04:17	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/27/10 04:17	95-47-6	
4-Bromofluorobenzene (S)	99	%	70-130		1		11/27/10 04:17	460-00-4	
Dibromofluoromethane (S)	108	%	70-130		1		11/27/10 04:17	1868-53-7	
1,2-Dichloroethane-d4 (S)	115	%	70-130		1		11/27/10 04:17	17060-07-0	
Toluene-d8 (S)	95	%	70-130		1		11/27/10 04:17	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Sample: MW-7 **Lab ID: 9282778006** Collected: 11/19/10 14:40 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/30/10 12:41	11/30/10 20:24	106-93-4	
1-Chloro-2-bromopropane (S)	110	%	60-140		1	11/30/10 12:41	11/30/10 20:24	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	11/30/10 09:20	12/01/10 20:50	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		11/26/10 13:57	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		11/26/10 13:57	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		11/26/10 13:57	100-41-4	
Methyl-tert-butyl ether	**3.1J**	ug/L	5.0	2.0	1		11/26/10 13:57	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/26/10 13:57	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/26/10 13:57	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/26/10 13.57	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2 7	1		11/26/10 13:57	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/26/10 13:57	95-47-6	
4-Bromofluorobenzene (S)	92	%	70-130		1		11/26/10 13:57	460-00-4	
Dibromofluoromethane (S)	106	%	70-130		1		11/26/10 13:57	1868-53-7	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		11/26/10 13:57	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		11/26/10 13:57	2037-26-5	

Sample: MW-8 **Lab ID: 9282778007** Collected: 11/19/10 13:20 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/30/10 12:41	11/30/10 20:44	106-93-4	
1-Chloro-2-bromopropane (S)	110	%	60-140		1	11/30/10 12:41	11/30/10 20:44	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	11/30/10 09:20	12/01/10 20:53	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		11/26/10 14:22	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		11/26/10 14:22	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		11/26/10 14:22	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		11/26/10 14:22	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/26/10 14:22	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/26/10 14:22	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/26/10 14:22	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/26/10 14:22	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/26/10 14:22	95-47-6	
4-Bromofluorobenzene (S)	97	%	70-130		1		11/26/10 14:22	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		1		11/26/10 14:22	1868-53-7	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Sample: MW-8 **Lab ID: 9282778007** Collected: 11/19/10 13:20 Received: 11/23/10 16:35 Matrix. Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		11/26/10 14:22	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/26/10 14:22	2037-26-5	

Sample: MW-9 **Lab ID: 9282778008** Collected: 11/19/10 13:10 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/30/10 12:41	11/30/10 21:04	106-93-4	
1-Chloro-2-bromopropane (S)	109	%	60-140		1	11/30/10 12:41	11/30/10 21:04	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	**17.9**	ug/L	5.0	4.0	1	11/30/10 09:20	12/01/10 20:56	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		11/27/10 12:25	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		11/27/10 12:25	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		11/27/10 12:25	100-41-4	
Methyl-tert-butyl ether	**6.5**	ug/L	5.0	2.0	1		11/27/10 12:25	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/27/10 12:25	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/27/10 12:25	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/27/10 12:25	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/27/10 12:25	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/27/10 12:25	95-47-6	
4-Bromofluorobenzene (S)	97	%	70-130		1		11/27/10 12:25	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		1		11/27/10 12.25	1868-53-7	
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		11/27/10 12:25	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		11/27/10 12:25	2037-26-5	

Sample: MW-10 **Lab ID: 9282778009** Collected: 11/19/10 13:35 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/30/10 12:41	11/30/10 21:24	106-93-4	
1-Chloro-2-bromopropane (S)	108	%	60-140		1	11/30/10 12:41	11/30/10 21:24	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	11/30/10 09:20	12/01/10 20:59	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**42.3**	ug/L	5.0	1.2	1		11/27/10 12:50	71-43-2	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Sample: MW-10 **Lab ID: 9282778009** Collected: 11/19/10 13:35 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane	**13.6**	ug/L	5.0	1.3	1		11/27/10 12:50	107-06-2	
Ethylbenzene	**3.8J**	ug/L	5.0	1.1	1		11/27/10 12:50	100-41-4	
Methyl-tert-butyl ether	**38.3**	ug/L	5.0	2.0	1		11/27/10 12:50	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/27/10 12.50	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/27/10 12:50	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/27/10 12:50	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/27/10 12:50	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/27/10 12:50	95-47-6	
4-Bromofluorobenzene (S)	98	%	70-130		1		11/27/10 12:50	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		1		11/27/10 12:50	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		11/27/10 12:50	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/27/10 12:50	2037-26-5	

Sample: MW-11 **Lab ID: 9282778010** Collected: 11/19/10 16:50 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/30/10 15:17	11/30/10 23:06	106-93-4	
1-Chloro-2-bromopropane (S)	111	%	60-140		1	11/30/10 15:17	11/30/10 23:06	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	11/30/10 09:20	12/01/10 21:03	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**63.6**	ug/L	5.0	1.2	1		11/27/10 13:16	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		11/27/10 13:16	107-06-2	
Ethylbenzene	**1.1J**	ug/L	5.0	1.1	1		11/27/10 13:16	100-41-4	
Methyl-tert-butyl ether	**2.3J**	ug/L	5.0	2.0	1		11/27/10 13:16	1634-04-4	
Naphthalene	**4.0J**	ug/L	5.0	2.9	1		11/27/10 13:16	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/27/10 13:16	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/27/10 13:16	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/27/10 13:16	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/27/10 13:16	95-47-6	
4-Bromofluorobenzene (S)	98	%	70-130		1		11/27/10 13:16	460-00-4	
Dibromofluoromethane (S)	101	%	70-130		1		11/27/10 13:16	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		11/27/10 13:16	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/27/10 13:16	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Sample: MW-12 **Lab ID: 9282778011** Collected: 11/22/10 10:10 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/30/10 15:18	12/01/10 00:06	106-93-4	
1-Chloro-2-bromopropane (S)	110	%	60-140		1	11/30/10 15:18	12/01/10 00:06	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	11/30/10 09:20	12/01/10 21:06	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		11/27/10 13:41	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		11/27/10 13:41	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		11/27/10 13:41	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		11/27/10 13:41	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/27/10 13:41	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/27/10 13:41	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/27/10 13:41	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/27/10 13:41	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/27/10 13:41	95-47-6	
4-Bromofluorobenzene (S)	95	%	70-130		1		11/27/10 13:41	460-00-4	
Dibromofluoromethane (S)	109	%	70-130		1		11/27/10 13:41	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		11/27/10 13:41	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/27/10 13:41	2037-26-5	

Sample: MW-14 **Lab ID: 9282778012** Collected: 11/19/10 15:40 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/30/10 15:18	12/01/10 00:47	106-93-4	
1-Chloro-2-bromopropane (S)	109	%	60-140		1	11/30/10 15:18	12/01/10 00:47	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	11/30/10 09:20	12/01/10 21:18	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		11/27/10 14:07	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		11/27/10 14:07	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		11/27/10 14:07	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		11/27/10 14:07	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/27/10 14:07	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/27/10 14:07	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/27/10 14:07	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/27/10 14:07	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/27/10 14:07	95-47-6	
4-Bromofluorobenzene (S)	98	%	70-130		1		11/27/10 14:07	460-00-4	
Dibromofluoromethane (S)	108	%	70-130		1		11/27/10 14:07	1868-53-7	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Sample: MW-14 **Lab ID: 9282778012** Collected: 11/19/10 15:40 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		11/27/10 14:07	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/27/10 14:07	2037-26-5	

Sample: MW-16D **Lab ID: 9282778013** Collected: 11/22/10 11:20 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/30/10 15:18	12/01/10 01:07	106-93-4	
1-Chloro-2-bromopropane (S)	110	%	60-140		1	11/30/10 15:18	12/01/10 01:07	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	11/30/10 09:20	12/01/10 21:22	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		11/27/10 14:32	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		11/27/10 14:32	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		11/27/10 14:32	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		11/27/10 14:32	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/27/10 14:32	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/27/10 14:32	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/27/10 14:32	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/27/10 14:32	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/27/10 14:32	95-47-6	
4-Bromofluorobenzene (S)	92	%	70-130		1		11/27/10 14:32	460-00-4	
Dibromofluoromethane (S)	111	%	70-130		1		11/27/10 14:32	1868-53-7	
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		11/27/10 14:32	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		11/27/10 14:32	2037-26-5	

Sample: MW-17R **Lab ID: 9282778014** Collected: 11/22/10 11:40 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/30/10 15:18	12/01/10 01:27	106-93-4	
1-Chloro-2-bromopropane (S)	113	%	60-140		1	11/30/10 15:18	12/01/10 01:27	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	11/30/10 09:20	12/01/10 21:25	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		11/27/10 14:57	71-43-2	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Sample: MW-17R **Lab ID: 9282778014** Collected: 11/22/10 11:40 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		11/27/10 14:57	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		11/27/10 14:57	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		11/27/10 14:57	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/27/10 14:57	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/27/10 14:57	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/27/10 14:57	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/27/10 14:57	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/27/10 14:57	95-47-6	
4-Bromofluorobenzene (S)	91	%	70-130		1		11/27/10 14:57	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		1		11/27/10 14:57	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		11/27/10 14:57	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/27/10 14:57	2037-26-5	

Sample: MW-18R **Lab ID: 9282778015** Collected: 11/22/10 11:50 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	11/30/10 15:18	12/01/10 01:47	106-93-4	
1-Chloro-2-bromopropane (S)	109	%	60-140		1	11/30/10 15:18	12/01/10 01:47	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	11/30/10 09:20	12/01/10 21:28	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		11/27/10 15:23	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		11/27/10 15:23	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		11/27/10 15:23	100-41-4	
Methyl-tert-butyl ether	**4.1J**	ug/L	5.0	2.0	1		11/27/10 15:23	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/27/10 15:23	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/27/10 15:23	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/27/10 15:23	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/27/10 15:23	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/27/10 15:23	95-47-6	
4-Bromofluorobenzene (S)	94	%	70-130		1		11/27/10 15:23	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		1		11/27/10 15:23	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		11/27/10 15:23	17060-07-0	
Toluene-d8 (S)	91	%	70-130		1		11/27/10 15:23	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO 15729
Pace Project No.: 9282778

Sample: MW-19 **Lab ID: 9282778016** Collected: 11/19/10 14:30 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/30/10 15:18	12/01/10 02:07	106-93-4	
1-Chloro-2-bromopropane (S)	106	%	60-140		1	11/30/10 15:18	12/01/10 02:07	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	11/30/10 09:20	12/01/10 21:31	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		11/27/10 15:48	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		11/27/10 15:48	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		11/27/10 15:48	100-41-4	
Methyl-tert-butyl ether	**3.9J**	ug/L	5.0	2.0	1		11/27/10 15:48	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/27/10 15:48	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/27/10 15:48	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/27/10 15:48	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/27/10 15:48	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/27/10 15:48	95-47-6	
4-Bromofluorobenzene (S)	94	%	70-130		1		11/27/10 15:48	460-00-4	
Dibromofluoromethane (S)	109	%	70-130		1		11/27/10 15:48	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		11/27/10 15:48	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		11/27/10 15:48	2037-26-5	

Sample: MW-20 **Lab ID: 9282778017** Collected: 11/19/10 13:00 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/30/10 15:19	12/01/10 02:28	106-93-4	
1-Chloro-2-bromopropane (S)	106	%	60-140		1	11/30/10 15:19	12/01/10 02:28	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	**7.5**	ug/L	5.0	4.0	1	11/30/10 09:20	12/01/10 21:34	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		11/27/10 16:14	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		11/27/10 16:14	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		11/27/10 16:14	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		11/27/10 16:14	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/27/10 16:14	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/27/10 16:14	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/27/10 16:14	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/27/10 16:14	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/27/10 16:14	95-47-6	
4-Bromofluorobenzene (S)	95	%	70-130		1		11/27/10 16:14	460-00-4	
Dibromofluoromethane (S)	108	%	70-130		1		11/27/10 16:14	1868-53-7	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Sample: MW-20 **Lab ID: 9282778017** Collected: 11/19/10 13:00 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		11/27/10 16:14	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/27/10 16:14	2037-26-5	

Sample: MW-21 **Lab ID: 9282778018** Collected: 11/19/10 13:50 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0 020	1	11/30/10 15:19	12/01/10 02:48	106-93-4	
1-Chloro-2-bromopropane (S)	111	%	60-140		1	11/30/10 15:19	12/01/10 02:48	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	11/30/10 09:20	12/01/10 21:37	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		11/27/10 16:39	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		11/27/10 16:39	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		11/27/10 16:39	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		11/27/10 16:39	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/27/10 16:39	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/27/10 16:39	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/27/10 16:39	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/27/10 16:39	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/27/10 16:39	95-47-6	
4-Bromofluorobenzene (S)	93	%	70-130		1		11/27/10 16:39	460-00-4	
Dibromofluoromethane (S)	108	%	70-130		1		11/27/10 16:39	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		11/27/10 16:39	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		11/27/10 16:39	2037-26-5	

Sample: MW-22 **Lab ID: 9282778019** Collected: 11/19/10 14:05 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0 020	0.020	1	11/30/10 15:19	12/01/10 03:08	106-93-4	
1-Chloro-2-bromopropane (S)	109	%	60-140		1	11/30/10 15:19	12/01/10 03:08	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	11/30/10 09:20	12/01/10 21:41	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		11/27/10 17:05	71-43-2	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Sample: MW-22 **Lab ID: 9282778019** Collected: 11/19/10 14:05 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		11/27/10 17:05	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		11/27/10 17:05	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		11/27/10 17:05	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/27/10 17:05	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/27/10 17:05	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/27/10 17:05	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/27/10 17:05	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/27/10 17:05	95-47-6	
4-Bromofluorobenzene (S)	95	%	70-130		1		11/27/10 17:05	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		1		11/27/10 17:05	1868-53-7	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		11/27/10 17:05	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		11/27/10 17:05	2037-26-5	

Sample: MW-24 **Lab ID: 9282778020** Collected: 11/22/10 10:20 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**87.8**	ug/L	2.0	2.0	100	11/30/10 15:19	12/01/10 10:03	106-93-4	
1-Chloro-2-bromopropane (S)	0	%	60-140		100	11/30/10 15:19	12/01/10 10:03	301-79-56	S4
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	**65.4**	ug/L	5.0	4.0	1	11/30/10 09:20	12/01/10 21:44	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**6830**	ug/L	500	120	100		12/02/10 15:45	71-43-2	
1,2-Dichloroethane	ND	ug/L	500	130	100		12/02/10 15:45	107-06-2	
Ethylbenzene	**2320**	ug/L	500	110	100		12/02/10 15:45	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	500	200	100		12/02/10 15:45	1634-04-4	
Naphthalene	**397J**	ug/L	500	290	100		12/02/10 15:45	91-20-3	
Toluene	**17300**	ug/L	500	180	100		12/02/10 15:45	108-88-3	
Xylene (Total)	**10400**	ug/L	1000	270	100		12/02/10 15:45	1330-20-7	
m&p-Xylene	**7060**	ug/L	1000	270	100		12/02/10 15:45	179601-23-1	
o-Xylene	**3340**	ug/L	500	170	100		12/02/10 15:45	95-47-6	
4-Bromofluorobenzene (S)	103	%	70-130		100		12/02/10 15:45	460-00-4	
Dibromofluoromethane (S)	108	%	70-130		100		12/02/10 15:45	1868-53-7	
1,2-Dichloroethane-d4 (S)	107	%	70-130		100		12/02/10 15:45	17060-07-0	
Toluene-d8 (S)	100	%	70-130		100		12/02/10 15:45	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Sample: MW-25 **Lab ID: 9282778021** Collected: 11/22/10 09:10 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**54.9**	ug/L	2.0	2.0	100	11/30/10 15:19	12/01/10 10:22	106-93-4	
1-Chloro-2-bromopropane (S)	0	%	60-140		100	11/30/10 15:19	12/01/10 10:22	301-79-56	S4
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	**17.0**	ug/L	5.0	4.0	1	11/30/10 09:20	12/01/10 21:47	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**4060**	ug/L	500	120	100		12/06/10 11:49	71-43-2	1g
1,2-Dichloroethane	ND	ug/L	500	130	100		12/06/10 11:49	107-06-2	
Ethylbenzene	**471J**	ug/L	500	110	100		12/06/10 11:49	100-41-4	
Methyl-tert-butyl ether	**266J**	ug/L	500	200	100		12/06/10 11:49	1634-04-4	
Naphthalene	ND	ug/L	500	290	100		12/06/10 11:49	91-20-3	
Toluene	**5550**	ug/L	500	180	100		12/06/10 11:49	108-88-3	
Xylene (Total)	**1720**	ug/L	1000	270	100		12/06/10 11:49	1330-20-7	
m&p-Xylene	**1010**	ug/L	1000	270	100		12/06/10 11:49	179601-23-1	
o-Xylene	**705**	ug/L	500	170	100		12/06/10 11:49	95-47-6	
4-Bromofluorobenzene (S)	98	%	70-130		100		12/06/10 11:49	460-00-4	
Dibromofluoromethane (S)	106	%	70-130		100		12/06/10 11:49	1868-53-7	
1,2-Dichloroethane-d4 (S)	91	%	70-130		100		12/06/10 11:49	17060-07-0	
Toluene-d8 (S)	100	%	70-130		100		12/06/10 11:49	2037-26-5	

Sample: MW-26 **Lab ID: 9282778022** Collected: 11/19/10 15:25 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/30/10 15:19	12/01/10 04:08	106-93-4	
1-Chloro-2-bromopropane (S)	102	%	60-140		1	11/30/10 15:19	12/01/10 04:08	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	11/30/10 09:20	12/01/10 22:00	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**211**	ug/L	50.0	12.0	10		11/28/10 08:20	71-43-2	
1,2-Dichloroethane	**1.7J**	ug/L	5.0	1.3	1		11/27/10 17:30	107-06-2	
Ethylbenzene	**15.2**	ug/L	5.0	1.1	1		11/27/10 17:30	100-41-4	
Methyl-tert-butyl ether	**11.8**	ug/L	5.0	2.0	1		11/27/10 17:30	1634-04-4	
Naphthalene	**4.4J**	ug/L	5.0	2.9	1		11/27/10 17:30	91-20-3	
Toluene	**10.7**	ug/L	5.0	1.8	1		11/27/10 17:30	108-88-3	
Xylene (Total)	**17.7**	ug/L	10.0	2.7	1		11/27/10 17:30	1330-20-7	
m&p-Xylene	**12.5**	ug/L	10.0	2.7	1		11/27/10 17:30	179601-23-1	
o-Xylene	**5.2**	ug/L	5.0	1.7	1		11/27/10 17:30	95-47-6	
4-Bromofluorobenzene (S)	96	%	70-130		1		11/27/10 17:30	460-00-4	
Dibromofluoromethane (S)	100	%	70-130		1		11/27/10 17:30	1868-53-7	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Sample: MW-26 **Lab ID: 9282778022** Collected: 11/19/10 15:25 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		11/27/10 17:30	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		11/27/10 17:30	2037-26-5	

Sample: MW-27 **Lab ID: 9282778023** Collected: 11/19/10 16:35 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/30/10 15:20	12/01/10 04:29	106-93-4	
1-Chloro-2-bromopropane (S)	111	%	60-140		1	11/30/10 15:20	12/01/10 04:29	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	12/01/10 10:15	12/02/10 15:15	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**177**	ug/L	5.0	1.2	1		11/27/10 17:56	71-43-2	
1,2-Dichloroethane	**4.3J**	ug/L	5.0	1.3	1		11/27/10 17:56	107-06-2	
Ethylbenzene	**8.4**	ug/L	5.0	1.1	1		11/27/10 17:56	100-41-4	
Methyl-tert-butyl ether	**9.1**	ug/L	5.0	2.0	1		11/27/10 17:56	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/27/10 17:56	91-20-3	
Toluene	**2.2J**	ug/L	5.0	1.8	1		11/27/10 17:56	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/27/10 17:56	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/27/10 17:56	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/27/10 17:56	95-47-6	
4-Bromofluorobenzene (S)	98	%	70-130		1		11/27/10 17:56	460-00-4	
Dibromofluoromethane (S)	103	%	70-130		1		11/27/10 17:56	1868-53-7	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		11/27/10 17:56	17060-07-0	
Toluene-d8 (S)	94	%	70-130		1		11/27/10 17:56	2037-26-5	

Sample: MW-28 **Lab ID: 9282778024** Collected: 11/22/10 09:30 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**22.8**	ug/L	0.49	0.49	25	11/30/10 15:20	12/01/10 10:43	106-93-4	
1-Chloro-2-bromopropane (S)	0	%	60-140		25	11/30/10 15:20	12/01/10 10:43	301-79-56	S4
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	**52.1**	ug/L	5.0	4.0	1	12/01/10 10:15	12/02/10 15:18	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**3410**	ug/L	250	60.0	50		12/01/10 20:03	71-43-2	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Sample: MW-28 **Lab ID: 9282778024** Collected: 11/22/10 09:30 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane	ND	ug/L	250	65.0	50		12/01/10 20:03	107-06-2	
Ethylbenzene	**698**	ug/L	250	55.0	50		12/01/10 20:03	100-41-4	
Methyl-tert-butyl ether	**164J**	ug/L	250	100	50		12/01/10 20:03	1634-04-4	
Naphthalene	**173J**	ug/L	250	145	50		12/01/10 20:03	91-20-3	
Toluene	**5070**	ug/L	250	90.0	50		12/01/10 20:03	108-88-3	
Xylene (Total)	**3250**	ug/L	500	135	50		12/01/10 20.03	1330-20-7	
m&p-Xylene	**2200**	ug/L	500	135	50		12/01/10 20:03	179601-23-1	
o-Xylene	**1050**	ug/L	250	85.0	50		12/01/10 20:03	95-47-6	
4-Bromofluorobenzene (S)	98	%	70-130		50		12/01/10 20:03	460-00-4	
Dibromofluoromethane (S)	98	%	70-130		50		12/01/10 20:03	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	70-130		50		12/01/10 20:03	17060-07-0	
Toluene-d8 (S)	100	%	70-130		50		12/01/10 20:03	2037-26-5	

Sample: MW-29 **Lab ID: 9282778025** Collected: 11/22/10 10:55 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/30/10 15:20	12/01/10 05:09	106-93-4	
1-Chloro-2-bromopropane (S)	112	%	60-140		1	11/30/10 15:20	12/01/10 05:09	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	12/01/10 10:15	12/02/10 15:21	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		11/27/10 18:21	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		11/27/10 18:21	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		11/27/10 18:21	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		11/27/10 18:21	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/27/10 18:21	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/27/10 18:21	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/27/10 18:21	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/27/10 18:21	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/27/10 18:21	95-47-6	
4-Bromofluorobenzene (S)	94	%	70-130		1		11/27/10 18:21	460-00-4	
Dibromofluoromethane (S)	107	%	70-130		1		11/27/10 18:21	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		11/27/10 18:21	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		11/27/10 18:21	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Sample: MW-30 **Lab ID: 9282778026** Collected: 11/22/10 09:55 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/30/10 15:20	12/01/10 05:29	106-93-4	
1-Chloro-2-bromopropane (S)	107	%	60-140		1	11/30/10 15:20	12/01/10 05:29	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	12/01/10 10:15	12/02/10 15:24	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		11/27/10 18:47	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		11/27/10 18:47	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		11/27/10 18:47	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		11/27/10 18:47	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/27/10 18:47	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/27/10 18:47	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/27/10 18:47	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/27/10 18:47	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/27/10 18:47	95-47-6	
4-Bromofluorobenzene (S)	97	%	70-130		1		11/27/10 18:47	460-00-4	
Dibromofluoromethane (S)	114	%	70-130		1		11/27/10 18:47	1868-53-7	
1,2-Dichloroethane-d4 (S)	108	%	70-130		1		11/27/10 18:47	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/27/10 18:47	2037-26-5	

Sample: MW-31 **Lab ID: 9282778027** Collected: 11/19/10 16:15 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.18**	ug/L	0.020	0.020	1	11/30/10 15:20	12/01/10 05:49	106-93-4	
1-Chloro-2-bromopropane (S)	111	%	60-140		1	11/30/10 15:20	12/01/10 05:49	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	12/01/10 10:15	12/02/10 15:28	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		11/27/10 19:12	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		11/27/10 19:12	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		11/27/10 19:12	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		11/27/10 19:12	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/27/10 19:12	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/27/10 19:12	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/27/10 19:12	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/27/10 19:12	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/27/10 19:12	95-47-6	
4-Bromofluorobenzene (S)	95	%	70-130		1		11/27/10 19:12	460-00-4	
Dibromofluoromethane (S)	109	%	70-130		1		11/27/10 19:12	1868-53-7	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Sample: MW-31 **Lab ID: 9282778027** Collected: 11/19/10 16:15 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		11/27/10 19:12	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		11/27/10 19:12	2037-26-5	

Sample: MW-32 **Lab ID: 9282778028** Collected: 11/19/10 12:45 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	11/30/10 15:20	12/01/10 06:09	106-93-4	
1-Chloro-2-bromopropane (S)	104	%	60-140		1	11/30/10 15:20	12/01/10 06:09	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	12/01/10 10:15	12/02/10 15:31	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		11/27/10 23:52	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		11/27/10 23:52	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		11/27/10 23:52	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		11/27/10 23:52	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/27/10 23:52	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/27/10 23:52	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/27/10 23:52	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/27/10 23:52	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/27/10 23:52	95-47-6	
4-Bromofluorobenzene (S)	94	%	70-130		1		11/27/10 23.52	460-00-4	
Dibromofluoromethane (S)	111	%	70-130		1		11/27/10 23:52	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		11/27/10 23:52	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		11/27/10 23:52	2037-26-5	

Sample: MW-33 **Lab ID: 9282778029** Collected: 11/19/10 15:00 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.20**	ug/L	0.020	0.020	1	11/30/10 15:20	12/01/10 06:29	106-93-4	
1-Chloro-2-bromopropane (S)	108	%	60-140		1	11/30/10 15:20	12/01/10 06:29	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	12/01/10 10:15	12/02/10 15:34	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**144**	ug/L	50.0	12.0	10		12/02/10 16:06	71-43-2	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Sample: MW-33 **Lab ID: 9282778029** Collected: 11/19/10 15:00 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloroethane	ND	ug/L	50.0	13.0	10		12/02/10 16:06	107-06-2	
Ethylbenzene	**152**	ug/L	50.0	11.0	10		12/02/10 16:06	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	50.0	20.0	10		12/02/10 16:06	1634-04-4	
Naphthalene	ND	ug/L	50.0	29.0	10		12/02/10 16:06	91-20-3	
Toluene	**714**	ug/L	50.0	18.0	10		12/02/10 16:06	108-88-3	
Xylene (Total)	**419**	ug/L	100	27.0	10		12/02/10 16:06	1330-20-7	
m&p-Xylene	**272**	ug/L	100	27.0	10		12/02/10 16:06	179601-23-1	
o-Xylene	**147**	ug/L	50.0	17.0	10		12/02/10 16:06	95-47-6	
4-Bromofluorobenzene (S)	97	%	70-130		10		12/02/10 16:06	460-00-4	
Dibromofluoromethane (S)	97	%	70-130		10		12/02/10 16:06	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	70-130		10		12/02/10 16:06	17060-07-0	
Toluene-d8 (S)	99	%	70-130		10		12/02/10 16:06	2037-26-5	

Sample: MW-34D **Lab ID: 9282778030** Collected: 11/19/10 15:15 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	12/01/10 15:37	12/01/10 18:40	106-93-4	
1-Chloro-2-bromopropane (S)	109	%	60-140		1	12/01/10 15:37	12/01/10 18:40	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	12/01/10 10:15	12/02/10 15:37	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		11/28/10 00:18	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1 3	1		11/28/10 00:18	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		11/28/10 00:18	100-41-4	
Methyl-tert-butyl ether	**4.1J**	ug/L	5.0	2.0	1		11/28/10 00:18	1634-04-4	
Naphthalene	ND	ug/L	5.0	2 9	1		11/28/10 00:18	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		11/28/10 00:18	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/28/10 00:18	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/28/10 00:18	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/28/10 00:18	95-47-6	
4-Bromofluorobenzene (S)	99	%	70-130		1		11/28/10 00:18	460-00-4	
Dibromofluoromethane (S)	108	%	70-130		1		11/28/10 00:18	1868-53-7	
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		11/28/10 00:18	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		11/28/10 00:18	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Sample: MW-35i **Lab ID: 9282778031** Collected: 11/19/10 12:25 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	12/01/10 15:38	12/01/10 19:00	106-93-4	
1-Chloro-2-bromopropane (S)	107	%	60-140		1	12/01/10 15:38	12/01/10 19:00	301-79-56	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Lead	ND	ug/L	5.0	4.0	1	12/01/10 10:15	12/02/10 15:51	7439-92-1	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		11/28/10 00:43	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		11/28/10 00:43	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		11/28/10 00:43	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		11/28/10 00:43	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		11/28/10 00:43	91-20-3	
Toluene	ND	ug/L	5 0	1 8	1		11/28/10 00:43	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		11/28/10 00:43	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		11/28/10 00:43	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		11/28/10 00:43	95-47-6	
4-Bromofluorobenzene (S)	95	%	70-130		1		11/28/10 00:43	460-00-4	
Dibromofluoromethane (S)	109	%	70-130		1		11/28/10 00:43	1868-53-7	
1,2-Dichloroethane-d4 (S)	109	%	70-130		1		11/28/10 00:43	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/28/10 00:43	2037-26-5	

Sample: WSW-1 **Lab ID: 9282778032** Collected: 11/19/10 16:05 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	12/01/10 15:38	12/01/10 19:20	106-93-4	
1-Chloro-2-bromopropane (S)	111	%	60-140		1	12/01/10 15:38	12/01/10 19:20	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.25	1		11/26/10 16:53	71-43-2	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		11/26/10 16:53	107-06-2	
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/26/10 16:53	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		11/26/10 16:53	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		11/26/10 16:53	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		11/26/10 16:53	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.66	1		11/26/10 16:53	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		11/26/10 16:53	95-47-6	
4-Bromofluorobenzene (S)	94	%	70-130		1		11/26/10 16:53	460-00-4	
Dibromofluoromethane (S)	104	%	70-130		1		11/26/10 16:53	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		11/26/10 16:53	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		11/26/10 16:53	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Sample: WSW-3 **Lab ID: 9282778033** Collected: 11/19/10 11:30 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	12/01/10 15:38	12/01/10 19:40	106-93-4	
1-Chloro-2-bromopropane (S)	109	%	60-140		1	12/01/10 15:38	12/01/10 19:40	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.25	1		11/26/10 17:18	71-43-2	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		11/26/10 17:18	107-06-2	
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/26/10 17:18	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		11/26/10 17:18	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		11/26/10 17:18	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		11/26/10 17:18	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.66	1		11/26/10 17:18	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		11/26/10 17:18	95-47-6	
4-Bromofluorobenzene (S)	92	%	70-130		1		11/26/10 17:18	460-00-4	
Dibromofluoromethane (S)	105	%	70-130		1		11/26/10 17:18	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		11/26/10 17:18	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/26/10 17:18	2037-26-5	

Sample: WSW-4 **Lab ID: 9282778034** Collected: 11/19/10 11:15 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	12/01/10 15:38	12/01/10 20:00	106-93-4	
1-Chloro-2-bromopropane (S)	109	%	60-140		1	12/01/10 15:38	12/01/10 20:00	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.25	1		11/27/10 06:33	71-43-2	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		11/27/10 06:33	107-06-2	
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/27/10 06:33	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		11/27/10 06:33	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		11/27/10 06:33	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		11/27/10 06:33	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.66	1		11/27/10 06:33	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		11/27/10 06:33	95-47-6	
4-Bromofluorobenzene (S)	94	%	70-130		1		11/27/10 06:33	460-00-4	
Dibromofluoromethane (S)	152	%	70-130		1		11/27/10 06:33	1868-53-7	S3
1,2-Dichloroethane-d4 (S)	146	%	70-130		1		11/27/10 06:33	17060-07-0	S3
Toluene-d8 (S)	93	%	70-130		1		11/27/10 06:33	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Sample: PS-1 **Lab ID: 9282778035** Collected: 11/19/10 11:45 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	12/01/10 15:38	12/01/10 20:20	106-93-4	
1-Chloro-2-bromopropane (S)	108	%	60-140		1	12/01/10 15:38	12/01/10 20:20	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.25	1		11/28/10 14:42	71-43-2	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		11/28/10 14:42	107-06-2	
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/28/10 14:42	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		11/28/10 14:42	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		11/28/10 14:42	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		11/28/10 14:42	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.66	1		11/28/10 14:42	179601-23-1	
o-Xylene	ND	ug/L	1.0	0 23	1		11/28/10 14:42	95-47-6	
4-Bromofluorobenzene (S)	92	%	70-130		1		11/28/10 14:42	460-00-4	
Dibromofluoromethane (S)	115	%	70-130		1		11/28/10 14:42	1868-53-7	
1,2-Dichloroethane-d4 (S)	110	%	70-130		1		11/28/10 14:42	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		11/28/10 14:42	2037-26-5	

Sample: SB1 CS-2 **Lab ID: 9282778036** Collected: 11/19/10 12:00 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	12/01/10 15:38	12/01/10 20:40	106-93-4	
1-Chloro-2-bromopropane (S)	111	%	60-140		1	12/01/10 15:38	12/01/10 20:40	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.25	1		11/28/10 15:08	71-43-2	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		11/28/10 15:08	107-06-2	
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/28/10 15:08	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		11/28/10 15:08	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		11/28/10 15:08	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		11/28/10 15:08	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.66	1		11/28/10 15:08	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		11/28/10 15:08	95-47-6	
4-Bromofluorobenzene (S)	92	%	70-130		1		11/28/10 15:08	460-00-4	
Dibromofluoromethane (S)	113	%	70-130		1		11/28/10 15:08	1868-53-7	
1,2-Dichloroethane-d4 (S)	110	%	70-130		1		11/28/10 15.08	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/28/10 15:08	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

Sample: SW-1 **Lab ID: 9282778037** Collected: 11/19/10 12:45 Received: 11/23/10 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	12/01/10 15:38	12/01/10 21:00	106-93-4	
1-Chloro-2-bromopropane (S)	108	%	60-140		1	12/01/10 15:38	12/01/10 21:00	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.25	1		11/28/10 15:33	71-43-2	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		11/28/10 15:33	107-06-2	
Ethylbenzene	ND	ug/L	1.0	0.30	1		11/28/10 15:33	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		11/28/10 15:33	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		11/28/10 15:33	91-20-3	
Toluene	**4.4**	ug/L	1.0	0.26	1		11/28/10 15:33	108-88-3	
m&p-Xylene	ND	ug/L	2.0	0.66	1		11/28/10 15:33	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		11/28/10 15:33	95-47-6	
4-Bromofluorobenzene (S)	95	%	70-130		1		11/28/10 15:33	460-00-4	
Dibromofluoromethane (S)	112	%	70-130		1		11/28/10 15:33	1868-53-7	
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		11/28/10 15:33	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		11/28/10 15:33	2037-26-5	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

QC Batch: OEXT/12014 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9282778001, 9282778002, 9282778003, 9282778004, 9282778005, 9282778006, 9282778007, 9282778008, 9282778009

METHOD BLANK: 534130 Matrix: Water
Associated Lab Samples: 9282778001, 9282778002, 9282778003, 9282778004, 9282778005, 9282778006, 9282778007, 9282778008, 9282778009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	11/30/10 13:00	
1-Chloro-2-bromopropane (S)	%	107	60-140	11/30/10 13:00	

LABORATORY CONTROL SAMPLE & LCSD: 534131 534132

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.33	0.33	114	114	60-140	1	20	
1-Chloro-2-bromopropane (S)	%				107	106	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 534133 534134

Parameter	Units	9282769013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.32	0.32	114	114	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						106	106	60-140			

SAMPLE DUPLICATE: 534135

Parameter	Units	9282590007 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	105	110	4		

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

QC Batch: OEXT/12015 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9282778010, 9282778011, 9282778012, 9282778013, 9282778014, 9282778015, 9282778016, 9282778017, 9282778018, 9282778019, 9282778020, 9282778021, 9282778022, 9282778023, 9282778024, 9282778025, 9282778026, 9282778027, 9282778028, 9282778029

METHOD BLANK: 534136 Matrix: Water
Associated Lab Samples: 9282778010, 9282778011, 9282778012, 9282778013, 9282778014, 9282778015, 9282778016, 9282778017, 9282778018, 9282778019, 9282778020, 9282778021, 9282778022, 9282778023, 9282778024, 9282778025, 9282778026, 9282778027, 9282778028, 9282778029

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	11/30/10 22:05	
1-Chloro-2-bromopropane (S)	%	110	60-140	11/30/10 22:05	

LABORATORY CONTROL SAMPLE & LCSD: 534137 534138

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.34	0.33	120	116	60-140	3	20	
1-Chloro-2-bromopropane (S)	%				112	109	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 534139 534140

Parameter	Units	9282778010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.39	0.41	140	144	60-140	3	20	M3
1-Chloro-2-bromopropane (S)	%						111	111	60-140			

SAMPLE DUPLICATE: 534141

Parameter	Units	9282778011 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	110	108	2		

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

QC Batch: OEXT/12026 Analysis Method. EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9282778030, 9282778031, 9282778032, 9282778033, 9282778034, 9282778035, 9282778036, 9282778037

METHOD BLANK: 534593 Matrix: Water
Associated Lab Samples: 9282778030, 9282778031, 9282778032, 9282778033, 9282778034, 9282778035, 9282778036, 9282778037

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	12/01/10 17:40	
1-Chloro-2-bromopropane (S)	%	102	60-140	12/01/10 17:40	

LABORATORY CONTROL SAMPLE & LCSD: 534594 534595

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.33	0.33	116	120	60-140	1	20	
1-Chloro-2-bromopropane (S)	%				103	107	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 534598 534599

Parameter	Units	9282409006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.29	0.30	102	106	60-140	4	20	
1-Chloro-2-bromopropane (S)	%						95	98	60-140			

SAMPLE DUPLICATE: 534600

Parameter	Units	9282409007 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	94	105	12		

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

QC Batch: MPRP/7507
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Associated Lab Samples: 9282778001, 9282778002

METHOD BLANK. 533809
Matrix: Water
Associated Lab Samples: 9282778001, 9282778002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	ug/L	ND	5.0	12/01/10 12:53	

LABORATORY CONTROL SAMPLE: 533810

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	500	523	105	80-120	

MATRIX SPIKE SAMPLE: 533811

Parameter	Units	9282071002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	340	500	752	82	75-125	

SAMPLE DUPLICATE: 533812

Parameter	Units	9282769010 Result	Dup Result	RPD	Max RPD	Qualifiers
Lead	ug/L	ND	4.9J		20	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

QC Batch: MPRP/7508 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 9282778003, 9282778004, 9282778005, 9282778006, 9282778007, 9282778008, 9282778009, 9282778010, 9282778011, 9282778012, 9282778013, 9282778014, 9282778015, 9282778016, 9282778017, 9282778018, 9282778019, 9282778020, 9282778021, 9282778022

METHOD BLANK. 533813 Matrix: Water
Associated Lab Samples: 9282778003, 9282778004, 9282778005, 9282778006, 9282778007, 9282778008, 9282778009, 9282778010, 9282778011, 9282778012, 9282778013, 9282778014, 9282778015, 9282778016, 9282778017, 9282778018, 9282778019, 9282778020, 9282778021, 9282778022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	ug/L	ND	5.0	12/01/10 20:18	

LABORATORY CONTROL SAMPLE: 533814

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	500	489	98	80-120	

MATRIX SPIKE SAMPLE: 533815

Parameter	Units	9282778003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	ND	500	500	100	75-125	

SAMPLE DUPLICATE: 533816

Parameter	Units	9282778004 Result	Dup Result	RPD	Max RPD	Qualifiers
Lead	ug/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

QC Batch: MPRP/7515 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 9282778023, 9282778024, 9282778025, 9282778026, 9282778027, 9282778028, 9282778029, 9282778030, 9282778031

METHOD BLANK: 534524 Matrix: Water
Associated Lab Samples: 9282778023, 9282778024, 9282778025, 9282778026, 9282778027, 9282778028, 9282778029, 9282778030, 9282778031

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	ug/L	ND	5.0	12/02/10 15:08	

LABORATORY CONTROL SAMPLE: 534525

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	500	509	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 534526 534527

Parameter	Units	9282683001 Result	MS Spike Conc.	MSD Spike Conc	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lead	ug/L	ND	500	500	512	498	102	99	75-125	3	20	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No : 9282778

QC Batch: MSV/13194 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 9282778032, 9282778033, 9282778034

METHOD BLANK: 533432 Matrix: Water
Associated Lab Samples: 9282778032, 9282778033, 9282778034

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	11/26/10 09:10	
Benzene	ug/L	ND	1.0	11/26/10 09:10	
Ethylbenzene	ug/L	ND	1.0	11/26/10 09:10	
m&p-Xylene	ug/L	ND	2.0	11/26/10 09:10	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/26/10 09:10	
Naphthalene	ug/L	ND	1.0	11/26/10 09:10	
o-Xylene	ug/L	ND	1.0	11/26/10 09:10	
Toluene	ug/L	ND	1.0	11/26/10 09:10	
1,2-Dichloroethane-d4 (S)	%	100	70-130	11/26/10 09:10	
4-Bromofluorobenzene (S)	%	92	70-130	11/26/10 09:10	
Dibromofluoromethane (S)	%	105	70-130	11/26/10 09:10	
Toluene-d8 (S)	%	98	70-130	11/26/10 09:10	

LABORATORY CONTROL SAMPLE: 533433

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	49.4	99	70-130	
Benzene	ug/L	50	49.6	99	70-130	
Ethylbenzene	ug/L	50	50.9	102	70-130	
m&p-Xylene	ug/L	100	99.2	99	70-130	
Methyl-tert-butyl ether	ug/L	50	49.6	99	70-130	
Naphthalene	ug/L	50	49.4	99	70-130	
o-Xylene	ug/L	50	50.9	102	70-130	
Toluene	ug/L	50	47 4	95	70-130	
1,2-Dichloroethane-d4 (S)	%			97	70-130	
4-Bromofluorobenzene (S)	%			103	70-130	
Dibromofluoromethane (S)	%			99	70-130	
Toluene-d8 (S)	%			102	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 533434 533435

Parameter	Units	9282765029 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	55.8	56.5	112	113	70-130	1	30	
Benzene	ug/L	ND	50	50	49.3	49.5	99	99	70-130	0	30	
Ethylbenzene	ug/L	ND	50	50	53.1	50.4	106	101	70-130	5	30	
m&p-Xylene	ug/L	ND	100	100	107	101	107	101	70-130	6	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	54.8	53.6	110	107	70-130	2	30	
Naphthalene	ug/L	ND	50	50	54.4	51.9	109	104	70-130	5	30	
o-Xylene	ug/L	ND	50	50	55.3	51.3	111	103	70-130	8	30	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 533434 533435

Parameter	Units	9282765029 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Toluene	ug/L	ND	50	50	49.8	49.9	99	99	70-130	0	30	
1,2-Dichloroethane-d4 (S)	%						104	102	70-130			
4-Bromofluorobenzene (S)	%						106	103	70-130			
Dibromofluoromethane (S)	%						100	104	70-130			
Toluene-d8 (S)	%						97	100	70-130			

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

QC Batch: MSV/13223 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 9282778035, 9282778036, 9282778037

METHOD BLANK: 533588 Matrix: Water
Associated Lab Samples: 9282778035, 9282778036, 9282778037

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	0.20J	1.0	11/28/10 10:28	
Benzene	ug/L	ND	1.0	11/28/10 10:28	
Ethylbenzene	ug/L	ND	1.0	11/28/10 10:28	
m&p-Xylene	ug/L	ND	2.0	11/28/10 10:28	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/28/10 10:28	
Naphthalene	ug/L	ND	1.0	11/28/10 10:28	
o-Xylene	ug/L	ND	1.0	11/28/10 10:28	
Toluene	ug/L	ND	1.0	11/28/10 10:28	
1,2-Dichloroethane-d4 (S)	%	105	70-130	11/28/10 10:28	
4-Bromofluorobenzene (S)	%	95	70-130	11/28/10 10:28	
Dibromofluoromethane (S)	%	110	70-130	11/28/10 10:28	
Toluene-d8 (S)	%	101	70-130	11/28/10 10:28	

LABORATORY CONTROL SAMPLE: 533589

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	51.9	104	70-130	
Benzene	ug/L	50	48 1	96	70-130	
Ethylbenzene	ug/L	50	47.7	95	70-130	
m&p-Xylene	ug/L	100	98.0	98	70-130	
Methyl-tert-butyl ether	ug/L	50	40 8	82	70-130	
Naphthalene	ug/L	50	53.1	106	70-130	
o-Xylene	ug/L	50	50.4	101	70-130	
Toluene	ug/L	50	48.1	96	70-130	
1,2-Dichloroethane-d4 (S)	%			100	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Dibromofluoromethane (S)	%			100	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE. 533590 533591

Parameter	Units	9282683001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	47.0	47.3	94	95	70-130	1	30	
Benzene	ug/L	ND	50	50	44.5	43.8	89	88	70-130	2	30	
Ethylbenzene	ug/L	ND	50	50	44.7	43.9	89	88	70-130	2	30	
m&p-Xylene	ug/L	ND	100	100	86.5	85.5	86	86	70-130	1	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	39.5	40.5	79	81	70-130	2	30	
Naphthalene	ug/L	ND	50	50	42.7	47.8	85	96	70-130	11	30	
o-Xylene	ug/L	ND	50	50	45.2	44.8	90	90	70-130	1	30	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 533590 533591

Parameter	Units	9282683001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Toluene	ug/L	ND	50	50	42.7	42.3	85	85	70-130	1	30	
1,2-Dichloroethane-d4 (S)	%						101	102	70-130			
4-Bromofluorobenzene (S)	%						94	99	70-130			
Dibromofluoromethane (S)	%						100	103	70-130			
Toluene-d8 (S)	%						96	97	70-130			

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

QC Batch: MSV/13199 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 9282778001, 9282778002, 9282778003, 9282778005

METHOD BLANK: 533453 Matrix: Water
Associated Lab Samples: 9282778001, 9282778002, 9282778003, 9282778005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	11/26/10 21:18	
Benzene	ug/L	ND	5.0	11/26/10 21:18	
Ethylbenzene	ug/L	ND	5.0	11/26/10 21:18	
m&p-Xylene	ug/L	ND	10.0	11/26/10 21:18	
Methyl-tert-butyl ether	ug/L	ND	5.0	11/26/10 21:18	
Naphthalene	ug/L	ND	5.0	11/26/10 21:18	
o-Xylene	ug/L	ND	5.0	11/26/10 21:18	
Toluene	ug/L	ND	5.0	11/26/10 21:18	
Xylene (Total)	ug/L	ND	10.0	11/26/10 21:18	
1,2-Dichloroethane-d4 (S)	%	108	70-130	11/26/10 21:18	
4-Bromofluorobenzene (S)	%	98	70-130	11/26/10 21:18	
Dibromofluoromethane (S)	%	103	70-130	11/26/10 21:18	
Toluene-d8 (S)	%	96	70-130	11/26/10 21:18	

LABORATORY CONTROL SAMPLE: 533454

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	54.0	108	70-130	
Benzene	ug/L	50	45.7	91	70-130	
Ethylbenzene	ug/L	50	47.0	94	70-130	
m&p-Xylene	ug/L	100	95.1	95	70-130	
Methyl-tert-butyl ether	ug/L	50	50.8	102	70-130	
Naphthalene	ug/L	50	50.2	100	70-130	
o-Xylene	ug/L	50	49.1	98	70-130	
Toluene	ug/L	50	46.5	93	70-130	
Xylene (Total)	ug/L	150	144	96	70-130	
1,2-Dichloroethane-d4 (S)	%			105	70-130	
4-Bromofluorobenzene (S)	%			96	70-130	
Dibromofluoromethane (S)	%			106	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 533455 533456

Parameter	Units	9282778005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	53.3	51.3	107	103	70-130	4	30	
Benzene	ug/L	ND	50	50	50.5	48.9	101	98	70-130	3	30	
Ethylbenzene	ug/L	ND	50	50	51.8	50.4	103	100	70-130	3	30	
m&p-Xylene	ug/L	ND	100	100	103	98.7	102	98	70-130	4	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	51.7	50.9	101	100	70-130	2	30	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 533455 533456

Parameter	Units	9282778005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Naphthalene	ug/L	ND	50	50	55.5	52.9	111	106	70-130	5	30	
o-Xylene	ug/L	ND	50	50	52 6	51.5	105	102	70-130	2	30	
Toluene	ug/L	ND	50	50	51.7	50.1	103	99	70-130	3	30	
1,2-Dichloroethane-d4 (S)	%						102	99	70-130			
4-Bromofluorobenzene (S)	%						96	99	70-130			
Dibromofluoromethane (S)	%						99	99	70-130			
Toluene-d8 (S)	%						97	99	70-130			

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

QC Batch: MSV/13201 Analysis Method. EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 9282778008, 9282778009, 9282778010, 9282778011, 9282778012, 9282778013, 9282778014, 9282778015, 9282778016, 9282778017, 9282778018, 9282778019, 9282778022, 9282778023, 9282778025, 9282778026, 9282778027

METHOD BLANK: 533462 Matrix: Water
Associated Lab Samples: 9282778008, 9282778009, 9282778010, 9282778011, 9282778012, 9282778013, 9282778014, 9282778015, 9282778016, 9282778017, 9282778018, 9282778019, 9282778022, 9282778023, 9282778025, 9282778026, 9282778027

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	11/27/10 11:08	
Benzene	ug/L	ND	5.0	11/27/10 11:08	
Ethylbenzene	ug/L	ND	5.0	11/27/10 11:08	
m&p-Xylene	ug/L	ND	10 0	11/27/10 11:08	
Methyl-tert-butyl ether	ug/L	ND	5.0	11/27/10 11:08	
Naphthalene	ug/L	ND	5.0	11/27/10 11:08	
o-Xylene	ug/L	ND	5.0	11/27/10 11:08	
Toluene	ug/L	ND	5.0	11/27/10 11:08	
Xylene (Total)	ug/L	ND	10.0	11/27/10 11:08	
1,2-Dichloroethane-d4 (S)	%	102	70-130	11/27/10 11:08	
4-Bromofluorobenzene (S)	%	97	70-130	11/27/10 11:08	
Dibromofluoromethane (S)	%	106	70-130	11/27/10 11:08	
Toluene-d8 (S)	%	100	70-130	11/27/10 11:08	

LABORATORY CONTROL SAMPLE: 533463

Parameter	Units	Spike Conc	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	49.3	99	70-130	
Benzene	ug/L	50	48.3	97	70-130	
Ethylbenzene	ug/L	50	47.5	95	70-130	
m&p-Xylene	ug/L	100	97.8	98	70-130	
Methyl-tert-butyl ether	ug/L	50	52.4	105	70-130	
Naphthalene	ug/L	50	52 9	106	70-130	
o-Xylene	ug/L	50	50.8	102	70-130	
Toluene	ug/L	50	47.8	96	70-130	
Xylene (Total)	ug/L	150	149	99	70-130	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Dibromofluoromethane (S)	%			98	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 533466 533467

Parameter	Units	9282795018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	49.5	48.5	99	97	70-130	2	30	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 533466 533467

Parameter	Units	9282795018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	ND	50	50	46.3	45.9	93	92	70-130	1	30	
Ethylbenzene	ug/L	ND	50	50	48 7	47.4	97	95	70-130	3	30	
m&p-Xylene	ug/L	ND	100	100	98.5	96 0	98	96	70-130	3	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	47.1	47.2	94	94	70-130	0	30	
Naphthalene	ug/L	ND	50	50	47.1	50.3	94	101	70-130	7	30	
o-Xylene	ug/L	ND	50	50	51.1	49.6	102	99	70-130	3	30	
Toluene	ug/L	ND	50	50	47.3	47.0	95	94	70-130	1	30	
1,2-Dichloroethane-d4 (S)	%						99	96	70-130			
4-Bromofluorobenzene (S)	%						103	100	70-130			
Dibromofluoromethane (S)	%						98	100	70-130			
Toluene-d8 (S)	%						99	98	70-130			

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

QC Batch: MSV/13204 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 9282778028, 9282778030, 9282778031

METHOD BLANK: 533470 Matrix: Water
Associated Lab Samples: 9282778028, 9282778030, 9282778031

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	11/27/10 22:36	
Benzene	ug/L	ND	5.0	11/27/10 22:36	
Ethylbenzene	ug/L	ND	5.0	11/27/10 22:36	
m&p-Xylene	ug/L	ND	10.0	11/27/10 22:36	
Methyl-tert-butyl ether	ug/L	ND	5.0	11/27/10 22:36	
Naphthalene	ug/L	ND	5.0	11/27/10 22:36	
o-Xylene	ug/L	ND	5.0	11/27/10 22:36	
Toluene	ug/L	ND	5.0	11/27/10 22:36	
Xylene (Total)	ug/L	ND	10.0	11/27/10 22:36	
1,2-Dichloroethane-d4 (S)	%	107	70-130	11/27/10 22.36	
4-Bromofluorobenzene (S)	%	97	70-130	11/27/10 22:36	
Dibromofluoromethane (S)	%	108	70-130	11/27/10 22:36	
Toluene-d8 (S)	%	100	70-130	11/27/10 22:36	

LABORATORY CONTROL SAMPLE: 533471

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	47.1	94	70-130	
Benzene	ug/L	50	44.2	88	70-130	
Ethylbenzene	ug/L	50	44.0	88	70-130	
m&p-Xylene	ug/L	100	91.7	92	70-130	
Methyl-tert-butyl ether	ug/L	50	47.1	94	70-130	
Naphthalene	ug/L	50	48 1	96	70-130	
o-Xylene	ug/L	50	48.1	96	70-130	
Toluene	ug/L	50	44.2	88	70-130	
Xylene (Total)	ug/L	150	140	93	70-130	
1,2-Dichloroethane-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			104	70-130	
Dibromofluoromethane (S)	%			100	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 533474 533475

Parameter	Units	9282795017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	47.5	49.1	95	98	70-130	3	30	
Benzene	ug/L	2.2J	50	50	48.5	47.1	93	90	70-130	3	30	
Ethylbenzene	ug/L	ND	50	50	45.7	43.6	91	87	70-130	5	30	
m&p-Xylene	ug/L	ND	100	100	93.4	91.6	92	90	70-130	2	30	
Methyl-tert-butyl ether	ug/L	3.6J	50	50	28.4	36.4	50	66	70-130	25	30	M0

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 533474 533475

Parameter	Units	9282795017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Naphthalene	ug/L	ND	50	50	43 1	49.7	86	99	70-130	14	30	
o-Xylene	ug/L	ND	50	50	49.0	48 2	95	93	70-130	2	30	
Toluene	ug/L	ND	50	50	45.2	44.2	90	88	70-130	2	30	
1,2-Dichloroethane-d4 (S)	%						94	104	70-130			
4-Bromofluorobenzene (S)	%						99	102	70-130			
Dibromofluoromethane (S)	%						99	102	70-130			
Toluene-d8 (S)	%						99	98	70-130			

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(704)875-9092

QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

QC Batch: MSV/13205
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV SC
Associated Lab Samples: 9282778006, 9282778007

METHOD BLANK: 533476
Matrix: Water
Associated Lab Samples: 9282778006, 9282778007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	5.0	11/26/10 13:31	
Ethylbenzene	ug/L	ND	5.0	11/26/10 13:31	
m&p-Xylene	ug/L	ND	10.0	11/26/10 13:31	
Methyl-tert-butyl ether	ug/L	ND	5.0	11/26/10 13:31	
Naphthalene	ug/L	ND	5.0	11/26/10 13:31	
o-Xylene	ug/L	ND	5.0	11/26/10 13:31	
Toluene	ug/L	ND	5.0	11/26/10 13:31	
Xylene (Total)	ug/L	ND	10.0	11/26/10 13:31	
1,2-Dichloroethane-d4 (S)	%	100	70-130	11/26/10 13:31	
4-Bromofluorobenzene (S)	%	96	70-130	11/26/10 13:31	
Dibromofluoromethane (S)	%	105	70-130	11/26/10 13:31	
Toluene-d8 (S)	%	101	70-130	11/26/10 13:31	

LABORATORY CONTROL SAMPLE: 533477

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	48.0	96	70-130	
Ethylbenzene	ug/L	50	49.0	98	70-130	
m&p-Xylene	ug/L	100	102	102	70-130	
Methyl-tert-butyl ether	ug/L	50	50.3	101	70-130	
Naphthalene	ug/L	50	49.5	99	70-130	
o-Xylene	ug/L	50	53.4	107	70-130	
Toluene	ug/L	50	48.0	96	70-130	
Xylene (Total)	ug/L	150	156	104	70-130	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Dibromofluoromethane (S)	%			98	70-130	
Toluene-d8 (S)	%			99	70-130	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

QC Batch: MSV/13238
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV SC
Associated Lab Samples: 9282778024

METHOD BLANK: 533905 Matrix: Water
Associated Lab Samples: 9282778024

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	12/01/10 11:59	
Benzene	ug/L	ND	5.0	12/01/10 11:59	
Ethylbenzene	ug/L	ND	5.0	12/01/10 11:59	
m&p-Xylene	ug/L	ND	10.0	12/01/10 11:59	
Methyl-tert-butyl ether	ug/L	ND	5.0	12/01/10 11:59	
Naphthalene	ug/L	ND	5.0	12/01/10 11:59	
o-Xylene	ug/L	ND	5.0	12/01/10 11:59	
Toluene	ug/L	ND	5.0	12/01/10 11:59	
Xylene (Total)	ug/L	ND	10.0	12/01/10 11:59	
1,2-Dichloroethane-d4 (S)	%	100	70-130	12/01/10 11:59	
4-Bromofluorobenzene (S)	%	96	70-130	12/01/10 11:59	
Dibromofluoromethane (S)	%	101	70-130	12/01/10 11:59	
Toluene-d8 (S)	%	99	70-130	12/01/10 11:59	

LABORATORY CONTROL SAMPLE: 533906

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	41.2	82	70-130	
Benzene	ug/L	50	41.0	82	70-130	
Ethylbenzene	ug/L	50	41.9	84	70-130	
m&p-Xylene	ug/L	100	86.0	86	70-130	
Methyl-tert-butyl ether	ug/L	50	44.6	89	70-130	
Naphthalene	ug/L	50	50.0	100	70-130	
o-Xylene	ug/L	50	43.7	87	70-130	
Toluene	ug/L	50	39.7	79	70-130	
Xylene (Total)	ug/L	150	130	86	70-130	
1,2-Dichloroethane-d4 (S)	%			93	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Dibromofluoromethane (S)	%			96	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 533907 533908

Parameter	Units	9282859001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L				41.5	43.7				5	30	
Benzene	ug/L	ND			42.0	44.2				5	30	
Ethylbenzene	ug/L	ND			44.0	45.5				3	30	
m&p-Xylene	ug/L	ND			82.0	83.7				2	30	
Methyl-tert-butyl ether	ug/L	ND			44.5	48.6				9	30	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 533907 533908

Parameter	Units	9282859001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Naphthalene	ug/L	ND			46.8	55.4				17	30	
o-Xylene	ug/L	ND			42.6	43.8				3	30	
Toluene	ug/L	ND			40.3	41.4				3	30	
1,2-Dichloroethane-d4 (S)	%						96	95	70-130			
4-Bromofluorobenzene (S)	%						99	97	70-130			
Dibromofluoromethane (S)	%						94	96	70-130			
Toluene-d8 (S)	%						96	95	70-130			

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

QC Batch: MSV/13281
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV SC
Associated Lab Samples: 9282778004

METHOD BLANK: 534835
Matrix: Water
Associated Lab Samples: 9282778004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	5.0	12/01/10 10:16	
Ethylbenzene	ug/L	ND	5.0	12/01/10 10:16	
m&p-Xylene	ug/L	ND	10.0	12/01/10 10:16	
Methyl-tert-butyl ether	ug/L	ND	5.0	12/01/10 10:16	
Naphthalene	ug/L	ND	5.0	12/01/10 10:16	
o-Xylene	ug/L	ND	5.0	12/01/10 10:16	
Toluene	ug/L	ND	5.0	12/01/10 10:16	
Xylene (Total)	ug/L	ND	10.0	12/01/10 10:16	
1,2-Dichloroethane-d4 (S)	%	109	70-130	12/01/10 10:16	
4-Bromofluorobenzene (S)	%	97	70-130	12/01/10 10:16	
Dibromofluoromethane (S)	%	106	70-130	12/01/10 10:16	
Toluene-d8 (S)	%	98	70-130	12/01/10 10:16	

LABORATORY CONTROL SAMPLE: 534836

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	44.4	89	70-130	
Ethylbenzene	ug/L	50	45.8	92	70-130	
m&p-Xylene	ug/L	100	93.3	93	70-130	
Methyl-tert-butyl ether	ug/L	50	48.0	96	70-130	
Naphthalene	ug/L	50	48.3	97	70-130	
o-Xylene	ug/L	50	46.9	94	70-130	
Toluene	ug/L	50	44.3	89	70-130	
Xylene (Total)	ug/L	150	140	94	70-130	
1,2-Dichloroethane-d4 (S)	%			103	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Dibromofluoromethane (S)	%			104	70-130	
Toluene-d8 (S)	%			102	70-130	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

QC Batch: MSV/13293
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV SC
Associated Lab Samples: 9282778020

METHOD BLANK: 535401
Matrix: Water
Associated Lab Samples: 9282778020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	12/02/10 10:57	
Benzene	ug/L	ND	5 0	12/02/10 10:57	
Ethylbenzene	ug/L	ND	5.0	12/02/10 10:57	
m&p-Xylene	ug/L	ND	10.0	12/02/10 10:57	
Methyl-tert-butyl ether	ug/L	ND	5.0	12/02/10 10:57	
Naphthalene	ug/L	ND	5.0	12/02/10 10:57	
o-Xylene	ug/L	ND	5.0	12/02/10 10:57	
Toluene	ug/L	ND	5.0	12/02/10 10:57	
Xylene (Total)	ug/L	ND	10.0	12/02/10 10:57	
1,2-Dichloroethane-d4 (S)	%	93	70-130	12/02/10 10:57	
4-Bromofluorobenzene (S)	%	103	70-130	12/02/10 10:57	
Dibromofluoromethane (S)	%	99	70-130	12/02/10 10:57	
Toluene-d8 (S)	%	97	70-130	12/02/10 10.57	

LABORATORY CONTROL SAMPLE: 535402

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.1	96	70-130	
Benzene	ug/L	50	45.2	90	70-130	
Ethylbenzene	ug/L	50	44.0	88	70-130	
m&p-Xylene	ug/L	100	91.7	92	70-130	
Methyl-tert-butyl ether	ug/L	50	47 5	95	70-130	
Naphthalene	ug/L	50	44.7	89	70-130	
o-Xylene	ug/L	50	46.1	92	70-130	
Toluene	ug/L	50	46.2	92	70-130	
Xylene (Total)	ug/L	150	138	92	70-130	
1,2-Dichloroethane-d4 (S)	%			100	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Dibromofluoromethane (S)	%			104	70-130	
Toluene-d8 (S)	%			95	70-130	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

QC Batch: MSV/13329
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV SC
Associated Lab Samples: 9282778029

METHOD BLANK. 536745
Matrix: Water
Associated Lab Samples: 9282778029

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	12/02/10 13:33	
Benzene	ug/L	ND	5.0	12/02/10 13:33	
Ethylbenzene	ug/L	ND	5.0	12/02/10 13:33	
m&p-Xylene	ug/L	ND	10.0	12/02/10 13:33	
Methyl-tert-butyl ether	ug/L	ND	5.0	12/02/10 13:33	
Naphthalene	ug/L	ND	5.0	12/02/10 13:33	
o-Xylene	ug/L	ND	5.0	12/02/10 13:33	
Toluene	ug/L	ND	5.0	12/02/10 13:33	
Xylene (Total)	ug/L	ND	10.0	12/02/10 13:33	
1,2-Dichloroethane-d4 (S)	%	99	70-130	12/02/10 13:33	
4-Bromofluorobenzene (S)	%	96	70-130	12/02/10 13:33	
Dibromofluoromethane (S)	%	99	70-130	12/02/10 13:33	
Toluene-d8 (S)	%	100	70-130	12/02/10 13:33	

LABORATORY CONTROL SAMPLE: 536746

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	41.7	83	70-130	
Benzene	ug/L	50	41.6	83	70-130	
Ethylbenzene	ug/L	50	43.4	87	70-130	
m&p-Xylene	ug/L	100	88.2	88	70-130	
Methyl-tert-butyl ether	ug/L	50	47.2	94	70-130	
Naphthalene	ug/L	50	53.6	107	70-130	
o-Xylene	ug/L	50	44.5	89	70-130	
Toluene	ug/L	50	40.8	82	70-130	
Xylene (Total)	ug/L	150	133	89	70-130	
1,2-Dichloroethane-d4 (S)	%			97	70-130	
4-Bromofluorobenzene (S)	%			96	70-130	
Dibromofluoromethane (S)	%			93	70-130	
Toluene-d8 (S)	%			98	70-130	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

QC Batch: MSV/13335
QC Batch Method: EPA 8260
Analysis Method. EPA 8260
Analysis Description: 8260 MSV SC
Associated Lab Samples: 9282778021

METHOD BLANK: 536947
Matrix: Water
Associated Lab Samples: 9282778021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5 0	12/06/10 11:13	
Benzene	ug/L	ND	5.0	12/06/10 11:13	
Ethylbenzene	ug/L	ND	5.0	12/06/10 11:13	
m&p-Xylene	ug/L	ND	10.0	12/06/10 11:13	
Methyl-tert-butyl ether	ug/L	ND	5.0	12/06/10 11:13	
Naphthalene	ug/L	ND	5.0	12/06/10 11:13	
o-Xylene	ug/L	ND	5.0	12/06/10 11:13	
Toluene	ug/L	ND	5.0	12/06/10 11:13	
Xylene (Total)	ug/L	ND	10.0	12/06/10 11:13	
1,2-Dichloroethane-d4 (S)	%	82	70-130	12/06/10 11:13	
4-Bromofluorobenzene (S)	%	108	70-130	12/06/10 11:13	
Dibromofluoromethane (S)	%	96	70-130	12/06/10 11:13	
Toluene-d8 (S)	%	97	70-130	12/06/10 11:13	

LABORATORY CONTROL SAMPLE: 536948

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	39.7	79	70-130	
Benzene	ug/L	50	42.1	84	70-130	
Ethylbenzene	ug/L	50	44.2	88	70-130	
m&p-Xylene	ug/L	100	86.8	87	70-130	
Methyl-tert-butyl ether	ug/L	50	41.5	83	70-130	
Naphthalene	ug/L	50	45.6	91	70-130	
o-Xylene	ug/L	50	43.9	88	70-130	
Toluene	ug/L	50	44.9	90	70-130	
Xylene (Total)	ug/L	150	131	87	70-130	
1,2-Dichloroethane-d4 (S)	%			84	70-130	
4-Bromofluorobenzene (S)	%			105	70-130	
Dibromofluoromethane (S)	%			96	70-130	
Toluene-d8 (S)	%			100	70-130	

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QUALIFIERS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9282778

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration

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LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

1g	Non-homogenous sample
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.
S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 4

1407913

Section A Required Client Information:

Company: Emerald, Inc.
Address: 2520 Tahoe Dr. Sumter, SC 29150
Email To:
Phone: 803.469.5454 Fax:
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: R. Lowder
Copy To: R. Brown
Purchase Order No.:
Project Name: H.W. Detwiler Co.
Project Number: 15729

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #: 3876-3,6

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	BTEX, cyclohexane, MTBE (8260B)	1,2 DCA (8260B)	EDB (8011)	Lead	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-2D	WT	G	11/22/10	1110				7			1	6						X	X	X	X		001
2	MW-3			11/22	1030																			002
3	MW-4			11/22	1045																			003
4	MW-5			11/22	1200																			004
5	MW-6			11/22	0850																			005
6	MW-7			11/19	1440																			006
7	MW-8			11/19	1320																			007
8	MW-9			11/19	1310																			008
9	MW-10			11/19	1335																			009
10	MW-11			11/19	1650																			010
11	MW-12			11/22	1010																			011
12	MW-14			11/19	1540																			012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[signature]	11/22/10	1700	Base FX			
	Preaver			DJ Moody - Pace	11-23-10	15:30	
	DJ Moody	11-22-10	16:35	[signature]	11/22/10	16:35	4.1

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dalton Ramos
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 11/22/10

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
4.1	Y	N	Y

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of 4

1407910

Section A Required Client Information:

Company: Emerald, Inc
Address: 2520 Tahoe Dr. Sumter, SC 29150
Email To:
Phone: 803.469.3454 Fax:
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: R. Lawler
Copy To: R. Brown
Purchase Order No.:
Project Name: H.W. Detwiler Co.
Project Number: 15729

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	BTEX, Naphthalene (8260B)	1,2 DCA (8260B)	EDB (8011)	Lead	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-16D	WT	G	11/22/10	1120				7			1	6						X	X	X	X		013
2	MW-17R			11/22	1140																			014
3	MW-18R			11/22	1150																			015
4	MW-19			11/19	1430																			016
5	MW-20			11/19	1300																			017
6	MW-21			11/19	1350																			018
7	MW-22			11/19	1405																			019
8	MW-24			11/22	1020																			020
9	MW-25			11/22	0910																			021
10	MW-26			11/19	1525																			022
11	MW-27			11/19	1635																			023
12	MW-28			11/22	0930																			024

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Dalton Raines	11/22/10	1700	Beau Ex			
	Beaney			Moody Pace	11-23-10	15:30	
	Moody	11-23-10	16:35	Link Pace	11/23/10	16:35	9.1

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dalton Raines

SIGNATURE of SAMPLER: Dalton Raines

DATE Signed (MM/DD/YY): 11/22/10

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note. By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 3 of 4

1407909

Section A Required Client Information.

Company: Emerald, Inc.
Address: 2520 Tahoe Dr. Sumter, SC 29150
Email To:
Phone: 803.469.5454 Fax:
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: R. Lowder
Copy To: R. Brown
Purchase Order No:
Project Name: H.W. Detwiler Co.
Project Number: 15729

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTEX, Naph, MTBE (8260B)	1,2 DCA (8260B)	EDB (8011)	Lead	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-29	WT	G	11/22/10	1055				7			1	6						X	X	X	X		0282778
2	MW-30			11/22	0955				7			1	6									X		025
3	MW-31			11/19	1615				7			1	6									X		026
4	MW-32			11/19	1245				7			1	6									X		027
5	MW-33			11/19	1500				7			1	6									X		028
6	MW-34D			11/19	1515				7			1	6									X		029
7	MW-35i			11/19	1225				7			1	6									X		030
8	WSW-1			11/19	1605				6				6											031
9	WSW-3			11/19	1130				6				6											1 ppb Detection Limits
10	WSW-4			11/19	1115				6				6											" " 032
11	PS-1			11/19	1145				6				6											" " 033
12	SB-1			11/19	1200				6				6											" " 034

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Dalton Reames	11/22/10	1700	G Moody - Pace	11-23-10	15:30	
	G Moody	11-23-10	16:35	[illegible] - Pace	11/23/10	16:35	4.1 yr no yes

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dalton Reames
SIGNATURE of SAMPLER: Dalton Reames
DATE Signed (MM/DD/YY): 11/22/10

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days

F-ALL-Q-020rev.07, 15-May-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

4 COOLERS

Page: 4 of 4

1407901

Section A Required Client Information

Company: Emerald, Inc.
Address: 2520 Tahoe Dr. Sumter, SC 29150
Email To:
Phone: 803.469.5454 Fax.
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: R. Lowder
Copy To: R. Brown
Purchase Order No.:
Project Name: H.W. Detwiler Co.
Project Number: 15729

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTEX, Mach, MTBE (8260B)	1,2 DCA (8260B)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	SW-1	WW	G	11/22/10	1245				6				6						X	X	X		928278 Sewer water Sample
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
1 ppb Detection Limits	[signature]	11/22/10	1700	Beav, Ex			
	Beavex			G Moody Pace	11-23-10	15:30	
	G Moody	11-23-10	16:35	[illegible]	11/23/10	16:35	4.1 yr no yr

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dalton Reames

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 11/22/10

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

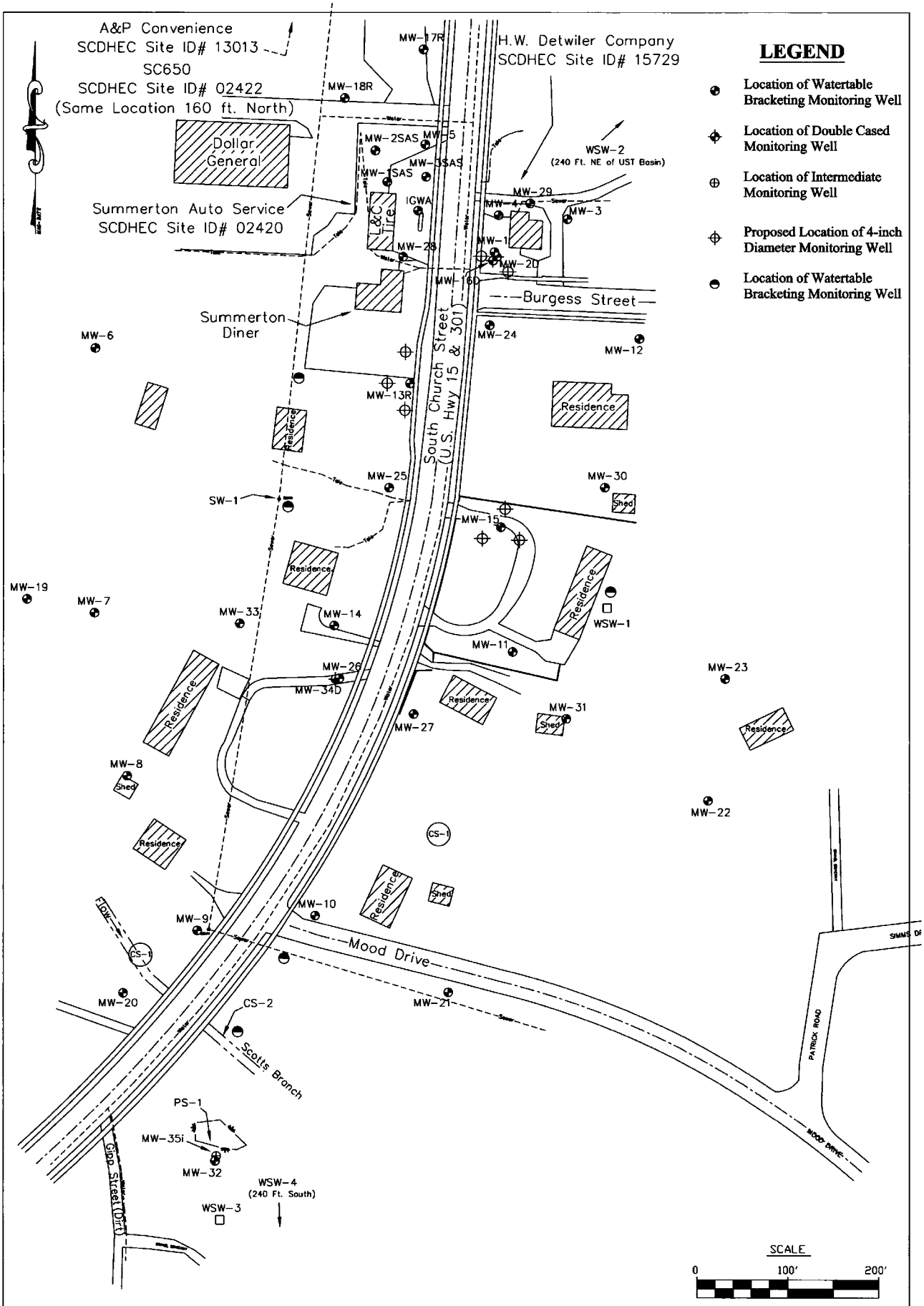
F-ALL-Q-020rev.07, 15-May-2007

APPENDIX E

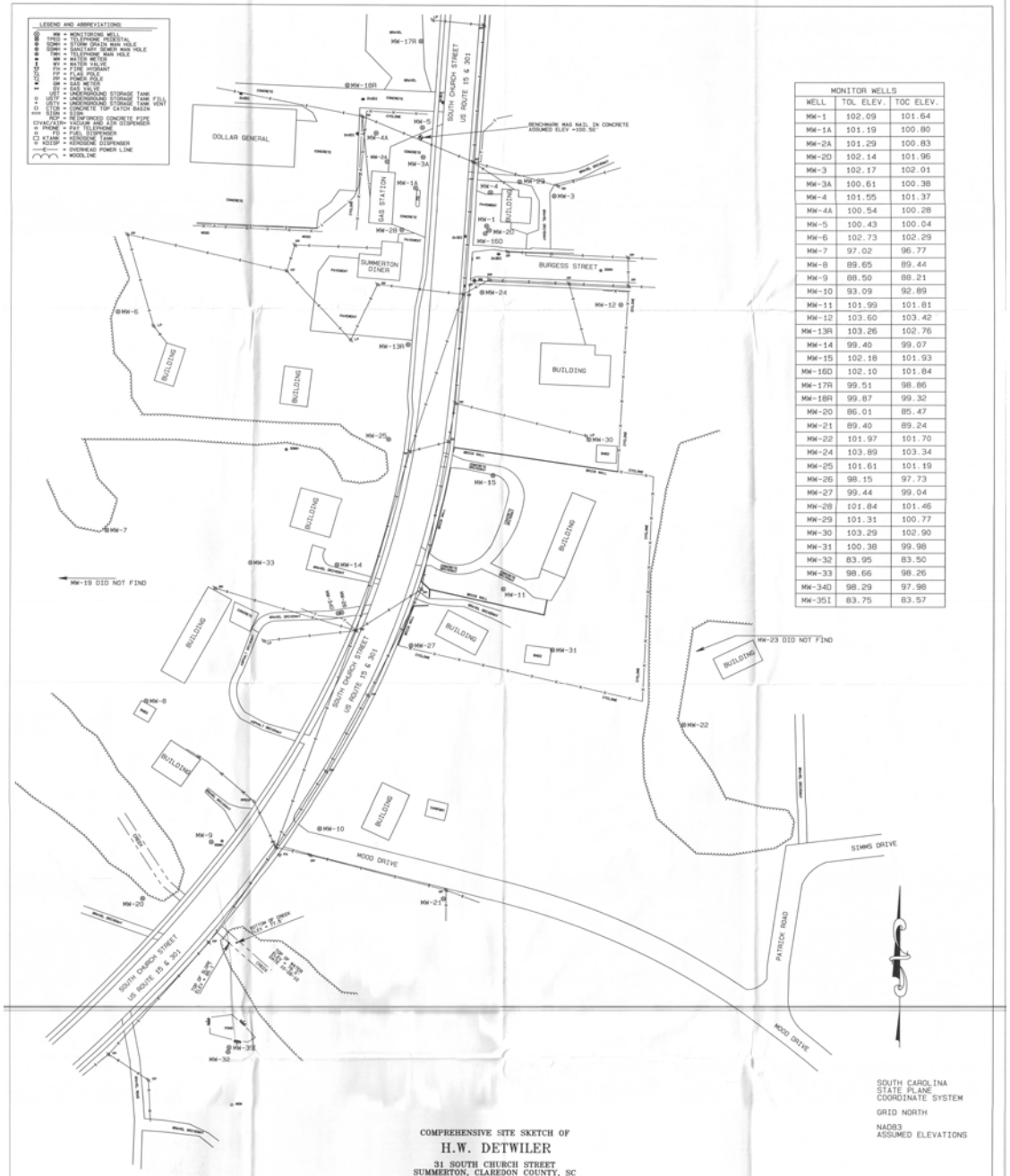
SITE SURVEY MAP

APPENDIX F

PROPOSED WELL LOCATIONS



PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	Appendix F Proposed Well Locations	E1263DWLO WORK DATE(S):	SUMTER, SOUTH CAROLINA



MONITOR WELLS		
WELL	TOL ELEV.	TOC ELEV.
MW-1	102.09	101.64
MW-1A	101.19	100.80
MW-2A	101.29	100.83
MW-2D	102.14	101.96
MW-3	102.17	102.01
MW-3A	100.61	100.38
MW-4	101.55	101.37
MW-4A	100.54	100.28
MW-5	100.43	100.04
MW-6	102.73	102.29
MW-7	97.02	96.77
MW-8	89.65	89.44
MW-9	88.50	88.21
MW-10	93.09	92.89
MW-11	101.99	101.81
MW-12	103.60	103.42
MW-13R	103.26	102.76
MW-14	99.40	99.07
MW-15	102.18	101.93
MW-16D	102.10	101.84
MW-17R	99.51	98.86
MW-18R	99.87	99.32
MW-20	86.01	85.47
MW-21	89.40	89.24
MW-22	101.97	101.70
MW-24	103.89	103.34
MW-25	101.61	101.19
MW-26	98.15	97.73
MW-27	99.44	99.04
MW-28	101.84	101.46
MW-29	101.31	100.77
MW-30	103.29	102.90
MW-31	100.38	99.98
MW-32	83.95	83.50
MW-33	98.66	98.26
MW-34D	98.29	97.98
MW-35I	83.75	83.57

SOUTH CAROLINA
STATE PLANE
COORDINATE SYSTEM

GRID NORTH

NAD83
ASSUMED ELEVATIONS

COMPREHENSIVE SITE SKETCH OF

H.W. DETWILER

31 SOUTH CHURCH STREET
SUMMERTON, CLAREDON COUNTY, SC
SCDHEC SITE ID #15729
PREPARED FOR
EMERALD

GRAPHIC SCALE 1"=50'

JAY S. JOSHI PLS # 14811

D H E C
PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

APR 22 2011

UST DOCKET 5 TECH

MR HAROLD DETWILER JR
PO BOX 760
SUMMERTON SC 29148-0760

Re: Monitoring well installation, sampling, and slug test directive
H.W. Detwiler Company, 37 South Church Street, Summerton, SC
UST Permit #15729; CA #41016; MWA #UMW-24107
Release reported June 22, 1993
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (SCDHEC) recognizes your commitment to continue work at this site using Emerald, Inc. as your contractor. The next appropriate scope of work is to install ten shallow monitoring wells to further define free-phase product areas and to serve as compliance/modeling points for corrective action. The wells should be installed at the locations shown on the enclosed site map. Please sample the new wells and existing wells MW-1, MW-2D, MW-3, MW-4, MW-6 through MW-15, MW-16D, MW-19 through MW-22, MW-24 through MW-27, MW-29 through MW-33, MW-34D, and MW-35i, water supply wells WSW-1 through WSW-4, and surface water locations CS-1 and CS-2 for BTEX+naph+MtBE+oxygenates (EPA Method 8260) and EDB (EPA Method 8011). Purging will not be required for existing monitoring wells where the well screen brackets the water table. Your contractor should request low detection limits/reporting levels for all analyses. Please note that if unnecessary dilutions are completed resulting in reporting limits of individual chemicals of concern (CoC) in excess of Risk-Based Screening Levels (RBSLs), the data cannot be used. In those cases, the Division may deny payment for any non-detect analysis where the reporting limit exceeds the RBSL. The UST Management Division encourages the use of 'J' values as necessary so the appropriate action can be determined for a release.

The Division also requests that one slug test each be performed on monitoring wells MW-3, MW-12, and MW-24.

Cost Agreement (CA) #41016 has been approved in the amount shown on the enclosed cost agreement form for the monitoring well installation, sampling, and slug tests. The necessary monitoring well approval (MWA) is enclosed. Your contractor should submit sampling results to the Division in an assessment report containing information stipulated in the monitoring well approval and the following items:

- A narrative portion documenting current site conditions and noting the names of field personnel, date, time, ambient air temperature, and general weather conditions during the

sampling event. The report should also contain well purging data, pH, specific conductivity, water temperature, PID readings (where applicable) and turbidity comments.

- Groundwater elevations, depth to groundwater, measurable free-phase product thickness (where applicable), total well depth and screened interval for all monitoring wells presented in tabular format.
- Groundwater laboratory analytical data for all monitoring wells presented in tabular format.
- A groundwater elevation contour map of the site based on current potentiometric data.
- A CoC map based on current ground-water laboratory analytical data. The groundwater data should be adjacent to the relevant monitoring well.
- Manifests for any contaminated soil and/or groundwater removed from the site for treatment and/or disposal.
- Signature and seal by a professional geologist or engineer registered in the State of South Carolina.

Emerald can submit an invoice for direct billing from the State Underground Petroleum Environmental Response Bank (SUPERB) Account. Please note that all applicable South Carolina certification requirements apply to the laboratory services, well installation, and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina-Certified Underground Storage Tank Site Rehabilitation Contractor.

The monitoring report and invoice are due within 90 days from the date of this letter. An interim invoice may not be submitted for this scope of work. If the invoice is not submitted within one hundred and twenty (120) days from the date of this letter, monies allocated to pay for the work will be uncommitted. This means that invoices for the scope of work submitted after the 120-day deadline will not be processed for payment until all other committed funds are paid or monies become available.

Please note that Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the Department is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated costs must be pre-approved by the Department for the costs to be paid. The SCDHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, SCDHEC reserves the right to question and/or reject costs if deemed unreasonable and to audit project records at any time during the project or after completion of work.

The Division will not pay costs for oxygenate analyses from any laboratory that is not certified for oxygenate compounds through the SCDHEC Office of Environmental Laboratory Certification. Detailed information regarding the oxygenate certification can be found on the SCDHEC website at www.scdhec.gov/environment/envserv/docs/OxygenateCertification.pdf or www.scdhec.gov/environment/lwm/forms/. Any laboratory with questions regarding the certification requirements should contact the Office of Environmental Laboratory Certification at (803) 896-0970.

The Division grants pre-approval for transportation of petroleum-contaminated, investigative-derived waste (IDW) from the referenced site to a permitted treatment/disposal facility. Prior to transport, the IDW must be properly staged in labeled containers or covered stockpiles as appropriate. The IDW must be accepted for treatment/disposal by the approved facility. There can be no spillage or leakage in transport. A copy of the disposal manifest or acceptance letter from the facility that clearly designates the quantity received must be included with the report. If the petroleum contaminant levels in the IDW are below RBSLs, please contact the project manager for approval to dispose of the IDW on-site. The SUPERB Account will not compensate for transportation or treatment/disposal of clean IDW.

On all correspondence concerning this site, please reference UST Permit #15729. If there are any questions concerning this project, please contact me by telephone at (803) 896-6398, by fax at (803) 896-6245, or by e-mail at padgetjp@dhec.sc.gov.

Sincerely,

Joel P. Padgett, P.G., Geologist/Hydrologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

JPP/jpp
15729.1

enc: Approved cost agreement
Monitoring well approval
Site map
cc: Emerald, Inc., P.O. Box 3050, Sumter, SC 29151 (w/enc)
Technical file (w/enc)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

Monitoring Well Approval

Approval is hereby granted to:	Emerald, Inc.
(On behalf of):	Mr. Harold Detwiler, Jr.
Facility:	H.W. Detwiler Company
UST Permit Number:	15729
County:	Clarendon

This approval is for the installation of ten shallow monitoring wells. The wells are to be installed in the approved locations in accordance with the South Carolina Well Standards, R.61-71, and the applicable guidance documents.

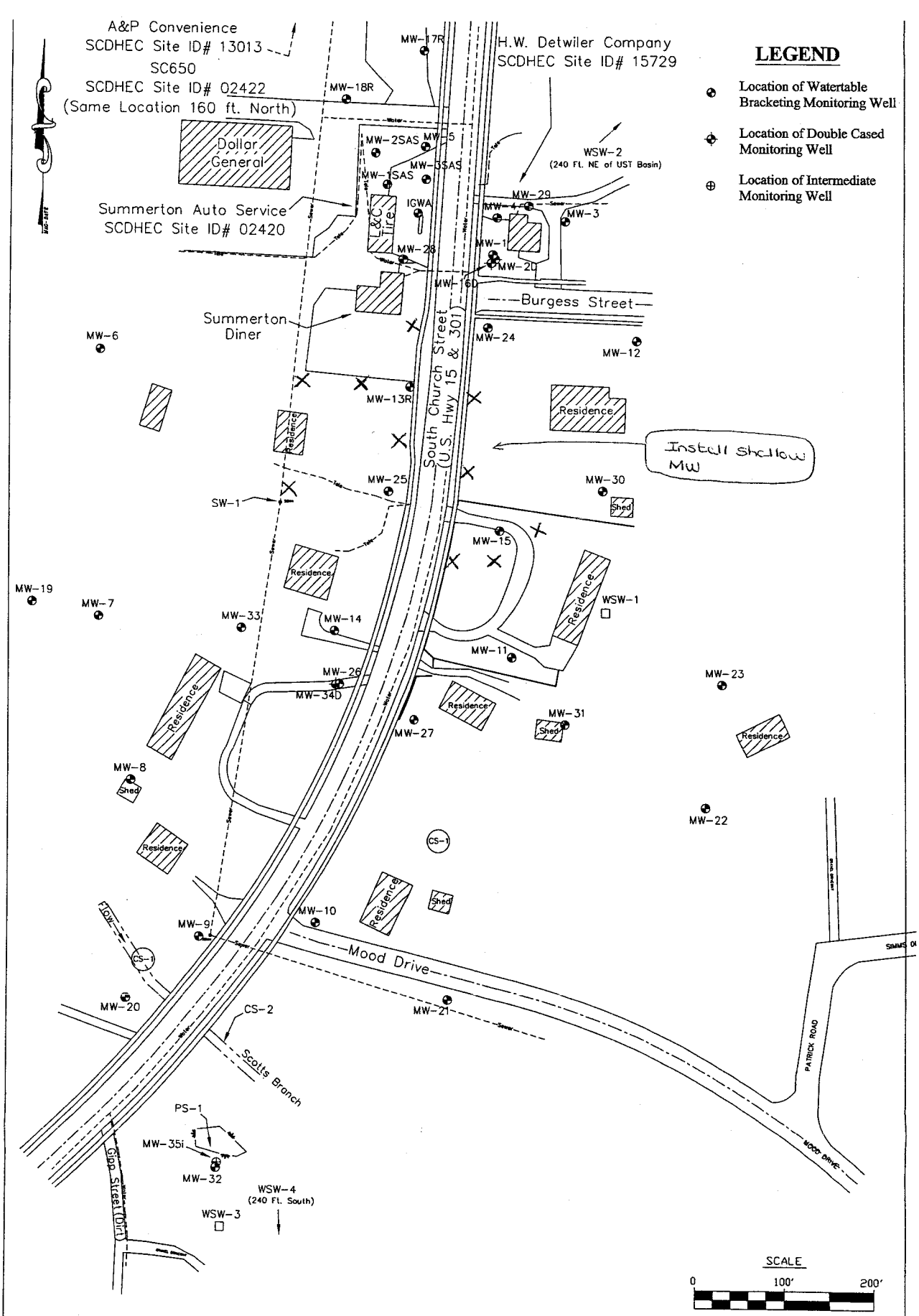
Please note that R.61-71 requires the following:

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.
2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.
3. A Water Well Record Form or other form provided or approved by the Department shall be completed and submitted to the Department within 30 days after well completion or abandonment unless another schedule has been approved by the Department. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f
4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Department within 30 days of receipt of laboratory results unless another schedule has been approved by the Department as required by R.61-71.H.1.d.
5. If any of the information provided to the Department changes, notification to Joel Padgett (tel: (803) 896-6398 or e-mail: padgetjp@dhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.
6. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.
7. Departmental approval is required prior to abandonment of all monitoring wells as required by R.61-71.H.1.a.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and R.61-71 of the South Carolina Well Standards and Regulations, dated April 26, 2002. A copy of this approval should be on the site during well installation.

Date of Issue: February 4, 2011 **Approval #:** UMW-24107

Joel P. Padgett, P.G., Geologist/Hydrologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management



LEGEND

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased Monitoring Well
- Location of Intermediate Monitoring Well

PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 SITE MAP	E1257DWLO	SUMTER, SOUTH CAROLINA
		WORK DATE(S): 9/17/10 - 10/12/10	

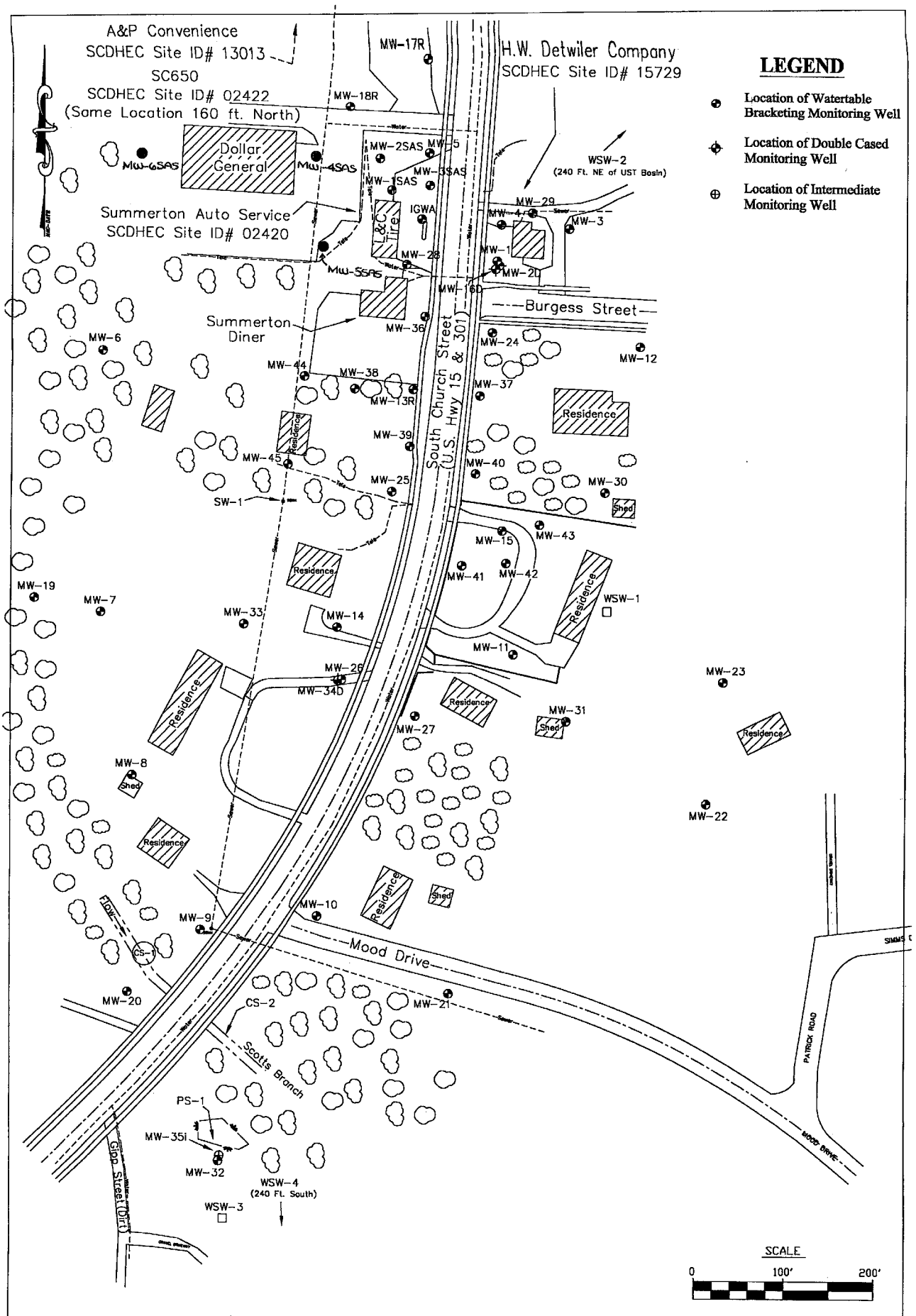
Approved Cost Agreement 41016

Facility: 15729 H W DETWILER CO

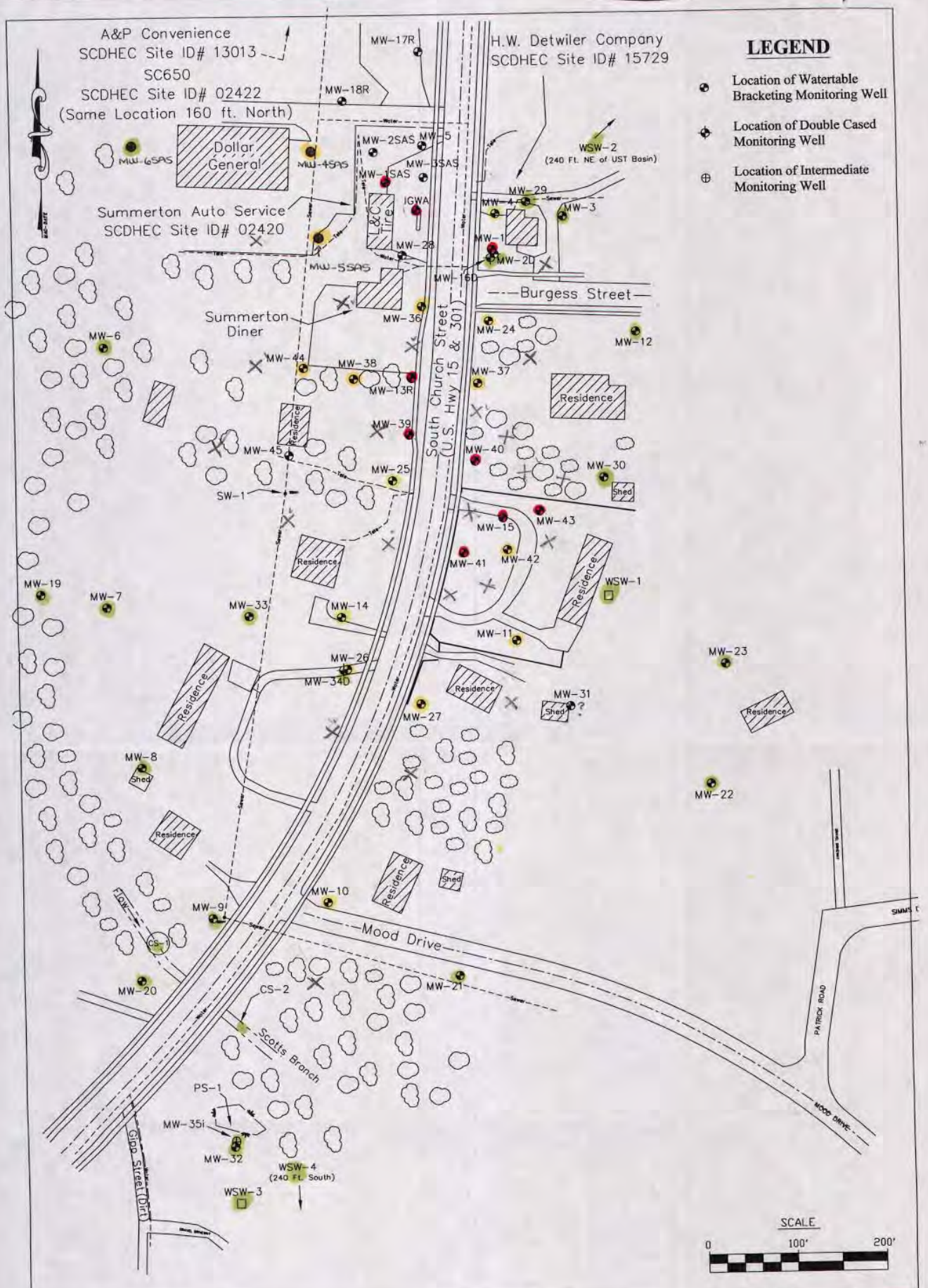
PADGETJP

PO Number:

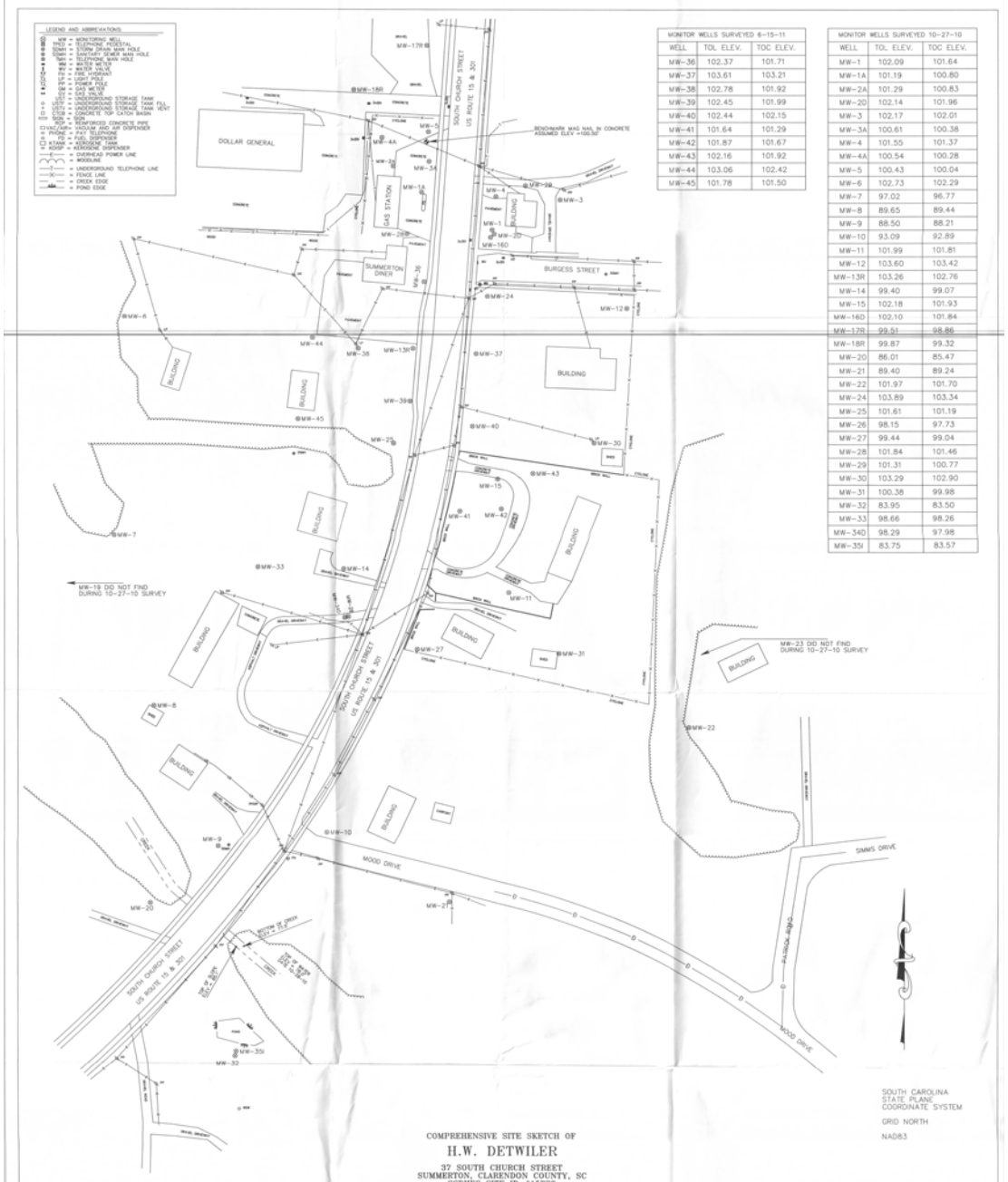
Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		A	EQUIPMENT	1.0000	575.00	575.00
		B	PERSONNEL	4.0000	290.00	1,160.00
09 WELL INSTALLATION						
		B	WATER TABLE (DRILLED)	250.0000	38.00	9,500.00
10 SAMPLE COLLECTION						
		A	GROUND WATER	14.0000	55.00	770.00
		C	WATER SUPPLY	6.0000	25.00	150.00
		D	GROUNDWATER NO-PURGE	26.0000	35.00	910.00
11 ANALYSES						
	GW GROUNDWATER	A	BTEX+NAPTH+MTBE	46.0000	100.00	4,600.00
		F	EDB	46.0000	55.00	2,530.00
		P	8 OXYGENATES	46.0000	85.00	3,910.00
16 SUBSEQUENT SURVEY						
			SUBSEQUENT SURVEY	1.0000	260.00	260.00
17 DISPOSAL						
		A1	WASTEWATER - PURGING/SAMPLING	2.0000	90.00	180.00
		C	SOIL (TREATMENT/DISPOSAL)	17.0000	50.00	850.00
19 RPT/PROJECT MNGT & COORDINATIO						
			PCT PERCENT	0.1500	25,395.00	3,809.25
				Total Amount		29,204.25



PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 SITE MAP	E1390DWLO WORK DATE(S): 7/11/11, 7/13/11, 7/29/11	SUMTER, SOUTH CAROLINA



PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 SITE MAP	E1390DWLO WORK DATE(S): 7/11/11, 7/13/11, 7/29/11	SUMTER, SOUTH CAROLINA



MONITOR WELLS SURVEYED 6-15-11		
WELL	TOL ELEV.	TOC ELEV.
MW-36	102.37	101.71
MW-37	103.61	103.21
MW-38	102.78	101.92
MW-39	102.45	101.99
MW-40	102.44	102.15
MW-41	101.64	101.29
MW-42	101.87	101.67
MW-43	102.16	101.92
MW-44	103.06	102.42
MW-45	101.78	101.50

MONITOR WELLS SURVEYED 10-27-10		
WELL	TOL ELEV.	TOC ELEV.
MW-1	102.09	101.64
MW-1A	101.19	100.80
MW-2A	101.29	100.83
MW-20	102.14	101.96
MW-3	102.17	102.01
MW-3A	100.61	100.38
MW-4	101.55	101.37
MW-4A	100.54	100.28
MW-5	100.43	100.04
MW-6	102.73	102.29
MW-7	97.02	96.77
MW-8	89.65	89.44
MW-9	88.50	88.21
MW-10	93.09	92.89
MW-11	101.99	101.81
MW-12	103.60	103.42
MW-13R	103.26	102.76
MW-14	99.40	99.07
MW-15	102.18	101.93
MW-16D	102.10	101.84
MW-17R	99.51	98.86
MW-18R	99.87	99.32
MW-20	86.01	85.47
MW-21	89.40	89.24
MW-22	101.97	101.70
MW-24	103.89	103.34
MW-25	101.61	101.19
MW-26	98.15	97.73
MW-27	99.44	99.04
MW-28	101.84	101.46
MW-29	101.31	100.77
MW-30	103.29	102.90
MW-31	100.38	99.98
MW-32	83.95	83.50
MW-33	98.66	98.26
MW-34D	98.29	97.98
MW-35I	83.75	83.57

SOUTH CAROLINA
STATE PLANE
COORDINATE SYSTEM

GRID NORTH

NAD83

COMPREHENSIVE SITE SKETCH OF

H.W. DETWILER

37 SOUTH CHURCH STREET
SUMMERTON, CLARENDON COUNTY, SC
SCDHEC SITE ID #15729
PREPARED FOR

EMERALD

GRAPHIC SCALE 1"=50'

0 50 100 150

THIS PARCEL MAY BE SUBJECT TO EASEMENT AND/OR RIGHT-OF-WAYS NOT SHOWN. FINAL RESULTS, CONCLUSIONS OF TITLE SEARCH

NOTE:
1. ALL SOIL BORINGS WERE PERFORMED BY GEOPROBE DIRECT PUSH METHOD BY DIRECT EXPOSURE.

NOTE:
1. THE BOUNDARIES SHOWN HEREON ARE BASED ON DEEDS AND PLATS OF RECORD AND ARE NOT THE RESULT OF A FIELD SURVEY.

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 14811 JAY S. JOSHI

SOUTH CAROLINA CONSTRUCTION GENERAL PERMITTEE No. 100540 CERTIFICATE OF ALTIVA INSPECTION

JAY S. JOSHI PLS # 14811
PO BOX 95606, COLUMBIA, SC 29290 803-776-9969
DATE: JUNE 21, 2011
JOB #561511M
SUB OF JOB #1007108

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

E-MAIL:
emeraldinc@ftc-i.net

TELEPHONE (803) 469-5454
FAX (803) 469-5465

September 19, 2011

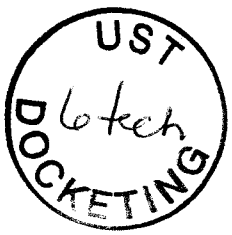
Joel P. Padgett, P.G., Geologist/Hydrologist
Corrective Action Section
UST Management Division
Underground Storage Tank Management Division
Bureau of Land and Waste Management
SCDHEC
2600 Bull Street
Columbia, S.C. 29201

Re: H.W. Detwiler Co., 37 S. Church St., Summerton, SC
UST Permit #15729; CA #41016
Report of Additional Assessment
Clarendon County

Dear Mr. Padgett:

On behalf of Mr. Harold Detwiler, Emerald, Inc. is providing you with one copy of the completed Report of Additional Assessment for the Detwiler site. As the report states, the horizontal and vertical extent of the groundwater contamination appears to be reasonably defined. Free phase product was detected in six monitoring wells during this event. We have recommended AFVR events to remove free phase product detected at the site due to the past effectiveness of AFVR events on MW-1 at the site.

If you have any questions regarding the report and its findings, please contact either Chad McClary or myself at (803) 469-5454.



Yours very truly,
Emerald, Inc.

Ronny L. Lowder
President

RLL/jrb

Enclosure

cc: Mr. Harold W. Detwiler, Jr.

Emerald, Inc.

CONSULTING AND ENGINEERING
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2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

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REPORT OF ADDITIONAL ASSESSMENT
H.W. DETWILER COMPANY
37 SOUTH CHURCH STREET
SUMMERTON, SOUTH CAROLINA
Site ID # 15729
COST AGREEMENT # 41016

Prepared For:

South Carolina Department of Health and Environmental Control
Bureau of Land & Waste Management
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

Prepared By:

Emerald, Inc.
UST Site Rehabilitation Contractor #67
P.O. Box 3050
2520 Tahoe Drive
Sumter, South Carolina 29151

September 6, 2011

Signature Page

This document entitled "Report of Additional Assessment", has been prepared for the South Carolina Department of Health and Environmental Control to describe investigative activities initiated at the H.W. Detwiler Company site located in Summerton, South Carolina. It has been prepared under the direct supervision of William C. McClary in accordance with accepted quality control practices. All questions or comments concerning this report should be directed to Ronny L. Lowder or William C. McClary, P.G., Emerald, Inc., at 803-469-5454.

Emerald, Inc.

Ronny L. Lowder
President

Emerald, Inc.

William C. McClary, P.G.
South Carolina Registration #2386

Report of Additional Assessment
H.W. Detwiler Company
37 South Church Street
Summerton, South Carolina

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2.6	Inflow Permeability Testing	6
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3.0	**Analytical Results**	**6**
4.0	**Conclusions and Recommendations**	**8**
5.0	**Appendices**	**9**

A) Boring Logs & Water Well Records
B) Monitoring Well Purge Forms
C) Analytical Data Sheets
D) Inflow Test Forms
E) Disposal Manifests
F) Site Survey Map

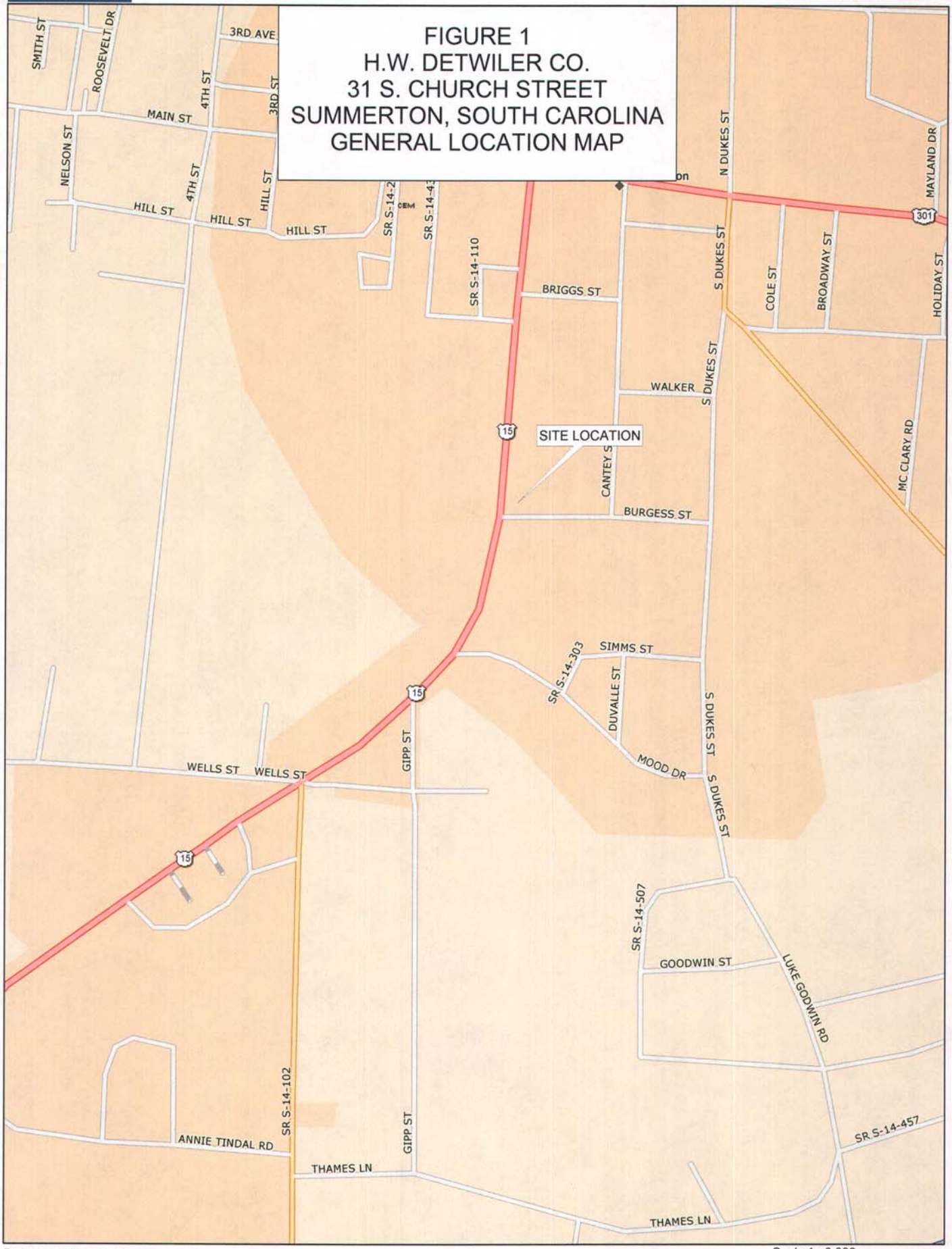
1.0 Introduction

The H.W. Detwiler (Detwiler) site is located within the City of Summerton on the northeastern corner of the intersection of S. Church Street (S.C. Hwy. 15) and Burgess Street. The subject site is currently used as an office building. Formerly, the site was used by a construction company which stored gasoline in two (2) underground storage tanks (USTs) for its fleet of vehicles. The two (2) USTs, 1000 gallons each, were permanently closed by removal in June 1993 by G&K Tank Services. The Detwiler site is located within an area of mixed use. Commercial activities including a restaurant, a former gasoline service station (Summerton Auto Service SCDHEC Site ID# 02420) and a convenience store currently maintaining UST's (A&P Convenience SCDHEC Site ID# 13013 and SC650 SCDHEC Site ID# 02422) are located west and northwest of the subject site respectively. The areas north, east and south of the subject site are used for residential purposes. According to local sources, a former gasoline station was located approximately 300 feet south of the Detwiler site (along the eastern side of S. Church Street) in the 1940s and 1950s. (This area is near MW-15 as seen in Figure 3). A general site location map and a site topographic map are provided in Figures 1 and 2 respectively.

A site assessment was conducted by Duncan Environmental Associates, Inc. at the time of closure and a release notification was sent to SCDHEC on June 22, 1993. This assessment indicated soil contamination above the reporting limits for BTEX and TPH compounds.

In July of 2000, an Initial Ground Water Assessment (IGWA) was conducted by Emerald, Inc at the subject site. This assessment included the installation of one groundwater monitoring well. Gauging of this well indicated the presence of free product

FIGURE 1
H.W. DETWILER CO.
31 S. CHURCH STREET
SUMMERTON, SOUTH CAROLINA
GENERAL LOCATION MAP



Data use subject to license.

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www.delorme.com

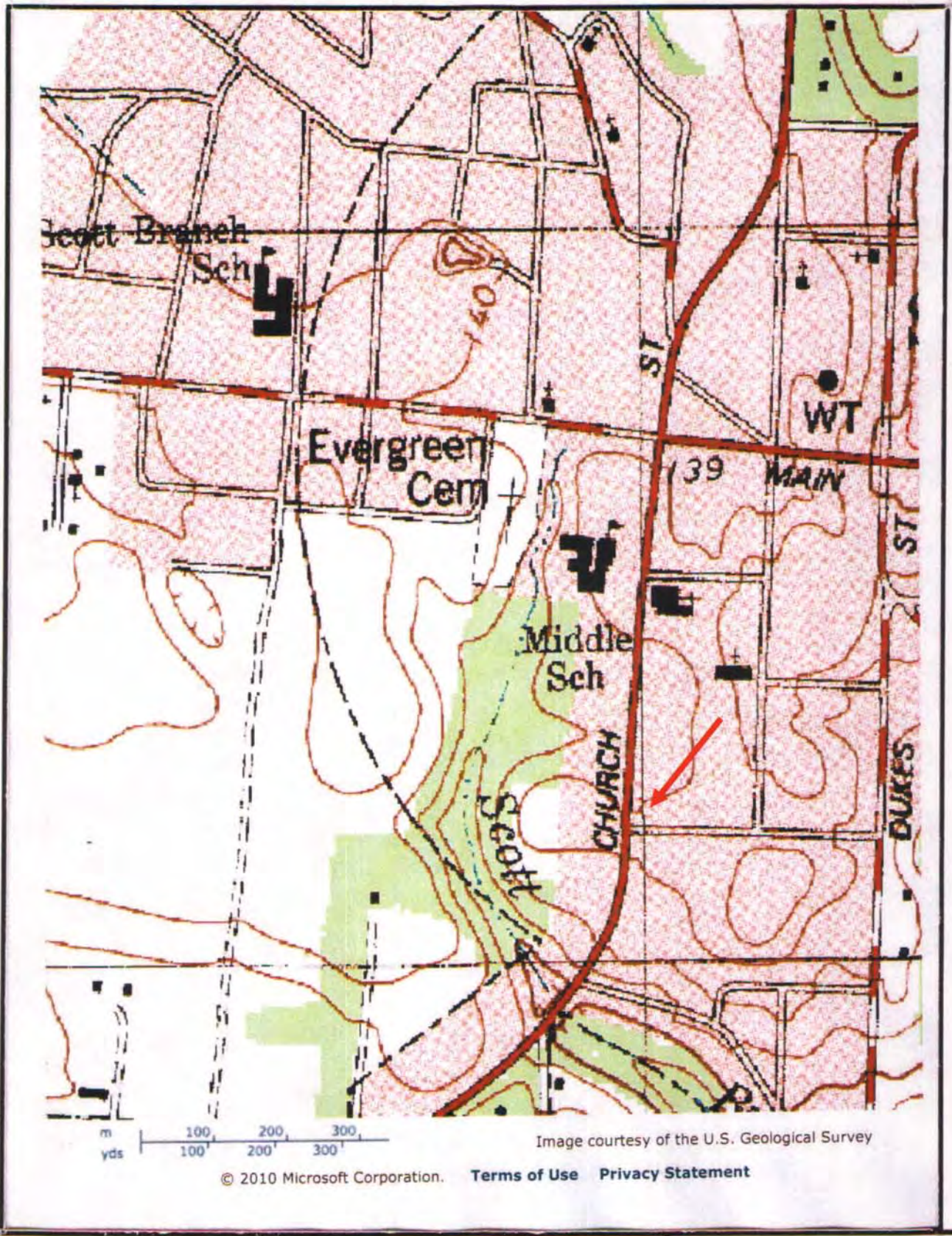
TN

MN (7.3°W)

Scale 1 : 8,000

1" = 666.7 ft

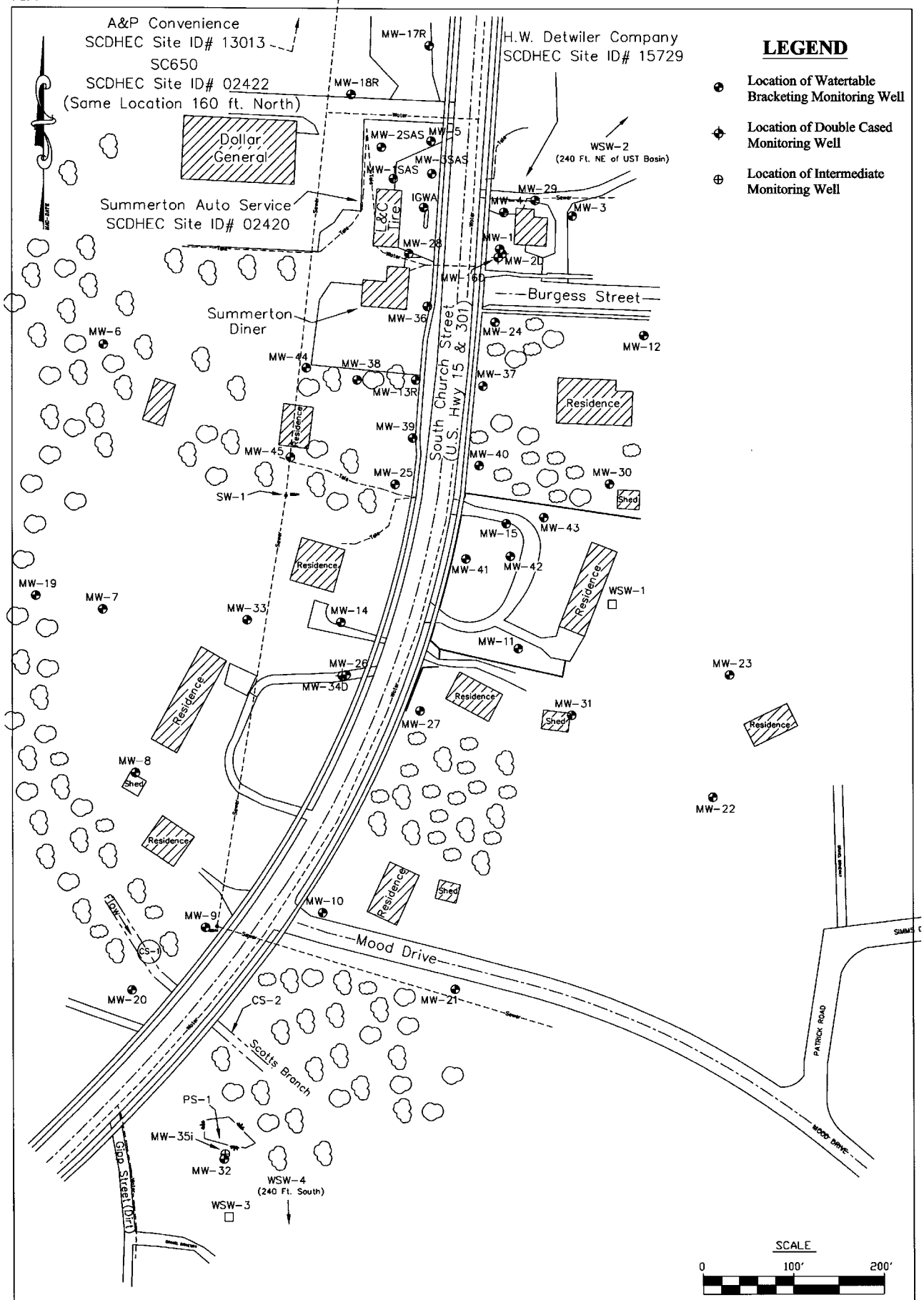
Data Zoom 14-6



H.W. DETWILER CO.
31 S. CHURCH STREET
SUMMERTON, SC
SITE ID #15729

FIGURE 2
USGS TOPOGRAPHIC MAP
7.5 MINUTE SERIES
"SUMMERTON, SC" QUADRANGLE
SCALE: 1:24 000

Emerald, Inc.
Sumter, SC



PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 SITE MAP	E1390DWLO WORK DATE(S): 7/11/11, 7/13/11, 7/29/11	SUMTER, SOUTH CAROLINA

adjacent to the former UST basin. In April of 2002 Emerald, Inc. submitted a Tier II assessment report for the subject site. This assessment included field screening, the installation of fourteen additional monitoring wells, aquifer testing, and monitoring well sampling. Groundwater sampling indicated the groundwater contaminant plume was not fully defined. In April of 2003, Emerald, Inc submitted a Tier II Assessment Report (Addendum 01). This assessment included field screening, monitoring well installation, monitoring well sampling and surface water sampling. This assessment was conducted to better define the horizontal and vertical extent of the contaminant plume. In December 2009, SCDHEC requested a comprehensive groundwater sampling event (report dated February 26, 2010) for the site. This sampling event was conducted to provide current groundwater quality data for the subject site. During this sampling event, four monitoring wells were not located and possibly destroyed.

In August of 2010, SCDHEC requested Aggressive Fluid Vapor Recovery Event (AFVR), additional monitoring well installation and monitoring well sampling at the subject site.

In April of 2011, SCDHEC requested the installation of ten additional shallow monitoring wells, groundwater sampling and inflow permeability tests at the subject site. This report represents the findings of this event.

2.0 Site Activities

Emerald, Inc. personnel conducted this additional assessment at the H.W. Detwiler Company site to install additional groundwater monitoring wells, sample nearby receptors and conduct a sampling event of monitoring wells on and surrounding the site. Field activities required to generate site-specific information for the H.W. Detwiler site are

described in detail within this section. Figure 3 contains a site map for H.W. Detwiler Company site presenting well locations, water supply well locations, relevant structures and utilities.

2.1 Monitoring Well Installation

Well drilling activities were performed using an ATV-mounted drilling rig equipped with hollow-stem augers to construct the borehole. Personnel from Geologic Exploration (Vincent Federle (D) # 1930) performed the monitoring well installation under the supervision of Emerald, Inc. personnel. During the installation of the groundwater monitoring wells, the soil in each boring was field screened at five foot intervals using a PID (Photoionization Detector).

During this drilling event, ten watertable bracketing monitoring wells (MW-36 through MW-45) were installed at the site at locations selected by the SCDHEC project manager. These wells were drilled to a depth of 25 feet below ground surface (BGS) and completed with ten foot sceens. The Boring Logs and Water Well Records can be found in Appendix A. Soil cuttings produced during drilling activities were containerized and transported to Waste Management Richland County Landfill in Elgin, SC for disposal. Development water was treated on-site by Emerald, Inc. personnel using an activated carbon drum (See Appendix C for copies of the disposal manifest).

2.2 Static Water Level Measurement

Prior to well purging or sample collection from each of the 40 monitoring wells located at the subject site, water levels were taken to the nearest 0.01 foot using a graduated electronic indicator. Monitoring wells MW-1, MW-13R, MW-15, MW-39, MW-40, and MW-43 contained measurable free product at the time of sampling and were gauged

and not sampled. Measurements were taken from the surveyed top of the well casing so they could be referenced to a common datum. Water levels and groundwater elevations are summarized in Table 1. Based upon the groundwater elevations recorded during this sampling event, groundwater flow in the shallow aquifer appears to be to the south, towards Scotts Branch. See Figure 4 for a Groundwater Contour Map for the shallow aquifer.

2.3 Groundwater Sampling

Groundwater samples were collected from monitoring wells MW-2D, MW-3, MW-4, MW-6 through MW-12, MW-14, MW-16D, MW-19 through MW-22, MW-24 through MW-27, MW-29 through MW-33, MW-34D, MW-35i, MW-36, MW-37, MW-38, MW-41, MW-42, MW-44 and MW-45 from July 11 through 13, 2011. Monitoring wells MW-1, MW-13R, MW-15, MW-39, MW-40, and MW-43 contained free phase product and were gauged and not sampled. Prior to sampling, newly installed monitoring wells were purged by removing three well volumes in order to collect a representative sample of the aquifer (see Well Purge Logs in Appendix A). Pre-existing wells which did not bracket the watertable were purged in order to collect a representative sample of the aquifer. Pre-existing monitoring wells requiring purging were hand bailed until the pH, temperature and conductivity readings were within 10% of each other, three well volumes were removed from the well, or dryness, whichever occurred first. Pre-existing wells where the screened interval bracketed the watertable were not purged prior to sample collection. Following well purging/gauging activities, a groundwater sample was collected from each well using a disposable PVC bailer and placed into laboratory supplied containers. Purge water was treated on-site utilizing an activated carbon drum (See Appendix C for a copy of the

TABLE 1
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
(PAGE 1 OF 2)

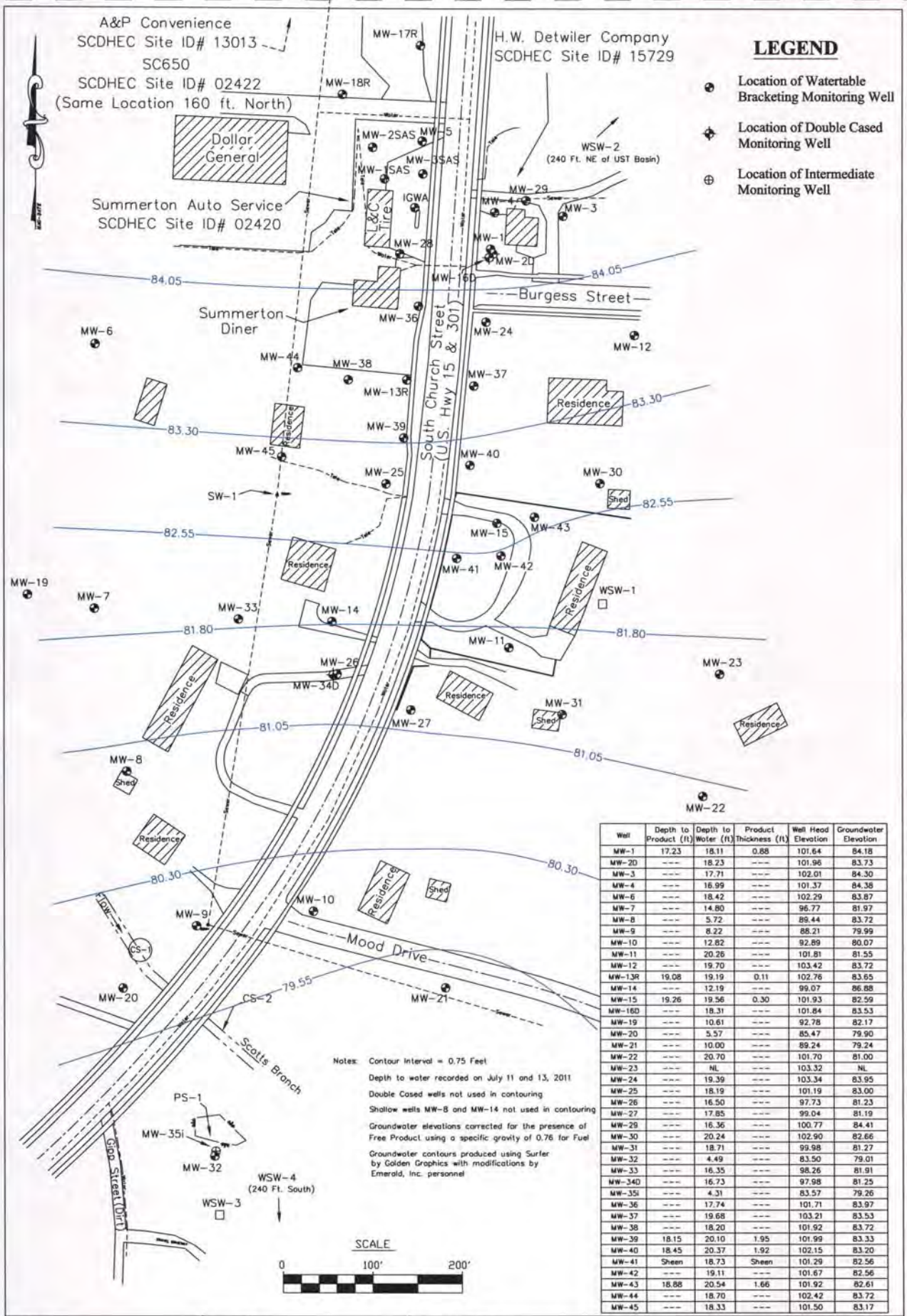
Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
MW-1	3/10/02	PROD	PROD	13-23	19.44	21.22	1.78	101.64	81.74
	4/12/03	PROD	PROD		11.40	15.09	3.69	101.64	89.28
	11/11/04	PROD	PROD		16.88	17.78	0.90	101.64	84.53
	12/21/09	PROD	PROD		16.34	16.85	0.51	101.64	85.17
	9/8/10	PROD	PROD		16.73	17.29	0.56	101.64	84.76
	11/19/10	PROD	PROD		17.25	18.13	0.88	101.64	84.16
	7/13/11	PROD	PROD		17.23	18.11	0.88	101.64	84.18
MW-2D	3/10/02	--	--	42-47	--	18.29	--	101.96	83.67
	4/12/03	--	--		--	14.80	--	101.96	87.16
	12/21/09	--	--		--	16.68	--	101.96	85.28
	11/22/10	3.51	24.3		--	17.96	--	101.96	84.00
	7/13/11	4.76	25.8		--	18.23	--	101.96	83.73
MW-3	3/10/02	--	--	13-23	--	18.09	--	102.01	83.92
	4/2/03	--	--		--	13.45	--	102.01	88.56
	12/21/09	--	--		--	16.53	--	102.01	85.48
	11/22/10	--	--		--	17.75	--	102.01	84.26
	7/13/11	5.09	23.6		--	17.71	--	102.01	84.30
MW-4	3/10/02	--	--	15-25	--	17.39	--	101.37	83.98
	4/2/03	--	--		--	11.98	--	101.37	89.39
	12/21/09	--	--		--	15.95	--	101.37	85.42
	11/22/10	--	--		--	17.02	--	101.37	84.35
	7/13/11	4.63	23.7		--	16.99	--	101.37	84.38
MW-5	3/10/02	--	--	15-25	--	15.52	--	100.04	84.52
	4/2/03	--	--		--	14.34	--	100.04	85.70
	12/21/09	--	--		--	14.13	--	100.04	85.91
	11/22/10	--	--		--	15.25	--	100.04	84.79
MW-6	3/10/02	--	--	15-25	--	18.56	--	102.29	83.73
	4/2/03	--	--		--	15.70	--	102.29	86.59
	12/22/09	--	--		--	17.74	--	102.29	84.55
	11/22/10	--	--		--	18.51	--	102.29	83.78
	7/11/11	3.81	26.6		--	18.42	--	102.29	83.87
MW-7	3/10/02	--	--	10-20	--	14.55	--	96.77	82.22
	4/12/03	--	--		--	12.09	--	96.77	84.68
	12/22/09	--	--		--	13.85	--	96.77	82.92
	11/19/10	--	--		--	14.57	--	96.77	82.20
	7/11/11	1.60	25.3		--	14.80	--	96.77	81.97
MW-8	3/10/02	--	--	5-15	--	8.35	--	89.44	81.09
	4/12/03	--	--		--	3.10	--	89.44	86.34
	12/22/09	--	--		--	3.70	--	89.44	85.74
	11/19/10	--	--		--	8.36	--	89.44	81.08
	7/11/11	2.71	24.7		--	5.72	--	89.44	83.72
MW-9	3/10/02	--	--	5-15	--	8.21	--	88.21	80.00
	4/12/03	--	--		--	5.40	--	88.21	82.81
	12/22/09	--	--		--	7.37	--	88.21	80.84
	11/19/10	--	--		--	8.14	--	88.21	80.07
	7/11/11	1.45	25.2		--	8.22	--	88.21	79.99
MW-10	3/10/02	--	--	8-18	--	12.81	--	92.89	80.08
	4/12/03	--	--		--	10.02	--	92.89	82.87
	12/22/09	--	--		--	11.88	--	92.89	81.01
	11/19/10	--	--		--	12.75	--	92.89	80.14
	7/11/11	5.39	25.3		--	12.82	--	92.89	80.07
MW-11	3/10/02	--	--	15-25	--	20.61	--	101.81	81.20
	4/12/03	--	--		--	13.66	--	101.81	88.15
	12/21/09	--	--		--	19.46	--	101.81	82.35
	11/19/10	--	--		--	20.36	--	101.81	81.45
	7/11/11	3.00	26.3		--	20.26	--	101.81	81.55
MW-12	3/10/02	--	--	15-25	--	20.29	--	103.42	83.13
	4/2/03	--	--		--	13.52	--	103.42	89.90
	12/21/09	--	--		--	18.57	--	103.42	84.85
	11/22/10	--	--		--	19.75	--	103.42	83.67
	7/13/11	4.13	24.1		--	19.70	--	103.42	83.72
MW-13	3/10/02	PROD	PROD	15-25	19.10	20.38	1.28	102.69	83.26
	4/2/03	PROD	PROD		14.45	14.93	0.48	102.69	88.12
	11/11/04	PROD	PROD		18.40	19.10	0.70	102.69	84.11
	12/22/09	NL	NL		NL	NL	NL	102.69	NL
MW-13R	11/19/10	PROD	PROD	12-22	18.88	20.11	1.23	102.76	83.56
	7/11/11	PROD	PROD		19.08	19.19	0.11	102.76	83.65
MW-14	3/10/02	--	--	15-25	--	17.33	--	99.07	81.74
	4/12/03	--	--		--	12.39	--	99.07	86.68
	12/22/09	--	--		--	16.40	--	99.07	82.67
	11/19/10	--	--		--	17.20	--	99.07	81.87
	7/11/11	1.90	26.0		--	12.19	--	99.07	86.88
MW-15	3/10/02	--	--	15-25	--	19.75	--	101.93	82.18
	4/12/03	--	--		--	12.94	--	101.93	88.99
	12/21/09	--	--		--	18.61	--	101.93	83.32
	11/19/10	PROD	PROD		19.36	19.57	0.21	101.93	82.52
	7/11/11	PROD	PROD		19.26	19.56	0.30	101.93	82.59
MW-16D	4/2/03	--	--	65-75	--	12.10	--	101.84	89.74
	12/21/09	--	--		--	16.93	--	101.84	84.91
	11/22/10	4.21	24.4		--	18.18	--	101.84	83.66
	7/13/11	4.45	27.4		--	18.31	--	101.84	83.53

Notes:
1. ug/l = micrograms per liter
2. mg/l = milligrams per liter
3. NT = Not Tested
4. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline
5. PROD = Free Phase Product Detected

TABLE 1
GROUNDWATER ELEVATIONS AND FIELD DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
(PAGE 2 OF 2)

Well Number	Sample Date	Dissolved Oxygen (mg/l)	Temp. (°C)	Screened Interval (ft)	Depth to Product (Ft)	Depth to Water (Ft)	Product Thickness (Ft)	Well Head Elevation	Groundwater Elevation
MW-17	4/2/03	--	--	8-18	--	9.50	--	98.81	89.31
	12/22/09	NL	NL					98.81	
MW-17R	11/22/10	4.03	22.5	10-20	--	13.40	--	98.86	85.46
MW-18	4/2/03	--	--	13-23	--	13.45	--	100.86	87.41
	12/22/09	NL	NL					100.86	
MW-18R	11/22/10	4.18	20.5	12-22	--	14.38	--	99.32	84.94
MW-19	4/12/03	--	--	5-15	--	7.60	--	92.78	85.18
	12/22/09	--	--		--	9.90	--	92.78	82.88
	11/19/10	--	--		--	10.58	--	92.78	82.20
	7/11/11	4.60	27.1		--	10.61	--	92.78	82.17
MW-20	4/12/03	--	--	3-13	--	3.52	--	85.47	81.95
	12/22/09	--	--		--	4.89	--	85.47	80.58
	11/19/10	--	--		--	5.47	--	85.47	80.00
	7/11/11	1.70	26.3		--	5.57	--	85.47	79.90
MW-21	4/12/03	--	--	3-13	--	5.05	--	89.24	84.19
	12/22/09	--	--		--	8.67	--	89.24	80.57
	11/19/10	--	--		--	9.90	--	89.24	79.34
	7/11/11	5.80	26.1		--	10.00	--	89.24	79.24
MW-22	4/12/03	--	--	10-25	--	11.96	--	101.70	89.74
	12/22/09	--	--		--	19.87	--	101.70	81.83
	11/19/10	--	--		--	20.77	--	101.70	80.93
	7/11/11	4.83	26.7		--	20.70	--	101.70	81.00
MW-23	4/12/03	--	--	10-25	--	13.87	--	103.32	89.45
	12/22/09	NL	NL					103.32	
MW-24	11/22/10	4.40	21.4	13-23	--	19.48	--	103.34	83.86
	7/11/11	3.33	26.1		--	19.39	--	103.34	83.95
MW-25	11/22/10	4.01	21.6	12-22	--	18.26	--	101.19	82.93
	7/11/11	1.91	27.0		--	18.19	--	101.19	83.00
MW-26	11/19/10	6.41	19.4	12-22	--	16.49	--	97.73	81.24
	7/11/11	3.03	26.1		--	16.50	--	97.73	81.23
MW-27	11/19/10	5.40	21.0	12-22	--	17.89	--	99.04	81.15
	7/11/11	2.80	27.3		--	17.85	--	99.04	81.19
MW-28	11/22/10	3.51	24.7	12-22	--	17.33	--	101.46	84.13
MW-29	11/22/10	4.39	20.7	13-23	--	16.39	--	100.77	84.38
	7/13/11	4.11	23.8		--	16.36	--	100.77	84.41
MW-30	11/22/10	5.83	20.3	13-23	--	20.49	--	102.90	82.41
	7/11/11	4.41	26.9		--	20.24	--	102.90	82.66
MW-31	11/19/10	6.20	20.9	12-22	--	18.80	--	99.98	81.18
	7/11/11	3.03	27.1		--	18.71	--	99.98	81.27
MW-32	11/19/10	6.89	20.5	2-12	--	4.24	--	83.50	79.26
	7/11/11	1.05	24.2		--	4.49	--	83.50	79.01
MW-33	11/19/10	5.70	21.5	14-24	--	16.31	--	98.26	81.95
	7/11/11	2.10	24.9		--	16.35	--	98.26	81.91
MW-34D	11/19/10	4.11	21.2	45-50	--	16.68	--	97.98	81.30
	7/11/11	0.04	26.4		--	16.73	--	97.98	81.25
MW-35i	11/19/10	6.44	21.4	26-31	--	4.07	--	83.57	79.50
	7/11/11	1.50	25.0		--	4.31	--	83.57	79.26
MW-36	7/11/11	3.40	27.6	15-25	--	17.74	--	101.71	83.97
MW-37	7/13/11	4.96	27.1	15-25	--	19.68	--	103.21	83.53
MW-38	7/11/11	3.99	26.7	15-25	--	18.20	--	101.92	83.72
MW-39	7/11/11	PROD	PROD	15-25	18.15	20.10	1.95	101.99	83.33
MW-40	7/11/11	PROD	PROD	15-25	18.45	20.37	1.92	102.15	83.20
MW-41	7/11/11	1.03	26.1	15-25	Sheen	18.73	Sheen	101.29	82.56
MW-42	7/11/11	0.50	26.9	15-25	--	19.11	--	101.67	82.56
MW-43	7/11/11	PROD	PROD	15-25	18.88	20.54	1.66	101.92	82.61
MW-44	7/11/11	4.14	27.0	15-25	--	18.70	--	102.42	83.72
MW-45	7/11/11	4.44	27.3	15-25	--	18.33	--	101.50	83.17
IGWA SAS	11/19/10	--	--	10-20	16.28	16.33	0.05	100.80	84.51
MW-1 SAS	11/19/10	--	--	10-20	--	16.10	--	100.83	84.73
MW-2 SAS	11/19/10	--	--	10-20	--	15.49	--	100.28	84.79
MW-3 SAS	11/19/10	--	--	10-20	--	15.73	--	100.38	84.65

Notes:
1. ug/l = micrograms per liter
2. mg/l = milligrams per liter
3. NT = Not Tested
4. Groundwater Elevation corrected for Free Product using a specific gravity of 0.74 for Gasoline
5. PROD = Free Phase Product Detected
6. SAS wells installed in association with Summerton Auto Service SCDHEC Site ID# 02420



LEGEND

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased Monitoring Well
- Location of Intermediate Monitoring Well

Well	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Well Head Elevation	Groundwater Elevation
MW-1	17.23	18.11	0.88	101.64	84.18
MW-20	---	18.23	---	101.96	83.73
MW-3	---	17.71	---	102.01	84.30
MW-4	---	16.99	---	101.37	84.38
MW-6	---	18.42	---	102.29	83.87
MW-7	---	14.80	---	96.77	81.97
MW-8	---	5.72	---	89.44	83.72
MW-9	---	8.22	---	88.21	79.99
MW-10	---	12.82	---	92.89	80.07
MW-11	---	20.26	---	101.81	81.55
MW-12	---	19.70	---	103.42	83.72
MW-13R	19.08	19.19	0.11	102.76	83.65
MW-14	---	12.19	---	99.07	86.88
MW-15	19.26	19.56	0.30	101.93	82.59
MW-16D	---	18.31	---	101.84	83.53
MW-19	---	10.61	---	92.78	82.17
MW-20	---	5.57	---	85.47	79.90
MW-21	---	10.00	---	89.24	79.24
MW-22	---	20.70	---	101.70	81.00
MW-23	---	NL	---	103.32	NL
MW-24	---	19.39	---	103.34	83.95
MW-25	---	18.19	---	101.19	83.00
MW-26	---	16.50	---	97.73	81.23
MW-27	---	17.85	---	99.04	81.19
MW-29	---	16.36	---	100.77	84.41
MW-30	---	20.24	---	102.90	82.66
MW-31	---	18.71	---	99.98	81.27
MW-32	---	4.49	---	83.50	79.01
MW-33	---	16.35	---	98.26	81.91
MW-34D	---	16.73	---	97.98	81.25
MW-35i	---	4.31	---	83.57	79.26
MW-36	---	17.74	---	101.71	83.97
MW-37	---	19.68	---	103.21	83.53
MW-38	---	18.20	---	101.92	83.72
MW-39	18.15	20.10	1.95	101.99	83.33
MW-40	18.45	20.37	1.92	102.15	83.20
MW-41	Sheen	18.73	Sheen	101.29	82.56
MW-42	---	19.11	---	101.67	82.56
MW-43	18.88	20.54	1.66	101.92	82.61
MW-44	---	18.70	---	102.42	83.72
MW-45	---	18.33	---	101.50	83.17

Notes:
Contour Interval = 0.75 Feet
Depth to water recorded on July 11 and 13, 2011
Double Cased wells not used in contouring
Shallow wells MW-8 and MW-14 not used in contouring
Groundwater elevations corrected for the presence of Free Product using a specific gravity of 0.76 for Fuel
Groundwater contours produced using Surfer by Golden Graphics with modifications by Emerald, Inc. personnel

SCALE
0 100' 200'

PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 4 GROUNDWATER CONTOUR MAP	E1391DWLO DATE: 7/11/11, 7/13/11, 7/29/11	SUMTER, SOUTH CAROLINA

disposal manifest).

Samples were packed in crushed ice in the field ice chest and shipped to Pace Analytical Services (SCDHEC Certification #99006001) in Huntersville, NC, for laboratory analysis. Each sample was analyzed for BTEX, Naphthalene, MTBE, EDB, 8 Oxygenates (EPA Method 8260B) and EDB (EPA Method 8011).

2.4 Water Supply Well Sampling

On July 11 and July 29, 2011, samples were collected from four nearby water supply wells. WSW-1 is an irrigation well located at 35 South Church Street (Property Owner - Jean and Charlie Johnson, P.O. Box 698, Summerton, SC). According to the property owner, this well is drilled to approx. 175 ft. and used for irrigation. This sample was collected from a sprinkler head in the front yard of the residence. WSW-2 is an irrigation well located at 24 South Cantey Street (Dubose Residence). A sample was collected from a spigot at the well pump. WSW-3 and WSW-4 are located at 1021 Gipp Street (David Van Wynsberghe, Rt. 1 Box 521, Summerton, SC). WSW-3 is a water supply well supplying water to the residence and was sampled at the well pump. WSW-4 is an irrigation well located at the rear of the same residence. This well does not currently have a well pump and was sampled by lowering a bailer into the well. Water supply well locations are presented on Figure 3.

Samples were collected after allowing the well pump to run for approximately 10 minutes or until the well pump turned on. Samples were placed in laboratory supplied containers and placed in a field chest containing crushed ice for transport to the laboratory. These samples were shipped to Pace Analytical, Inc. for laboratory analysis. Each sample was analyzed for BTEX, Naphthalene, MTBE, 8 oxygenates (EPA Method 8260B) and

EDB (EPA Method 8011).

2.5 Surface Water Sampling

On July 11, 2011, two surface water samples (CS-1 and CS-2) were collected at the subject site. CS-1 was collected from Scotts Branch, on the western side of U.S. Highway 301/15. CS-2 was collected from Scotts Branch, east of South Church Street. This sample was collected from the area surveyed for the stream cross section. Surface water sampling locations are presented on Figure 3.

Samples were placed in laboratory supplied containers and placed in a field chest containing crushed ice for transport to the laboratory. These samples were shipped to Pace Analytical, Inc. for laboratory analysis. Each sample was analyzed for BTEX, Naphthalene, MTBE, 8 oxygenates (EPA Method 8260B) and EDB (EPA Method 8011).

2.6 Aquifer Characterization

During this event, three slug tests were performed on monitoring wells MW-3, MW-12 and MW-24 on July 13, 2011. Appendix D contains a copy of the Summary Slug Test Sheets and Inflow Permeability Calculations for each well.

2.7 Site Survey

A site survey was performed by Construction Support Services of Columbia, S.C. (Jay S. Joshi PLS# 14811). This comprehensive survey was conducted to locate newly installed monitoring wells, buildings, roadways and utilities on and surrounding the subject site. Appendix D contains a copy of the site survey map.

3.0 Analytical Results

Groundwater samples were collected from thirty-six monitoring wells and free product was gauged in six monitoring wells during this assessment. Measurable free

product was detected in MW-1, MW-13R, MW-15, MW-39, MW-40, and MW-43. Concentrations of chemicals of concern have generally remained constant since the last sampling event.

A groundwater sample collected from WSW-2 indicates petroleum impact (MTBE at 0.29J) to the well at levels below the reporting limit. CS-2, collected from Scotts Branch creek, also contained detectable concentrations of chemicals of concern. Toluene was detected at 0.48J in the sample collected from this creek. Analytical results from each monitoring well, surface water, and water supply well are presented in Table 2 and Table 3. Attached Figure 5 presents the Groundwater CoC Map.

TABLE 2
GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
(Page 1 of 2)

Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
MW-1	4/2/03	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
	12/21/09	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
	7/13/11	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-2D	4/12/03	22.6	19.8	28.3	47.9	ND	9.90	NT	0.15	NT
	12/21/09	ND	0.470	1.90	2.41	0.660	1.07	ND	ND	8.20
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
MW-3	4/2/03	ND	1.0	ND	ND	ND	ND	NT	ND	NT
	12/21/09	ND	ND	ND	ND	ND	0.610	ND	ND	3.20
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
MW-4	7/13/01	2,860	1,330	581	1,490	198	146	NT	13.6	NT
	12/21/09	114	5.91	22.4	5.97	2.98	9.72	ND	0.1709	13.6
	11/22/10	169	3.5J	3.5J	<10.0	4.9J	6.7	5.5	0.13	<5.0
	7/13/11	688	184	129	283	26.1	52.6	18.2	4.8	NT
MW-5	4/2/03	1,650	3,000	372	1,640	246	94.7	NT	22.0	NT
	12/21/09	2,610	5,820	735	3,370	64.6	156	ND	34.78	84.5
	11/22/10	63.9	154	22.1	107	<5.0	6.3	<5.0	0.91	<5.0
MW-6	4/2/03	ND	2.0	ND	2.2	6.8	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	2.61	ND	ND	ND	33.3
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
MW-7	4/12/03	ND	ND	ND	ND	15.3	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	3.10	ND	ND	ND	31.2
	11/19/10	<5.0	<5.0	<5.0	<10.0	3.1J	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
MW-8	4/12/03	ND	ND	ND	ND	3.3	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	21.4
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
MW-9	4/12/03	1.4	ND	ND	ND	181	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	6.86	ND	ND	ND	136
	11/19/10	<5.0	<5.0	<5.0	<10.0	6.5	<5.0	<5.0	<0.020	17.9
	7/11/11	<5.0	<5.0	<5.0	<10.0	1.9J	<5.0	<5.0	<0.020	NT
MW-10	4/12/03	2,000	34.4	169	25.0	38.6	22.6	NT	ND	NT
	12/22/09	1,250	20.3	44.8	15.0	58.1	12.0	ND	0.1719	43.6
	11/19/10	42.3	<5.0	3.8J	<10.0	38.3	<5.0	13.6	<0.020	<5.0
	7/11/11	777	5.0	14.7	8.3J	54.4	6.3	12.0	<0.020	NT
MW-11	4/12/03	1,100	4.2	11.2	3.2	ND	8.80	NT	0.23	NT
	12/21/09	181	32.3	20.2	6.90	1.28	8.65	ND	ND	34.1
	11/19/10	63.6	<5.0	1.1J	<10.0	2.3J	4.0J	<5.0	<0.020	<5.0
	7/11/11	72.9	20.6	8.9	18.7	<5.0	4.3J	2.7J	<0.020	NT
MW-12	4/2/03	ND	1.3	ND	1.5	ND	ND	NT	ND	NT
	12/21/09	ND	0.530	ND	ND	ND	1.54	ND	ND	17.6
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
MW-13	4/2/03	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
	12/21/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-13R	11/19/10	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
	7/11/11	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-14	4/12/03	1,190	501	390	344	2,110	41.3	NT	0.12	NT
	12/22/09	1,250	20.3	44.8	15.0	58.1	12.0	ND	0.1719	43.6
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	323	593	78.7	216	4.5J	4.9J	<5.0	<0.020	NT
MW-15	4/12/03	7,160	15,300	1,850	8,350	ND	282	NT	152	NT
	12/21/09	6,690	18,000	3,700	13,700	5.66	844	ND	46.78	244
	11/19/10	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
	7/11/11	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-16D	4/2/03	4.4	16.9	5.2	19.6	ND	ND	NT	ND	NT
	12/21/09	0.870	1.37	2.00	4.48	ND	0.890	ND	ND	4.00
	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	1.7J	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
MW-17	4/2/03	200	700	ND	720	ND	ND	NT	0.04	NT
	12/21/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-17R	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
MW-18	4/2/03	6.5	426	327	978	70.8	49.0	NT	ND	NT
	12/21/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-18R	11/22/10	<5.0	<5.0	<5.0	<10.0	4.1J	<5.0	<5.0	<0.019	<5.0

Notes:
1. ug/l = micrograms per liter
2. ND = Not detected
3. mg/l = milligrams per liter
4. NT = Not Tested
5. NL = Not Located
6. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

TABLE 2
GROUNDWATER ANALYTICAL DATA
H. W. DETWILER COMPANY
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID# 15729
(Page 2 of 2)

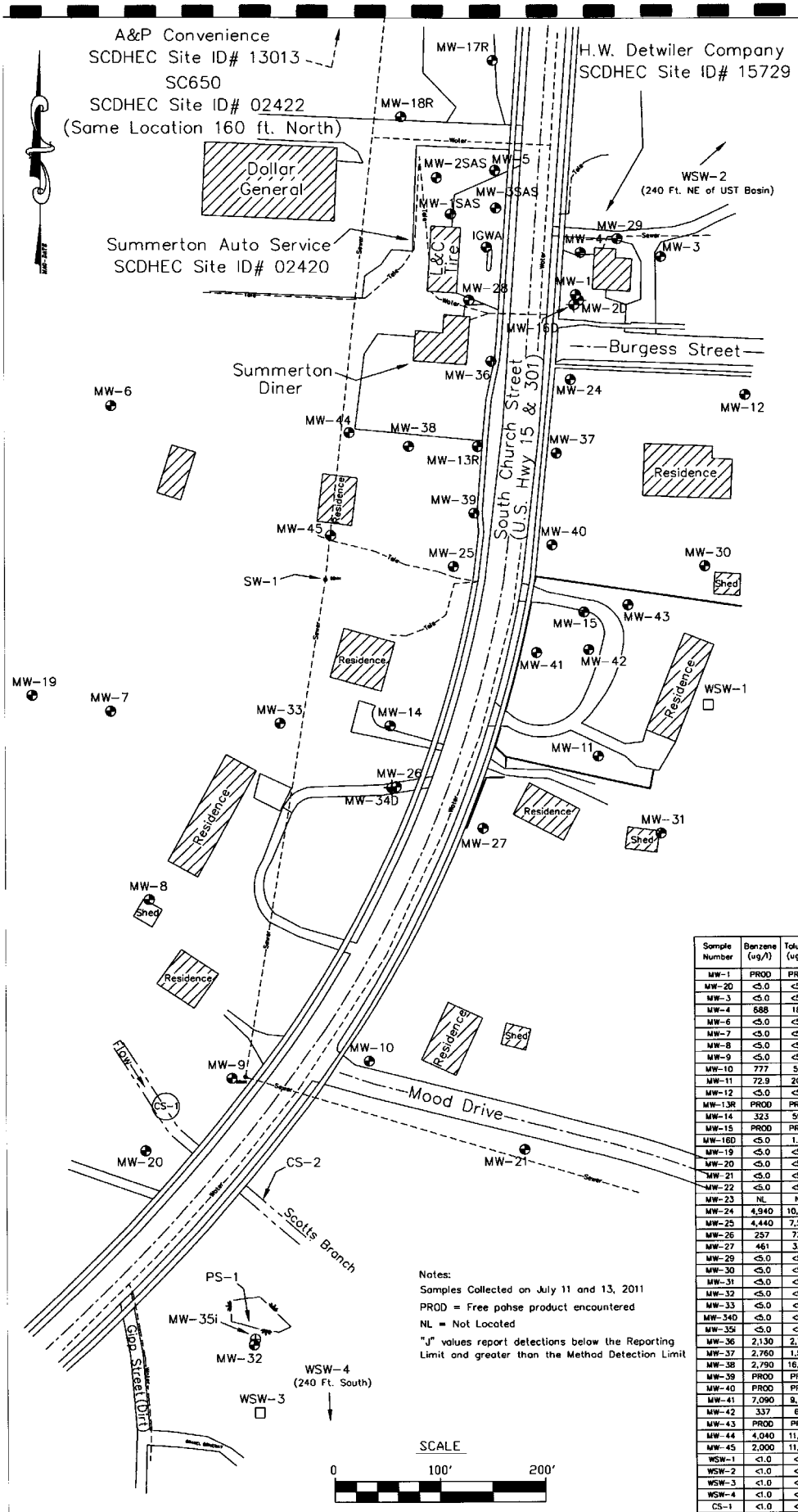
Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (ug/l)
MW-19	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	**2.35**	ND	ND	ND	**210**
	11/19/10	<5.0	<5.0	<5.0	<10.0	**3.9J**	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
MW-20	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	NT	ND	**214**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	**7.5**
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
MW-21	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	**63.0**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	**0.028**	NT
MW-22	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	**49.1**
	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
MW-23	4/12/03	ND	ND	ND	ND	ND	ND	NT	ND	NT
	12/22/09	NL	NL	NL	NL	NL	NL	NL	NL	NL
	11/19/10	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-24	11/22/10	**6,830**	**17,300**	**2,320**	**10,400**	<500	**397J**	<500	**87.8**	**65.4**
	7/11/11	**4,940**	**10,200**	**1,080**	**6,800**	<500	**226J**	<500	**146**	NT
MW-25	11/22/10	**4,060**	**5,550**	**471J**	**1,720**	**266J**	<500	<500	**54.9**	**17.0**
	7/11/11	**4,440**	**7,500**	**890**	**2,740**	**103J**	**142J**	<250	**30.9**	NT
MW-26	11/19/10	**211**	**10.7**	**15.2**	**17.7**	**11.8**	**4.4J**	**1.7J**	<0.020	<5.0
	7/11/11	**257**	**72.7**	**81.3**	**103**	**7.1J**	**11.3**	<10.0	<0.020	NT
MW-27	11/19/10	**177**	**2.2J**	**8.4**	<10.0	**9.1**	<5.0	**4.3J**	<0.020	<5.0
	7/11/11	**461**	**3.8J**	**11.8**	**23.4**	**12.3**	**8.7**	**9.1**	**0.040**	NT
MW-28	11/22/10	**3,410**	**5,070**	**698**	**3,250**	**164J**	**173J**	<250	**22.8**	**52.1**
MW-29	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/13/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
MW-30	11/22/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
MW-31	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	**0.18**	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	**0.080**	NT
MW-32	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
MW-33	11/19/10	**144**	**714**	**152**	**419**	<50.0	<50.0	<50.0	**0.20**	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
MW-34D	11/19/10	<5.0	<5.0	<5.0	<10.0	**4.1J**	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	**2.0J**	<5.0	<5.0	<0.020	NT
MW-35i	11/19/10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	<5.0
	7/11/11	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	NT
MW-36	7/11/11	**2,130**	**2,790**	**527**	**2,180**	**95.1J**	**126**	<100	**14.1**	NT
MW-37	7/13/11	**2,760**	**1,580**	**409**	**808**	<125	**86.4J**	**75.5J**	**14.5**	NT
MW-38	7/11/11	**2,790**	**16,700**	**2,590**	**12,300**	<500	**349J**	<500	**20.7**	NT
MW-39	7/11/11	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**
MW-40	7/11/11	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**
MW-41	7/11/11	**7,090**	**9,700**	**1,680**	**3,970**	<500	**434J**	<500	**21.8**	NT
MW-42	7/11/11	**337**	**613**	**462**	**865**	<25.0	**93.8**	<25.0	**1.1**	NT
MW-43	7/11/11	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**
MW-44	7/11/11	**4,040**	**11,800**	**1,690**	**7,260**	<500	**245J**	<500	**107**	NT
MW-45	7/11/11	**2,000**	**11,000**	**1,960**	**7,570**	<500	<500	<500	**13.6**	NT
WSW-1	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	NT
	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	7/29/11	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
WSW-2	12/22/09	ND	ND	ND	ND	ND	ND	ND	ND	NT
	7/13/11	<1.0	<1.0	<1.0	<2.0	**0.29J**	<1.0	<1.0	<0.020	NT
WSW-3	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.019	NT
	7/11/11	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
WSW-4	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	7/11/11	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
PS-1	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
SW-1	11/19/10	<1.0	**4.4**	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
CS-1	12/22/09	ND	ND	ND	ND	ND	ND	ND	NT	NT
	11/19/10	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<0.020	NT
	7/11/11	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT
CS-2	12/22/09	ND	ND	ND	ND	ND	ND	ND	NT	NT
	7/11/11	<1.0	**0.48J**	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020	NT

Notes:
1. ug/l = micrograms per liter
2. ND = Not detected
3. mg/l = milligrams per liter
4. NT = Not Tested
5. NL = Not Located
6. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit

TABLE 3
GROUNDWATER ANALYTICAL DATA (OXYGENATES)
H.W. DETWILER CO.
SUMMERTON, SOUTH CAROLINA
SCDHEC SITE ID NUMBER 15729

Well Number	Sample Date	t-Amyl Alcohol (ug/l)	Tert-Amyl Methyl Ether (ug/l)	3,3-Dimethyl-1-Butanol (ug/l)	Tertiary Butyl Alcohol (ug/l)	tert-Butyl Formate (ug/l)	Diisopropyl Ether (ug/l)	Ethanol (ug/l)	Ethyl-tert-butyl Ether (ug/l)
MW-1	7/13/11	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**
MW-2D	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-3	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-4	7/13/11	**1,460**	<10.0	<100	<100	<50.0	**26.7**	<200	<10.0
MW-6	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-7	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-8	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-9	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-10	7/11/11	**1,960**	<10.0	<100	<100	<50.0	**15.3**	<200	<10.0
MW-11	7/11/11	**128**	<10.0	<100	<100	<50.0	**2.6J**	**281**	<10.0
MW-12	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-13R	7/11/11	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**
MW-14	7/11/11	**333**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-15	7/11/11	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**
MW-16D	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-19	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-20	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-21	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-22	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-24	7/11/11	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
MW-25	7/11/11	**5,710**	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
MW-26	7/11/11	**417**	<20.0	<200	<200	<100	<10.0	<400	<20.0
MW-27	7/11/11	**791**	<10.0	<100	<100	<50.0	**11.9**	<200	<10.0
MW-29	7/13/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-30	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-31	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-32	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-33	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-34D	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-35i	7/11/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-36	7/11/11	**2,600**	<200	<2,000	<2,000	<1,000	**45.2J**	<4,000	<200
MW-37	7/13/11	**7,390**	<250	<2,500	<2,500	<1,250	**87.9J**	<5,000	<250
MW-38	7/11/11	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
MW-39	7/11/11	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**
MW-40	7/11/11	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**
MW-41	7/11/11	**13,400**	<1,000	<10,000	<10,000	<5,000	**179J**	<20,000	<1,000
MW-42	7/11/11	**849**	<50.0	<500	<500	<250	<25.0	<1,000	<50.0
MW-43	7/11/11	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**	**PROD**
MW-44	7/11/11	**8,400J**	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
MW-45	7/11/11	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
WSW-1	7/29/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
WSW-2	7/13/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
WSW-3	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
WSW-4	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
CS-1	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0
CS-2	7/11/11	<100	<10.0	<100	<100	<50.0	<1.0	<200	<10.0

Notes: 1. ug/l = micrograms per liter 2. "J" Values report detections below the Reporting Limit and greater than the Method Detection Limit 3. PROD= free phase product detected



LEGEND

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased Monitoring Well
- Location of Intermediate Monitoring Well

Notes:
Samples Collected on July 11 and 13, 2011
PROD = Free pahse product encountered
NL = Not Located
"J" values report detections below the Reporting Limit and greater than the Method Detection Limit

Sample Number	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)
MW-1	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-2D	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
MW-3	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
MW-4	688	184	129	283	26.1	52.6	18.2	4.8
MW-6	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
MW-7	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
MW-8	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
MW-9	<5.0	<5.0	<5.0	<10.0	1.9J	<5.0	<5.0	<0.020
MW-10	777	5.0	14.7	8.3J	54.4	6.3	12.0	<0.020
MW-11	72.9	20.6	8.9	18.7	<5.0	4.3J	2.7J	<0.020
MW-12	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
MW-13R	PROD	PROD	PROD	PROD	PROD	PROD	<5.0	PROD
MW-14	323	593	78.7	216	4.5J	4.9J	<5.0	<0.020
MW-15	PROD	PROD	PROD	PROD	PROD	PROD	<5.0	PROD
MW-16D	<5.0	1.7J	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
MW-19	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
MW-20	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
MW-21	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.028
MW-22	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
MW-23	NL	NL	NL	NL	NL	NL	NL	NL
MW-24	4,940	10,200	1,080	6,800	<500	226J	<500	146
MW-25	4,440	7,500	890	2,740	103J	142J	<250	30.9
MW-26	257	72.7	81.3	103	7.1J	11.3	<10.0	<0.020
MW-27	461	3.8J	11.8	23.4	12.3	8.7	9.1	0.040
MW-29	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
MW-30	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
MW-31	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.080
MW-32	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
MW-33	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
MW-34D	<5.0	<5.0	<5.0	<10.0	2.0J	<5.0	<5.0	<0.020
MW-35i	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
MW-36	2,130	2,790	527	2,180	95.1J	126	<100	14.1
MW-37	2,760	1,580	409	808	<125	86.4J	75.5J	14.5
MW-38	2,790	16,700	2,590	12,300	<500	349J	<500	20.7
MW-39	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-40	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-41	7,090	9,700	1,680	3,970	<500	434J	<500	21.8
MW-42	337	613	462	865	<25.0	93.8	<25.0	1.1
MW-43	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-44	4,040	11,800	1,690	7,260	<500	245J	<500	107
MW-45	2,000	11,000	1,960	7,570	<500	<500	<500	13.6
WSW-1	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
WSW-2	<1.0	<1.0	<1.0	<2.0	0.29J	<1.0	<1.0	<0.020
WSW-3	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
WSW-4	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
CS-1	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020
CS-2	<1.0	0.48J	<1.0	<2.0	<1.0	<1.0	<1.0	<0.020

PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 5 GROUNDWATER CoC MAP	E1392DWLO DATE: 7/11/11, 7/13/11, 7/29/11	SUMTER, SOUTH CAROLINA

4.0 Conclusions and Recommendations

During this assessment, ten watertable bracketing monitoring wells were installed in association with the H.W. Detwiler Company site. Data collected during the event indicates that the direction of groundwater flow beneath this site is to the south, towards Scotts Branch. Based upon the information found during this assessment, the horizontal and vertical extent of the groundwater contamination appears to be reasonably defined. Free phase product was detected in monitoring wells MW-1, MW-13R, MW-15, MW-39, MW-40 and MW-43 during this assessment. Free product thickness at the site have generally decreased since the last sampling/gauging event. Free product was detected in MW-15 and MW-43, located downgradient of the subject site. These wells are reportedly located on the property of a possible former UST site. Four water supply well samples and two creek samples were collected during this sampling event. Detections below the reporting limit, but above the method detection limit, were indicated in samples collected from WSW-2 and CS-2.

Given the above findings during this Additional Assessment, Emerald, Inc. recommends the initiation of a series of AFVR events to remove free phase product detected at the site. Based on historical free product levels in MW-1, it appears that past AFVR events have been effective in the removal of free product at the subject site. Periodic sampling events should take place to monitor the contaminant plume and detect any possible impact to nearby receptors.

5.0 Appendices

A) Boring Logs & Water Well Records

B) Monitoring Well Purge Forms

C) Analytical Data Sheets

D) Inflow Test Forms

E) Disposal Manifests

F) Site Survey Map

EMERALD, INC.

MONITORING WELL INSTALLATION LOG

Site: H. W. Detwiler Company

Date: 5/23 thru 5/26, 2011

Personnel: Emerald, Inc. Dalton Reames- GEX, Vince Federle (D 01930)

LOCATION	DATE COMPLETED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-36	5/26/11	5'	44.6	Red, Clayey Fine to Medium SAND	Dry	Asphalt at Surface
		10'	283	SAA	Dry	Posthole to 4 ft.
		15'	370	White and Golden, Clayey Fine to Medium SAND	Dry	Very hard (Cemented?) Layers 6' to 14'
		20'	<1,999	Red, Silty Fine to Medium SAND	Wet	Strong Petro Odor
		25'	<1,999	SAA	Saturated	Strong Petro Odor
				Well set at 25 ft. with a 10 ft. screen		
				Developed 10 Gallons from well		
MW-37	5/23/11	5'	2.2	Red, Clayey Fine to Medium SAND	Dry	Grass at Surface
		10'	2.7	SAA with some small pebbles	Dry	Posthole to 4 ft.
		15'	8.3	White and Golden, Clayey Fine to Medium SAND	Damp	Very hard (Cemented?) Layers 6' to 14'
		20'	1.3	Red, Silty Fine to Medium SAND	Wet	
		25'	3.5	SAA		
				Well set at 25 ft. with a 10 ft. screen		
				Developed 10 Gallons from well		

EMERALD, INC.

MONITORING WELL INSTALLATION LOG

Site: H. W. Detwiler Company

Date: 5/23 thru 5/26, 2011

Personnel: Emerald, Inc. Dalton Reames- GEX, Vince Federle (D 01930)

LOCATION	DATE COMPLETED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-38	5/24/11	5'	9.8	Red, Silty Clayey Fine to Medium SAND	Dry	Grass at Surface
		10'	18.4	White, Fine to Medium Sandy CLAY	Dry	Posthole to 4 ft.
		15'	1,939	Tan, Silty Fine to Medium SAND	Damp	Very hard (Cemented?) Layers 6' to 14'
		20'	1,617	Orange, Clayey Fine to Medium SAND	Wet	
		25'	1,599	SAA	Wet	
				Well set at 25 ft. with a 10 ft. screen		
				Developed 10 Gallons from well		
MW-39	5/24/11	5'	4.6	Red, Fine to Medium Sandy CLAY	Dry	Grass at Surface
		10'	6.7	Red, Clayey Fine to Medium SAND	Dry	Posthole to 4 ft.
		15'	254.3	White, Fine to Medium Sandy CLAY	Moist	Very hard (Cemented?) Layers 6' to 14'
		20'	465.7	Orange, Clayey Fine to Medium SAND	Wet	
		25'	360.0	SAA	Saturated	
				Well set at 25 ft. with a 10 ft. screen		
				Developed 10 Gallons from well		

EMERALD, INC.

MONITORING WELL INSTALLATION LOG

Site: H. W. Detwiler Company

Date: 5/23 thru 5/26, 2011

Personnel: Emerald, Inc. Dalton Reames- GEX, Vince Federle (D 01930)

LOCATION	DATE COMPLETED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-40	5/23/11	5'	6.7	Red, Fine to Medium Sandy CLAY	Dry	Grass at Surface
		10'	8.1	Red, Clayey Fine to Medium SAND with some pebbles	Dry	Posthole to 4 ft.
		15'	679.1	Orange, Clayey Fine to Medium SAND	Moist	Very hard (Cemented?) Layers 6' to 14'
		20'	<1,999	Orange, Clayey Fine to Medium SAND	Wet	
		25'	>1,999	SAA	Saturated	
				Well set at 25 ft. with a 10 ft. screen		
				Developed 10 Gallons from well		
MW-41	5/23/11	5'	13.7	Red, Fine to Medium Sandy CLAY	Dry	Grass at Surface
		10'	18.6	Red, Clayey Fine to Medium SAND with some pebbles	Dry	Posthole to 4 ft.
		15'	52.3	Orange, Clayey Fine to Medium SAND	Damp	Very hard (Cemented?) Layers 6' to 14'
		20'	494.1	Orange, Clayey Fine to Medium SAND	Wet	
		25'	439.4	SAA	Saturated	
				Well set at 25 ft. with a 10 ft. screen		
				Developed 10 Gallons from well		

EMERALD, INC.

MONITORING WELL INSTALLATION LOG

Site: H. W. Detwiler Company

Date: 5/23 thru 5/26, 2011

Personnel: Emerald, Inc. Dalton Reames- GEX, Vince Federle (D 01930)

LOCATION	DATE COMPLETED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-42	5/23/11	5'	25.6	Red, Fine to Medium Sandy CLAY	Dry	Grass at Surface
		10'	36.1	Red, Clayey Fine to Medium SAND	Dry	Posthole to 4 ft.
		15'	49.6	Orange, Clayey Fine to Medium SAND	Moist	
		20'	43.1	Orange, Clayey Fine to Medium SAND	Wet	
		25'	18.1	SAA	Saturated	
				Well set at 25 ft. with a 10 ft. screen		
				Developed 10 Gallons from well		
MW-43	5/23/11	5'	9.6	Red, Fine to Medium Sandy CLAY	Dry	Grass at Surface
		10'	9.5	Red, Clayey Fine to Medium SAND with small pebbles	Dry	Posthole to 4 ft.
		15'	11.1	Orange, Clayey Fine to Medium SAND	Dry	Very hard (Cemented?) Layers 6' to 14'
		20'	>1,999	Orange, Clayey Fine to Medium SAND	Wet	
		25'	>1,999	SAA	Wet	
				Well set at 25 ft. with a 10 ft. screen		
				Developed 10 Gallons from well		

EMERALD, INC.

MONITORING WELL INSTALLATION LOG

Site: H. W. Detwiler Company

Date: 5/23 thru 5/26, 2011

Personnel: Emerald, Inc. Dalton Reames- GEX, Vince Federle (D 01930)

LOCATION	DATE COMPLETED	SPOON	PID	SOIL DESCRIPTION	MOISTURE CONTENT	COMMENTS
MW-44	5/24/11	5'	6.9	Red, Fine to Medium Sandy CLAY	Dry	Dirt at Surface
		10'	7.3	Red, Clayey Fine to Medium SAND with small pebbles	Dry	Posthole to 4 ft.
		15'	1,787	Orange, Clayey Fine to Medium SAND	Damp	Very hard (Cemented?) Layers 6' to 14'
		20'	1,809	Orange, Clayey Fine to Medium SAND	Wet	
		25'	1,882	SAA	Wet	
				Well set at 25 ft. with a 10 ft. screen		
				Developed 10 Gallons from well		
MW-45	5/25/11	5'	7.3	Red, Fine to Medium Sandy CLAY	Dry	Grass at Surface
		10'	12.8	Red, Clayey Fine to Medium SAND with small pebbles	Dry	Posthole to 4 ft.
		15'	228.4	Orange, Clayey Fine to Medium SAND	Damp	
		20'	906.1	Orange, Clayey Fine to Medium SAND	Wet	
		25'	775.2	SAA	Wet	
				Well set at 25 ft. with a 10 ft. screen		
				Developed 10 Gallons from well		

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ASPHALT/GRAVEL	1.0	1.0
RED/BROWN SILTY CLAY SAND	24.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-36 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 05/26/11
25.0 ft. Date Completed: 05/26/11

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 19.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: Vincent R. Federle Well Driller Date: 05/31/11

If D Level Driller, provide supervising driller's name:
MARK GETTYS

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SILTY CLAY SAND	24.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-37 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 05/23/11
25.0 ft. Date Completed: 05/23/11

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft. **NOTE: MULTIPLE SCREENS**
_____ ft. and _____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 19.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 05/31/11

If D Level Driller, provide supervising driller's name:
MARK GETTYS

DHEC 1903 (07/2003)

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE. PROTECT. PROSPER.

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SILTY CLAY SAND	24.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-38 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 25.0 ft. Date Started: 05/24/11 Date Completed: 05/24/11

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 19.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 05/31/11

If D Level Driller, provide supervising driller's name:
MARK GETTYS

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SILTY CLAY SAND	24.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-39 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 25.0 ft. Date Started: 05/24/11 Date Completed: 05/24/11

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 19.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 05/31/11

If D Level Driller, provide supervising driller's name:
MARK GETTYS

DHEC 1903 (07/2003)

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

DHEC
PROMOTE PROTECT PROSPER

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Bureau of Water
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Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SILTY CLAY SAND	24.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-40 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 25.0 ft. Date Started: 05/23/11 Date Completed: 05/23/11

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 19.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
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If D Level Driller, provide supervising driller's name:
MARK GETTYS

DHEC 1903 (07/2003)

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

D H E C
PROMOTE PROTECT PROSPER

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Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

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2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SILTY CLAY SAND	24.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-41 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 05/23/11
25.0 ft. Date Completed: 05/23/11

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 19.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 05/31/11

If D Level Driller, provide supervising driller's name:
MARK GETTYS

DHEC 1903 (07/2003)

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SILTY CLAY SAND	24.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-42 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 25.0 ft. Date Started: 05/23/11 Date Completed: 05/23/11

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 19.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 05/31/11

If D Level Driller, provide supervising driller's name:
MARK GETTYS

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SILTY CLAY SAND	24.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-43 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 05/23/11
25.0 ft. Date Completed: 05/23/11

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft. **NOTE: MULTIPLE SCREENS**
_____ ft. and _____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 19.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Date: 05/31/11
Well Driller

If D Level Driller, provide supervising driller's name:
MARK GETTYS

DHEC 1903 (07/2003)

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

DHEC
PROMOTE. PROTECT. PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SILTY CLAY SAND	24.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-44 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 05/24/11
25.0 ft. Date Completed: 05/24/11

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 19.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Date: 05/31/11
Well Driller

If D Level Driller, provide supervising driller's name:
MARK GETTYS

DHEC 1903 (07/2003)

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: HW DETWILER COMPANY (last) (first)
Address: PO BOX 769
City: SUMMERTON State: SC Zip: 29706
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** CLARENDON
Name: HW DETWILER
Street Address: 37 SOUTH CHURCH STREET
City: SUMMERTON Zip: 29148
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TOPSOIL	1.0	1.0
RED/BROWN SILTY CLAY SAND	24.0	25.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-45 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 25.0 ft. Date Started: 05/24/11 Date Completed: 05/25/11

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 15.0 ft. and 25.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 19.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 25.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: VINCE FEDERLE **CERT. NO.:** 01930
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Vincent R. Federle Well Driller Date: 05/31/11

If D Level Driller, provide supervising driller's name:
MARK GETTYS

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-2D

PROJECT: H. W. Detwiler Company
STREET: 37 South Church Street
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina
DATE: 7/13/11

SCREENED INTERVAL 42-47 Ft.
STICK-UP HEIGHT Ft.
DEPTH TO WATER: 18.23 Ft.
WATER HEIGHT (Hw): 28.77 Ft.
WELL DIAMETER (Dw): 0.166 Ft.
WELL VOLUME (Vw): 4.6895 x 3 = 14.07 Galllons
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: 9.5 gallons
EMERALD PERSONNEL: Dalton Reames

Conditions: Sunny, 98°F

TIME	WELL VOLUME	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
	Initial	25.8	121.6	6.51	Slightly Cloudy, No Petroleum Odor
	1st	24.3	114.1	6.26	Slightly Cloudy, No Petroleum Odor
	2nd	24.1	113.3	6.19	Slightly Cloudy, No Petroleum Odor
	3rd				Within 10%
1210	Sampled				Slightly Cloudy, No Petroleum Odor
					DO= 4.76 mg/l @ 25.8 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-16D

PROJECT:	H. W. Detwiler Company	**SCREENED INTERVAL**	70-75	Ft.
		STICK-UP HEIGHT		Ft.
STREET:	37 South Church Street	**DEPTH TO WATER:**	18.31	Ft.
CITY:	Summerton	**WATER HEIGHT (Hw):**	56.69	Ft.
COUNTY:	Clarendon	**WELL DIAMETER (Dw):**	0.166	Ft.
STATE:	South Carolina	**WELL VOLUME (Vw):**	9.2405 x 3 = 27.72	Galllons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 19 gallons

DATE: 7/13/11 **EMERALD PERSONNEL:** Dalton Reames

Conditions: Sunny, 98°F

TIME	WELL VOLUME	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
	Initial	27.4	174.5	7.05	Clear, No Petroleum Odor
	1st	25.3	186.1	7.20	Clear, No Petroleum Odor
	2nd	24.9	181.6	7.33	Clear, No Petroleum Odor
	3rd				Within 10%
1130	Sampled				Clear, No Petroleum Odor
					DO= 4.45 mg/l @ 27.4 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-34D

PROJECT:	H. W. Detwiler Company	**SCREENED INTERVAL**	45-50	Ft.
		STICK-UP HEIGHT		Ft.
STREET:	37 South Church Street	**DEPTH TO WATER:**	16.73	Ft.
CITY:	Summerton	**WATER HEIGHT (Hw):**	33.27	Ft.
COUNTY:	Clarendon	**WELL DIAMETER (Dw):**	0.166	Ft.
STATE:	South Carolina	**WELL VOLUME (Vw):**	5.423 x 3 = 16.27	Galllons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$		
		PURGE VOLUME:	7.25 gallons	
DATE:	7/11/11	**EMERALD PERSONNEL:**	Dalton Reames	

Conditions: Sunny, 98°F

TIME	WELL VOLUME	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
	Initial	26.4	65.9	7.00	Clear, No Petroleum Odor
	1st	26.3	67.2	6.98	Clear, No Petroleum Odor
	2nd	26.1	68.3	6.77	Dry at 7.25 Gallons
	3rd				
1209	Sampled				Clear, No Petroleum Odor
					DO= 0.02 mg/l @ 26.4 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-35i

PROJECT: H. W. Detwiler Company

STREET: 37 South Church Street

CITY: Summerton

COUNTY: Clarendon

STATE: South Carolina

DATE: 7/11/11

SCREENED INTERVAL 26-31 Ft.

STICK-UP HEIGHT Ft.

DEPTH TO WATER: 4.31 Ft.

WATER HEIGHT (Hw): 26.69 Ft.

WELL DIAMETER (Dw): 0.166 Ft.

WELL VOLUME (Vw): 4.3505 x 3 = 13.05 Galllons

Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 6.5 gallons

EMERALD PERSONNEL: Dalton Reames

Conditions: Sunny, 98°F

TIME	WELL VOLUME	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
	Initial	25.0	113.6	7.00	Clear, No Petroleum Odor
	1st	22.0	53.3	7.01	Clear, No Petroleum Odor
	2nd	22.4	53.8	7.00	Dry at 6.5 Gallons
	3rd				
932	Sampled				Clear, No Petroleum Odor
					DO= 1.50 mg/l @ 25.0 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-36

PROJECT: H. W. Detwiler Company
SCREENED INTERVAL 15-25 Ft.
STICK-UP HEIGHT Ft.

STREET: 37 South Church Street
DEPTH TO WATER: 17.74 Ft.

CITY: Summerton
WATER HEIGHT (Hw): 7.26 Ft.

COUNTY: Clarendon
WELL DIAMETER (Dw): 0.166 Ft.

STATE: South Carolina
WELL VOLUME (Vw): 1.1834 x 3 = 3.55 Galllons
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3 gallons

DATE: 7/11/11
EMERALD PERSONNEL: Dalton Reames

Conditions: Sunny, 98°F

TIME	WELL VOLUME	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
	Initial	27.6	124.6	5.83	Cloudy, Strong Petroleum Odor
	1st	24.9	120.9	5.71	Cloudy, Strong Petroleum Odor
	2nd	23.6	106.1	5.71	Cloudy, Strong Petroleum Odor
	3rd	23.1	104.3	5.63	Cloudy, Strong Petroleum Odor
1722	Sampled				Cloudy, Strong Petroleum Odor
					DO= 3.40 mg/l @ 27.6 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-37

PROJECT: H. W. Detwiler Company
STREET: 37 South Church Street
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

SCREENED INTERVAL 15-25 Ft.
STICK-UP HEIGHT Ft.
DEPTH TO WATER: 19.68 Ft.
WATER HEIGHT (Hw): 5.32 Ft.
WELL DIAMETER (Dw): 0.166 Ft.
WELL VOLUME (Vw): 0.8672 x 3 = 2.60 Galllons
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 2.75 gallons

DATE: 7/13/11
EMERALD PERSONNEL: Dalton Reames

Conditions: Sunny, 98°F

TIME	WELL VOLUME	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
	Initial	27.1	111.7	5.60	Cloudy, Strong Petroleum Odor
	1st	23.4	100.6	5.57	Cloudy, Strong Petroleum Odor
	2nd	23.2	100.1	5.58	Cloudy, Strong Petroleum Odor
	3rd	23.0	99.8	5.56	Cloudy, Strong Petroleum Odor
1240	Sampled				Cloudy, Strong Petroleum Odor
					DO= 4.96 mg/l @ 27.1 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-38

PROJECT: H. W. Detwiler Company
STREET: 37 South Church Street
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina

SCREENED INTERVAL: 15-25 Ft.
STICK-UP HEIGHT: Ft.
DEPTH TO WATER: 18.20 Ft.
WATER HEIGHT (Hw): 6.80 Ft.
WELL DIAMETER (Dw): 0.166 Ft.
WELL VOLUME (Vw): 1.1084 x 3 = 3.33 Galllons
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: gallons

DATE: 7/11/11
EMERALD PERSONNEL: Thomas Covington

Conditions: Sunny, 98°F

TIME	WELL VOLUME	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
	Initial				Well not purged due to product sheen
	1st				
	2nd				
	3rd				
1654	Sampled				
					DO= mg/l @ 0.0 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-41

PROJECT: H. W. Detwiler Company
SCREENED INTERVAL 15-25 Ft.
STICK-UP HEIGHT Ft.

STREET: 37 South Church Street
DEPTH TO WATER: 18.73 Ft.

CITY: Summerton
WATER HEIGHT (Hw): 6.27 Ft.

COUNTY: Clarendon
WELL DIAMETER (Dw): 0.166 Ft.

STATE: South Carolina
WELL VOLUME (Vw): 1.022 x 3 = 3.07 Galllons
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: gallons

DATE: 7/11/11
EMERALD PERSONNEL: Thomas Covington

Conditions: Sunny, 98°F

TIME	WELL VOLUME	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
	Initial				Well not purged due to product sheen
	1st				
	2nd				
	3rd				
1455	Sampled				
					DO= mg/l @ 0.0 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-42

PROJECT: H. W. Detwiler Company
SCREENED INTERVAL 15-25 Ft.
STICK-UP HEIGHT Ft.

STREET: 37 South Church Street
DEPTH TO WATER: 19.11 Ft.

CITY: Summerton
WATER HEIGHT (Hw): 5.89 Ft.

COUNTY: Clarendon
WELL DIAMETER (Dw): 0.166 Ft.

STATE: South Carolina
WELL VOLUME (Vw): 0.9601 x 3 = 2.88 Galllons
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3 gallons

DATE: 7/11/11
EMERALD PERSONNEL: Dalton Reames

Conditions: Sunny, 98°F

TIME	WELL VOLUME	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
	Initial	NT	NT	NT	Cloudy, Strong Petroleum Odor
	1st	26.9	87.7	5.11	Cloudy, Strong Petroleum Odor
	2nd	26.8	88.0	5.10	Cloudy, Strong Petroleum Odor
	3rd	26.9	87.9	5.10	Cloudy, Strong Petroleum Odor
1420	Sampled				Cloudy, Strong Petroleum Odor
					DO= 0.50 mg/l @ NT °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-44

PROJECT: H. W. Detwiler Company
STREET: 37 South Church Street
CITY: Summerton
COUNTY: Clarendon
STATE: South Carolina
DATE: 7/11/11

SCREENED INTERVAL 15-25 Ft.
STICK-UP HEIGHT Ft.
DEPTH TO WATER: 18.70 Ft.
WATER HEIGHT (Hw): 6.30 Ft.
WELL DIAMETER (Dw): 0.166 Ft.
WELL VOLUME (Vw): 1.0269 x 3 = 3.08 Galllons
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)
PURGE VOLUME: 1.5 gallons
EMERALD PERSONNEL: Thomas Covington

Conditions: Sunny, 98°F

TIME	WELL VOLUME	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
	Initial				Well not purged prior to sample collection
	1st				
	2nd				
	3rd				
1644	Sampled				Cloudy, Strong Petroleum Odor
					DO= 4.14 mg/l @ 27.0 °C

EMERALD, INC.

GROUNDWATER MONITORING WELL PURGE LOG

WELL NUMBER - MW-45

PROJECT: H. W. Detwiler Company
SCREENED INTERVAL 15-25 Ft.
STICK-UP HEIGHT Ft.

STREET: 37 South Church Street
DEPTH TO WATER: 18.33 Ft.

CITY: Summerton
WATER HEIGHT (Hw): 6.67 Ft.

COUNTY: Clarendon
WELL DIAMETER (Dw): 0.166 Ft.

STATE: South Carolina
WELL VOLUME (Vw): 1.0872 x 3 = 3.26 Galllons
Vw = (Hw) (Dw^2) (7.5 gal/ft^3) (0.785)

PURGE VOLUME: 3 gallons

DATE: 7/11/11
EMERALD PERSONNEL: Dalton Reames

Conditions: Sunny, 98°F

TIME	WELL VOLUME	TEMP. (°C)	CONDUCTIVITY (us/cm)	pH (STU)	NOTES
	Initial	27.3	600	5.65	Cloudy, Strong Petroleum Odor
	1st	24.0	353	5.53	Cloudy, Strong Petroleum Odor
	2nd	23.6	340	5.52	Cloudy, Strong Petroleum Odor
	3rd	23.5	331	5.49	Cloudy, Strong Petroleum Odor
1745	Sampled				Cloudy, Strong Petroleum Odor
					DO= 4.44 mg/l @ 27.3 °C

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July 26, 2011

Mr. Ronny Lowder
Emerald, Inc.
2520 Tahoe Drive
Sumter, SC 29150

RE: Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Dear Mr. Lowder:
Enclosed are the analytical results for sample(s) received by the laboratory on July 14, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Renee Spencer

Renee Spencer

renee.spencer@pacelabs.com
Project Manager

Enclosures

cc: Ms. Robbin Brown, Emerald, Inc.

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CERTIFICATIONS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
South Carolina Drinking Water Cert. #: 99006003
Virginia Drinking Water Certification #: 00213
Connecticut Certification #: PH-0104
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Louisiana DHH Drinking Water # LA 100031
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460144

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SAMPLE SUMMARY

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9298302001	MW-2D	Water	07/13/11 12:10	07/14/11 15:45
9298302002	MW-3	Water	07/13/11 09:35	07/14/11 15:45
9298302003	MW-4	Water	07/13/11 10:10	07/14/11 15:45
9298302004	MW-6	Water	07/11/11 16:55	07/14/11 15:45
9298302005	MW-7	Water	07/11/11 12:57	07/14/11 15:45
9298302006	MW-8	Water	07/11/11 10:55	07/14/11 15:45
9298302007	MW-9	Water	07/11/11 10:25	07/14/11 15:45
9298302008	MW-10	Water	07/11/11 11:20	07/14/11 15:45
9298302009	MW-11	Water	07/11/11 14:30	07/14/11 15:45
9298302010	MW-12	Water	07/13/11 10:30	07/14/11 15:45
9298302012	MW-14	Water	07/11/11 12:30	07/14/11 15:45
9298302013	MW-16D	Water	07/13/11 11:30	07/14/11 15:45
9298302014	MW-19	Water	07/11/11 13:05	07/14/11 15:45
9298302015	MW-20	Water	07/11/11 10:35	07/14/11 15:45
9298302016	MW-21	Water	07/11/11 11:25	07/14/11 15:45
9298302017	MW-22	Water	07/11/11 11:43	07/14/11 15:45
9298302018	MW-24	Water	07/11/11 15:46	07/14/11 15:45
9298302019	MW-25	Water	07/11/11 17:15	07/14/11 15:45
9298302020	MW-26	Water	07/11/11 12:15	07/14/11 15:45
9298302021	MW-27	Water	07/11/11 13:50	07/14/11 15:45
9298302022	MW-29	Water	07/13/11 09:50	07/14/11 15:45
9298302023	MW-30	Water	07/11/11 15:23	07/14/11 15:45
9298302024	MW-31	Water	07/11/11 13:45	07/14/11 15:45
9298302025	MW-32	Water	07/11/11 09:27	07/14/11 15:45
9298302026	MW-33	Water	07/11/11 12:45	07/14/11 15:45
9298302027	MW-34D	Water	07/11/11 12:09	07/14/11 15:45
9298302028	MW-35i	Water	07/11/11 09:32	07/14/11 15:45
9298302029	MW-36	Water	07/11/11 17:22	07/14/11 15:45
9298302030	MW-37	Water	07/13/11 12:40	07/14/11 15:45
9298302031	MW-38	Water	07/11/11 16:54	07/14/11 15:45
9298302032	MW-41	Water	07/11/11 14:55	07/14/11 15:45
9298302033	MW-42	Water	07/11/11 14:20	07/14/11 15:45
9298302034	MW-44	Water	07/11/11 16:44	07/14/11 15:45
9298302035	MW-45	Water	07/11/11 17:45	07/14/11 15:45
9298302036	WSW-2	Water	07/13/11 14:30	07/14/11 15:45
9298302037	WSW-3	Water	07/11/11 09:10	07/14/11 15:45
9298302038	WSW-4	Water	07/11/11 09:00	07/14/11 15:45

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SAMPLE SUMMARY

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9298302039	**CS-1**	Water	07/11/11 10:45	07/14/11 15:45
9298302040	**CS-2**	Water	07/11/11 10:35	07/14/11 15:45

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SAMPLE ANALYTE COUNT

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9298302001	MW-2D	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302002	MW-3	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302003	MW-4	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302004	MW-6	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302005	MW-7	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302006	MW-8	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302007	MW-9	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302008	MW-10	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302009	MW-11	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302010	MW-12	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302012	MW-14	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302013	MW-16D	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302014	MW-19	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302015	MW-20	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302016	MW-21	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302017	MW-22	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302018	MW-24	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302019	MW-25	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302020	MW-26	EPA 8011	RES	2	PASI-C

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SAMPLE ANALYTE COUNT

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260	TLS	21	PASI-C
9298302021	MW-27	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302022	MW-29	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302023	MW-30	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302024	MW-31	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302025	MW-32	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302026	MW-33	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302027	MW-34D	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302028	MW-35i	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302029	MW-36	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302030	MW-37	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302031	MW-38	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302032	MW-41	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302033	MW-42	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302034	MW-44	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302035	MW-45	EPA 8011	RES	2	PASI-C
		EPA 8260	TLS	21	PASI-C
9298302036	WSW-2	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	21	PASI-C
9298302037	WSW-3	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	21	PASI-C
9298302038	WSW-4	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	21	PASI-C

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SAMPLE ANALYTE COUNT

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9298302039	**CS-1**	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	21	PASI-C
9298302040	**CS-2**	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	21	PASI-C

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-2D **Lab ID: 9298302001** Collected: 07/13/11 12:10 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/19/11 12:20	07/20/11 02:06	106-93-4	
1-Chloro-2-bromopropane (S)	109	%	60-140		1	07/19/11 12:20	07/20/11 02:06	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		07/18/11 23:22	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/18/11 23:22	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		07/18/11 23:22	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/18/11 23:22	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/18/11 23:22	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/18/11 23:22	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		07/18/11 23:22	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		07/18/11 23:22	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/18/11 23:22	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		07/18/11 23:22	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/18/11 23:22	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		07/18/11 23:22	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		07/18/11 23:22	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		07/18/11 23:22	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		07/18/11 23:22	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		07/18/11 23:22	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		07/18/11 23:22	95-47-6	
Dibromofluoromethane (S)	101	%	70-130		1		07/18/11 23:22	1868-53-7	
Toluene-d8 (S)	93	%	70-130		1		07/18/11 23:22	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130		1		07/18/11 23:22	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		07/18/11 23:22	17060-07-0	

Sample: MW-3 **Lab ID: 9298302002** Collected: 07/13/11 09:35 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/19/11 12:21	07/20/11 02:27	106-93-4	
1-Chloro-2-bromopropane (S)	96	%	60-140		1	07/19/11 12:21	07/20/11 02:27	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		07/18/11 23:41	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/18/11 23:41	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		07/18/11 23:41	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/18/11 23:41	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/18/11 23:41	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/18/11 23:41	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		07/18/11 23:41	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		07/18/11 23:41	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/18/11 23:41	64-17-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-3 **Lab ID: 9298302002** Collected: 07/13/11 09:35 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
Ethylbenzene	ND	ug/L	5.0	1.6	1		07/18/11 23:41	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/18/11 23:41	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		07/18/11 23:41	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		07/18/11 23:41	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		07/18/11 23:41	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		07/18/11 23:41	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		07/18/11 23:41	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		07/18/11 23:41	95-47-6	
Dibromofluoromethane (S)	103	%	70-130		1		07/18/11 23:41	1868-53-7	
Toluene-d8 (S)	93	%	70-130		1		07/18/11 23:41	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130		1		07/18/11 23:41	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		07/18/11 23:41	17060-07-0	

Sample: MW-4 **Lab ID: 9298302003** Collected: 07/13/11 10:10 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**4.8**	ug/L	0.10	0.10	5	07/19/11 12:21	07/20/11 10:05	106-93-4	
1-Chloro-2-bromopropane (S)	0	%	60-140		5	07/19/11 12:21	07/20/11 10:05	301-79-56	S4
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**1460**	ug/L	100	76.8	1		07/18/11 23:59	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/18/11 23:59	994-05-8	
Benzene	**688**	ug/L	50.0	17.0	10		07/19/11 13:36	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/18/11 23:59	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/18/11 23:59	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/18/11 23:59	762-75-4	
1,2-Dichloroethane	**18.2**	ug/L	5.0	1.8	1		07/18/11 23:59	107-06-2	
Diisopropyl ether	**26.7**	ug/L	5.0	1.7	1		07/18/11 23:59	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/18/11 23:59	64-17-5	
Ethylbenzene	**129**	ug/L	5.0	1.6	1		07/18/11 23:59	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/18/11 23:59	637-92-3	
Methyl-tert-butyl ether	**26.1**	ug/L	5.0	1.7	1		07/18/11 23:59	1634-04-4	
Naphthalene	**52.6**	ug/L	5.0	2.0	1		07/18/11 23:59	91-20-3	
Toluene	**184**	ug/L	50.0	16.0	10		07/19/11 13:36	108-88-3	
Xylene (Total)	**283**	ug/L	10.0	2.7	1		07/18/11 23:59	1330-20-7	
m&p-Xylene	**201**	ug/L	10.0	3.1	1		07/18/11 23:59	179601-23-1	
o-Xylene	**81.9**	ug/L	5.0	1.6	1		07/18/11 23:59	95-47-6	
Dibromofluoromethane (S)	98	%	70-130		1		07/18/11 23:59	1868-53-7	
Toluene-d8 (S)	94	%	70-130		1		07/18/11 23:59	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130		1		07/18/11 23:59	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		1		07/18/11 23:59	17060-07-0	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-6 **Lab ID: 9298302004** Collected: 07/11/11 16:55 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/19/11 12:21	07/20/11 03:08	106-93-4	
1-Chloro-2-bromopropane (S)	104	%	60-140		1	07/19/11 12:21	07/20/11 03:08	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		07/19/11 00:18	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/19/11 00:18	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		07/19/11 00:18	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/19/11 00:18	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/19/11 00:18	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/19/11 00:18	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		07/19/11 00:18	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		07/19/11 00:18	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/19/11 00:18	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		07/19/11 00:18	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/19/11 00:18	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		07/19/11 00:18	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		07/19/11 00:18	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		07/19/11 00:18	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		07/19/11 00:18	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		07/19/11 00:18	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		07/19/11 00:18	95-47-6	
Dibromofluoromethane (S)	97	%	70-130		1		07/19/11 00:18	1868-53-7	
Toluene-d8 (S)	93	%	70-130		1		07/19/11 00:18	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130		1		07/19/11 00:18	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130		1		07/19/11 00:18	17060-07-0	

Sample: MW-7 **Lab ID: 9298302005** Collected: 07/11/11 12:57 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/19/11 12:21	07/20/11 03:28	106-93-4	
1-Chloro-2-bromopropane (S)	102	%	60-140		1	07/19/11 12:21	07/20/11 03:28	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		07/19/11 00:36	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/19/11 00:36	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		07/19/11 00:36	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/19/11 00:36	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/19/11 00:36	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/19/11 00:36	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		07/19/11 00:36	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		07/19/11 00:36	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/19/11 00:36	64-17-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-7 **Lab ID: 9298302005** Collected: 07/11/11 12:57 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
Ethylbenzene	ND	ug/L	5.0	1.6	1		07/19/11 00:36	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/19/11 00:36	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		07/19/11 00:36	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		07/19/11 00:36	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		07/19/11 00:36	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		07/19/11 00:36	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		07/19/11 00:36	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		07/19/11 00:36	95-47-6	
Dibromofluoromethane (S)	99	%	70-130		1		07/19/11 00:36	1868-53-7	
Toluene-d8 (S)	94	%	70-130		1		07/19/11 00:36	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130		1		07/19/11 00:36	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		07/19/11 00:36	17060-07-0	

Sample: MW-8 **Lab ID: 9298302006** Collected: 07/11/11 10:55 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/19/11 12:21	07/20/11 03:49	106-93-4	
1-Chloro-2-bromopropane (S)	107	%	60-140		1	07/19/11 12:21	07/20/11 03:49	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		07/19/11 00:55	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/19/11 00:55	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		07/19/11 00:55	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/19/11 00:55	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/19/11 00:55	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/19/11 00:55	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		07/19/11 00:55	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		07/19/11 00:55	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/19/11 00:55	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		07/19/11 00:55	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/19/11 00:55	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		07/19/11 00:55	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		07/19/11 00:55	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		07/19/11 00:55	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		07/19/11 00:55	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		07/19/11 00:55	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		07/19/11 00:55	95-47-6	
Dibromofluoromethane (S)	99	%	70-130		1		07/19/11 00:55	1868-53-7	
Toluene-d8 (S)	94	%	70-130		1		07/19/11 00:55	2037-26-5	
4-Bromofluorobenzene (S)	97	%	70-130		1		07/19/11 00:55	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		07/19/11 00:55	17060-07-0	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-9 **Lab ID: 9298302007** Collected: 07/11/11 10:25 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/19/11 12:21	07/20/11 04:09	106-93-4	
1-Chloro-2-bromopropane (S)	105	%	60-140		1	07/19/11 12:21	07/20/11 04:09	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		07/19/11 01:14	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/19/11 01:14	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		07/19/11 01:14	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/19/11 01:14	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/19/11 01:14	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/19/11 01:14	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		07/19/11 01:14	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		07/19/11 01:14	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/19/11 01:14	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		07/19/11 01:14	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/19/11 01:14	637-92-3	
Methyl-tert-butyl ether	**1.9J**	ug/L	5.0	1.7	1		07/19/11 01:14	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		07/19/11 01:14	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		07/19/11 01:14	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		07/19/11 01:14	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		07/19/11 01:14	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		07/19/11 01:14	95-47-6	
Dibromofluoromethane (S)	98	%	70-130		1		07/19/11 01:14	1868-53-7	
Toluene-d8 (S)	93	%	70-130		1		07/19/11 01:14	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-130		1		07/19/11 01:14	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		07/19/11 01:14	17060-07-0	

Sample: MW-10 **Lab ID: 9298302008** Collected: 07/11/11 11:20 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/19/11 12:22	07/20/11 04:30	106-93-4	
1-Chloro-2-bromopropane (S)	108	%	60-140		1	07/19/11 12:22	07/20/11 04:30	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**1960**	ug/L	100	76.8	1		07/19/11 01:32	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/19/11 01:32	994-05-8	
Benzene	**777**	ug/L	25.0	8.5	5		07/19/11 13:55	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/19/11 01:32	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/19/11 01:32	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/19/11 01:32	762-75-4	
1,2-Dichloroethane	**12.0**	ug/L	5.0	1.8	1		07/19/11 01:32	107-06-2	
Diisopropyl ether	**15.3**	ug/L	5.0	1.7	1		07/19/11 01:32	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/19/11 01:32	64-17-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-10 **Lab ID: 9298302008** Collected: 07/11/11 11:20 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
Ethylbenzene	**14.7**	ug/L	5.0	1.6	1		07/19/11 01:32	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/19/11 01:32	637-92-3	
Methyl-tert-butyl ether	**54.4**	ug/L	5.0	1.7	1		07/19/11 01:32	1634-04-4	
Naphthalene	**6.3**	ug/L	5.0	2.0	1		07/19/11 01:32	91-20-3	
Toluene	**5.0**	ug/L	5.0	1.6	1		07/19/11 01:32	108-88-3	
Xylene (Total)	**8.3J**	ug/L	10.0	2.7	1		07/19/11 01:32	1330-20-7	
m&p-Xylene	**4.8J**	ug/L	10.0	3.1	1		07/19/11 01:32	179601-23-1	
o-Xylene	**3.5J**	ug/L	5.0	1.6	1		07/19/11 01:32	95-47-6	
Dibromofluoromethane (S)	101	%	70-130		1		07/19/11 01:32	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		07/19/11 01:32	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130		1		07/19/11 01:32	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		07/19/11 01:32	17060-07-0	

Sample: MW-11 **Lab ID: 9298302009** Collected: 07/11/11 14:30 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/19/11 12:22	07/20/11 04:50	106-93-4	
1-Chloro-2-bromopropane (S)	105	%	60-140		1	07/19/11 12:22	07/20/11 04:50	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**128**	ug/L	100	76.8	1		07/19/11 15:47	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/19/11 15:47	994-05-8	
Benzene	**72.9**	ug/L	5.0	1.7	1		07/19/11 15:47	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/19/11 15:47	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/19/11 15:47	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/19/11 15:47	762-75-4	
1,2-Dichloroethane	**2.7J**	ug/L	5.0	1.8	1		07/19/11 15:47	107-06-2	
Diisopropyl ether	**2.6J**	ug/L	5.0	1.7	1		07/19/11 15:47	108-20-3	
Ethanol	**281**	ug/L	200	138	1		07/19/11 15:47	64-17-5	
Ethylbenzene	**8.9**	ug/L	5.0	1.6	1		07/19/11 15:47	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/19/11 15:47	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		07/19/11 15:47	1634-04-4	
Naphthalene	**4.3J**	ug/L	5.0	2.0	1		07/19/11 15:47	91-20-3	
Toluene	**20.6**	ug/L	5.0	1.6	1		07/19/11 15:47	108-88-3	
Xylene (Total)	**18.7**	ug/L	10.0	2.7	1		07/19/11 15:47	1330-20-7	
m&p-Xylene	**13.2**	ug/L	10.0	3.1	1		07/19/11 15:47	179601-23-1	
o-Xylene	**5.4**	ug/L	5.0	1.6	1		07/19/11 15:47	95-47-6	
Dibromofluoromethane (S)	104	%	70-130		1		07/19/11 15:47	1868-53-7	
Toluene-d8 (S)	93	%	70-130		1		07/19/11 15:47	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		1		07/19/11 15:47	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		07/19/11 15:47	17060-07-0	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-12 **Lab ID: 9298302010** Collected: 07/13/11 10:30 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/19/11 12:22	07/20/11 05:10	106-93-4	
1-Chloro-2-bromopropane (S)	101	%	60-140		1	07/19/11 12:22	07/20/11 05:10	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		07/19/11 02:09	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/19/11 02:09	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		07/19/11 02:09	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/19/11 02:09	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/19/11 02:09	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/19/11 02:09	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		07/19/11 02:09	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		07/19/11 02:09	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/19/11 02:09	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		07/19/11 02:09	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/19/11 02:09	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		07/19/11 02:09	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		07/19/11 02:09	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		07/19/11 02:09	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		07/19/11 02:09	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		07/19/11 02:09	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		07/19/11 02:09	95-47-6	
Dibromofluoromethane (S)	102	%	70-130		1		07/19/11 02:09	1868-53-7	
Toluene-d8 (S)	94	%	70-130		1		07/19/11 02:09	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130		1		07/19/11 02:09	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		07/19/11 02:09	17060-07-0	

Sample: MW-14 **Lab ID: 9298302012** Collected: 07/11/11 12:30 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/19/11 12:22	07/20/11 05:31	106-93-4	
1-Chloro-2-bromopropane (S)	105	%	60-140		1	07/19/11 12:22	07/20/11 05:31	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**333**	ug/L	100	76.8	1		07/19/11 02:28	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/19/11 02:28	994-05-8	
Benzene	**323**	ug/L	50.0	17.0	10		07/21/11 17:34	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/19/11 02:28	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/19/11 02:28	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/19/11 02:28	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		07/19/11 02:28	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		07/19/11 02:28	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/19/11 02:28	64-17-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-14 **Lab ID: 9298302012** Collected: 07/11/11 12:30 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
Ethylbenzene	**78.7**	ug/L	5.0	1.6	1		07/19/11 02:28	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/19/11 02:28	637-92-3	
Methyl-tert-butyl ether	**4.5J**	ug/L	5.0	1.7	1		07/19/11 02:28	1634-04-4	
Naphthalene	**4.9J**	ug/L	5.0	2.0	1		07/19/11 02:28	91-20-3	
Toluene	**593**	ug/L	50.0	16.0	10		07/21/11 17:34	108-88-3	
Xylene (Total)	**216**	ug/L	10.0	2.7	1		07/19/11 02:28	1330-20-7	
m&p-Xylene	**115**	ug/L	10.0	3.1	1		07/19/11 02:28	179601-23-1	
o-Xylene	**101**	ug/L	5.0	1.6	1		07/19/11 02:28	95-47-6	
Dibromofluoromethane (S)	100	%	70-130		1		07/19/11 02:28	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		07/19/11 02:28	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		1		07/19/11 02:28	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		07/19/11 02:28	17060-07-0	

Sample: MW-16D **Lab ID: 9298302013** Collected: 07/13/11 11:30 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/19/11 12:22	07/20/11 05:51	106-93-4	
1-Chloro-2-bromopropane (S)	109	%	60-140		1	07/19/11 12:22	07/20/11 05:51	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		07/19/11 02:46	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/19/11 02:46	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		07/19/11 02:46	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/19/11 02:46	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/19/11 02:46	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/19/11 02:46	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		07/19/11 02:46	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		07/19/11 02:46	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/19/11 02:46	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		07/19/11 02:46	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/19/11 02:46	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		07/19/11 02:46	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		07/19/11 02:46	91-20-3	
Toluene	**1.7J**	ug/L	5.0	1.6	1		07/19/11 02:46	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		07/19/11 02:46	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		07/19/11 02:46	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		07/19/11 02:46	95-47-6	
Dibromofluoromethane (S)	102	%	70-130		1		07/19/11 02:46	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		07/19/11 02:46	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130		1		07/19/11 02:46	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		07/19/11 02:46	17060-07-0	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-19 **Lab ID: 9298302014** Collected: 07/11/11 13:05 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/19/11 12:22	07/20/11 06:12	106-93-4	
1-Chloro-2-bromopropane (S)	103	%	60-140		1	07/19/11 12:22	07/20/11 06:12	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		07/19/11 03:05	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/19/11 03:05	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		07/19/11 03:05	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/19/11 03:05	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/19/11 03:05	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/19/11 03:05	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		07/19/11 03:05	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		07/19/11 03:05	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/19/11 03:05	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		07/19/11 03:05	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/19/11 03:05	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		07/19/11 03:05	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		07/19/11 03:05	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		07/19/11 03:05	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		07/19/11 03:05	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		07/19/11 03:05	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		07/19/11 03:05	95-47-6	
Dibromofluoromethane (S)	99	%	70-130		1		07/19/11 03:05	1868-53-7	
Toluene-d8 (S)	93	%	70-130		1		07/19/11 03:05	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130		1		07/19/11 03:05	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		07/19/11 03:05	17060-07-0	

Sample: MW-20 **Lab ID: 9298302015** Collected: 07/11/11 10:35 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/19/11 12:23	07/20/11 06:32	106-93-4	
1-Chloro-2-bromopropane (S)	104	%	60-140		1	07/19/11 12:23	07/20/11 06:32	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		07/19/11 03:23	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/19/11 03:23	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		07/19/11 03:23	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/19/11 03:23	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/19/11 03:23	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/19/11 03:23	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		07/19/11 03:23	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		07/19/11 03:23	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/19/11 03:23	64-17-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-20 **Lab ID: 9298302015** Collected: 07/11/11 10:35 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
Ethylbenzene	ND	ug/L	5.0	1.6	1		07/19/11 03:23	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/19/11 03:23	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		07/19/11 03:23	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		07/19/11 03:23	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		07/19/11 03:23	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		07/19/11 03:23	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		07/19/11 03:23	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		07/19/11 03:23	95-47-6	
Dibromofluoromethane (S)	101	%	70-130		1		07/19/11 03:23	1868-53-7	
Toluene-d8 (S)	94	%	70-130		1		07/19/11 03:23	2037-26-5	
4-Bromofluorobenzene (S)	97	%	70-130		1		07/19/11 03:23	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		07/19/11 03:23	17060-07-0	

Sample: MW-21 **Lab ID: 9298302016** Collected: 07/11/11 11:25 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.028**	ug/L	0.020	0.020	1	07/20/11 14:22	07/20/11 17:10	106-93-4	
1-Chloro-2-bromopropane (S)	104	%	60-140		1	07/20/11 14:22	07/20/11 17:10	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		07/19/11 03:42	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/19/11 03:42	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		07/19/11 03:42	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/19/11 03:42	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/19/11 03:42	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/19/11 03:42	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		07/19/11 03:42	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		07/19/11 03:42	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/19/11 03:42	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		07/19/11 03:42	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/19/11 03:42	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		07/19/11 03:42	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		07/19/11 03:42	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		07/19/11 03:42	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		07/19/11 03:42	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		07/19/11 03:42	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		07/19/11 03:42	95-47-6	
Dibromofluoromethane (S)	105	%	70-130		1		07/19/11 03:42	1868-53-7	
Toluene-d8 (S)	94	%	70-130		1		07/19/11 03:42	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130		1		07/19/11 03:42	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		07/19/11 03:42	17060-07-0	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-22 **Lab ID: 9298302017** Collected: 07/11/11 11:43 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/20/11 14:23	07/20/11 18:13	106-93-4	
1-Chloro-2-bromopropane (S)	101	%	60-140		1	07/20/11 14:23	07/20/11 18:13	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		07/19/11 04:00	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/19/11 04:00	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		07/19/11 04:00	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/19/11 04:00	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/19/11 04:00	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/19/11 04:00	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		07/19/11 04:00	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		07/19/11 04:00	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/19/11 04:00	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		07/19/11 04:00	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/19/11 04:00	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		07/19/11 04:00	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		07/19/11 04:00	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		07/19/11 04:00	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		07/19/11 04:00	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		07/19/11 04:00	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		07/19/11 04:00	95-47-6	
Dibromofluoromethane (S)	105	%	70-130		1		07/19/11 04:00	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		07/19/11 04:00	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-130		1		07/19/11 04:00	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		07/19/11 04:00	17060-07-0	

Sample: MW-24 **Lab ID: 9298302018** Collected: 07/11/11 15:46 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**146**	ug/L	4.0	4.0	200	07/20/11 14:23	07/21/11 10:46	106-93-4	
1-Chloro-2-bromopropane (S)	0	%	60-140		200	07/20/11 14:23	07/21/11 10:46	301-79-56	S4
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	10000	7680	100		07/19/11 04:19	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1000	340	100		07/19/11 04:19	994-05-8	
Benzene	**4940**	ug/L	500	170	100		07/19/11 04:19	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	3210	100		07/19/11 04:19	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	5770	100		07/19/11 04:19	75-65-0	
tert-Butyl Formate	ND	ug/L	5000	730	100		07/19/11 04:19	762-75-4	
1,2-Dichloroethane	ND	ug/L	500	180	100		07/19/11 04:19	107-06-2	
Diisopropyl ether	ND	ug/L	500	170	100		07/19/11 04:19	108-20-3	
Ethanol	ND	ug/L	20000	13800	100		07/19/11 04:19	64-17-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-24 **Lab ID: 9298302018** Collected: 07/11/11 15:46 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
Ethylbenzene	**1080**	ug/L	500	160	100		07/19/11 04:19	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	360	100		07/19/11 04:19	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	500	170	100		07/19/11 04:19	1634-04-4	
Naphthalene	**226J**	ug/L	500	200	100		07/19/11 04:19	91-20-3	
Toluene	**10200**	ug/L	500	160	100		07/19/11 04:19	108-88-3	
Xylene (Total)	**6800**	ug/L	1000	270	100		07/19/11 04:19	1330-20-7	
m&p-Xylene	**4220**	ug/L	1000	310	100		07/19/11 04:19	179601-23-1	
o-Xylene	**2580**	ug/L	500	160	100		07/19/11 04:19	95-47-6	
Dibromofluoromethane (S)	102	%	70-130		100		07/19/11 04:19	1868-53-7	
Toluene-d8 (S)	93	%	70-130		100		07/19/11 04:19	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130		100		07/19/11 04:19	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		100		07/19/11 04:19	17060-07-0	

Sample: MW-25 **Lab ID: 9298302019** Collected: 07/11/11 17:15 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**30.9**	ug/L	0.98	0.98	50	07/20/11 14:23	07/21/11 11:07	106-93-4	
1-Chloro-2-bromopropane (S)	0	%	60-140		50	07/20/11 14:23	07/21/11 11:07	301-79-56	S4
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**5710**	ug/L	5000	3840	50		07/19/11 16:05	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	170	50		07/19/11 16:05	994-05-8	
Benzene	**4440**	ug/L	250	85.0	50		07/19/11 16:05	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	1600	50		07/19/11 16:05	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	2880	50		07/19/11 16:05	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	365	50		07/19/11 16:05	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	90.0	50		07/19/11 16:05	107-06-2	
Diisopropyl ether	ND	ug/L	250	85.0	50		07/19/11 16:05	108-20-3	
Ethanol	ND	ug/L	10000	6890	50		07/19/11 16:05	64-17-5	
Ethylbenzene	**890**	ug/L	250	80.0	50		07/19/11 16:05	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	180	50		07/19/11 16:05	637-92-3	
Methyl-tert-butyl ether	**103J**	ug/L	250	85.0	50		07/19/11 16:05	1634-04-4	
Naphthalene	**142J**	ug/L	250	100	50		07/19/11 16:05	91-20-3	
Toluene	**7500**	ug/L	250	80.0	50		07/19/11 16:05	108-88-3	
Xylene (Total)	**2740**	ug/L	500	135	50		07/19/11 16:05	1330-20-7	
m&p-Xylene	**1500**	ug/L	500	155	50		07/19/11 16:05	179601-23-1	
o-Xylene	**1240**	ug/L	250	80.0	50		07/19/11 16:05	95-47-6	
Dibromofluoromethane (S)	101	%	70-130		50		07/19/11 16:05	1868-53-7	
Toluene-d8 (S)	94	%	70-130		50		07/19/11 16:05	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		50		07/19/11 16:05	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		50		07/19/11 16:05	17060-07-0	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-26 **Lab ID: 9298302020** Collected: 07/11/11 12:15 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/20/11 14:24	07/20/11 19:38	106-93-4	
1-Chloro-2-bromopropane (S)	103	%	60-140		1	07/20/11 14:24	07/20/11 19:38	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**417**	ug/L	200	154	2		07/19/11 16:24	75-85-4	
tert-Amylmethyl ether	ND	ug/L	20.0	6.8	2		07/19/11 16:24	994-05-8	
Benzene	**257**	ug/L	10.0	3.4	2		07/19/11 16:24	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	200	64.2	2		07/19/11 16:24	624-95-3	
tert-Butyl Alcohol	ND	ug/L	200	115	2		07/19/11 16:24	75-65-0	
tert-Butyl Formate	ND	ug/L	100	14.6	2		07/19/11 16:24	762-75-4	
1,2-Dichloroethane	ND	ug/L	10.0	3.6	2		07/19/11 16:24	107-06-2	
Diisopropyl ether	ND	ug/L	10.0	3.4	2		07/19/11 16:24	108-20-3	
Ethanol	ND	ug/L	400	276	2		07/19/11 16:24	64-17-5	
Ethylbenzene	**81.3**	ug/L	10.0	3.2	2		07/19/11 16:24	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	20.0	7.2	2		07/19/11 16:24	637-92-3	
Methyl-tert-butyl ether	**7.1J**	ug/L	10.0	3.4	2		07/19/11 16:24	1634-04-4	
Naphthalene	**11.3**	ug/L	10.0	4.0	2		07/19/11 16:24	91-20-3	
Toluene	**72.7**	ug/L	10.0	3.2	2		07/19/11 16:24	108-88-3	
Xylene (Total)	**103**	ug/L	20.0	5.4	2		07/19/11 16:24	1330-20-7	
m&p-Xylene	**71.6**	ug/L	20.0	6.2	2		07/19/11 16:24	179601-23-1	
o-Xylene	**31.0**	ug/L	10.0	3.2	2		07/19/11 16:24	95-47-6	
Dibromofluoromethane (S)	101	%	70-130		2		07/19/11 16:24	1868-53-7	
Toluene-d8 (S)	94	%	70-130		2		07/19/11 16:24	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		2		07/19/11 16:24	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		2		07/19/11 16:24	17060-07-0	

Sample: MW-27 **Lab ID: 9298302021** Collected: 07/11/11 13:50 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.040**	ug/L	0.020	0.020	1	07/20/11 14:24	07/20/11 19:59	106-93-4	
1-Chloro-2-bromopropane (S)	112	%	60-140		1	07/20/11 14:24	07/20/11 19:59	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**791**	ug/L	100	76.8	1		07/19/11 16:43	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/19/11 16:43	994-05-8	
Benzene	**461**	ug/L	25.0	8.5	5		07/22/11 11:18	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/19/11 16:43	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/19/11 16:43	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/19/11 16:43	762-75-4	
1,2-Dichloroethane	**9.1**	ug/L	5.0	1.8	1		07/19/11 16:43	107-06-2	
Diisopropyl ether	**11.9**	ug/L	5.0	1.7	1		07/19/11 16:43	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/19/11 16:43	64-17-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-27 **Lab ID: 9298302021** Collected: 07/11/11 13:50 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
Ethylbenzene	**11.8**	ug/L	5.0	1.6	1		07/19/11 16:43	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/19/11 16:43	637-92-3	
Methyl-tert-butyl ether	**12.3**	ug/L	5.0	1.7	1		07/19/11 16:43	1634-04-4	
Naphthalene	**8.7**	ug/L	5.0	2.0	1		07/19/11 16:43	91-20-3	
Toluene	**3.8J**	ug/L	5.0	1.6	1		07/19/11 16:43	108-88-3	
Xylene (Total)	**23.4**	ug/L	10.0	2.7	1		07/19/11 16:43	1330-20-7	
m&p-Xylene	**8.3J**	ug/L	10.0	3.1	1		07/19/11 16:43	179601-23-1	
o-Xylene	**15.1**	ug/L	5.0	1.6	1		07/19/11 16:43	95-47-6	
Dibromofluoromethane (S)	101	%	70-130		1		07/19/11 16:43	1868-53-7	
Toluene-d8 (S)	94	%	70-130		1		07/19/11 16:43	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		1		07/19/11 16:43	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		07/19/11 16:43	17060-07-0	

Sample: MW-29 **Lab ID: 9298302022** Collected: 07/13/11 09:50 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/20/11 14:24	07/20/11 20:20	106-93-4	
1-Chloro-2-bromopropane (S)	98	%	60-140		1	07/20/11 14:24	07/20/11 20:20	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		07/19/11 17:01	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/19/11 17:01	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		07/19/11 17:01	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/19/11 17:01	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/19/11 17:01	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/19/11 17:01	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		07/19/11 17:01	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		07/19/11 17:01	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/19/11 17:01	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		07/19/11 17:01	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/19/11 17:01	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		07/19/11 17:01	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		07/19/11 17:01	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		07/19/11 17:01	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		07/19/11 17:01	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		07/19/11 17:01	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		07/19/11 17:01	95-47-6	
Dibromofluoromethane (S)	102	%	70-130		1		07/19/11 17:01	1868-53-7	
Toluene-d8 (S)	93	%	70-130		1		07/19/11 17:01	2037-26-5	
4-Bromofluorobenzene (S)	94	%	70-130		1		07/19/11 17:01	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		07/19/11 17:01	17060-07-0	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-30 **Lab ID: 9298302023** Collected: 07/11/11 15:23 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/20/11 14:24	07/20/11 20:41	106-93-4	
1-Chloro-2-bromopropane (S)	102	%	60-140		1	07/20/11 14:24	07/20/11 20:41	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		07/19/11 17:20	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/19/11 17:20	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		07/19/11 17:20	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/19/11 17:20	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/19/11 17:20	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/19/11 17:20	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		07/19/11 17:20	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		07/19/11 17:20	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/19/11 17:20	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		07/19/11 17:20	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/19/11 17:20	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		07/19/11 17:20	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		07/19/11 17:20	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		07/19/11 17:20	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		07/19/11 17:20	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		07/19/11 17:20	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		07/19/11 17:20	95-47-6	
Dibromofluoromethane (S)	105	%	70-130		1		07/19/11 17:20	1868-53-7	
Toluene-d8 (S)	93	%	70-130		1		07/19/11 17:20	2037-26-5	
4-Bromofluorobenzene (S)	97	%	70-130		1		07/19/11 17:20	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		07/19/11 17:20	17060-07-0	

Sample: MW-31 **Lab ID: 9298302024** Collected: 07/11/11 13:45 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.080**	ug/L	0.020	0.020	1	07/20/11 14:24	07/20/11 21:02	106-93-4	
1-Chloro-2-bromopropane (S)	108	%	60-140		1	07/20/11 14:24	07/20/11 21:02	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		07/19/11 17:39	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/19/11 17:39	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		07/19/11 17:39	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/19/11 17:39	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/19/11 17:39	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/19/11 17:39	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		07/19/11 17:39	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		07/19/11 17:39	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/19/11 17:39	64-17-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-31 **Lab ID: 9298302024** Collected: 07/11/11 13:45 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
Ethylbenzene	ND	ug/L	5.0	1.6	1		07/19/11 17:39	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/19/11 17:39	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		07/19/11 17:39	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		07/19/11 17:39	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		07/19/11 17:39	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		07/19/11 17:39	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		07/19/11 17:39	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		07/19/11 17:39	95-47-6	
Dibromofluoromethane (S)	103	%	70-130		1		07/19/11 17:39	1868-53-7	
Toluene-d8 (S)	93	%	70-130		1		07/19/11 17:39	2037-26-5	
4-Bromofluorobenzene (S)	97	%	70-130		1		07/19/11 17:39	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		07/19/11 17:39	17060-07-0	

Sample: MW-32 **Lab ID: 9298302025** Collected: 07/11/11 09:27 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/20/11 14:25	07/20/11 21:22	106-93-4	
1-Chloro-2-bromopropane (S)	103	%	60-140		1	07/20/11 14:25	07/20/11 21:22	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		07/19/11 17:57	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/19/11 17:57	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		07/19/11 17:57	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/19/11 17:57	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/19/11 17:57	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/19/11 17:57	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		07/19/11 17:57	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		07/19/11 17:57	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/19/11 17:57	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		07/19/11 17:57	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/19/11 17:57	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		07/19/11 17:57	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		07/19/11 17:57	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		07/19/11 17:57	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		07/19/11 17:57	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		07/19/11 17:57	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		07/19/11 17:57	95-47-6	
Dibromofluoromethane (S)	105	%	70-130		1		07/19/11 17:57	1868-53-7	
Toluene-d8 (S)	92	%	70-130		1		07/19/11 17:57	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-130		1		07/19/11 17:57	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		07/19/11 17:57	17060-07-0	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-33 **Lab ID: 9298302026** Collected: 07/11/11 12:45 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/20/11 14:25	07/20/11 21:43	106-93-4	
1-Chloro-2-bromopropane (S)	104	%	60-140		1	07/20/11 14:25	07/20/11 21:43	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		07/24/11 22:39	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/24/11 22:39	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		07/24/11 22:39	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/24/11 22:39	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/24/11 22:39	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/24/11 22:39	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		07/24/11 22:39	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		07/24/11 22:39	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/24/11 22:39	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		07/24/11 22:39	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/24/11 22:39	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		07/24/11 22:39	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		07/24/11 22:39	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		07/24/11 22:39	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		07/24/11 22:39	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		07/24/11 22:39	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		07/24/11 22:39	95-47-6	
Dibromofluoromethane (S)	96	%	70-130		1		07/24/11 22:39	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		07/24/11 22:39	2037-26-5	
4-Bromofluorobenzene (S)	94	%	70-130		1		07/24/11 22:39	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		07/24/11 22:39	17060-07-0	

Sample: MW-34D **Lab ID: 9298302027** Collected: 07/11/11 12:09 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/20/11 14:27	07/20/11 22:04	106-93-4	
1-Chloro-2-bromopropane (S)	101	%	60-140		1	07/20/11 14:27	07/20/11 22:04	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		07/19/11 18:35	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/19/11 18:35	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		07/19/11 18:35	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/19/11 18:35	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/19/11 18:35	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/19/11 18:35	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		07/19/11 18:35	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		07/19/11 18:35	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/19/11 18:35	64-17-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-34D **Lab ID: 9298302027** Collected: 07/11/11 12:09 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
Ethylbenzene	ND	ug/L	5.0	1.6	1		07/19/11 18:35	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/19/11 18:35	637-92-3	
Methyl-tert-butyl ether	**2.0J**	ug/L	5.0	1.7	1		07/19/11 18:35	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		07/19/11 18:35	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		07/19/11 18:35	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		07/19/11 18:35	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		07/19/11 18:35	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		07/19/11 18:35	95-47-6	
Dibromofluoromethane (S)	105	%	70-130		1		07/19/11 18:35	1868-53-7	
Toluene-d8 (S)	92	%	70-130		1		07/19/11 18:35	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130		1		07/19/11 18:35	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		07/19/11 18:35	17060-07-0	

Sample: MW-35i **Lab ID: 9298302028** Collected: 07/11/11 09:32 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/20/11 14:27	07/20/11 22:24	106-93-4	
1-Chloro-2-bromopropane (S)	98	%	60-140		1	07/20/11 14:27	07/20/11 22:24	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		07/19/11 18:53	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		07/19/11 18:53	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		07/19/11 18:53	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		07/19/11 18:53	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		07/19/11 18:53	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		07/19/11 18:53	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		07/19/11 18:53	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		07/19/11 18:53	108-20-3	
Ethanol	ND	ug/L	200	138	1		07/19/11 18:53	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		07/19/11 18:53	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		07/19/11 18:53	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		07/19/11 18:53	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		07/19/11 18:53	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		07/19/11 18:53	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		07/19/11 18:53	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		07/19/11 18:53	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		07/19/11 18:53	95-47-6	
Dibromofluoromethane (S)	103	%	70-130		1		07/19/11 18:53	1868-53-7	
Toluene-d8 (S)	92	%	70-130		1		07/19/11 18:53	2037-26-5	
4-Bromofluorobenzene (S)	97	%	70-130		1		07/19/11 18:53	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		07/19/11 18:53	17060-07-0	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-36 **Lab ID: 9298302029** Collected: 07/11/11 17:22 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**14.1**	ug/L	0.41	0.41	20	07/20/11 14:27	07/21/11 11:28	106-93-4	
1-Chloro-2-bromopropane (S)	0	%	60-140		20	07/20/11 14:27	07/21/11 11:28	301-79-56	S4
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**2600**	ug/L	2000	1540	20		07/25/11 18:52	75-85-4	
tert-Amylmethyl ether	ND	ug/L	200	68.0	20		07/25/11 18:52	994-05-8	
Benzene	**2130**	ug/L	100	34.0	20		07/25/11 18:52	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2000	642	20		07/25/11 18:52	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2000	1150	20		07/25/11 18:52	75-65-0	
tert-Butyl Formate	ND	ug/L	1000	146	20		07/25/11 18:52	762-75-4	
1,2-Dichloroethane	ND	ug/L	100	36.0	20		07/25/11 18:52	107-06-2	
Diisopropyl ether	**45.2J**	ug/L	100	34.0	20		07/25/11 18:52	108-20-3	
Ethanol	ND	ug/L	4000	2760	20		07/25/11 18:52	64-17-5	
Ethylbenzene	**527**	ug/L	100	32.0	20		07/25/11 18:52	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	200	72.0	20		07/25/11 18:52	637-92-3	
Methyl-tert-butyl ether	**95.1J**	ug/L	100	34.0	20		07/25/11 18:52	1634-04-4	
Naphthalene	**126**	ug/L	100	40.0	20		07/25/11 18:52	91-20-3	
Toluene	**2790**	ug/L	100	32.0	20		07/25/11 18:52	108-88-3	
Xylene (Total)	**2180**	ug/L	200	54.0	20		07/25/11 18:52	1330-20-7	
m&p-Xylene	**1410**	ug/L	200	62.0	20		07/25/11 18:52	179601-23-1	
o-Xylene	**769**	ug/L	100	32.0	20		07/25/11 18:52	95-47-6	
Dibromofluoromethane (S)	98	%	70-130		20		07/25/11 18:52	1868-53-7	
Toluene-d8 (S)	99	%	70-130		20		07/25/11 18:52	2037-26-5	
4-Bromofluorobenzene (S)	101	%	70-130		20		07/25/11 18:52	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		20		07/25/11 18:52	17060-07-0	

Sample: MW-37 **Lab ID: 9298302030** Collected: 07/13/11 12:40 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**14.5**	ug/L	0.40	0.40	20	07/20/11 14:28	07/21/11 11:49	106-93-4	
1-Chloro-2-bromopropane (S)	0	%	60-140		20	07/20/11 14:28	07/21/11 11:49	301-79-56	S4
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**7390**	ug/L	2500	1920	25		07/25/11 19:10	75-85-4	
tert-Amylmethyl ether	ND	ug/L	250	85.0	25		07/25/11 19:10	994-05-8	
Benzene	**2760**	ug/L	125	42.5	25		07/25/11 19:10	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2500	802	25		07/25/11 19:10	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2500	1440	25		07/25/11 19:10	75-65-0	
tert-Butyl Formate	ND	ug/L	1250	182	25		07/25/11 19:10	762-75-4	
1,2-Dichloroethane	**75.5J**	ug/L	125	45.0	25		07/25/11 19:10	107-06-2	
Diisopropyl ether	**87.9J**	ug/L	125	42.5	25		07/25/11 19:10	108-20-3	
Ethanol	ND	ug/L	5000	3440	25		07/25/11 19:10	64-17-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-37 **Lab ID: 9298302030** Collected: 07/13/11 12:40 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
Ethylbenzene	**409**	ug/L	125	40.0	25		07/25/11 19:10	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	250	90.0	25		07/25/11 19:10	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	125	42.5	25		07/25/11 19:10	1634-04-4	
Naphthalene	**86.4J**	ug/L	125	50.0	25		07/25/11 19:10	91-20-3	
Toluene	**1580**	ug/L	125	40.0	25		07/25/11 19:10	108-88-3	
Xylene (Total)	**808**	ug/L	250	67.5	25		07/25/11 19:10	1330-20-7	
m&p-Xylene	**567**	ug/L	250	77.5	25		07/25/11 19:10	179601-23-1	
o-Xylene	**241**	ug/L	125	40.0	25		07/25/11 19:10	95-47-6	
Dibromofluoromethane (S)	98	%	70-130		25		07/25/11 19:10	1868-53-7	
Toluene-d8 (S)	100	%	70-130		25		07/25/11 19:10	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130		25		07/25/11 19:10	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		25		07/25/11 19:10	17060-07-0	

Sample: MW-38 **Lab ID: 9298302031** Collected: 07/11/11 16:54 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**20.7**	ug/L	0.51	0.51	25	07/20/11 14:28	07/21/11 12:09	106-93-4	
1-Chloro-2-bromopropane (S)	0	%	60-140		25	07/20/11 14:28	07/21/11 12:09	301-79-56	S4
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	10000	7680	100		07/25/11 19:29	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1000	340	100		07/25/11 19:29	994-05-8	
Benzene	**2790**	ug/L	500	170	100		07/25/11 19:29	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	3210	100		07/25/11 19:29	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	5770	100		07/25/11 19:29	75-65-0	
tert-Butyl Formate	ND	ug/L	5000	730	100		07/25/11 19:29	762-75-4	
1,2-Dichloroethane	ND	ug/L	500	180	100		07/25/11 19:29	107-06-2	
Diisopropyl ether	ND	ug/L	500	170	100		07/25/11 19:29	108-20-3	
Ethanol	ND	ug/L	20000	13800	100		07/25/11 19:29	64-17-5	
Ethylbenzene	**2590**	ug/L	500	160	100		07/25/11 19:29	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	360	100		07/25/11 19:29	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	500	170	100		07/25/11 19:29	1634-04-4	
Naphthalene	**349J**	ug/L	500	200	100		07/25/11 19:29	91-20-3	
Toluene	**16700**	ug/L	500	160	100		07/25/11 19:29	108-88-3	
Xylene (Total)	**12300**	ug/L	1000	270	100		07/25/11 19:29	1330-20-7	
m&p-Xylene	**8370**	ug/L	1000	310	100		07/25/11 19:29	179601-23-1	
o-Xylene	**3980**	ug/L	500	160	100		07/25/11 19:29	95-47-6	
Dibromofluoromethane (S)	98	%	70-130		100		07/25/11 19:29	1868-53-7	
Toluene-d8 (S)	98	%	70-130		100		07/25/11 19:29	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		100		07/25/11 19:29	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		100		07/25/11 19:29	17060-07-0	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-41 **Lab ID: 9298302032** Collected: 07/11/11 14:55 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**21.8**	ug/L	0.49	0.49	25	07/20/11 14:28	07/21/11 12:30	106-93-4	
1-Chloro-2-bromopropane (S)	0	%	60-140		25	07/20/11 14:28	07/21/11 12:30	301-79-56	S4
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**13400**	ug/L	10000	7680	100		07/25/11 19:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1000	340	100		07/25/11 19:48	994-05-8	
Benzene	**7090**	ug/L	500	170	100		07/25/11 19:48	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	3210	100		07/25/11 19:48	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	5770	100		07/25/11 19:48	75-65-0	
tert-Butyl Formate	ND	ug/L	5000	730	100		07/25/11 19:48	762-75-4	
1,2-Dichloroethane	ND	ug/L	500	180	100		07/25/11 19:48	107-06-2	
Diisopropyl ether	**179J**	ug/L	500	170	100		07/25/11 19:48	108-20-3	
Ethanol	ND	ug/L	20000	13800	100		07/25/11 19:48	64-17-5	
Ethylbenzene	**1680**	ug/L	500	160	100		07/25/11 19:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	360	100		07/25/11 19:48	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	500	170	100		07/25/11 19:48	1634-04-4	
Naphthalene	**434J**	ug/L	500	200	100		07/25/11 19:48	91-20-3	
Toluene	**9700**	ug/L	500	160	100		07/25/11 19:48	108-88-3	
Xylene (Total)	**3970**	ug/L	1000	270	100		07/25/11 19:48	1330-20-7	
m&p-Xylene	**2890**	ug/L	1000	310	100		07/25/11 19:48	179601-23-1	
o-Xylene	**1070**	ug/L	500	160	100		07/25/11 19:48	95-47-6	
Dibromofluoromethane (S)	97	%	70-130		100		07/25/11 19:48	1868-53-7	
Toluene-d8 (S)	98	%	70-130		100		07/25/11 19:48	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		100		07/25/11 19:48	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		100		07/25/11 19:48	17060-07-0	

Sample: MW-42 **Lab ID: 9298302033** Collected: 07/11/11 14:20 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**1.1**	ug/L	0.040	0.040	2	07/20/11 14:28	07/21/11 12:51	106-93-4	
1-Chloro-2-bromopropane (S)	103	%	60-140		2	07/20/11 14:28	07/21/11 12:51	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**849**	ug/L	500	384	5		07/25/11 20:06	75-85-4	
tert-Amylmethyl ether	ND	ug/L	50.0	17.0	5		07/25/11 20:06	994-05-8	
Benzene	**337**	ug/L	25.0	8.5	5		07/25/11 20:06	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	500	160	5		07/25/11 20:06	624-95-3	
tert-Butyl Alcohol	ND	ug/L	500	288	5		07/25/11 20:06	75-65-0	
tert-Butyl Formate	ND	ug/L	250	36.5	5		07/25/11 20:06	762-75-4	
1,2-Dichloroethane	ND	ug/L	25.0	9.0	5		07/25/11 20:06	107-06-2	
Diisopropyl ether	ND	ug/L	25.0	8.5	5		07/25/11 20:06	108-20-3	
Ethanol	ND	ug/L	1000	689	5		07/25/11 20:06	64-17-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-42 **Lab ID: 9298302033** Collected: 07/11/11 14:20 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
Ethylbenzene	**462**	ug/L	25.0	8.0	5		07/25/11 20:06	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	50.0	18.0	5		07/25/11 20:06	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	25.0	8.5	5		07/25/11 20:06	1634-04-4	
Naphthalene	**93.8**	ug/L	25.0	10.0	5		07/25/11 20:06	91-20-3	
Toluene	**613**	ug/L	25.0	8.0	5		07/25/11 20:06	108-88-3	
Xylene (Total)	**865**	ug/L	50.0	13.5	5		07/25/11 20:06	1330-20-7	
m&p-Xylene	**492**	ug/L	50.0	15.5	5		07/25/11 20:06	179601-23-1	
o-Xylene	**373**	ug/L	25.0	8.0	5		07/25/11 20:06	95-47-6	
Dibromofluoromethane (S)	97	%	70-130		5		07/25/11 20:06	1868-53-7	
Toluene-d8 (S)	98	%	70-130		5		07/25/11 20:06	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130		5		07/25/11 20:06	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		5		07/25/11 20:06	17060-07-0	

Sample: MW-44 **Lab ID: 9298302034** Collected: 07/11/11 16:44 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**107**	ug/L	4.0	4.0	200	07/20/11 14:28	07/21/11 13:13	106-93-4	
1-Chloro-2-bromopropane (S)	0	%	60-140		200	07/20/11 14:28	07/21/11 13:13	301-79-56	S4
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**8400J**	ug/L	10000	7680	100		07/25/11 20:25	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1000	340	100		07/25/11 20:25	994-05-8	
Benzene	**4040**	ug/L	500	170	100		07/25/11 20:25	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	3210	100		07/25/11 20:25	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	5770	100		07/25/11 20:25	75-65-0	
tert-Butyl Formate	ND	ug/L	5000	730	100		07/25/11 20:25	762-75-4	
1,2-Dichloroethane	ND	ug/L	500	180	100		07/25/11 20:25	107-06-2	
Diisopropyl ether	ND	ug/L	500	170	100		07/25/11 20:25	108-20-3	
Ethanol	ND	ug/L	20000	13800	100		07/25/11 20:25	64-17-5	
Ethylbenzene	**1690**	ug/L	500	160	100		07/25/11 20:25	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	360	100		07/25/11 20:25	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	500	170	100		07/25/11 20:25	1634-04-4	
Naphthalene	**245J**	ug/L	500	200	100		07/25/11 20:25	91-20-3	
Toluene	**11800**	ug/L	500	160	100		07/25/11 20:25	108-88-3	
Xylene (Total)	**7260**	ug/L	1000	270	100		07/25/11 20:25	1330-20-7	
m&p-Xylene	**4950**	ug/L	1000	310	100		07/25/11 20:25	179601-23-1	
o-Xylene	**2310**	ug/L	500	160	100		07/25/11 20:25	95-47-6	
Dibromofluoromethane (S)	95	%	70-130		100		07/25/11 20:25	1868-53-7	
Toluene-d8 (S)	99	%	70-130		100		07/25/11 20:25	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		100		07/25/11 20:25	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		100		07/25/11 20:25	17060-07-0	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: MW-45 **Lab ID: 9298302035** Collected: 07/11/11 17:45 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**13.6**	ug/L	0.40	0.40	20	07/20/11 14:29	07/21/11 13:34	106-93-4	
1-Chloro-2-bromopropane (S)	0	%	60-140		20	07/20/11 14:29	07/21/11 13:34	301-79-56	S4
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	10000	7680	100		07/25/11 20:44	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1000	340	100		07/25/11 20:44	994-05-8	
Benzene	**2000**	ug/L	500	170	100		07/25/11 20:44	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	3210	100		07/25/11 20:44	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	5770	100		07/25/11 20:44	75-65-0	
tert-Butyl Formate	ND	ug/L	5000	730	100		07/25/11 20:44	762-75-4	
1,2-Dichloroethane	ND	ug/L	500	180	100		07/25/11 20:44	107-06-2	
Diisopropyl ether	ND	ug/L	500	170	100		07/25/11 20:44	108-20-3	
Ethanol	ND	ug/L	20000	13800	100		07/25/11 20:44	64-17-5	
Ethylbenzene	**1960**	ug/L	500	160	100		07/25/11 20:44	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	360	100		07/25/11 20:44	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	500	170	100		07/25/11 20:44	1634-04-4	
Naphthalene	ND	ug/L	500	200	100		07/25/11 20:44	91-20-3	
Toluene	**11000**	ug/L	500	160	100		07/25/11 20:44	108-88-3	
Xylene (Total)	**7570**	ug/L	1000	270	100		07/25/11 20:44	1330-20-7	
m&p-Xylene	**4770**	ug/L	1000	310	100		07/25/11 20:44	179601-23-1	
o-Xylene	**2800**	ug/L	500	160	100		07/25/11 20:44	95-47-6	
Dibromofluoromethane (S)	96	%	70-130		100		07/25/11 20:44	1868-53-7	
Toluene-d8 (S)	97	%	70-130		100		07/25/11 20:44	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		100		07/25/11 20:44	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		100		07/25/11 20:44	17060-07-0	

Sample: WSW-2 **Lab ID: 9298302036** Collected: 07/13/11 14:30 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/19/11 10:29	07/19/11 14:41	106-93-4	
1-Chloro-2-bromopropane (S)	102	%	60-140		1	07/19/11 10:29	07/19/11 14:41	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		07/18/11 23:23	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		07/18/11 23:23	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		07/18/11 23:23	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		07/18/11 23:23	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		07/18/11 23:23	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		07/18/11 23:23	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		07/18/11 23:23	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		07/18/11 23:23	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		07/18/11 23:23	64-17-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: WSW-2 **Lab ID: 9298302036** Collected: 07/13/11 14:30 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260								
Ethylbenzene	ND	ug/L	1.0	0.30	1		07/18/11 23:23	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		07/18/11 23:23	637-92-3	
Methyl-tert-butyl ether	**0.29J**	ug/L	1.0	0.21	1		07/18/11 23:23	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		07/18/11 23:23	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		07/18/11 23:23	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		07/18/11 23:23	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		07/18/11 23:23	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		07/18/11 23:23	95-47-6	
4-Bromofluorobenzene (S)	100	%	70-130		1		07/18/11 23:23	460-00-4	
Dibromofluoromethane (S)	119	%	70-130		1		07/18/11 23:23	1868-53-7	
1,2-Dichloroethane-d4 (S)	114	%	70-130		1		07/18/11 23:23	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		07/18/11 23:23	2037-26-5	

Sample: WSW-3 **Lab ID: 9298302037** Collected: 07/11/11 09:10 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/19/11 10:29	07/19/11 15:44	106-93-4	
1-Chloro-2-bromopropane (S)	107	%	60-140		1	07/19/11 10:29	07/19/11 15:44	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		07/18/11 21:41	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		07/18/11 21:41	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		07/18/11 21:41	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		07/18/11 21:41	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		07/18/11 21:41	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		07/18/11 21:41	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		07/18/11 21:41	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		07/18/11 21:41	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		07/18/11 21:41	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		07/18/11 21:41	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		07/18/11 21:41	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		07/18/11 21:41	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		07/18/11 21:41	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		07/18/11 21:41	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		07/18/11 21:41	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		07/18/11 21:41	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		07/18/11 21:41	95-47-6	
4-Bromofluorobenzene (S)	98	%	70-130		1		07/18/11 21:41	460-00-4	
Dibromofluoromethane (S)	118	%	70-130		1		07/18/11 21:41	1868-53-7	
1,2-Dichloroethane-d4 (S)	109	%	70-130		1		07/18/11 21:41	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		07/18/11 21:41	2037-26-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: WSW-4 **Lab ID: 9298302038** Collected: 07/11/11 09:00 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/19/11 10:30	07/19/11 16:26	106-93-4	
1-Chloro-2-bromopropane (S)	104	%	60-140		1	07/19/11 10:30	07/19/11 16:26	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		07/18/11 22:07	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		07/18/11 22:07	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		07/18/11 22:07	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		07/18/11 22:07	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		07/18/11 22:07	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		07/18/11 22:07	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		07/18/11 22:07	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		07/18/11 22:07	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		07/18/11 22:07	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		07/18/11 22:07	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		07/18/11 22:07	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		07/18/11 22:07	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		07/18/11 22:07	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		07/18/11 22:07	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		07/18/11 22:07	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		07/18/11 22:07	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		07/18/11 22:07	95-47-6	
4-Bromofluorobenzene (S)	101	%	70-130		1		07/18/11 22:07	460-00-4	
Dibromofluoromethane (S)	98	%	70-130		1		07/18/11 22:07	1868-53-7	
1,2-Dichloroethane-d4 (S)	111	%	70-130		1		07/18/11 22:07	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		07/18/11 22:07	2037-26-5	

Sample: CS-1 **Lab ID: 9298302039** Collected: 07/11/11 10:45 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/19/11 10:30	07/19/11 16:47	106-93-4	
1-Chloro-2-bromopropane (S)	103	%	60-140		1	07/19/11 10:30	07/19/11 16:47	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		07/18/11 22:32	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		07/18/11 22:32	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		07/18/11 22:32	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		07/18/11 22:32	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		07/18/11 22:32	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		07/18/11 22:32	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		07/18/11 22:32	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		07/18/11 22:32	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		07/18/11 22:32	64-17-5	

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ANALYTICAL RESULTS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

Sample: CS-1 **Lab ID: 9298302039** Collected: 07/11/11 10:45 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260								
Ethylbenzene	ND	ug/L	1.0	0.30	1		07/18/11 22:32	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		07/18/11 22:32	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		07/18/11 22:32	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		07/18/11 22:32	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		07/18/11 22:32	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		07/18/11 22:32	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		07/18/11 22:32	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		07/18/11 22:32	95-47-6	
4-Bromofluorobenzene (S)	99	%	70-130		1		07/18/11 22:32	460-00-4	
Dibromofluoromethane (S)	120	%	70-130		1		07/18/11 22:32	1868-53-7	
1,2-Dichloroethane-d4 (S)	108	%	70-130		1		07/18/11 22:32	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		07/18/11 22:32	2037-26-5	

Sample: CS-2 **Lab ID: 9298302040** Collected: 07/11/11 10:35 Received: 07/14/11 15:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	07/19/11 10:30	07/19/11 17:09	106-93-4	
1-Chloro-2-bromopropane (S)	103	%	60-140		1	07/19/11 10:30	07/19/11 17:09	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		07/18/11 22:58	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		07/18/11 22:58	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		07/18/11 22:58	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		07/18/11 22:58	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		07/18/11 22:58	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		07/18/11 22:58	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		07/18/11 22:58	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		07/18/11 22:58	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		07/18/11 22:58	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		07/18/11 22:58	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		07/18/11 22:58	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		07/18/11 22:58	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		07/18/11 22:58	91-20-3	
Toluene	**0.48J**	ug/L	1.0	0.26	1		07/18/11 22:58	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		07/18/11 22:58	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		07/18/11 22:58	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		07/18/11 22:58	95-47-6	
4-Bromofluorobenzene (S)	95	%	70-130		1		07/18/11 22:58	460-00-4	
Dibromofluoromethane (S)	123	%	70-130		1		07/18/11 22:58	1868-53-7	
1,2-Dichloroethane-d4 (S)	112	%	70-130		1		07/18/11 22:58	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		07/18/11 22:58	2037-26-5	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

QC Batch: OEXT/14248 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9298302036, 9298302037, 9298302038, 9298302039, 9298302040

METHOD BLANK: 635403 Matrix: Water
Associated Lab Samples: 9298302036, 9298302037, 9298302038, 9298302039, 9298302040

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	07/19/11 12:12	
1-Chloro-2-bromopropane (S)	%	107	60-140	07/19/11 12:12	

LABORATORY CONTROL SAMPLE & LCSD: 635404 635405

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.32	0.33	116	116	60-140	3	20	
1-Chloro-2-bromopropane (S)	%				106	108	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 635406 635407

Parameter	Units	9298302036 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.33	0.33	118	118	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						105	106	60-140			

SAMPLE DUPLICATE: 635408

Parameter	Units	9298302037 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	107	103	2		

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

QC Batch: OEXT/14252 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9298302001, 9298302002, 9298302003, 9298302004, 9298302005, 9298302006, 9298302007, 9298302008, 9298302009, 9298302010, 9298302012, 9298302013, 9298302014, 9298302015

METHOD BLANK: 635534 Matrix: Water
Associated Lab Samples: 9298302001, 9298302002, 9298302003, 9298302004, 9298302005, 9298302006, 9298302007, 9298302008, 9298302009, 9298302010, 9298302012, 9298302013, 9298302014, 9298302015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	07/19/11 22:00	
1-Chloro-2-bromopropane (S)	%	106	60-140	07/19/11 22:00	

LABORATORY CONTROL SAMPLE & LCSD: 635535 635536

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.34	0.32	120	116	60-140	7	20	
1-Chloro-2-bromopropane (S)	%				104	105	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 635537 635538

Parameter	Units	9298176001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.32	0.33	114	116	60-140	2	20	
1-Chloro-2-bromopropane (S)	%						110	117	60-140			

SAMPLE DUPLICATE: 635539

Parameter	Units	9298176002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	110	108	5		

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

QC Batch: OEXT/14272 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9298302016, 9298302017, 9298302018, 9298302019, 9298302020, 9298302021, 9298302022, 9298302023, 9298302024, 9298302025, 9298302026, 9298302027, 9298302028, 9298302029, 9298302030, 9298302031, 9298302032, 9298302033, 9298302034, 9298302035

METHOD BLANK: 636284 Matrix: Water
Associated Lab Samples: 9298302016, 9298302017, 9298302018, 9298302019, 9298302020, 9298302021, 9298302022, 9298302023, 9298302024, 9298302025, 9298302026, 9298302027, 9298302028, 9298302029, 9298302030, 9298302031, 9298302032, 9298302033, 9298302034, 9298302035

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	07/20/11 16:05	
1-Chloro-2-bromopropane (S)	%	103	60-140	07/20/11 16:05	

LABORATORY CONTROL SAMPLE & LCSD: 636285 636286

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.30	0.32	106	114	60-140	7	20	
1-Chloro-2-bromopropane (S)	%				102	102	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 636287 636288

Parameter	Units	9298302016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	0.028	.28	.28	0.35	0.35	114	114	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						104	103	60-140			

SAMPLE DUPLICATE: 636289

Parameter	Units	9298302017 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	101	104	3		

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

QC Batch: MSV/16037 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 9298302036, 9298302037, 9298302038, 9298302039, 9298302040

METHOD BLANK: 635283 Matrix: Water
Associated Lab Samples: 9298302036, 9298302037, 9298302038, 9298302039, 9298302040

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	07/18/11 19:09	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	07/18/11 19:09	
Benzene	ug/L	ND	1.0	07/18/11 19:09	
Diisopropyl ether	ug/L	ND	1.0	07/18/11 19:09	
Ethanol	ug/L	ND	200	07/18/11 19:09	
Ethyl-tert-butyl ether	ug/L	ND	10.0	07/18/11 19:09	
Ethylbenzene	ug/L	ND	1.0	07/18/11 19:09	
m&p-Xylene	ug/L	ND	2.0	07/18/11 19:09	
Methyl-tert-butyl ether	ug/L	ND	1.0	07/18/11 19:09	
Naphthalene	ug/L	ND	1.0	07/18/11 19:09	
o-Xylene	ug/L	ND	1.0	07/18/11 19:09	
tert-Amyl Alcohol	ug/L	ND	100	07/18/11 19:09	
tert-Amylmethyl ether	ug/L	ND	10.0	07/18/11 19:09	
tert-Butyl Alcohol	ug/L	ND	100	07/18/11 19:09	
tert-Butyl Formate	ug/L	ND	50.0	07/18/11 19:09	
Toluene	ug/L	ND	1.0	07/18/11 19:09	
Xylene (Total)	ug/L	ND	2.0	07/18/11 19:09	
1,2-Dichloroethane-d4 (S)	%	109	70-130	07/18/11 19:09	
4-Bromofluorobenzene (S)	%	96	70-130	07/18/11 19:09	
Dibromofluoromethane (S)	%	124	70-130	07/18/11 19:09	
Toluene-d8 (S)	%	97	70-130	07/18/11 19:09	

LABORATORY CONTROL SAMPLE: 635284

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	43.1	86	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1110	111	70-130	
Benzene	ug/L	50	43.3	87	70-130	
Diisopropyl ether	ug/L	50	49.4	99	70-130	
Ethanol	ug/L	2000	1940	97	70-130	
Ethyl-tert-butyl ether	ug/L	100	81.7	82	70-130	
Ethylbenzene	ug/L	50	48.0	96	70-130	
m&p-Xylene	ug/L	100	98.7	99	70-130	
Methyl-tert-butyl ether	ug/L	50	49.9	100	70-130	
Naphthalene	ug/L	50	52.1	104	70-130	
o-Xylene	ug/L	50	52.7	105	70-130	
tert-Amyl Alcohol	ug/L	1000	1030	103	70-130	
tert-Amylmethyl ether	ug/L	100	95.6	96	70-130	
tert-Butyl Alcohol	ug/L	500	482	96	70-130	
tert-Butyl Formate	ug/L	400	404	101	70-130	
Toluene	ug/L	50	45.8	92	70-130	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

LABORATORY CONTROL SAMPLE: 635284

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	151	101	70-130	
1,2-Dichloroethane-d4 (S)	%			91	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Dibromofluoromethane (S)	%			90	70-130	
Toluene-d8 (S)	%			102	70-130	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

QC Batch: MSV/16044 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Oxygenates SC
Associated Lab Samples: 9298302001, 9298302002, 9298302003, 9298302004, 9298302005, 9298302006, 9298302007, 9298302008, 9298302010, 9298302012, 9298302013, 9298302014, 9298302015, 9298302016, 9298302017, 9298302018

METHOD BLANK: 635329 Matrix: Water
Associated Lab Samples: 9298302001, 9298302002, 9298302003, 9298302004, 9298302005, 9298302006, 9298302007, 9298302008, 9298302010, 9298302012, 9298302013, 9298302014, 9298302015, 9298302016, 9298302017, 9298302018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	07/18/11 20:36	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	07/18/11 20:36	
Benzene	ug/L	ND	5.0	07/18/11 20:36	
Diisopropyl ether	ug/L	ND	5.0	07/18/11 20:36	
Ethanol	ug/L	ND	200	07/18/11 20:36	
Ethyl-tert-butyl ether	ug/L	ND	10.0	07/18/11 20:36	
Ethylbenzene	ug/L	ND	5.0	07/18/11 20:36	
m&p-Xylene	ug/L	ND	10.0	07/18/11 20:36	
Methyl-tert-butyl ether	ug/L	ND	5.0	07/18/11 20:36	
Naphthalene	ug/L	ND	5.0	07/18/11 20:36	
o-Xylene	ug/L	ND	5.0	07/18/11 20:36	
tert-Amyl Alcohol	ug/L	ND	100	07/18/11 20:36	
tert-Amylmethyl ether	ug/L	ND	10.0	07/18/11 20:36	
tert-Butyl Alcohol	ug/L	ND	100	07/18/11 20:36	
tert-Butyl Formate	ug/L	ND	50.0	07/18/11 20:36	
Toluene	ug/L	ND	5.0	07/18/11 20:36	
Xylene (Total)	ug/L	ND	10.0	07/18/11 20:36	
1,2-Dichloroethane-d4 (S)	%	98	70-130	07/18/11 20:36	
4-Bromofluorobenzene (S)	%	95	70-130	07/18/11 20:36	
Dibromofluoromethane (S)	%	102	70-130	07/18/11 20:36	
Toluene-d8 (S)	%	94	70-130	07/18/11 20:36	

LABORATORY CONTROL SAMPLE: 635330

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	44.7	89	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	788	79	70-130	
Benzene	ug/L	50	42.4	85	70-130	
Diisopropyl ether	ug/L	50	41.9	84	70-130	
Ethanol	ug/L	2000	1470	73	70-130	
Ethyl-tert-butyl ether	ug/L	100	68.5	69	70-130	L0
Ethylbenzene	ug/L	50	45.8	92	70-130	
m&p-Xylene	ug/L	100	94.5	95	70-130	
Methyl-tert-butyl ether	ug/L	50	37.8	76	70-130	
Naphthalene	ug/L	50	49.7	99	70-130	
o-Xylene	ug/L	50	46.6	93	70-130	
tert-Amyl Alcohol	ug/L	1000	652	65	70-130	L0
tert-Amylmethyl ether	ug/L	100	79.6	80	70-130	
tert-Butyl Alcohol	ug/L	500	413	83	70-130	
tert-Butyl Formate	ug/L	400	317	79	70-130	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

LABORATORY CONTROL SAMPLE: 635330

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	50	45.4	91	70-130	
Xylene (Total)	ug/L	150	141	94	70-130	
1,2-Dichloroethane-d4 (S)	%			94	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Dibromofluoromethane (S)	%			104	70-130	
Toluene-d8 (S)	%			96	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 635331 635332

Parameter	Units	9298302004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	56.4	53.4	113	107	70-130	5	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	743	718	74	72	70-130	3	30	
Benzene	ug/L	ND	50	50	52.6	48.8	104	96	70-130	7	30	
Diisopropyl ether	ug/L	ND	50	50	50.2	46.7	100	93	70-130	7	30	
Ethanol	ug/L	ND	2000	2000	1570	1540	78	77	70-130	2	30	
Ethyl-tert-butyl ether	ug/L	ND	100	100	94.2	88.8	94	89	70-130	6	30	
Ethylbenzene	ug/L	ND	50	50	52.7	49.6	105	99	70-130	6	30	
m&p-Xylene	ug/L	ND	100	100	106	99.8	106	99	70-130	6	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	45.1	42.6	89	83	70-130	6	30	
Naphthalene	ug/L	ND	50	50	48.4	46.7	93	90	70-130	3	30	
o-Xylene	ug/L	ND	50	50	52.8	50.2	105	100	70-130	5	30	
tert-Amyl Alcohol	ug/L	ND	1000	1000	847	799	79	75	70-130	6	30	
tert-Amylmethyl ether	ug/L	ND	100	100	96.2	90.0	96	90	70-130	7	30	
tert-Butyl Alcohol	ug/L	ND	500	500	480	464	96	93	70-130	3	30	
tert-Butyl Formate	ug/L	ND	400	400	ND	ND	0	0	70-130		30	P5
Toluene	ug/L	ND	50	50	54.4	50.9	108	101	70-130	7	30	
1,2-Dichloroethane-d4 (S)	%						97	96	70-130			
4-Bromofluorobenzene (S)	%						94	94	70-130			
Dibromofluoromethane (S)	%						101	100	70-130			
Toluene-d8 (S)	%						95	93	70-130			

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

QC Batch: MSV/16052 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Oxygenates SC
Associated Lab Samples: 9298302009, 9298302019, 9298302020, 9298302021, 9298302022, 9298302023, 9298302024, 9298302025, 9298302027, 9298302028

METHOD BLANK: 635798 Matrix: Water
Associated Lab Samples: 9298302009, 9298302019, 9298302020, 9298302021, 9298302022, 9298302023, 9298302024, 9298302025, 9298302027, 9298302028

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	07/19/11 12:40	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	07/19/11 12:40	
Benzene	ug/L	ND	5.0	07/19/11 12:40	
Diisopropyl ether	ug/L	ND	5.0	07/19/11 12:40	
Ethanol	ug/L	ND	200	07/19/11 12:40	
Ethyl-tert-butyl ether	ug/L	ND	10.0	07/19/11 12:40	
Ethylbenzene	ug/L	ND	5.0	07/19/11 12:40	
m&p-Xylene	ug/L	ND	10.0	07/19/11 12:40	
Methyl-tert-butyl ether	ug/L	ND	5.0	07/19/11 12:40	
Naphthalene	ug/L	ND	5.0	07/19/11 12:40	
o-Xylene	ug/L	ND	5.0	07/19/11 12:40	
tert-Amyl Alcohol	ug/L	ND	100	07/19/11 12:40	
tert-Amylmethyl ether	ug/L	ND	10.0	07/19/11 12:40	
tert-Butyl Alcohol	ug/L	ND	100	07/19/11 12:40	
tert-Butyl Formate	ug/L	ND	50.0	07/19/11 12:40	
Toluene	ug/L	ND	5.0	07/19/11 12:40	
Xylene (Total)	ug/L	ND	10.0	07/19/11 12:40	
1,2-Dichloroethane-d4 (S)	%	97	70-130	07/19/11 12:40	
4-Bromofluorobenzene (S)	%	98	70-130	07/19/11 12:40	
Dibromofluoromethane (S)	%	100	70-130	07/19/11 12:40	
Toluene-d8 (S)	%	93	70-130	07/19/11 12:40	

LABORATORY CONTROL SAMPLE: 635799

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	46.1	92	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	885	89	70-130	
Benzene	ug/L	50	40.5	81	70-130	
Diisopropyl ether	ug/L	50	41.1	82	70-130	
Ethanol	ug/L	2000	1400	70	70-130	
Ethyl-tert-butyl ether	ug/L	100	68.0	68	70-130	L0
Ethylbenzene	ug/L	50	44.1	88	70-130	
m&p-Xylene	ug/L	100	93.0	93	70-130	
Methyl-tert-butyl ether	ug/L	50	38.2	76	70-130	
Naphthalene	ug/L	50	50.3	101	70-130	
o-Xylene	ug/L	50	46.8	94	70-130	
tert-Amyl Alcohol	ug/L	1000	789	79	70-130	
tert-Amylmethyl ether	ug/L	100	80.7	81	70-130	
tert-Butyl Alcohol	ug/L	500	484	97	70-130	
tert-Butyl Formate	ug/L	400	329	82	70-130	

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QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

LABORATORY CONTROL SAMPLE: 635799

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	50	43.8	88	70-130	
Xylene (Total)	ug/L	150	140	93	70-130	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Dibromofluoromethane (S)	%			103	70-130	
Toluene-d8 (S)	%			95	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 635800 635801

Parameter	Units	9298302022 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	49.8	46.2	100	92	70-130	7	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	608	615	61	62	70-130	1	30	M0
Benzene	ug/L	ND	50	50	54.4	50.4	107	99	70-130	8	30	
Diisopropyl ether	ug/L	ND	50	50	54.3	51.6	109	103	70-130	5	30	
Ethanol	ug/L	ND	2000	2000	732	1510	37	75	70-130	69	30	M0,R1
Ethyl-tert-butyl ether	ug/L	ND	100	100	114	107	114	107	70-130	6	30	
Ethylbenzene	ug/L	ND	50	50	55.2	51.1	110	102	70-130	8	30	
m&p-Xylene	ug/L	ND	100	100	111	103	110	102	70-130	7	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	50.2	45.2	100	90	70-130	10	30	
Naphthalene	ug/L	ND	50	50	48.9	47.8	98	96	70-130	2	30	
o-Xylene	ug/L	ND	50	50	55.7	52.1	111	104	70-130	7	30	
tert-Amyl Alcohol	ug/L	ND	1000	1000	830	855	81	83	70-130	3	30	
tert-Amylmethyl ether	ug/L	ND	100	100	115	107	115	107	70-130	7	30	
tert-Butyl Alcohol	ug/L	ND	500	500	332	290	66	58	70-130	14	30	M0
tert-Butyl Formate	ug/L	ND	400	400	ND	ND	0	0	70-130		30	P5
Toluene	ug/L	ND	50	50	62.0	55.0	124	110	70-130	12	30	
1,2-Dichloroethane-d4 (S)	%						88	87	70-130			
4-Bromofluorobenzene (S)	%						98	100	70-130			
Dibromofluoromethane (S)	%						90	90	70-130			
Toluene-d8 (S)	%						97	98	70-130			

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Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

QC Batch: MSV/16069 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Oxygenates SC
Associated Lab Samples: 9298302029, 9298302030, 9298302031, 9298302032, 9298302033, 9298302034, 9298302035

METHOD BLANK: 636574 Matrix: Water
Associated Lab Samples: 9298302029, 9298302030, 9298302031, 9298302032, 9298302033, 9298302034, 9298302035

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	07/25/11 18:33	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	07/25/11 18:33	
Benzene	ug/L	ND	5.0	07/25/11 18:33	
Diisopropyl ether	ug/L	ND	5.0	07/25/11 18:33	
Ethanol	ug/L	ND	200	07/25/11 18:33	
Ethyl-tert-butyl ether	ug/L	ND	10.0	07/25/11 18:33	
Ethylbenzene	ug/L	ND	5.0	07/25/11 18:33	
m&p-Xylene	ug/L	ND	10.0	07/25/11 18:33	
Methyl-tert-butyl ether	ug/L	ND	5.0	07/25/11 18:33	
Naphthalene	ug/L	ND	5.0	07/25/11 18:33	
o-Xylene	ug/L	ND	5.0	07/25/11 18:33	
tert-Amyl Alcohol	ug/L	ND	100	07/25/11 18:33	
tert-Amylmethyl ether	ug/L	ND	10.0	07/25/11 18:33	
tert-Butyl Alcohol	ug/L	ND	100	07/25/11 18:33	
tert-Butyl Formate	ug/L	ND	50.0	07/25/11 18:33	
Toluene	ug/L	ND	5.0	07/25/11 18:33	
Xylene (Total)	ug/L	ND	10.0	07/25/11 18:33	
1,2-Dichloroethane-d4 (S)	%	95	70-130	07/25/11 18:33	
4-Bromofluorobenzene (S)	%	98	70-130	07/25/11 18:33	
Dibromofluoromethane (S)	%	96	70-130	07/25/11 18:33	
Toluene-d8 (S)	%	99	70-130	07/25/11 18:33	

LABORATORY CONTROL SAMPLE: 636575

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	47.5	95	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1040	104	70-130	
Benzene	ug/L	50	44.1	88	70-130	
Diisopropyl ether	ug/L	50	47.2	94	70-130	
Ethanol	ug/L	2000	2300	115	70-130	
Ethyl-tert-butyl ether	ug/L	100	96.6	97	70-130	
Ethylbenzene	ug/L	50	46.0	92	70-130	
m&p-Xylene	ug/L	100	93.4	93	70-130	
Methyl-tert-butyl ether	ug/L	50	53.1	106	70-130	
Naphthalene	ug/L	50	53.6	107	70-130	
o-Xylene	ug/L	50	47.2	94	70-130	
tert-Amyl Alcohol	ug/L	1000	1150	115	70-130	
tert-Amylmethyl ether	ug/L	100	103	103	70-130	
tert-Butyl Alcohol	ug/L	500	492	98	70-130	
tert-Butyl Formate	ug/L	400	405	101	70-130	
Toluene	ug/L	50	45.8	92	70-130	

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

LABORATORY CONTROL SAMPLE: 636575

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	141	94	70-130	
1,2-Dichloroethane-d4 (S)	%			96	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Dibromofluoromethane (S)	%			100	70-130	
Toluene-d8 (S)	%			101	70-130	

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(704)875-9092

QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

QC Batch: MSV/16095
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV Oxygenates SC
Associated Lab Samples: 9298302026

METHOD BLANK: 637827
Matrix: Water
Associated Lab Samples: 9298302026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	07/24/11 21:43	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	07/24/11 21:43	
Benzene	ug/L	ND	5.0	07/24/11 21:43	
Diisopropyl ether	ug/L	ND	5.0	07/24/11 21:43	
Ethanol	ug/L	ND	200	07/24/11 21:43	
Ethyl-tert-butyl ether	ug/L	ND	10.0	07/24/11 21:43	
Ethylbenzene	ug/L	ND	5.0	07/24/11 21:43	
m&p-Xylene	ug/L	ND	10.0	07/24/11 21:43	
Methyl-tert-butyl ether	ug/L	ND	5.0	07/24/11 21:43	
Naphthalene	ug/L	ND	5.0	07/24/11 21:43	
o-Xylene	ug/L	ND	5.0	07/24/11 21:43	
tert-Amyl Alcohol	ug/L	ND	100	07/24/11 21:43	
tert-Amylmethyl ether	ug/L	ND	10.0	07/24/11 21:43	
tert-Butyl Alcohol	ug/L	ND	100	07/24/11 21:43	
tert-Butyl Formate	ug/L	ND	50.0	07/24/11 21:43	
Toluene	ug/L	ND	5.0	07/24/11 21:43	
Xylene (Total)	ug/L	ND	10.0	07/24/11 21:43	
1,2-Dichloroethane-d4 (S)	%	101	70-130	07/24/11 21:43	
4-Bromofluorobenzene (S)	%	97	70-130	07/24/11 21:43	
Dibromofluoromethane (S)	%	98	70-130	07/24/11 21:43	
Toluene-d8 (S)	%	99	70-130	07/24/11 21:43	

LABORATORY CONTROL SAMPLE: 637828

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.4	97	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1140	114	70-130	
Benzene	ug/L	50	43.8	88	70-130	
Diisopropyl ether	ug/L	50	47.8	96	70-130	
Ethanol	ug/L	2000	2930	147	70-130	L3
Ethyl-tert-butyl ether	ug/L	100	94.7	95	70-130	
Ethylbenzene	ug/L	50	47.2	94	70-130	
m&p-Xylene	ug/L	100	95.3	95	70-130	
Methyl-tert-butyl ether	ug/L	50	59.9	120	70-130	
Naphthalene	ug/L	50	50.2	100	70-130	
o-Xylene	ug/L	50	48.0	96	70-130	
tert-Amyl Alcohol	ug/L	1000	1200	120	70-130	
tert-Amylmethyl ether	ug/L	100	101	101	70-130	
tert-Butyl Alcohol	ug/L	500	640	128	70-130	
tert-Butyl Formate	ug/L	400	377	94	70-130	
Toluene	ug/L	50	45.8	92	70-130	

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

LABORATORY CONTROL SAMPLE: 637828

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	143	96	70-130	
1,2-Dichloroethane-d4 (S)	%			101	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Dibromofluoromethane (S)	%			99	70-130	
Toluene-d8 (S)	%			100	70-130	

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: H.W. DETWILER CO. 15729
Pace Project No.: 9298302

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine(8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.
R1	RPD value was outside control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 4

1476387

Section A Required Client Information:

Company:	B Emerald, Inc.
Address:	2520 Tahoe Dr. Sumter, SC 29150
Email To:	
Phone:	803.469.5454
Fax:	
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	R. Lowder
Copy To:	
Purchase Order No.:	
Project Name:	H.W. Detwiler Co.
Project Number:	15729

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTEX, Naph, MTBE (8260B)	Oxygenates (8260B)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-2D	WT	G	7/13	1210				6				6						X	X	X		001
2	MW-3			7/13	935				6				6										002
3	MW-4			7/13	1010				6				6										003
4	~~[illegible]~~																						
5	MW-6			7/11	1655				6				6										004
6	MW-7			7/11	1257				6				6										005
7	MW-8			7/11	1055				6				6										006
8	MW-9			7/11	1025				6				6										007
9	MW-10			7/11	1120				6				6										008
10	MW-11			7/11	1430				6				6										009
11	MW-12			7/13	1030				6				6										010/011
12	MW-14			7/11	1230				6				6										012

9298302

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature]	7/13/11	1630	G Moody Pace	7-14-11	14:50				
	G Moody	7-14-11	15:25	[signature]	7/14/11	15:45	9.0	yes	no	yes

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dalton Reames

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 7/13/11

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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Page: 2 of 4

1476388

Section A Required Client Information:

Company:	Emerald, Inc.
Address:	2520 Tahoe Dr. Sumter, SC 29150
Email To:	
Phone:	803.469.5454
Fax:	
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	R. Lowder
Copy To:	
Purchase Order No.:	
Project Name:	H.W. Detwiler Co.
Project Number:	15729

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTEX, Naph, MTBE (8260B)	8045 Gasoline (8260B)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	~~MW-15~~	WT	G	~~[illegible]~~																			9298302
2	MW-16D			7/13	1130				6				6						X	X	X		013
3	MW-19			7/11	1305				6				6										014
4	MW-20			7/11	1035				6				6										015
5	MW-21			7/11	1125				6				6										016
6	MW-22			7/11	1143				6				6										017
7	MW-24			7/11	1546				6				6										018
8	MW-25			7/11	1715				6				6										019
9	MW-26			7/11	1215				6				6										020
10	MW-27			7/11	1350				6				6										021
11	~~MW-28~~			~~7/11~~																			~~022~~ 7/14/11
12	MW-29	WT	G	7/13	0950				6				6										023 022

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[signature]	7/13/11	1630	G Moody - Pace	7-14-11	14:30	
	G Moody	7-14-11	15:25	[signature]	7/14/11	15:25	9.0 yes — yes

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dalton Reames

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 7/13/11

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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Page: 3 of 4

1476389

Section A Required Client Information:

Company:	Emerald, Inc.
Address:	2520 Tahoe Dr. Sumter, SC 29150
Email To:	
Phone:	469 5454
Fax:	
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	R. Lowder
Copy To:	
Purchase Order No.:	
Project Name:	H.W. Detwiler Co.
Project Number:	15729

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTEX Naphthalene MTBE (8260B)	8 oxygenates (8260B)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-30	WT	G	7/11	1523				6				6						X	X	X		023
2	MW-31			7/11	1345																		024
3	MW-32			7/11	0927																		025
4	MW-33			7/11	1245																		026
5	MW-34D			7/11	1209																		027
6	MW-35i			7/11	0932																		028
7	MW-36			7/11	1722																		029
8	MW-37			7/13	1240																		030
9	MW-38			7/11	1654																		031
10	MW-41			7/11	1455																		032
11	MW-42			7/11	1420																		033
12	MW-44			7/11	1644																		034

9298302

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature]	7/13/11	1630	G Moody-Pace	7-14-11	14:30				
	G Moody	7-14-11	15:25	[signature]	7/14/11	15:25	4.0	yes	no	7 E8

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dalton Reeves

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 7/13/11

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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1476390

Section A Required Client Information:

Company: Emerald, Inc.
Address: 2520 Tahoe Dr. Sumter, SC 29150
Email To:
Phone: 803.469.5454 Fax:
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: R. Louder
Copy To:
Purchase Order No.:
Project Name: H.W. Detwiler Co.
Project Number: 15729

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	NEX Mod. MTBE (8260B)	Sloggenates (8260B)	EDB (8011)					Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 9298302
1	MW-45	WT	G	7/11	1745				6				6						X	X	X						035
2	WSW-2	↓	↓	7/13	1430				6				6						↓	↓	↓				036		Low Detection Limits
3	WSW-3	↓	↓	7/11	0910				6				6						↓	↓	↓				037		" " "
4	WSW-4	↓	↓	7/11	0900				6				6						↓	↓	↓				038		" " "
5	CS-1	↓	↓	7/11	1045				6				6						↓	↓	↓				039		" " "
6	CS-2	↓	↓	7/11	1035				6				6						↓	↓	↓				040		" " "
7																											
8																											
9																											
10																											
11																											
12																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	[signature]	7/13/11	1630	G Moody-Pace	7-14-11	14:30				
	G Moody	7-14-11	15:25	[signature]	7/14/11	15:25	4.0	yes	no	yes

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dalton Reames

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 7/13/11

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Sample Condition Upon Receipt

Pace Analytical

Client Name: Emerald Project # 9298302

Where Received: ☑ Huntersville ☐ Asheville ☐ Eden

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun : T1102 **Type of Ice:** (Wet) Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor: Add / Subtract 0 °C

Corrected Cooler Temp.: 4.0 C **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: [illegible] 7/14/11

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12. rec'd 2nd set of vials labeled MW-12 with
-Includes date/time/ID/Analysis Matrix:_____		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13. date/time 7/11/11 1616
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	Initial when completed
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☑Yes ☐No ☐N/A	15. Trial - MW14
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Robbon Brown Date/Time: 7/15/11 8:18

Comments/ Resolution: per Robbon, do not analyze MW-12 vials from 7/11/11

SCURF Review: RES **Date:** 7/14/11 **SRF Review:** GW **Date:** 7/14/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

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(704)875-9092

August 05, 2011

Mr. Ronny Lowder
Emerald, Inc.
2520 Tahoe Drive
Sumter, SC 29150

RE: Project: H.W. DETWILER 15729
Pace Project No.: 9299341

Dear Mr. Lowder:
Enclosed are the analytical results for sample(s) received by the laboratory on July 30, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Renee Spencer

Renee Spencer

renee.spencer@pacelabs.com
Project Manager

Enclosures

cc: Ms. Robbin Brown, Emerald, Inc.

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CERTIFICATIONS

Project: H.W. DETWILER 15729
Pace Project No.: 9299341

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
South Carolina Drinking Water Cert. #: 99006003
Virginia Drinking Water Certification #: 00213
Connecticut Certification #: PH-0104
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Louisiana DHH Drinking Water # LA 100031
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460144

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SAMPLE SUMMARY

Project: H.W. DETWILER 15729
Pace Project No.: 9299341

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9299341001	**WSW-1**	Water	07/29/11 08:15	07/30/11 09:00

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SAMPLE ANALYTE COUNT

Project: H.W. DETWILER 15729
Pace Project No.: 9299341

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9299341001	**WSW-1**	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	21	PASI-C

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ANALYTICAL RESULTS

Project: H.W. DETWILER 15729
Pace Project No.: 9299341

Sample: WSW-1 **Lab ID: 9299341001** Collected: 07/29/11 08:15 Received: 07/30/11 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	08/01/11 12:55	08/01/11 22:14	106-93-4	
1-Chloro-2-bromopropane (S)	90	%	60-140		1	08/01/11 12:55	08/01/11 22:14	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		08/01/11 22:25	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		08/01/11 22:25	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		08/01/11 22:25	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		08/01/11 22:25	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		08/01/11 22:25	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		08/01/11 22:25	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/01/11 22:25	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		08/01/11 22:25	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		08/01/11 22:25	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/01/11 22:25	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		08/01/11 22:25	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		08/01/11 22:25	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		08/01/11 22:25	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		08/01/11 22:25	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		08/01/11 22:25	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		08/01/11 22:25	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		08/01/11 22:25	95-47-6	
4-Bromofluorobenzene (S)	97	%	70-130		1		08/01/11 22:25	460-00-4	
Dibromofluoromethane (S)	104	%	70-130		1		08/01/11 22:25	1868-53-7	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		08/01/11 22:25	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		08/01/11 22:25	2037-26-5	

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QUALITY CONTROL DATA

Project: H.W. DETWILER 15729
Pace Project No.: 9299341

QC Batch: OEXT/14368
QC Batch Method: EPA 8011
Analysis Method: EPA 8011
Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9299341001

METHOD BLANK: 641028 Matrix: Water
Associated Lab Samples: 9299341001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	08/01/11 14:36	
1-Chloro-2-bromopropane (S)	%	88	60-140	08/01/11 14:36	

LABORATORY CONTROL SAMPLE & LCSD: 641029 641030

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.30	0.30	104	104	60-140	1	20	
1-Chloro-2-bromopropane (S)	%				87	86	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 641031 641032

Parameter	Units	9298707001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.29	.29	0.30	0.32	104	110	60-140	6	20	
1-Chloro-2-bromopropane (S)	%						87	90	60-140			

SAMPLE DUPLICATE: 641033

Parameter	Units	9298707002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	89	96	7		

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QUALITY CONTROL DATA

Project: H.W. DETWILER 15729
Pace Project No.: 9299341

QC Batch: MSV/16159
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 9299341001

METHOD BLANK: 640975
Matrix: Water
Associated Lab Samples: 9299341001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	08/01/11 15:30	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	08/01/11 15:30	
Benzene	ug/L	ND	1.0	08/01/11 15:30	
Diisopropyl ether	ug/L	ND	1.0	08/01/11 15:30	
Ethanol	ug/L	ND	200	08/01/11 15:30	
Ethyl-tert-butyl ether	ug/L	ND	10.0	08/01/11 15:30	
Ethylbenzene	ug/L	ND	1.0	08/01/11 15:30	
m&p-Xylene	ug/L	ND	2.0	08/01/11 15:30	
Methyl-tert-butyl ether	ug/L	ND	1.0	08/01/11 15:30	
Naphthalene	ug/L	0.37J	1.0	08/01/11 15:30	
o-Xylene	ug/L	ND	1.0	08/01/11 15:30	
tert-Amyl Alcohol	ug/L	ND	100	08/01/11 15:30	
tert-Amylmethyl ether	ug/L	ND	10.0	08/01/11 15:30	
tert-Butyl Alcohol	ug/L	ND	100	08/01/11 15:30	
tert-Butyl Formate	ug/L	ND	50.0	08/01/11 15:30	
Toluene	ug/L	ND	1.0	08/01/11 15:30	
Xylene (Total)	ug/L	ND	2.0	08/01/11 15:30	
1,2-Dichloroethane-d4 (S)	%	102	70-130	08/01/11 15:30	
4-Bromofluorobenzene (S)	%	98	70-130	08/01/11 15:30	
Dibromofluoromethane (S)	%	104	70-130	08/01/11 15:30	
Toluene-d8 (S)	%	101	70-130	08/01/11 15:30	

LABORATORY CONTROL SAMPLE: 640976

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	49.0	98	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1120	112	70-130	
Benzene	ug/L	50	47.0	94	70-130	
Diisopropyl ether	ug/L	50	48.0	96	70-130	
Ethanol	ug/L	2000	1930	96	70-130	
Ethyl-tert-butyl ether	ug/L	100	103	103	70-130	
Ethylbenzene	ug/L	50	50.9	102	70-130	
m&p-Xylene	ug/L	100	105	105	70-130	
Methyl-tert-butyl ether	ug/L	50	50.7	101	70-130	
Naphthalene	ug/L	50	58.8	118	70-130	
o-Xylene	ug/L	50	52.9	106	70-130	
tert-Amyl Alcohol	ug/L	1000	1090	109	70-130	
tert-Amylmethyl ether	ug/L	100	110	110	70-130	
tert-Butyl Alcohol	ug/L	500	449	90	70-130	
tert-Butyl Formate	ug/L	400	416	104	70-130	
Toluene	ug/L	50	47.9	96	70-130	

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QUALITY CONTROL DATA

Project: H.W. DETWILER 15729
Pace Project No.: 9299341

LABORATORY CONTROL SAMPLE: 640976

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	157	105	70-130	
1,2-Dichloroethane-d4 (S)	%			97	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Dibromofluoromethane (S)	%			97	70-130	
Toluene-d8 (S)	%			100	70-130	

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QUALIFIERS

Project: H.W. DETWILER 15729
Pace Project No.: 9299341

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine(8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1476393

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Emerald, Inc.	Report To: R. Lowder	Attention:
Address: 2520 Tahoe Dr. Sumter, SC 29150	Copy To:	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: 803.469.5454 Fax:	Project Name: H.W. Detwiler	Pace Project Manager:
Requested Due Date/TAT: Standard	Project Number: 15729	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTEX, Naph, MTBE (8260B)	8 oxygenates (8260B)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	WSW-1	~~W~~	G	7/29/11	0815				6				6						X	X	X		001
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

9299341

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
*Low Detection Limits	[signature]	7/29/11	1530	[signature] PACE	07/30/11	0900	2.1	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dalton Reames

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 7/29/11

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: July 29, 2011 Page 1 of 2
	Document Number: **F-CHR-CS-03-rev.05**	Issuing Authority: Pace Huntersville Quality Office

Client Name: Emerald Project # 9299341

Where Received: ☑ Huntersville ☐ Asheville ☐ Eden

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1102 **Type of Ice:** (Wet) Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor Add / Subtract _____ °C

Corrected Cooler Temp.: 2.1 °C **Biological Tissue is Frozen:** Yes No (N/A)

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AB 7/30/11

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A 1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A 2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A 3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A 4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A 5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A 6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A 7.
Sufficient Volume:	☑Yes	☐No	☐N/A 8.
Correct Containers Used:	☑Yes	☐No	☐N/A 9.
-Pace Containers Used:	☑Yes	☐No	☐N/A
Containers Intact:	☑Yes	☐No	☐N/A 10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A 11.
Sample Labels match COC:	☑Yes	☐No	☐N/A 12.
-Includes date/time/ID/Analysis Matrix: SL			
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A 13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☐No	Initial when completed
Samples checked for dechlorination:	☐Yes	☐No	☑N/A 14.
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A 15.
Trip Blank Present:	☐Yes	☐No	☑N/A 16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A
Pace Trip Blank Lot # (if purchased):			

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: LS **Date:** 7/30/11 **SRF Review:** GW **Date:** 7/30/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

SUMMARY of SLUG TEST (Page 1 of 2)

SOUTH CAROLINA
Department of Health and Environmental Control (DHEC)

Site Data

SITE ID # 15729 COUNTY Clarendon

FACILITY NAME H.W. Detwiler Company

SLUG DATA

See Appendix

Water Level Recovery Data was measured by: Manually with water level indicator

Complete the following table for each well tested.

Slug Test Conducted in well(s) number	MW-3	MW-12	MW-24	
Initial Rise/Drawdown in well (feet)	0.45	0.16	3.05	
Radius of well casing (feet)	0.083	0.083	0.083	
Effective Radius of Well (feet)	0.66	0.66	0.66	
Static Saturated Aquifer Thickness (feet)	7.30	5.30	5.55	
Length of Well Screen (feet)	10	10	10	
Static Height of Water Column in Well (ft)	7.30	5.30	5.55	

Calculations

See Appendix _____ Table _____ Figure _____ for calculations
The method for aquifer calculations was NAVFAC
Calculated values by well were as follows:

Slug Test Conducted in Well(s) number	MW-3	MW-12	MW-24	
Hydraulic Conductivity	2.28E-04	3.51E-04	1.33E-04	cm/sec

Thickness of the aquifer used to calculate hydraulic conductivity was N/A feet.
The aquifer is _____ confined X semi-confined _____ water table (Check as Appropriate).

SEE SHEET 3

The estimated seepage velocity is 6 feet per year based on a hydraulic conductivity of 2.37E-04 cm/sec, a hydraulic gradient of 6.20E-03 ft/ft, and a porosity of 25 percent for Silty Clayey SAND soil.

SUMMARY of SLUG TEST

Groundwater Seepage Velocity Calculations (Page 2 of 2)

SOUTH CAROLINA
Department of Health and Environmental Control (DHEC)

Site Data

SITE ID # 15729 COUNTY Clarendon

FACILITY NAME H.W. Detwiler Company

Hydraulic Conductivity (average)

Hydraulic Conductivity Average = 2.37E-04 cm/sec

6.73E-01 ft./day

4.67E-04 ft./min

Groundwater Seepage Velocity

V = (Ki)/(Ne)
(ft./day)

* Enter Values in Shaded Areas Only

where:

K = Hydraulic Conductivity (ft./day)
I = Hydraulic Gradient (ft./ft.)
Ne = Effective Permeability

K = 6.73E-01 ft./day
I = 6.20E-03 ft./ft.
Ne = 0.25

V = **1.7E-02** ft./day **6** ft./year

*Format from SCDHEC Website

Groundwater Seepage Velocity Calculations

Inflow Permeability Calculation

Project: H.W. Detwiler Company
Well Number MW-3
Test Date 7/13/2011

Single Cased Well

Static: 17.70 ft

Time (min)	Depth	delta H	Ht/Ho
0.25	18.15	0.45	1.00
0.50	18.05	0.35	0.78
0.75	17.99	0.29	0.64
1.00	17.96	0.26	0.58
1.25	17.92	0.22	0.49
1.50	17.90	0.20	0.44
1.75	17.88	0.18	0.40
2.00	17.86	0.16	0.36
2.25	17.84	0.14	0.31
2.50	17.83	0.13	0.29
2.75	17.82	0.12	0.27
3.00	17.81	0.11	0.24
3.50	17.79	0.09	0.20
4.00	17.77	0.07	0.16
4.50	17.76	0.06	0.13
5.00	17.75	0.05	0.11

Information from data and plot of Ht/Ho vs time

Bore Hole Diameter:	6	in
Total Depth of Well:	25	ft
Stand Pipe Area:	28.27	in^2
	0.20	ft^2

Coordinates from Graph for Slope Calc:

H1/Ho:	0.58	
t1:	1.00	min
H2/Ho:	0.16	
t2:	4.00	min

H1:	0.26	H2:		0.07
t1:	1.00	t2:		4.00
Radius	R:	3.00	in	
Radius	R:	0.25	ft	
Depth	D:	7.30	ft	
	R/D:	0.034		
	D/R:	29.20		

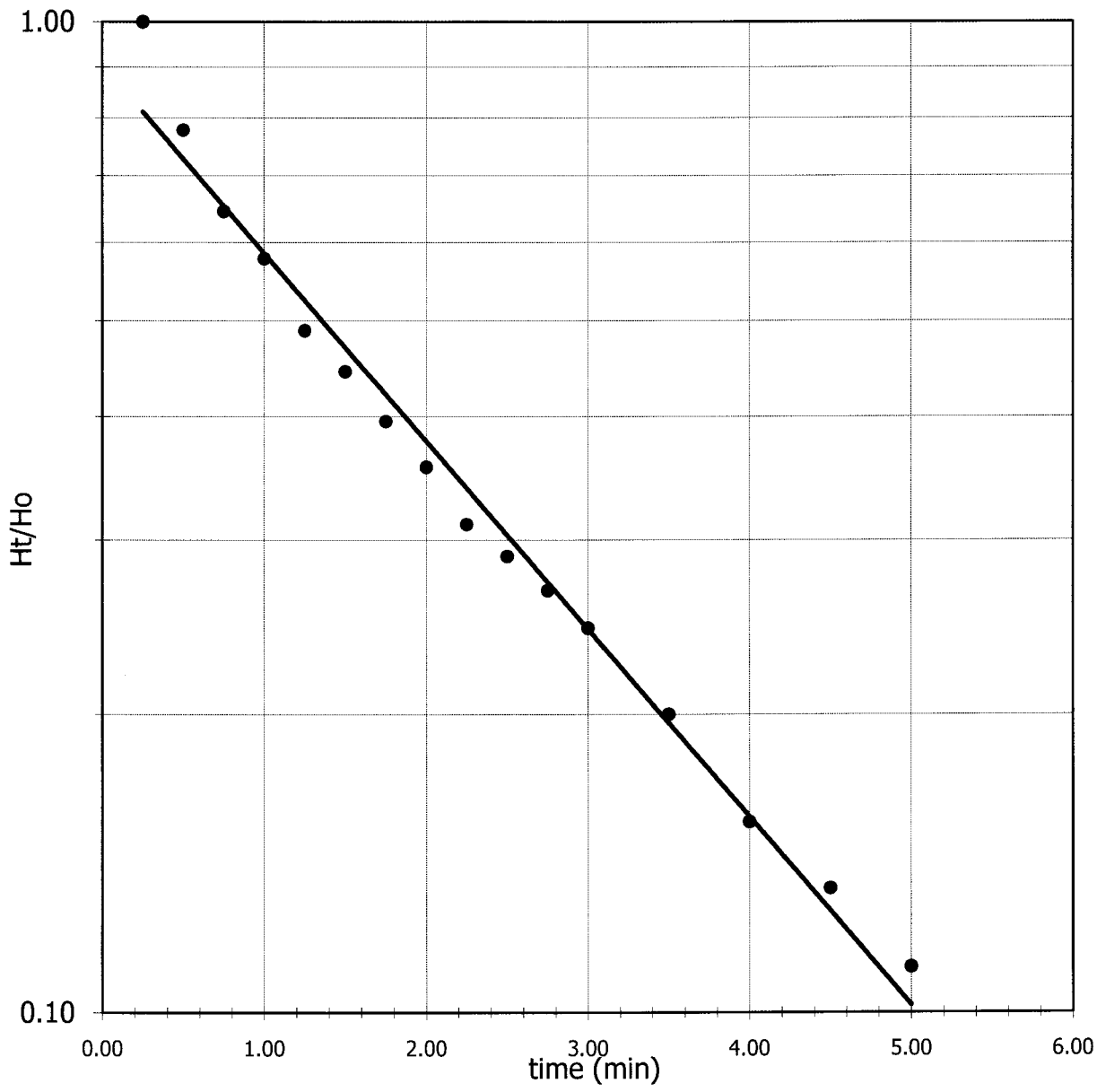
Shape Factor Determination Value: 0.977192 *

*This value is used in conjunction with
Figure 13 of Reference [1] to obtain the shape factor.

Shape Factor S: 0.3

Coeff. of Permeability (K):
4.49E-04 ft/min
6.47E-01 ft/day
2.28E-04 cm/sec

From: Naval Fac. Engr. Command


1.00
0.10
Ht/Ho
0.00
1.00
2.00
3.00
4.00
5.00
6.00
time (min)

Inflow Permeability Calculation

Project: H.W. Detwiler Company
Well Number MW-12
Test Date 7/13/2011

Single Cased Well

Static: 19.70 ft

Time (min)	Depth	delta H	Ht/Ho
0.50	19.86	0.16	1.00
0.75	19.81	0.11	0.69
1.00	19.80	0.10	0.63
1.25	19.78	0.08	0.50
1.50	19.77	0.07	0.44
2.00	19.75	0.05	0.31
2.75	19.75	0.05	0.31
3.00	19.74	0.04	0.25
4.00	19.73	0.03	0.19
5.00	19.72	0.02	0.12

Information from data and plot of Ht/Ho vs time

Bore Hole Diameter:	6	in
Total Depth of Well:	25	ft
Stand Pipe Area:	28.27	in^2
	0.20	ft^2

Coordinates from Graph for Slope Calc:

H1/Ho:	0.63	
t1:	1.00	min
H2/Ho:	0.19	
t2:	4.00	min

H1:	0.10	H2:	0.03
t1:	1.00	t2:	4.00

Radius	R:	3.00	in
Radius	R:	0.25	ft
Depth	D:	5.30	ft
	R/D:	0.047	
	D/R:	21.20	

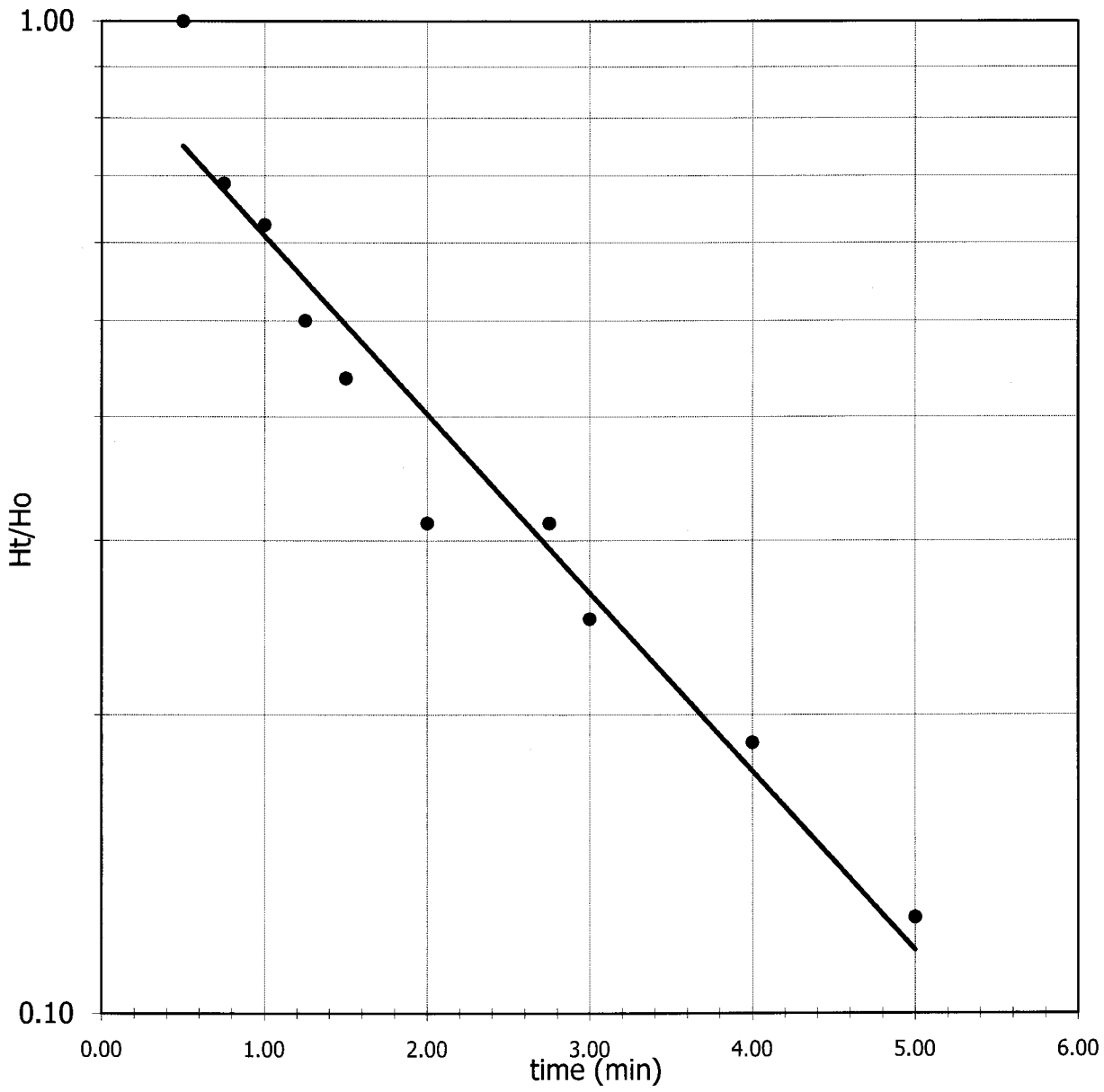
Shape Factor Determination Value: 0.987623 *

*This value is used in conjunction with
Figure 13 of Reference [1] to obtain the shape factor.

Shape Factor S: 0.1

Coeff. of Permeability (K):
6.92E-04 ft/min
9.96E-01 ft/day
3.51E-04 cm/sec

From: Naval Fac. Engr. Command


1.00
0.10
Ht/Ho
0.00
1.00
2.00
3.00
4.00
5.00
6.00
time (min)

Inflow Permeability Calculation

Project: H.W. Detwiler Company
Well Number MW-24
Test Date 7/13/2011

Single Cased Well

Static: 19.45 ft

Time (min)	Depth	delta H	Ht/Ho
0.25	22.50	3.05	1.00
0.50	21.41	1.96	0.64
0.75	21.34	1.89	0.62
1.00	21.27	1.82	0.60
1.25	21.20	1.75	0.57
1.50	21.13	1.68	0.55
2.00	21.00	1.55	0.51
2.50	20.86	1.41	0.46
3.00	20.76	1.31	0.43
3.50	20.66	1.21	0.40
4.00	20.53	1.08	0.35
5.00	20.38	0.93	0.30
6.00	20.25	0.80	0.26
8.00	20.00	0.55	0.18
9.00	19.91	0.46	0.15
10.00	19.83	0.38	0.12

Information from data and plot of Ht/Ho vs time

Bore Hole Diameter:	6	in
Total Depth of Well:	25	ft
Stand Pipe Area:	28.27	in^2
	0.20	ft^2

Coordinates from Graph for Slope Calc:

H1/Ho:	0.51	
t1:	2.00	min
H2/Ho:	0.18	
t2:	8.00	min

H1:	1.56	H2:	0.55
t1:	2.00	t2:	8.00

Radius	R:	3.00	in
Radius	R:	0.25	ft
Depth	D:	5.55	ft
	R/D:	0.045	
	D/R:	22.20	

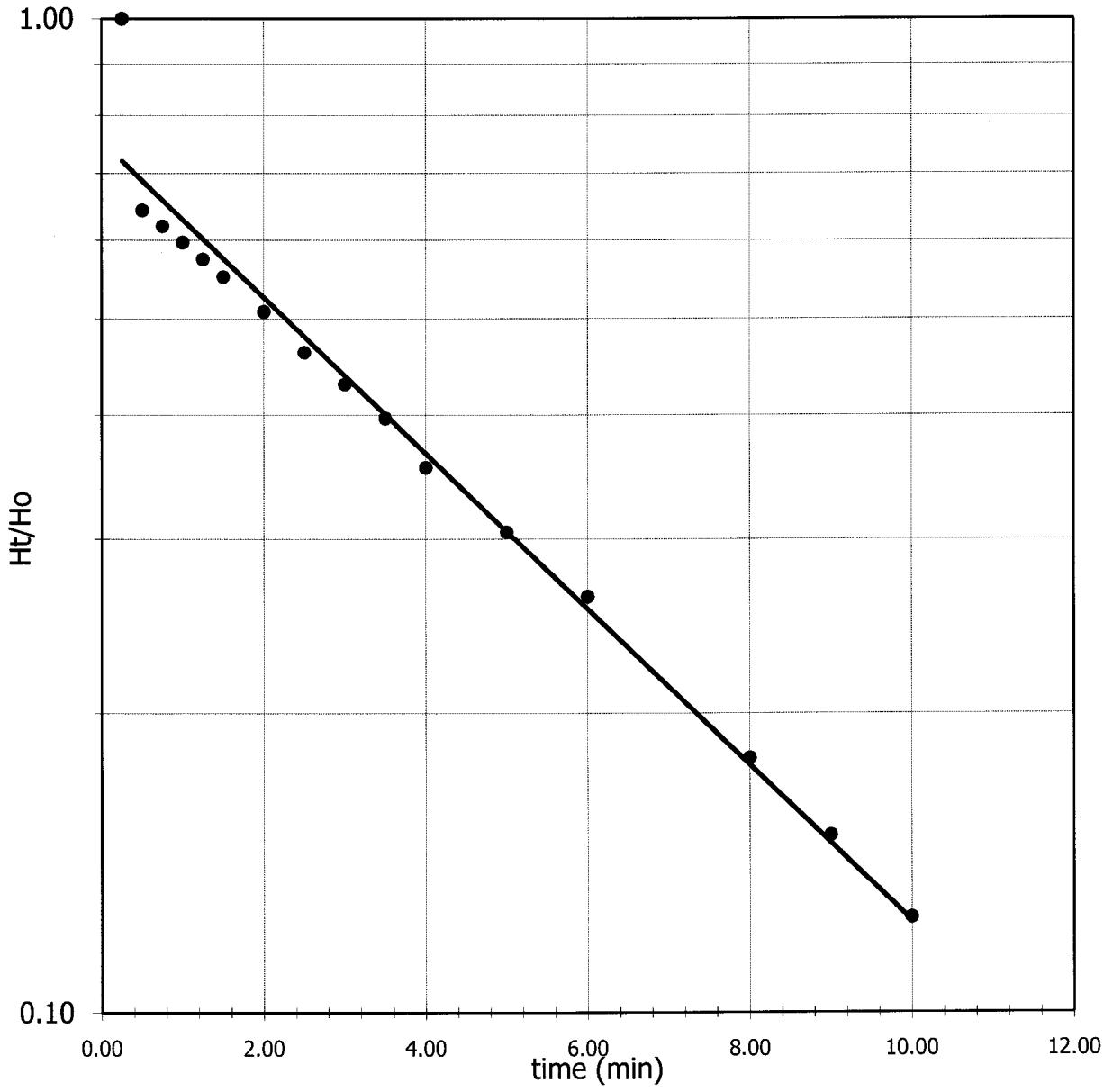
Shape Factor Determination Value: 0.810405 *

*This value is used in conjunction with
Figure 13 of Reference [1] to obtain the shape factor.

Shape Factor S: 1.8

Coeff. of Permeability (K):
2.62E-04 ft/min
3.78E-01 ft/day
1.33E-04 cm/sec

From: Naval Fac. Engr. Command


1.00
0.10
Ht/Ho
0.00
2.00
4.00
6.00
8.00
10.00
12.00
time (min)

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

E-MAIL:
emeraldinc@ftc-i.net

TELEPHONE (803) 469-5454
FAX (803) 469-5465

September 6, 2011

Mr. Joel Padgett, P.G., Geologist/Hydrologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, SC 29201-1708

RE: Purge Water Treatment
H. W. Detwiler Company
37 South Church Street
Summerton, South Carolina
UST Permit # 15729
Claredon County

Dear Mr.Padgett:

Emerald, Inc. is providing this letter to certify the on-site treatment of purge water at the subject site. This purge water was treated in compliance with the conditions set forth in "Proposed Conditions for use of Portable Activated Carbon Units for the Treatment of Small Volumes of Petroleum Hydrocarbon Contaminated Groundwater".

Applicability:

Groundwater to be treated is generated from well development and sampling.

Conditions:

1. The purge and development water is mixed prior to treatment by the activated carbon unit.
2. Free product was not detected in the purge water.
3. Groundwater analytical results from monitoring wells indicate average concentrations of hydrocarbons to be less than 5,000 parts per billion (ppb) Benzene and less than 20,000 ppb total BTEX.
4. The carbon filter material will be replaced after 5,000 gallons of treatment.

5. A record of usage will be maintained by the Contractor.
6. The manufacturer's recommendations have been adhered to.
7. Any SCDHEC recommendations and any conditions set forth by SCDHEC will be adhered to.

Purge waters were treated on-site by Emerald, Inc. personnel using a treatment drum loaded with approximately 50 pounds of activated carbon. This carbon will be loaded to a maximum amount of 3 pounds of total organic carbon or 5,000 gallons of development/purge water, whichever occurs first. Cumulative organic compounds absorbed by the activated carbon is tracked to ensure the capacity of the carbon is not exceeded.

Origin of Water	Treatment Date	Amount
Development Water	5/26/11	2 Drums
Purge Water	7/11/11	1 Drum
Purge Water	7/13/11	1 Drum

If you have any additional questions please contact Emerald, Inc. at you're convenience. Emerald, Inc can be reached at 803-469-5454.

Yours very truly,
EMERALD, INC.

William C. McClary, P.G.
Project Geologist

WASTE MANAGEMENT

Richland County LF
1047 Highway Church Road
Elgin, SC, 29045
Ph: (803) 788-3054

Original
Ticket# 1102415

Customer Name EMERALDINC_901 EMERALD INC
Ticket Date 05/24/2011
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 0
Destination
PO
Profile 102214SC (NON HAZ PETROLEUM CONTAMINATED SOIL)
Generator 126-EMERALDINCVAR EMERALD INC - VARIOUS

Carrier Emerald
Vehicle# F350
Container
Driver
Check#
Billing # 0000901
Gen EPA ID NR

Volume

	Time	Scale	ScaleMaster
In	05/24/2011 07:15:25	Scale1	Dwayne
Out	05/24/2011 07:35:06	Scale2	Dwayne

Gross	18040 lb
Tare	11400 lb
Net	6640 lb
Tons	3.32

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	ContSoilPet-Tons-C	100	3.32	Tons				40-RICHLAN
2	FUEL-Fuel Surcharg	100		%				40-RICHLAN
3	EVF-P-Standard Env	100		%				40-RICHLAN

- Causar's 1/4
- Detwiler's 3/4 = 2.49 tons

Total Fees
Total Ticket

SIGNATURE

403WM

SPECIAL WASTE MANIFEST

102214SC	*Richland Landfill* 1047 Highway Church Road Elgin, SC 29045 Special Waste Phone: 803-788-3054 x1012 Fax: 866-904-7194
EXPIRATION DATE January 24, 2014	Prepared by: Shafonte Burrell/Carol Weldon

GENERATOR OF WASTE: Emerald, Inc. - various

CUSTOMER Emerald, Inc. ACCOUNT NUMBER: 820-901

LOCATION OF WASTE: Site:

CITY: COUNTY: Richland

PHONE NUM 803-469-5454 CONTACT:

FAX NUMBE 803-469-5465

GENERATOR'S SIGNATURE DATE:

TRANSPORTER OF WASTE: Emerald, Inc.

DATE: 5/24/11 TRUCK NUMBER: F 350

DRIVER'S SIGNATURE Dalton Reames

****** TO BE COMPLETED BY RICHLAND LANDFILL********

DISPOSAL SITE: RICHLAND LANDFILL ELGIN, SC

Waste Class: Soil

DESCRIPTION OF WASTE: Non-Hazardous Petroleum contaminated Soil

TICKET NUMBER: 1102415

RECEIVED BY: AM

D H E C
PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

MR HAROLD DETWILER JR
PO BOX 760
SUMMERTON SC 29148-0760

OCT 27 2011

Re: QAPP Contractor Addendum
H.W. Detwiler Company, 37 South Church Street, Summerton, SC
UST Permit #15729
Release reported June 22, 1993
Clarendon County

Dear Mr. Detwiler:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (SCDHEC) recognizes your commitment to continue work at this site using Emerald, Inc. as your contractor. The next scope of work is monitoring well installation as outlined in the UST Quality Assurance Program Plan (QAPP). Please have your contractor plan to install twenty-two shallow monitoring wells in accordance with the QAPP and in compliance with all applicable regulations. The wells should be installed at the locations indicated on the enclosed site map. A copy of the QAPP is available at http://www.dhec.sc.gov/environment/lwm/html/ust.htm.

Your contractor must complete and submit a QAPP Contractor Addendum and cost agreement for the aforementioned scope of work within 30 days of the date of this letter. Upon review and approval of the Addendum and cost agreement, the Division will issue a directive to Emerald for the work.

On all correspondence concerning this site, please reference UST Permit #15729. If there are any questions, feel free to contact me by telephone at (803) 896-6398, by fax at (803) 896-6245, or by e-mail at padgetjp@dhec.sc.gov.

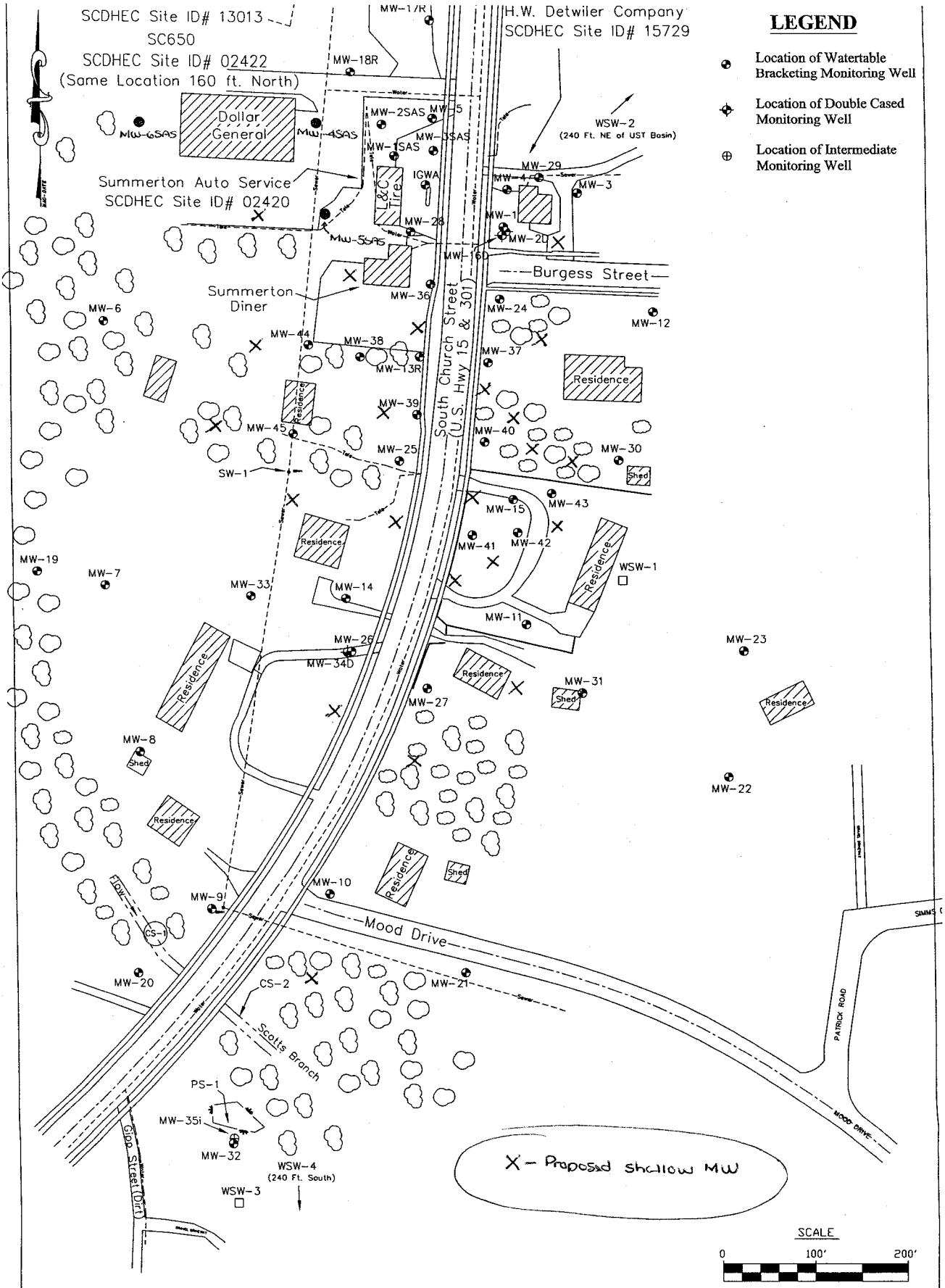
Sincerely,

Joel P. Padgett, P.G., Geologist/Hydrologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

JPP/jpp
15729.3

enc: Site map
cc: Emerald, Inc., P.O. Box 3050, Sumter, SC 29151
Technical file

DHEC/UST/JPP/101011



PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 SITE MAP	E1390DWLO WORK DATE(S): 7/11/11, 7/13/11, 7/29/11	SUMTER, SOUTH CAROLINA

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

November 15, 2011

Mr. Joel Padgett, P.G.
Corrective Action Section
Underground Storage Tank Management
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, SC 29201

QAPP Contractor Addendum
H.W. Detwiler Company
37 South Church Street
Summerton, South Carolina
SCDHEC Site ID# 15729

Mr. Padgett,

Please find the attached QAPP Contractor's Addendum, proposed costs, and Figures for installation of additional monitoring wells at the subject site. If you have any questions or concerns please feel free to contact Emerald, Inc at 803-469-5454.

Sincerely,

William C. McClary, P.G.
Project Manager

Attachments
Appendix A – Quality Assurance Program Plan (Contractor's Addendum)
Appendix B - Example Chain of Custody
Appendix C - Assessment Plan and Cost Agreement
Appendix D - Figures

Appendix A

Quality Assurance Program Plan

(Contractor's Addendum)

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan Revision 1
Addendum to the SC DHEC UST Programmatic QAPP
For
H.W. Detwiler Company
SCDHEC Site ID# 15729

---

37 South Main Street
Summerton, South Carolina

Prepared by
William C. McClary, P.G.
Project Manager
Emerald, Inc
2520 Tahoe Drive
Sumter, South Carolina
SCDHEC Site Rehabilitation Contractor Certification Number UCC-067
Phone : 803-469-5454

Date: November 14, 2011

Approvals

Joel P. Padgett, P.G. SC DHEC Project Manager	_____ Signature	Date_____
Ronny L Lowder Project QA Manager	_____ Signature	Date 11/17/2011
William C. McClary, P.G. Project Manager	_____ Signature	Date 11-17-11
Jeff Graham Laboratory Director	_____ Signature	Date 11/15/2011

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A6 Project/Task Description 6
A7 Data Quality Objectives (DQOs) and Data Quality Indicators (DQIs) 7
A8 Training and Certificates 7
A9 Documents and Records 8

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B3 Sample Handling and Custody 11
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A3 Distribution List

Name	Title	Organization/Address	Telephone Number	Fax Number	Email Address
Joel Padgett, P.G.	SC DHEC Technical Project Manager	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6398	803-896-6245	padgetjp@dhec.sc.gov
Ronny Lowder	Project QA Officer	Emerald, Inc. P.O. Box 3050 Sumter, SC 29151	803-469-5454	803-469-5465	rllemerald@ftc-i.net
William McClary, P.G.	Project Manager/ Site Rehabilitation Contractor	Emerald, Inc. P.O. Box 3050 Sumter, SC 29151	803-469-5454	803-469-5465	wcmemerald@ftc-i.net
Jeff Graham	Laboratory Director	Pace Analytical Services 9800 Kincey Ave Suite 100 Huntersville, NC 28078	704-875-9092	704-875-9091	jeff.graham@pacelabs.com

Table 1A Addendum Distribution List

A4 Project Organization

Role from the UST Master QAPP	Person in this Role for Project	Organization/Address	Telephone Number	Fax Number	Email Address
SCDHEC Project Manager	Joel Padgett, P.G.	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6398	803-896-6245	padgetjp@dhec.sc.gov
Project QA Officer	Ronny Lowder	Emerald, Inc. P.O. Box 3050 Sumter, SC 29151	803-469-5454	803-469-5465	rllemerald@ftc-i.net
Project Manager/Site Rehabilitation Contractor	William McClary, P.G.	Emerald, Inc. P.O. Box 3050 Sumter, SC 29151	803-469-5454	803-469-5465	wcmemerald@ftc-i.net
Well Drilling Services	Steve Taylor	Geologic Exploration, Inc. 176 Commerce Drive Statesville, NC 28625	1-800-752-8853	704-872-0248	staylor@gexnc.com
Surveying	Jay S. Joshi	Construction Support Services, Inc.	803-776-9909	803-776-2688	jsjoshi@constructionsupportsc.com

Role from the UST Master QAPP	Person in this Role for Project	Organization/Address	Telephone Number	Fax Number	Email Address
Soil Disposal	Carol Weldon	Waste Management, Inc P.O. Box 55 Emelle, Alabama 35459	205-652-9721		cweldon@wm.com
Water Disposal	Tommy Keels	TK Tank Services 425 Boulevard Road Sumter, SC 29150	803-418-5314		tommy@tktanksv.com
Analytical Laboratory Director	Jeff Graham	Pace Analytical Services 9800 Kincey Ave Suite 100 Huntersville, NC 28078	704-875-9092	704-875-9091	jeff.graham@pacelabs.com

Table 2A Addendum Role Identification and Contact Information

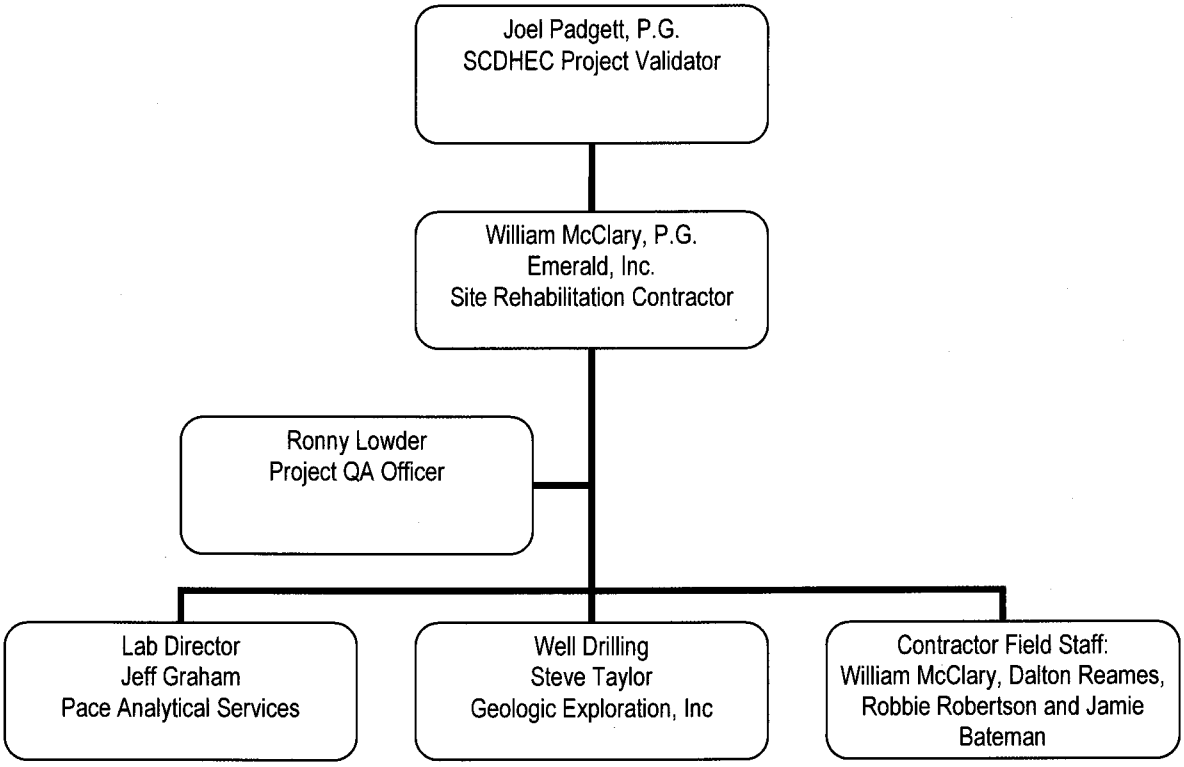


Figure 1A Organizational Chart

Definitions of Project Roles

Project QA Officer

The project QA officer (Mr. Ronny Lowder) provides review of field work, documentation of calibration for field instruments, laboratory data, and technical review of reports produced utilizing this data. The QA

officer will independently review data generated from this project and determine if the data meets QA/QC criteria as set forth in the SC DHEC UST Programmatic QAPP.

Project Manager

The project manager (Mr. William C. McClary, P.G.) will be responsible for work conducted during this scope of work and the primary point of contact. His duties will include development of the site specific QAPP, supervising field work, documenting any QA failures, determining corrective actions to QA failures, and preparing reports for submission to SCDHEC. The Project Manager is responsible for overseeing adherence to the site specific QAPP during all phases of work.

Contractor Field Staff

The contractor field staff will perform sampling and field activities per the QAPP document under the direction of the Project Manager. Field staff will be responsible for collection sampling related data and calibration of field instruments. The Project Manager, in certain situations, may also be a member of the Field Staff.

A5 Problem Definition/Background

Discuss the background (as much as is known) of the site and appropriate historical information, and why this site is being assessed.

The H.W. Detwiler Company site is located at 37 South Church Street in Summerton, Clarendon County, SC. The site is currently utilized as an office building and formerly maintained two gasoline USTs of unknown size. A release of petroleum product was reported to SCDHEC in June of 1993 and confirmed in July of 1993. The current monitoring well network at the subject site contains a total of forty shallow, one intermediate and three deep monitoring wells. In a QAPP request letter dated October 27, 2011, SCDEHC requested the installation of twenty-two additional shallow monitoring wells at the subject site to better define the free product plume.

Please answer the following: Does this project fall under UST or Brownfields area?

UST area

A6 Project/Task Description

1. ***Summarize what is known about the work to be done. This can be a short sentence indicating what the Scope of this project is (see Master QAPP Section A6).***
   As requested by SCDHEC, Emerald, Inc., will install twenty-two additional monitoring wells at locations selected by SCDHEC to better define the free product plume.

2. ***The work will begin within*** 15 days ***after cost approval and drilling should be complete within*** 70 days.

3. ***Are there are time or resource constraints? Include those factors that may interfere with the tentative schedule.***

The proposed schedule may be affected by factors including weather, equipment malfunctions, the holiday season, and obtaining off site access.

A7 Data Quality Objectives (DQOs) and Data Quality Indicators (DQIs)

A site location map (Figure 1) showing the location of the site in relation to roadways, a USGS topographic map (Figure 2), and a site map illustrating proposed drilling locations (Figure 3) are presented in Appendix C.

A8 Training and Certificates

Required training and licenses:

Title/Job	Name	Training Required	Date training received	Type of License	License Number
Contractor	William C. McClary, P.G.			Certified Contractor	67
Project Manager	William C. McClary, P.G.	Professional Geologist	2004	P.G.	2386
		OSHA 8hr Refresher	5/27/11		
Field Manager	Dalton Reames	OSHA 8hr Refresher	5/27/11		
Field Staff	Robbie Robertson	OSHA 40 hr	9/23/11		
Field Staff	Jamie Bateman	OSHA 8hr Refresher	5/27/11		
Well Driller	James Hess, Jr.	OSHA 8hr Refresher	4/30/11		C 1929
		Well Driller	9/13/11		C 01929
Well Driller	Daniel Summers	OSHA 8hr Refresher	4/30/11		
		Well Driller			B 01430
Well Driller	Jonathan Burr	OSHA 8hr Refresher	4/30/11		
		Well Driller			C 01740
Surveying	Jay S. Joshi	SC Registered Surveyor	6/1/92	PLS	14811
Lab Manager	Jeff Graham	BS Chemistry	May 1984	Lab Certification	SC 9900601

Table 3A Required Training and Licenses

William C. McClary of Emerald, Inc. is responsible to ensuring that personnel participating in this project receive the proper training. All training records will be stored in the following location: 2520 Tahoe Drive, Sumter, SC.

It is understood that training records will be produced if requested by SC DHEC.
The Following Laboratory(ies) will be used for this Project: Pace Analytical Services, Inc.

Commercial Lab(s)

Please give the information as listed below for each Laboratory that is being used for sample analysis.

Full Name of the Laboratory Pace Analytical Services, Inc.-Huntersville
Name of Lab Director Jeff Graham
SC DHEC Certification Number 9900601
Parameters this Lab will analyze for this project:

Soils
BTEX and Naphthalene by EPA Method 8260B
PAH's by EPA Method 8270C

Full Name of the Laboratory Pace Analytical Services, Inc,- Asheville
Name of Lab Director C B Johnson
SC DHEC Certification Number 9903001
Parameters this Lab will analyze for this project:

Please note: SC DHEC may require that the contractor submit some or all of the Laboratory's SOPs as part of this QAPP.

A9 Documents and Records

Personnel will receive the most current version of the QAPP Addendum via:
(Check all that apply)

__X__US Mail ____Courier __X__Hand delivered

Other (please specify):_____

Record	Produced By	Hardcopy/ Electronic	Storage Location For how long?	Archival
Instrument Raw Data	Target software	Electronic	To Disc –offsite storage for 5 yrs	Yes
Laboratory Reports	Pace Analytical, Inc.	Hardcopy/Electronic	At Office/minimum 5 Years	Yes
Final Reports	LIMS	Electronic	Tape backup – offsite	Yes

Record	Produced By	Hardcopy/ Electronic	Storage Location For how long?	Archival
			storage for 5 years	
Monitoring Report	Emerald, Inc	Hardcopy/Electronic	At Office/minimum 5 Years	Electronic Copy

Table 4A Record Identification, Storage, and Disposal

Section B Measurement/Data Acquisition

B1 Sampling Process/Experimental Design

D is the date of the letter approving the QAPP Contractor Addendum

Item	Start Date	End Date	Comments
Site Visit	11/11/11	11/11/11	Site visit - to assess site conditions
QAPP Preparation	11/10/11	11/14/11	
QAPP Approval	11/14/11	11/21/11	Estimated 1 week turnaround
Off-Site Access	11/21/11	12/21/11	Allowing 30 days to obtain access
Well Drilling	1/3/12	1/8/12	
Soil Sampling	1/3/12	1/8/12	
Well Development	1/3/12	1/8/12	
Soil Samples Delivered to Laboratory	1/5/12	1/8/12	Samples sent via FedEx or BeavEx
Soil Samples are Analyzed by Lab	1/9/12	1/19/12	
Project data verified and report prepared	1/20/12	1/30/12	
Surveying	1/10/12	1/11/12	
Report submitted to SCDHEC project manager	2/15/12	NA	

Table 5A Sampling Activities

B2 Sampling Methods

Please note: The contractor must follow sampling protocols as given in the UST QAPP.

***Estimate* the number of samples of each matrix that are expected to be collected:**

Soil Samples	4 (wells near possible former UST site)
Gauge Well Only	
Ground Water (purge)	
Groundwater (no purge)	
Surface water/water supply wells	
Duplicate Samples	1
Field Blanks	2 (2 Field Days)
Trip Blanks	1
Total number of Samples	8

The samples will be (check as many as apply): X Grab ____Split

For the sample matrices indicated above, please describe how samples will be collected and the equipment needed. Soil samples will be collected using direct push equipment to collect a continuous soil sample until the desired depth is reached. Soil will be screened in the field using a properly calibrated photoionization detector (PID) at five foot intervals and the depth exhibiting the highest response above the watertable will be placed in laboratory supplied container for analysis.

Will Sampling Equipment have to be cleaned and decontaminated or is everything disposable?
Soil sampling equipment is disposable and will be properly disposed of after one use.

If sampling equipment must be cleaned please give a detailed description of how this is done and the disposal of by-products from the cleaning and decontamination.
Not applicable, soil sampling equipment is disposable.

Identify any equipment and support facilities needed. This may include such things as Fed-ex to ship the samples, a Geoprobe, field analysis done by another contractor (who must be certified), and electricity to run sampling equipment.
Well drilling will be conducted by Geologic Exploration, Inc. utilizing an ATV mounted drilling rig (Geoprobe) to install the monitoring wells. Wells will be installed using 7.5-inch outer diameter hollow stem augers to construct the borehole. Each well will be completed with a ten foot 0.010 slot screen installed to bracket the watertable. Well sand pack will consist of #2 clean washed sand placed a minimum of 1.5 feet above

the well screen. A minimum of a one foot bentonite seal will be placed above the sand pack and a portland grout will used to fill the borehole to ground surface. All wells will be installed in accordance with the SC Well Standards and Regulations (R-61-71). Soil cuttings will be disposed of by Emerald, Inc. personnel at the Waste Management Richland County Landfill in Elgin, SC. After well installation, each well will be developed by pumping until the turbidity is reduced. Wells containing free product will be purged using disposable PVC bailers and purge water drummed for disposal. Construction Support Services will provide a RSL survey of the site to determine horizontal and vertical locations of the newly installed wells.

Address the actions to be taken when problems occur in the field, and the person responsible for taking corrective action and how the corrective action will be documented.

Failure	Response	Documentation	Individual Responsible
Equipment Failure	Contact William McClary. Clean and attempt to repair in the field. Use alternate equipment if available.	Record on field sheets noting date, problem and actions taken to correct problem.	William McClary, P.G.
Loss or Delay of Samples	Resample	Notice by Pace Analytical	Pace Analytical
Sample failure (out of hold, temp. limit exceeded, ect.)	Resample	Notice by Pace Analytical	Pace Analytical

Table 6A Field Corrective Action

B3 Sample Handling and Custody

1. ***How will the samples get from the Site to the Lab to ensure holding requirements are met?***
Samples will be shipped by overnight courier to Pace Analytical Services, Inc. in Huntersville, NC. Short hold time samples will be shipped on the date collected. Non-short hold time samples will be shipped on the day collected or the following day.

2. ***How will the contactors cool the samples and keep the samples cool?***
Samples will be placed in ice filled coolers immediately after sample collection. In the field, ice levels will be monitored throughout the day to ensure proper sample temperatures are maintained. Prior to shipment, additional ice will be added to the coolers to maintain desired sample temperatures until arrival at the laboratory.

3. ***How will the lab determine the temperature of the samples upon receipt? Will they be using a temperature blank?***
Laboratory procedures are presented in the most recent revision of SOP S-CAR-C-001, Sample Management are used. The laboratory personnel will open the cooler and verify the temperature of the samples by taking the temperature of the temperature blank. If there is no temperature blank in the cooler, measure the temperature of a representative sample bottles using the infrared (IR) thermometer gun.

4. ***Where will the samples be stored in the Lab once they are received?***

The procedures in the most recent revision of SOP S-CAR-C-001, Sample Management are used. Once logged in and labeled, samples are place in the appropriate storage areas. Specific temperature requirements are outlined in the analytical methods, but general guidelines are outlined below.

Short hold samples are placed in the short hold storage area or delivered directly to the laboratory.

Volatile Analyses

Aqueous samples are stored by receiving date or by project number in a segregated volatiles cooler. Associated trip blanks are stored with the samples.

Soil and other solid samples received preserved in methanol are stored by receiving date or by project number in a segregated volatiles cooler. Associated trip blanks are stored with the samples.

Soil and other solid samples received preserved with a stir bar, or deionized water and a stir bar, are stored by receiving date or by project number in a segregated volatiles freezer. Associated trip blanks are stored with samples.

Soil and other solid samples received in 4oz containers or similar bottleware must be preserved within 48 hours. In order to preserve these samples, it is necessary to collect a 5g aliquot of the sample and transfer it to a 40mL vial. One of the following preservation options must be utilized:

The 5g aliquot is preserved with a stir bar, 5mL of deionized water and a stir bar, or 5mL of sodium bisulfate and a stir bar and stored in a freezer until analysis, or

Within 48 hours of collection in the field, the 5g aliquot must be immediately extracted with 5mL of methanol and stored in a segregated volatiles cooler until analysis, or

Within 48 hours of collection in the field, the 5g aliquot can be preserved with 10mL of deionized water and a stir bar, stored in a segregated volatiles cooler and analyzed within 48 hours of collection.

General Chemistry and Semi-volatile Analyses

Waters and other liquid samples are staged by receiving date or by project number on the shelves in the appropriate sample storage cooler.

Soils and other solid samples are staged by receiving date or by project number on the shelves in the appropriate sample storage cooler.

Metals

Solids and Liquids: These samples are staged by receiving date or by project number on designated shelving in the laboratory or appropriate designated area. These samples may be stored at ambient temperature unless Mercury or Hexavalent Chromium analysis is needed. If Mercury or Hexavalent Chromium analysis will be performed, the samples are staged by receiving date or by project number in the appropriate sample storage cooler. Samples requiring low level mercury analysis by Method 1631 are taken to the clean room for preservation and ambient storage.

5. ***Describe the chain of custody procedure and attach a copy of each chain of custody that will be used. If a Chain of Custody SOP exists from the Lab and the Contractor is willing to adhere to it, then this may be attached.***
Laboratory Chain of Custody procedures are outlined in the most recent revision of SOP S-CAR-C-001, Sample Management. Emerald, Inc. field personnel will prepare the chain of custody form in the field. The project manager will review the chain of custody upon return to the office. Prior to shipment of the samples, copy two of the chain of custody will be removed for Emerald's records. The remaining chain of custodies will be placed in the sample cooler in a waterproof bag.

B4 Analytical Methods

1. ***Identify the SOPs which will be used to analyze the samples, the method which the SOP references and the equipment or instrumentation that is needed:***

Parameter	SOP ID*	Method Referenced	Equipment	Comments
8260	S-CAR-0-023	8260B	Purge and Trap Mass Spectrometer System	
8011	S-CAR-O-020	8011	GC ECD	
8270	S-CAR-O-015	8270D	Direct Inject Mass Spectrometer System	
8270 SIM PAH	S-CAR-O-052	8270D	Direct Inject Mass Spectrometer System	
Lead	S-ASV-I-043	EPA 6010C	ICP Varian ICP Thermo Elemental	
RCRA Metals	S-ASV-I-043 S-ASV-M-020	6010C 245.1 7470A 7471B	ICP, Mercury Analyzer	
Nitrate	S-ASV-021	353.2	Flow Injection Analysis Lachat 8000	
Sulfate	S-ASV-058	300.0	IC Compact Filtration Processor	
Methane				
TPH-DRO	sub			
TOC	sub			
Dissolved Oxygen		SM 4500-O-G	Exstik DO 600	Field Analysis - Calibrate by owners manual prior to testing
pH		SM 4500-B	Exstik EC 500	Field Analysis - Calibrate by owner's manual prior to testing
Conductivity		SM 2520-B	Exstik EC 500	Field Analysis - Calibrate by owner's manual prior to testing

Table 7A Analytical SOPs and Referenced Methods

- **This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.**

Abbreviation	Lab Identification of this SOP	Full Name of the SOP
S-CAR-O-023	S-CAR-O-023-rev.08	Determination of Volatile Organic Compounds by GC/MS
S-CAR-O-020	S-CAR-O-020-rev.05	Determination of EDB, DBCP and TCP in Water by Microextraction
S-CAR-O-015	S-CAR-O-015-rev.05	Determination of Semi-Volatile Organic Compounds in Aqueous, Solid or Waste Samples by GC/MS
S-CAR-O-052	S-CAR-O-052-rev.2	Determination of Semivolatile Organics by GC/MS-SIM, Selective Ion Monitoring
S-ASV-I-043	S-ASV-I-043-Rev.02	DETERMINATION OF METALS BY INDUCTIVELY COUPLED PLASMA (ICP) SPECTROSCOPY BY SW-846 6010C
S-ASV-I-58	S-ASV-I-58-Rev.00	Ion Chromatography
S-ASV-I-021	S-ASV-I-021-Rev.01	The Determination of Nitrate-Nitrite Nitrogen by Automated Colorimetry
S-ASV-M-020	S-ASV-M-020-Rev.03	Mercury by Cold Vapor for Waters and Solids

Table 8A SOP Abbreviation Key

2. Identify procedures to follow when failures occur, identify the individual responsible for corrective action and appropriate documentation:

Quality Control	Failure	Response	Documented Where?	Individual Responsible
Method Blank, one per batch of 20 samples	If hits in Method Blank	Samples with hits above reporting limit are reextracted or reanalyzed. Samples with hits less than reporting limit are reported and the method blank is qualified. Samples with hits more than 10x the hit in the MB maybe footnoted with a B-flag	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor
Method Blank, one per batch of 20 samples	If Surrogates outside of control limits	All samples reextracted or reanalyzed if surrogate recovery is below control limits. Samples are reported and MB is footnoted if surrogate recovery is above control limits	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor
Laboratory Control Sample, one per batch of 20 samples	For any analytes outside of control limits or if the number of analytes outside control limits is over allowable number of exceedances.	If LCS analyte recoveries are above control limits, samples with a hit for the failing analyte above the reporting limit are reextracted or analyzed. If LCS analyte recoveries are below control limits, all samples are reextracted or reanalyzed. If LCS analyte recoveries are above control limits, samples without a hit for the failing analyte above the reporting limit are footnoted and reported. Samples may be reported if there is an acceptable matrix spike (where allowable) or laboratory control sample duplicate associated and the LCS is footnoted	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor
Laboratory Control Sample Duplicate, when needed	For any analytes outside of control limits or if the number of analytes outside control limits is over allowable number of exceedances.	Corrective actions are the same as Laboratory Control Sample. Samples are reported if LCS is acceptable and LCSD is footnoted	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor

Matrix Spike, one per batch of 20 samples	For any analytes outside of control limits or if the number of analytes outside control limits is over allowable number of exceedances.	Matrix spike is footnoted and samples are reported	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor
Matrix Spike Duplicate, when requiered	RPD outside control limits	Matrix spike duplicate is footnoted and samples are reported	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor
Matrix Spike Duplicate, when requiered	For any analytes outside of control limits or if the number of analytes outside control limits is over allowable number of exceedances.	Matrix spike duplicate is footnoted and samples are reported	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor
Surrogates, all samples	If Surrogates outside control limits	If surrogate recovery is high and samples are non-detected samples are reported with qualification. If surrogate recoveris are low samples are re-extracted or reanalyzed.	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor
Equipment Failure	Contact QA Officer	Attempt to repair, reschedule if possible	Document in field notes and report	QA officer and field staff
QC Failure	Contact QA Officer	Discuss with DHEC Project Manager, resample if necessary	Document in report	QA officer
Sample Accident in Lab	Contact QA Officer	Discuss with DHEC Project Manager, resample if necessary	Document in report	Laboratory
Sample Accident in Transit	Contact QA Officer	Discuss with DHEC Project Manager, resample if necessary	Document in report	Laboratory
Insufficient sample for analysis	Contact QA Officer	Discuss with DHEC Project Manager, resample if necessary	Document in report	Laboratory

Table 9A Corrective Action Procedures

3. Identify sample disposal procedures.

Analysis	Matrix	Schedule for disposal	Method for disposal	Comments
All (Laboratory Samples)	Soil and Water	Monthly	Veolia Technical Solutions	All laboratory samples are disposed according to S-CHR-S-002, Waste Handling and Management
Dissolved Oxygen, pH, Conductivity, Temperature	Water	Daily	Activated Carbon Drum	Treated on-site
PID soil samples	Soil	As Needed	Waste Management, Inc.	Disposed of with drill cuttings

4. Provide SOPs for the Kerr Method or the Ferrous Iron Method if these are parameters for this study. This can be attached or written here. If attached please note that it is an attachment and where it is located (if applicable).

B5 Quality Control Requirements:

All QC will follow the requirements laid out in Section B5 of the UST Programmatic QAPP.

B6 Field Instrument and Equipment Testing, Inspection and Maintenance

1. Identify all field and laboratory equipment needing periodic maintenance, the schedule for this, and the person responsible. Note the availability and location of spare parts.

Instrument	Serial Number	Type of Maintenance	Frequency	Parts needed/Location	Person responsible
MiniRae Lite PID	590-902163	Check Batteries Calibration	Daily Daily	Field Kit / Office	William McClary
MiniRae Plus (PID)	102182	Check Batteries Calibration	Daily Daily	Field Kit / Office	William McClary
Heron H.01L (Interface Probe)	01-0337	Check Batteries Clean Probe	Daily	Field Kit / Office	Dalton Reames/William McClary
Heron SM.01L (Interface Probe)	02-0586	Check Batteries Clean Probe	Daily	Field Kit / Office	Dalton Reames/William McClary
Solonst (Waterlevel	26463	Check Batteries Clean Probe	Daily	Field Kit / Office	Dalton Reames/William

Indicator)					McClary
Exstik DO 600 (DO Meter)	134718	Check Batteries Calibration Change Membrane	Daily Daily As Needed	Field Kit / Office	Dalton Reames/William McClary
Exstik DO 600 (DO Meter)	132109	Check Batteries Calibration Change Membrane	Daily Daily As Needed	Field Kit / Office	Dalton Reames/William McClary
Exstik EC 500 (pH, Conductivity)	133538	Check Batteries Calibration Check Calibration Solutions	Daily Daily Daily	Field Kit / Office	Dalton Reames/William McClary
Exstik EC 500 (pH, Conductivity)	131949	Check Batteries Calibration Check Calibration Solutions	Daily Daily Daily	Field Kit / Office	Dalton Reames/William McClary
Field Instruments	All	Inspect for damage	Daily	Enviro-Equipment if repairs needed	Dalton Reames/William McClary
Volatiles Mass Spec	ALL	Change traps, clean ion source, replace filaments	Periodic	Laboratory	MSV Analyst
Semivolatile Mass Specc	ALL	Injection port maintenance, ion source maintenance, column replacement	Periodic	Laboratory	MSSV Analyst
ECD GC	ALL	Injection port maintenance, column replacement	Periodic	Laboratory	GC Analyst
Metrohm IC	ALL	Replace autosampler filter, tubing, line filter, sample Line and Waste Line, as needed. Clean Pump roller, Check Reagent levels, flow rate, waste line.	Periodic	Laboratory	IC Analyst
ICP	ALL	Clean Sample introduction system , autosampler, torch, Change spray chamber, torch tubing, tubing	Periodic	Laboratory	ICP Analyst
Flow Injection Analysis – Lachat 8000	ALL	Clean Rods, Injection Valves, Manifolds, Replace tubing, lamps, other as needed	Periodic	Laboratory	Nitrate Analyst

Table 11A Instrument and Equipment Maintenance

2. Identify the testing criteria for each lab or field instrument that is used to ensure the equipment is performing properly. Indicate how deficiencies, if found, will be resolved, re-inspections performed, and effectiveness of corrective action determined and documented. Give the person responsible for this

Instrument/Equipment & Serial Number	Type of Inspection	Requirement	Individual Responsible	Resolution of Deficiencies
Volatiles Mass Spec	Daily calibration check	Method Requirements	MSV Analyst	Recalibration or instrument maintenance
Semivolatiles Mass Spec	Daily calibration check	Method Requirements	MSSV Analyst	Recalibration or instrument maintenance
ECD GC	Daily calibration check	Method Requirements	GC Analyst	Recalibration or instrument maintenance
Metrohm IC	Daily calibration check	Method Requirements	Nitrate Analyst	Recalibration or instrument maintenance
ICP	Daily calibration check	Method Requirements	ICP Analyst	Recalibration or instrument maintenance
Cetac Mercury Analyzer	Daily calibration check	Method Requirements	Mercury Analyst	Recalibration or instrument maintenance
Flow Injection Analysis – Lachat 8000	Daily calibration check Method Requirements	Method Requirements	IC Analyst	Recalibration or instrument maintenance
Exstik DO 600 (DO Meter)	Daily Calibration Check	Within Manufactures Tolerance	Field Personnel	Recalibration or instrument maintenance
Exstik EC 500 (pH, Conductivity)	Daily Calibration Check	Ph - within 0.2 pH units Conductivity - within 10us	Field Personnel	Recalibration or instrument maintenance
Interface probe	Daily Check	Check Batteries Clean probe as necessary	Field Personnel	Recalibration or instrument maintenance
MiniRae Lite PID	Daily Calibration Check	Within 15 parts per million	Field Personnel	Recalibration or instrument maintenance
MiniRae Plus (PID)	Daily Calibration Check	Within 15 parts per million	Field Personnel	Recalibration or instrument maintenance

Table 12A Instrument and Equipment Inspection

B7 Instrument Calibration and Frequency

1. Identify equipment, tools, and instruments for field or lab work that should be calibrated and the frequency.

2. Describe how the calibrations should be performed and documented, indicating test criteria and standards or certified equipment.
3. Identify how deficiencies should be resolved and documented. Identify the person responsible for corrective action.

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
Volatiles Mass Spec	5 calibration standards for all compounds	When indicated by daily calibration verification standard	Method Criteria	Detailed in SOP	MSV Analyst	S-CAR-0-023
Semivolatile Mass Spec	5 calibration standards for all compounds	When indicated by daily calibration verification standard	Method Criteria	Detailed in SOP	MSSV Analyst	S-CAR-O-015 S-CAR-O-052
GC ECD	5 calibration standards for all compounds	When indicated by daily calibration verification standard	Method Criteria	Detailed in SOP	GC Analyst	S-CAR-O-020
Metrohm IC	3 calibration standards for all compounds	When indicated by daily calibration verification standard	Method Criteria	Detailed in SOP	IC Analyst	S-ASV-058
ICP	3 calibration standards for all compounds	When indicated by daily calibration verification standard	Method Criteria	Detailed in SOP	ICP Analyst	S-ASV-043
Cetac Mercury Analyzer	3 calibration standards for all compounds	When indicated by daily calibration verification standard	Method Criteria	Detailed in SOP	Mercury Analyst	S-ASV-M-020
Lacaht QuickChem 8000	3 calibration standards for all compounds	When indicated by daily calibration verification standard	Method Criteria	Detailed in SOP	Nitrate Analyst	S-ASV-I-021
Exstik DO 600 (DO Meter)	Calibrate using DI water as recommended by manuf.	Daily Calibration Check	Within 0.25 mg/l	Recalibration or instrument maintenance	Field Personnel	
Exstik EC 500 (pH)	Calibrate using 4, 7 and 10 as recommended by manuf	Daily Calibration Check	within 0.2 pH units	Recalibration or instrument maintenance	Field Personnel	
Exstik EC 500 (Conductivity)	Calibrate to known	Monthly Calibration Check	within 10us	Recalibration or instrument	Field Personnel	

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
	standardizing solution as recommended by manuf			maintenance		
Interface Probe	Checked vs. standard	Monthly	+/-0.01 ft. per 10 ft. length	Replace probe tape	Field Personnel	
MiniRae Lite PID	Per manuf. recommendations	Daily	Within 15 ppm	Recalibration or instrument maintenance	Field Personnel	
MiniRae Plus (PID)	Per manuf. recommendations	Daily	Within 15 ppm	Recalibration or instrument maintenance	Field Personnel	

Table 13A Instrument Calibration Criteria and Corrective Action

*** This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.**

B8 Inspection/Acceptance Requirements for Supplies and Consumables

1. Identify critical supplies and consumables for field and laboratory, noting supply source, acceptance criteria, and procedures for tracking, storing and retrieving these materials.
2. Identify the individual(s) responsible for this.

Item	Vendor	Acceptance criteria	Handling/Storage Conditions	Person responsible for inspection and tracking.
Laboratory Chemicals	Fisher,VWR,	Certificates of analysis and laboratory testing	Laboratory storage	Receiving and laboratory personnel
Laboratory standards	O2Si, Restek, Fisher, VWR, Inorganic Ventures, CPI	Certificates of analysis and laboratory verifications	Vendor specific storage conditions	Laboratory Analysts
Sample Containers	Daniels Scientific, Fisher, O2Si	Certificates of analysis and laboratory testing	Bottle storage area	Sample receiving personnel - Lab/ Warehouse - Emerald
Coolers	Pace Analytical	Clean, dry	Stored office warehouse	William C. McClary
PVC Bailers	Preferred Pump	Plastic covering intact	Stored office warehouse	William C. McClary
String	Lowes	Containerized to protect from contamination	Stored office warehouse	William C. McClary
Standards (pH, Cond. DO)	Enviro-Equipment	Within Expiration Date	Stored office warehouse	William C. McClary
Nitrile Gloves and rope	Preferred Pump	Sealed	Stored office warehouse	William C. McClary

Batteries	Any	Sealed	Stored office warehouse	William C. McClary

Table 14A List of Consumables and Acceptance Criteria

B9 Data Acquisition Requirements (Non-Direct Measurements)

1. Identify data sources, for example, computer databases or literature files, or models that should be accessed or used.
2. Describe the intended use of this information and the rationale for their selection, i.e., its relevance to project.
3. Indicate the acceptance criteria for these data sources and/or models.

Data Source	Used for	Justification for use in this project	Comments
SCDHEC Files	Background Information	Historic depth to water measurements, CoC Data and UST Information	

Table 15A Non-Direct Measurements

4. Identify key resources/support facilities needed. Not Applicable.

B10 Data Management

1. Describe the data management scheme from field to final use and storage.

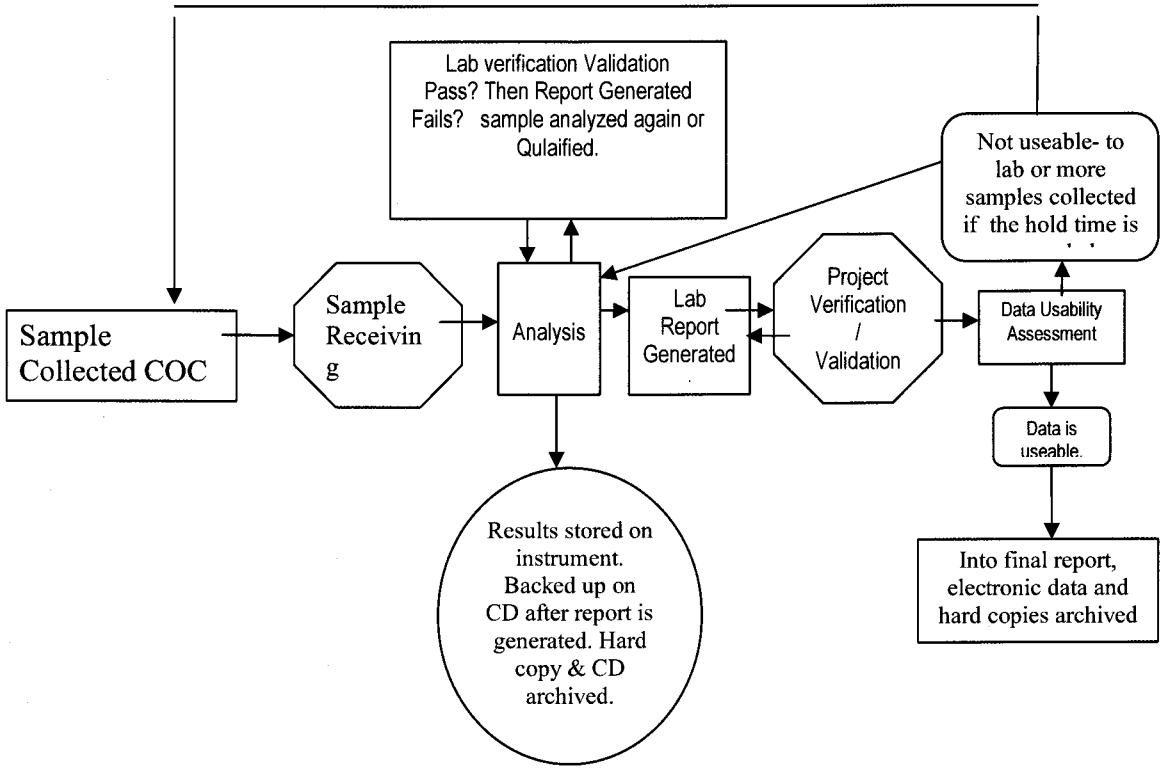


Figure 2 Example of a Data Management Scheme

2. How does the lab and field staff ensure that no unauthorized changes are made to the chain of custody, sampling notebooks, laboratory notebooks and computer records?

The laboratory maintains comprehensive Quality Control and Training Programs. All sample receipt data, sample log-in and analytical data is peer reviewed, including review for inappropriate changes. Data management, review procedures and the Quality Systems Program are documented in the laboratory's Quality Manual and Standard Operating Procedures. The Quality Management Department oversees adherence to and review of these programs.

Emerald, Inc. field notes will be written in pencil on dedicated field sheets documenting field activities. Any changes to field notes will be changed with a single line strikeout and must be initialed and dated by the Emerald, Inc. personnel with any comments noted in the comments section of the field sheet. Field notes will be filed in appropriate file upon return from field activities and archived in filing cabinets. Data obtained from field activities (laboratory reports and final reports) will be saved on the company server which is backed up on a weekly basis to preserve data. The project QA/QC officer will be responsible for oversight.

3. How does the lab ensure that there are no errors in samples records including times when sample information is compiled, data calculated and/or transmitted.

Sample data acquisition software included audit trails which are reviewed periodically under the Laboratory's Quality Systems Program. Laboratory data systems are backed up daily and able to be restored in the event of a system failure. These procedures are documented in laboratory SOPs S-ALL-IT-001, System Security and Integrity and S-ALL-IT-002, Server Backup. The IT System Manager is responsible for these systems and procedures.

4. How will the data be archived once the report is produced? How can it be retrieved? (This applies to both electronic and hard copies).

Laboratory Hardcopy data stored off site is logged, maintained and archived by the Quality Management Department. Laboratory Electronic Data Reports are maintained through IT back up under the responsibility of the IT Systems Manager and the Corporate IT Department.

Emerald, Inc. will archive field notes and paper copies in a on-site filing cabinet. Paper copies will be stored for a minimum of five years. Electronic copies of reports will be stored on the Emerald, Inc. server for future retrieval. Electronic copies will be maintained for a minimum of five years.

Section C Assessment and Oversight

C1 Assessment and Response Actions

1. *The Contractor is supposed to observe field personnel daily during sampling activities to ensure samples are collected and handled properly and report problems to DHEC within 24 hours. . Please state who is responsible for doing this and what observations will be made. Will this person have the authority to stop work if severe problems are seen?*

Field audits will be conducted on a regular basis by Ronny Lowder Project QA officer, to ensure field personnel adherence to the QAPP. If problems are identified during the field audit, Ronny Lowder has the authority to suspend field activities until the problems are addressed. Audit results will be reviewed by William McClary, Project Manager and Ronny Lowder, Project QA officer.

2. The SCDHEC UST QAPP states that the Lab will receive an Offsite Technical System Audit. For this project, what assessments will be done on the Commercial Lab(s) that are being used—other than their certification audit? When or how often are these done? Who will the results be given to and who has the ability to stop work if problems are severe?

The laboratory participates in annual Proficiency Testing through an approved vendor, Environmental Resources Associates. Proficiency Testing results are provided to the Office of Environmental Laboratory Certification. Laboratory reports will include full QA/QC data and the data will be reviewed for quality control issues. Quality issues will be brought to the attention of the Laboratory Director for explanation and resolution. The Emerald, Inc. Project QA officer and Project Manager will have authority to stop work and, upon approval from SCDHEC, chose an alternate laboratory.

C2 Reports to Management

See the SC DHEC UST Programmatic QAPP (UST Master QAPP).

Section D Data Validation and Usability

All data produced during these work activities will be validated by Ronny Lowder. of Emerald, Inc. before submission to SCDHEC. See the SC DHEC UST Programmatic QAPP (UST Master QAPP).

Appendix B

Example Chain of Custody

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: of

1477794

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company:	Report To:	Attention:
Address:	Copy To:	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name:	Pace Project Manager:
Requested Due Date/TAT:	Project Number:	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location
STATE: _____

Section D
Required Client Information

Matrix Codes
MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1																				
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Appendix C

Assessment Plan and Proposed Cost Agreement

D H E C
PROMOTE PROTECT PROSPER

Tier II Assessment Plan
Underground Storage Tank Program

UST Permit #: 15729 County: Clarendon Facility Name: H. W. Detwiler Company

Facility Address: 27 South Church Street City: Summerton State: South Carolina Zipcode: 29148

Responsible Party: Mr. Harold Detwiler Jr. Address: P.O. Box 760

City: Summerton State: South Carolina Zipcode: 29148

No. USTs: 2 Removed? 06/19/1993 (date: MM/DD/YYYY) Replaced? (date: MM/DD/YYYY)

Current use of facility/property:

The subject site is currently used for offices.

Current property owner name: SAA Address: SAA

City: SAA State: SAA Zipcode: SAA

Field Screening Methodology

Specify the field screening methodology to be used. The use of field screening methods to optimize the number and location of permanent wells is required.

Not Applicable

Permanent Monitoring Wells (estimate number and total completed depth)

of shallow wells: 22 Total depth: 25 Feet Each (550 total Feet)

# of deep wells: Total depth:

Comments, if warranted:

-An average of 25 feet per well is proposed. Actual well depths may vary based on topography and depth to water.
-During a site visit on 11/11/11, it was noted that the well pad and manholes for MW-26 and MW-34D had been damaged by recent driveway paving at the residence. It is proposed to replace the manhole and pad for each of these wells.

Analyses

List the analytical parameters (e.g., BTEX, MTBE) and estimated number.

BTEX and Naphthalene - 4 Wells
PAH's - 4 Wells
Duplicates - 1
Field Blanks - 2 (two drilling days anticipated)
Trip Blanks - 1

BTEX and Naphthalene Samples - 8
PAH Samples - 8

* Soil samples will be collected from wells installed near the possible former UST site

Implementation Schedule *(Use MM/DD/YYYY format - Example 01/23/2004)*

Start up date: 11/21/2011 *(MM/DD/YYYY)* Completion date: 01/30/2012 *(MM/DD/YYYY)*

Report submittal date: 02/15/2012 *(MM/DD/YYYY)*

UST Permit #: 15729 Facility Name: H. W. Detwiler Company

Site Maps

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.

2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:

North arrow	Legend with facility name and address, UST Permit number, date, and a bar scale
Location of property lines	Streets or highways (indicate names and numbers)
Location of buildings	Identification of located buildings
Paved areas on or adjacent to site	Location of all present and former ASTs and USTs
Previous soil sampling locations	Underground and above ground utilities on or adjacent to site
Previous monitoring well locations	Location of any other potential receptor

Aquifer Characterization

Pump test: ☐ Slug tests: ☐ (check one and provide explanation for choice)

Small Volume Disposal Type and Method

Soil:

Soil will be properly disposed of at the Waste Management Richland County Landfill in Elgin, SC by Emerald, Inc personnel.

Purge water:

Purge water from wells not containing free product will be treated by filtration through an activated carbon filter. Purge water will be mixed and then filtered through the carbon filter. Wells containing free product or a product sheen will be drummed and transported to TK Tank Services of Sumter, SC for proper disposal.

Additional comments:

-An average of 25 feet per well is proposed. Actual well depths may vary based on topography and depth to water.
-During a site visit on 11/11/11, it was noted that the well pad and manholes for MW-26 and MW-34D had been damaged by recent driveway paving at the residence. It is proposed to replace the manhole and pad for each of these wells.

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

ASSESSMENT COMPONENT INVOICE

SOUTH CAROLINA

Department of Health and Environmental Control (DHEC)

Underground Storage Tank Program

ASSESSMENT COMPONENT INVOICE

UST PERMIT # 15729 **COUNTY** Clarendon

FACILITY NAME H. W. Detwiler Company

STREET ADDRESS 37 South Church Street, Summerton, SC

INVOICE # _____ **COST AGREEMENT #** _____

For work performed during(specify time period) _____ **to** _____

MM/DD/YYYY MM/DD/YYYY

I certify, under penalty of law, that I have personally examined and am familiar with the information submitted in this and all attached documents; and that based on my inquiry of those individuals responsible obtaining this information, and any other information I may be aware of , I believe that the submitted information is true, accurate, and complete. I further agree, in accordance with any DHEC demand letter, to promptly repay any overpayment received.

Please fill out **BOTH the Contractor and Responsible Party Sections (original signatures). Also indicate the Payee by placing a check in the box next to the Contractor or Responsible Party.**

[X] **CONTRACTOR was Payee OR** [ ] **OWNER OR OPERATOR/RESPONSIBLE PARTY was Payee**

(Please attach copies of cancelled checks front and back)

Ronny L. Lowder — 57-0910049

Name of Contractor (Type or Print)

Emerald, Inc. — (803)469-5454

Company **Telephone Number**

PO Box 3050	Sumter	South Carolina	29151
Address	**City**	**State**	**Zip Code**

Signature (please use non-black ink) **Title** **Date Signed** *MM/DD/YYYY*

Mr. Harold Detwiler Jr.

Name of Owner or Operator Responsible Party **Federal Tax ID or Social Security Number**

Company **Telephone Number**

P.O. Box 760	Summerton	South Carolina	29148
Address	**City**	**State**	**Zip Code**

Signature (please use non-black ink) **Title** **Date Signed** *MM/DD/YYYY*

If payment is to be sent to an address other than above, please indicate below:

Name of Owner or Operator Responsible Party **Federal Tax ID or Social Security Number**

Address **City** **State** **Zip Code**

INVOICE AMOUNT: $32,680.13

LESS SUBMITTED/PAID: _____

WELL DRILLING COSTS: _____

AMOUNT REQUESTED: $32,680.13

SCDHEC USE ONLY

$

Amount requested is for Assessment activities as Defined in the SCDHEC Letter.

INVOICE INVOICE INVOICE INVOICE

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

Assessment Component Cost Agreement

South Carolina Department of Health and Environmental Control

Underground Storage Tank Program

State Underground Petroleum Environmental Response Bank Account

Facility Name: H. W. Detwiler Company

UST Permit #: 15729 Cost Agreement #: _____

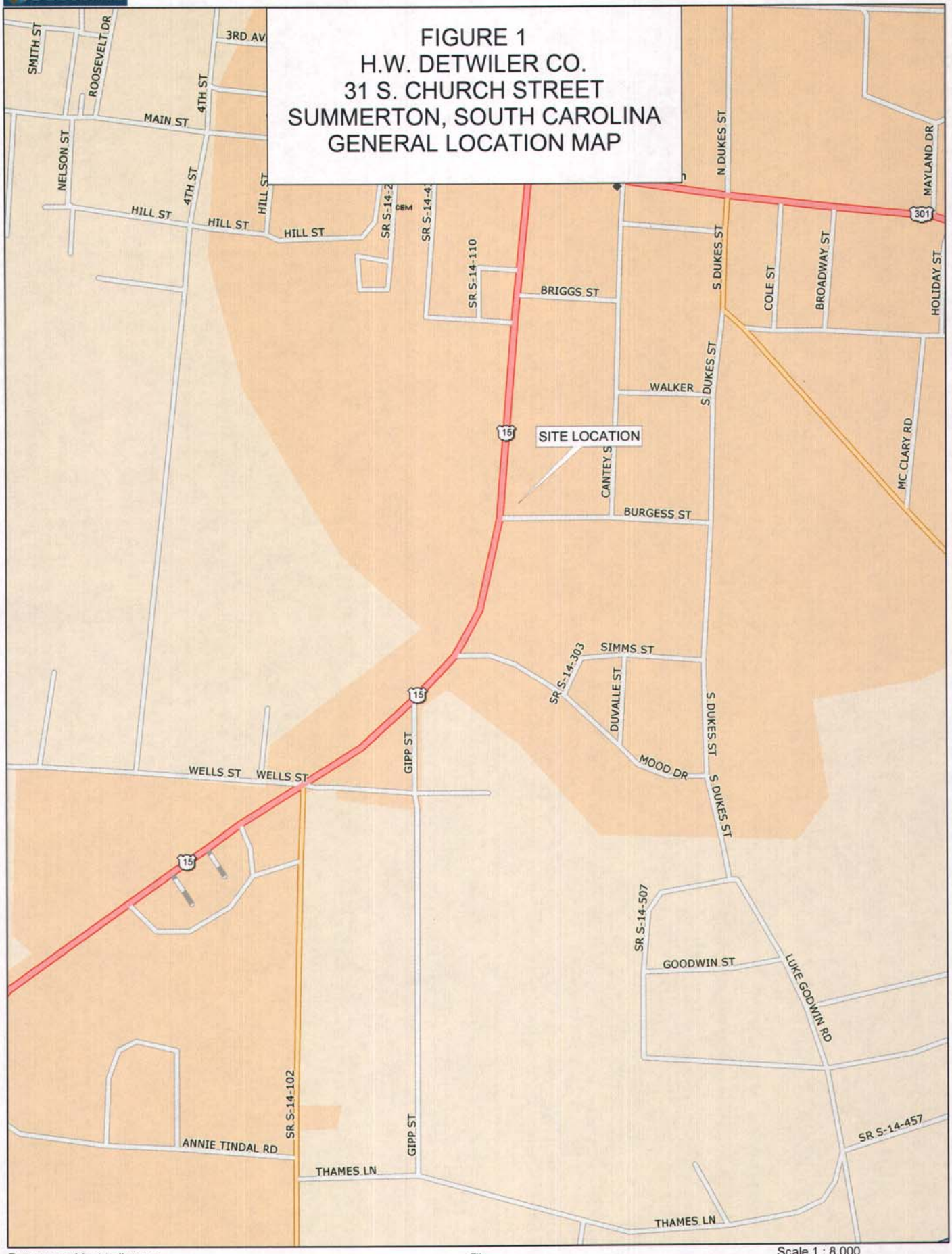
ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
1 Plan*				
A. Tier II or Comp. Plan/QAPP App. B	1	x	$525.00	**$525.00**
B. Tax Maps		x	$50.00	**$0.00**
2. Receptor Survey*		x	$500.00	**$0.00**
3. Survey				
A. Comprehensive Survey	2	x	$1,000.00	**$2,000.00**
B. Subserface Geophysical Survey		x		**$0.00**
< 10 Meters below grade		x	$2,750.00	**$0.00**
> 10 Meters below grade		x	$3,250.00	**$0.00**
C. Geophysical UST or Drum Survey		x	$1,125.00	**$0.00**
4. Mob/Demob				
A. Equipment	1	x	$575.00	**$575.00**
B. Personnel	4	x	$290.00	**$1,160.00**
C. Adverse Terrain Vehicle		x	$575.00	**$0.00**
5. Soil Borings (hand augered)*		feet x	$14.00	**$0.00**
6. Soil Borings (drilled) & Field Screening	(includes collection and quantification)			
A. Standard		feet x	$17.00	**$0.00**
B. Fractured Rock		feet x	$27.50	**$0.00**
7. Soil Leachability Model		x	$200.00	**$0.00**
8. Abandonment				
A. 2" or less		feet x	$5.00	**$0.00**
B. 2+" to 6"		feet x	$5.50	**$0.00**
C. Dug/bored well (up to 6 ft. dia.)		feet x	$18.00	**$0.00**
9. Well Installation*	(includes drilling costs)			
A. Water Table (hand auger)		feet x	$20.00	**$0.00**
B. Water Table	550	feet x	$38.00	**$20,900.00**
C. Telescoping		feet x	$58.00	**$0.00**
D. Rock Drilling		feet x	$58.00	**$0.00**
E. 2" Rock Coring		feet x	$45.00	**$0.00**
F. Multi-sampling ports/screens		feet x	$47.20	**$0.00**
G. Recovery Well (4" Dia.)		feet x	$45.00	**$0.00**
H. Pre-packed screen (1.25 dia)		feet x	$18.50	**$0.00**
I. Rotosonic (2" dia.)		feet x	$45.00	**$0.00**
10. Sample collection				
A. Groundwater (Purge)		samples x	$55.00	**$0.00**
B. Air or Vapors		samples x	$90.00	**$0.00**
C. Water Supply		samples x	$30.00	**$0.00**
D. Groundwater (No Purge or duplicate)		samples x	$35.00	**$0.00**
E. Gauge Well Only		samples x	$20.00	**$0.00**
F. Sample Below Product		samples x	$50.00	**$0.00**
G. Passive Diffusion Bag		samples x	$40.00	**$0.00**
H. Field Blank		samples x	$5.00	**$0.00**
11. Analyses-Groundwater	(See Analytical Methodology for site specific analyses)			
A. BTEXNM+Oxy's+1,2 DCA+Eth (8260B)		samples x	$100.00	**$0.00**
B. 8260B **RUSH Analysis**		samples x	$143.00	**$0.00**
C. Trimethyl, butyl and Isopropyl Benzenes		samples x	$40.00	**$0.00**
D. PAH's		samples x	$120.00	**$0.00**
E. Lead		samples x	$20.00	**$0.00**
F. EDB by 8011		samples x	$55.00	**$0.00**
G. EDB by 8011 RUSH		samples x	$75.00	**$0.00**
H. 8 RCRA Metals		samples x	$140.00	**$0.00**
I.TPH (9070)		samples x	$55.00	**$0.00**
J. pH		samples x	$10.00	**$0.00**
K. BOD		samples x	$40.00	**$0.00**
L. Filtered Lead		samples x	$46.00	**$0.00**
M. Ethanol		samples x	$21.50	**$0.00**

Analyses-Soil					
N. BTEX + Napth.	8	samples	x	$100.00	**$800.00**
O. PAHs	8	samples	x	$120.00	**$960.00**
P. 8 RCRA Metals		samples	x	$150.00	**$0.00**
Q. Oil & Grease (9071)		samples	x	$60.00	**$0.00**
R. TPH DRO (3550C/8015C)		samples	x	$65.00	**$0.00**
S. TPH GRO (5035C/8015C)		samples	x	$65.00	**$0.00**
T. Grain size / hydrometer		samples	x	$99.00	**$0.00**
U. Total Organic Carbon		samples	x	$35.00	**$0.00**
Analyses-Air					
V. BTEX + Naphthalene		samples	x	$247.50	**$0.00**
Analyses-Free Phase Product					
W. Hydrocarbon Fuel Identification		samples	x	$620.00	**$0.00**
12. Aquifer Characterization*					
A. Pumping Test		hours	x	$120.00	**$0.00**
B. Slug test		tests	x	$150.00	**$0.00**
C. Fractured Rock		tests	x	$500.00	**$0.00**
13. Free Product Recovery Rate Test*		tests	x	$120.00	**$0.00**
14. Fate & Transport Modeling					
A. Mathematical Model		models	x	$300.00	**$0.00**
B. Computer Model		models	x	$500.00	**$0.00**
15. Risk Evaluation					
A. Tier I			x	$300.00	**$0.00**
B. Tier II			x	$500.00	**$0.00**
16. Subsequent Survey*			x	$300.00	**$0.00**
17. Disposal					
A. Wastewater	500	gallon	x	$0.80	**$400.00**
B. Free Product	100	gallon	x	$0.85	**$85.00**
C. Soil Treatment/Disposal	5	tons	x	$72.50	**$362.50**
D. Drilling Fluids		gallon	x	$0.80	**$0.00**
18. Miscellaneous					
A. Additional Copies of Report		each	x	$32.50	**$0.00**
23. AFVR					
A. 8-Hour Event*			x	$3,000.00	**$0.00**
B. AFVR per hour continuance			x	$204.00	**$0.00**
C. Off-Gas Treatment per hour			x	$35.00	**$0.00**
24. Granular Activated Carbon (GAC) filter System installation/service					
A. New GAC System Installation			x	$2,500.00	**$0.00**
B. Refurbished GAC System Installation			x	$1,180.00	**$0.00**
C. Filter Replacement/removal*			x	$450.00	**$0.00**
D. GAC System Removal, cleaning & refurbishment			x	$720.00	**$0.00**
E. GAC System housing			x	$450.00	**$0.00**
F. In-line particulate filter			x	$150.00	**$0.00**
G. Additional piping & fittings			x	$4.00	**$0.00**
25. Well Repair					
A. Repair 2x2 monitoring well pad	2	each	x	$100.00	**$200.00**
B. Repair 4x4 monitoring well pad		each	x	$150.00	**$0.00**
C. Replace well vault	2	each	x	$225.00	**$450.00**
D. Replace/repair stickup		each	x	$137.50	**$0.00**
E. Convert flush-mount to stickup		each	x	$175.00	**$0.00**
F. Convert stickup to flush-mount		each	x	$125.00	**$0.00**
G. Replace missing/illegible well ID plate		each	x	$22.50	**$0.00**
H. Replace well cover bolts		each	x	$10.00	**$0.00**
I. Replace locaking well cap and lock		each	x	$15.00	**$0.00**
19. Report/Project Management and Coordination	15%		x	(SUBTOTAL) **$28,417.50**	**$4,262.63**
25. **Total**					**$32,680.13**

Appendix D

Figures

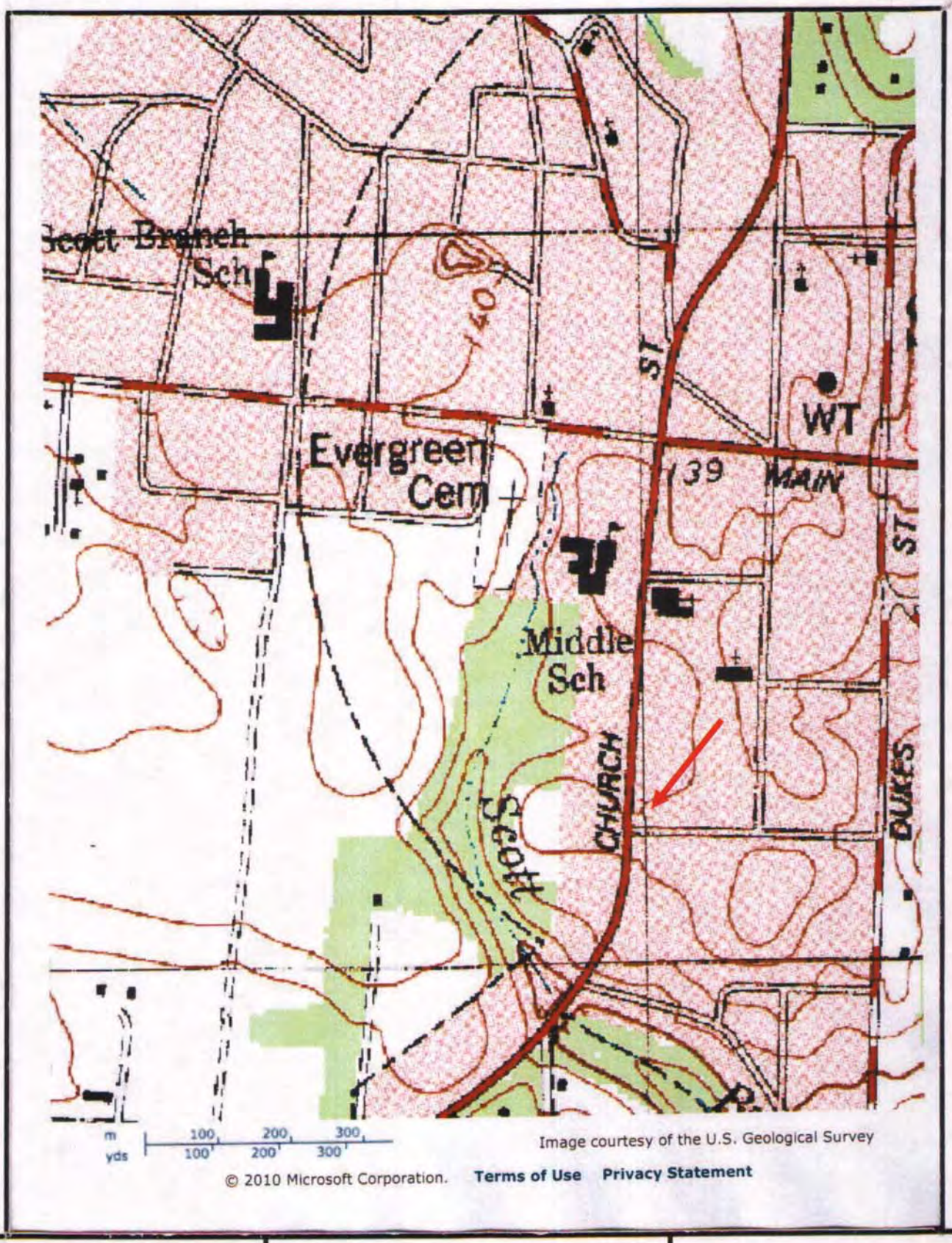
FIGURE 1
H.W. DETWILER CO.
31 S. CHURCH STREET
SUMMERTON, SOUTH CAROLINA
GENERAL LOCATION MAP



Data use subject to license.
© 2007 DeLorme. Street Atlas USA® 2008.
www.delorme.com

TN
MN (7.3°W)

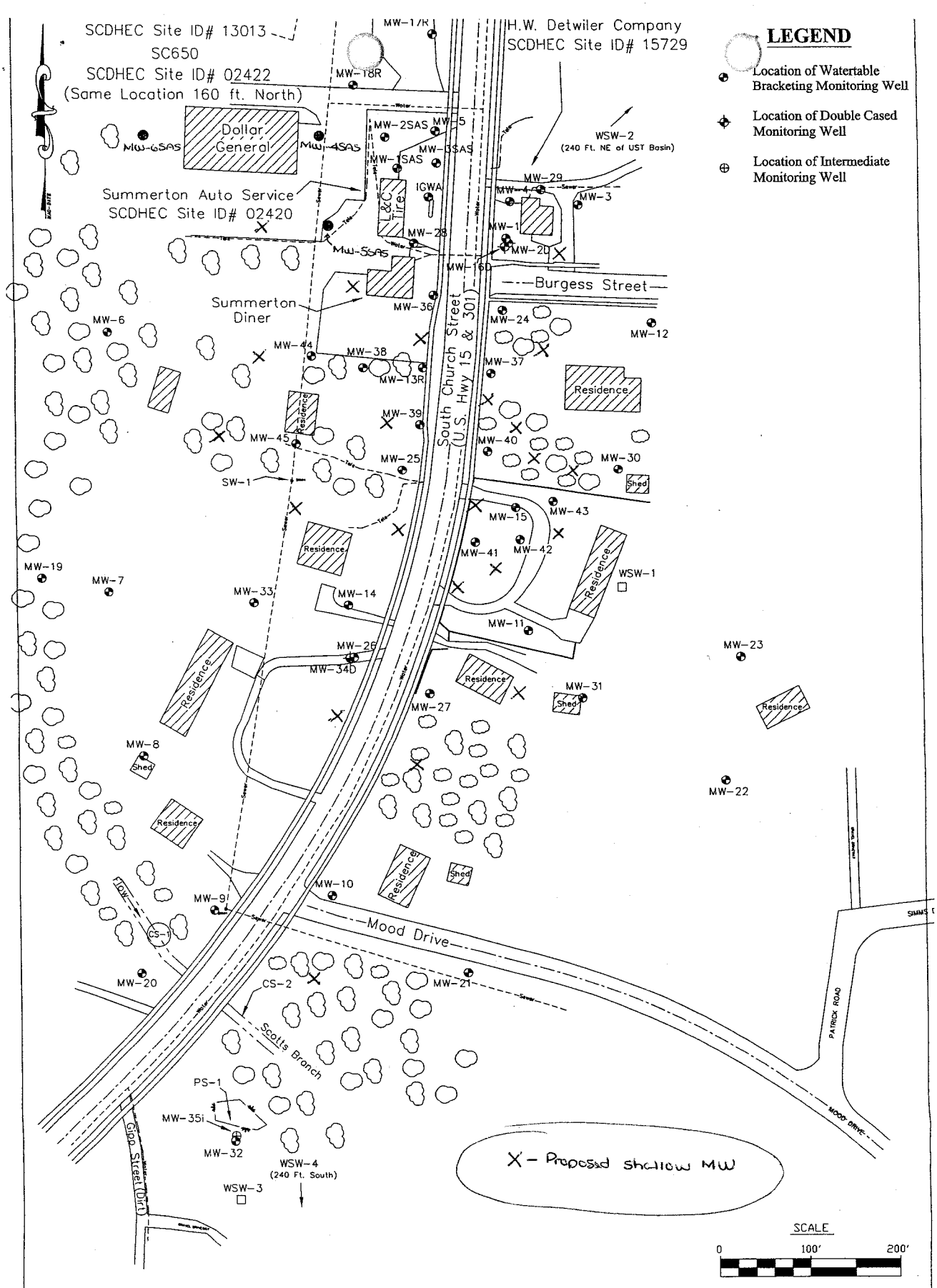
Scale 1 : 8,000
1" = 666.7 ft
Data Zoom 14-6



H.W. DETWILER CO.
31 S. CHURCH STREET
SUMMERTON, SC
SITE ID #15729

FIGURE 2
USGS TOPOGRAPHIC MAP
7.5 MINUTE SERIES
"SUMMERTON, SC" QUADRANGLE
SCALE: 1:2 000

Emerald, Inc.
Sumter, SC



PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 SITE MAP	E1390DWLO WORK DATE(S): 7/11/11, 7/13/11, 7/29/11	SUMTER, SOUTH CAROLINA

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

January 19, 2012

Mr. Joel Padgett, P.G.
Corrective Action Section
Underground Storage Tank Management
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, SC 29201

QAPP Contractor Addendum Revision 2
H.W. Detwiler Company
37 South Church Street
~~Summerton~~, South Carolina
SCDHEC Site ID# 15729

Mr. Padgett,

Please find the attached revised QAPP Contractor's Addendum, proposed costs, and Figures for installation of additional monitoring wells at the subject site. If you have any questions or concerns please feel free to contact Emerald, Inc at 803-469-5454.

Sincerely,

William C. McClary, P.G.
Project Manager

Attachments
Appendix A – Quality Assurance Program Plan (Contractor's Addendum)
Appendix B - Example Chain of Custody
Appendix C - Assessment Plan and Cost Agreement
Appendix D - Figures

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan Revision 2
Addendum to the SC DHEC UST Programmatic QAPP
For
H.W. Detwiler Company
SCDHEC Site ID# 15729

---

37 South Church Street
Summerton, South Carolina

Prepared by
William C. McClary, P.G.
Project Manager
Emerald, Inc
2520 Tahoe Drive
Sumter, South Carolina
SCDHEC Site Rehabilitation Contractor Certification Number UCC-067
Phone : 803-469-5454

Date: January 19, 2012

Approvals

Joel P. Padgett, P.G. SC DHEC Project Manager	_____ Signature	Date_____
Ronny L Lowder Project QA Manager	_____ Signature	Date 1/20/2012
William C. McClary, P.G. Project Manager	_____ Signature	Date 1-20-12
Jeff Graham Laboratory Director	_____ Signature	Date 1/19/2012

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A3 Distribution List 4
A4 Project Organization 4
A5 Problem Definition/Background 6
A6 Project/Task Description 6
A7 Data Quality Objectives (DQOs) and Data Quality Indicators (DQIs) 7
A8 Training and Certificates 7
A9 Documents and Records 8

Section B Measurement/Data Acquisition 9

B1 Sampling Process/Experimental Design 9
B2 Sampling Methods 10
B3 Sample Handling and Custody 12
B4 Analytical Methods 13
B5 Quality Control Requirements: 16
B6 Field Instrument and Equipment Testing, Inspection and Maintenance 16
B7 Instrument Calibration and Frequency 17
B8 Inspection/Acceptance Requirements for Supplies and Consumables 18
B9 Data Acquisition Requirements (Non-Direct Measurements) 19
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C2 Reports to Management 21

Section D Data Validation and Usability 21

A3 Distribution List

Name	Title	Organization/Address	Telephone Number	Fax Number	Email Address
Joel Padgett, P.G.	SC DHEC Technical Project Manager	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6398	803-896-6245	padgetjp@dhec.sc.gov
Ronny Lowder	Project QA Officer	Emerald, Inc. P.O. Box 3050 Sumter, SC 29151	803-469-5454	803-469-5465	rlowder@emeraldinc-us.comnet
William McClary, P.G.	Project Manager/ Site Rehabilitation Contractor	Emerald, Inc. P.O. Box 3050 Sumter, SC 29151	803-469-5454	803-469-5465	cmcclary@emeraldinc-us.com
Jeff Graham	Laboratory Director	Pace Analytical Services 9800 Kincey Ave Suite 100 Huntersville, NC 28078	704-875-9092	704-875-9091	jeff.graham@pacelabs.com

Table 1A Addendum Distribution List

A4 Project Organization

Role from the UST Master QAPP	Person in this Role for Project	Organization/Address	Telephone Number	Fax Number	Email Address
SCDHEC Project Manager	Joel Padgett, P.G.	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6398	803-896-6245	padgetjp@dhec.sc.gov
Project QA Officer	Ronny Lowder	Emerald, Inc. P.O. Box 3050 Sumter, SC 29151	803-469-5454	803-469-5465	rlowder@emeraldinc-us.comnet
Project Manager/Site Rehabilitation Contractor	William McClary, P.G.	Emerald, Inc. P.O. Box 3050 Sumter, SC 29151	803-469-5454	803-469-5465	cmcclary@emeraldinc-us.com
Well Drilling Services	Steve Taylor	Geologic Exploration, Inc. 176 Commerce Drive Statesville, NC 28625	1-800-752-8853	704-872-0248	staylor@gexnc.com
Surveying	Jay S. Joshi	Construction Support Services, Inc.	803-776-9909	803-776-2688	jsjoshi@constructionsupportsc.com

Role from the UST Master QAPP	Person in this Role for Project	Organization/Address	Telephone Number	Fax Number	Email Address
Soil Disposal	Carol Weldon	Waste Management, Inc P.O. Box 55 Emelle, Alabama 35459	205-652-9721		cweldon@wm.com
Water Disposal	Tommy Keels	TK Tank Services 425 Boulevard Road Sumter, SC 29150	803-418-5314		tommy@tktanksv.com
Analytical Laboratory Director	Jeff Graham	Pace Analytical Services 9800 Kincey Ave Suite 100 Huntersville, NC 28078	704-875-9092	704-875-9091	jeff.graham@pacelabs.com

Table 2A Addendum Role Identification and Contact Information

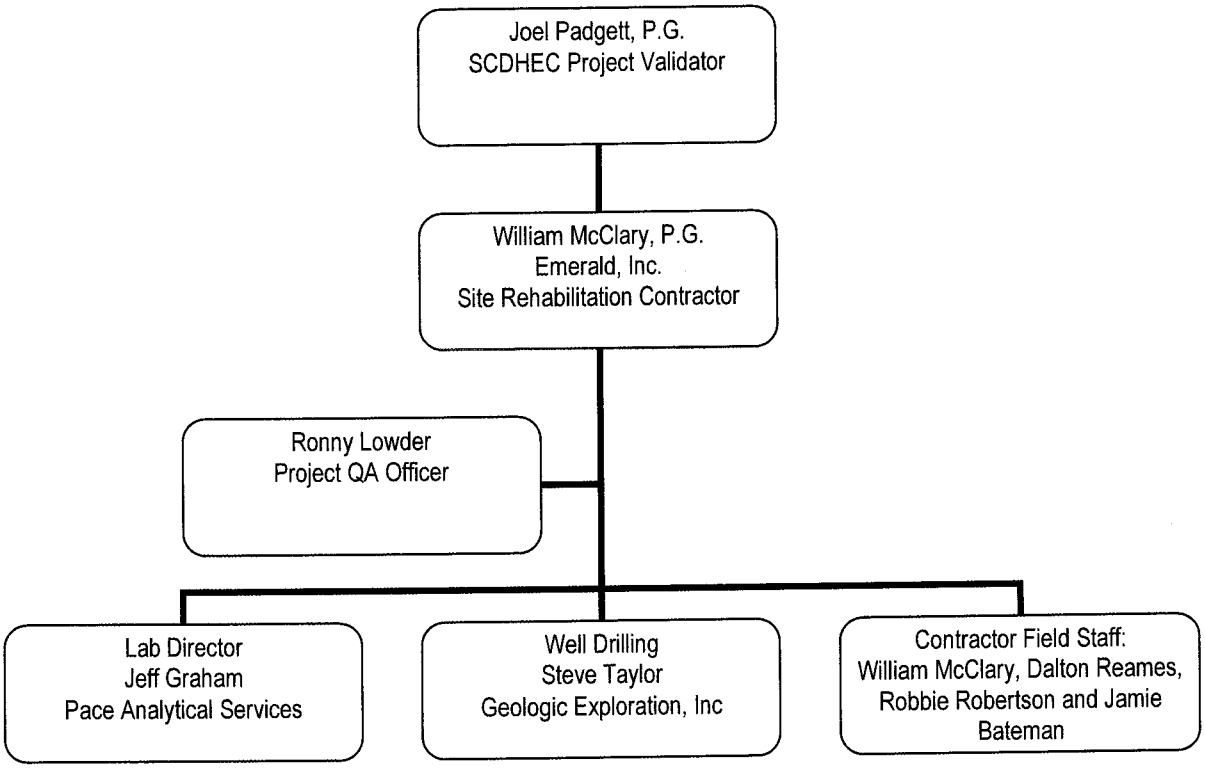

Figure 1A Organizational Chart

Definitions of Project Roles

Project QA Officer

The project QA officer (Mr. Ronny Lowder) provides review of field work, documentation of calibration for field instruments, laboratory data, and technical review of reports produced utilizing this data. The QA

officer will independently review data generated from this project and determine if the data meets QA/QC criteria as set forth in the SC DHEC UST Programmatic QAPP.

Project Manager

The project manager (Mr. William C. McClary, P.G.) will be responsible for work conducted during this scope of work and the primary point of contact. His duties will include development of the site specific QAPP, supervising field work, documenting any QA failures, determining corrective actions to QA failures, and preparing reports for submission to SCDHEC. The Project Manager is responsible for overseeing adherence to the site specific QAPP during all phases of work.

Contractor Field Staff

The contractor field staff will perform sampling and field activities per the QAPP document under the direction of the Project Manager. Field staff will be responsible for collection sampling related data and calibration of field instruments. The Project Manager, in certain situations, may also be a member of the Field Staff.

A5 Problem Definition/Background

Discuss the background (as much as is known) of the site and appropriate historical information, and why this site is being assessed.

The H.W. Detwiler Company site is located at 37 South Church Street in Summerton, Clarendon County, SC. The site is currently utilized as an office building and formerly maintained two gasoline USTs of unknown size. A release of petroleum product was reported to SCDHEC in June of 1993 and confirmed in July of 1993. The current monitoring well network at the subject site contains a total of forty shallow, one intermediate and three deep monitoring wells. In a QAPP request letter dated October 27, 2011, SCDEHC requested the installation of twenty-two additional shallow monitoring wells at the subject site to better define the free product plume.

Please answer the following: Does this project fall under UST or Brownfields area?

UST area

A6 Project/Task Description

1. ***Summarize what is known about the work to be done. This can be a short sentence indicating what the Scope of this project is (see Master QAPP Section A6).***
   As requested by SCDHEC, Emerald, Inc., will install twenty-two additional monitoring wells at locations selected by SCDHEC to better define the free product plume.

2. ***The work will begin within*** 15 days ***after cost approval and drilling should be complete within*** 70 days.

3. ***Are there are time or resource constraints? Include those factors that may interfere with the tentative schedule.***

The proposed schedule may be affected by factors including weather, equipment malfunctions, the holiday season, and obtaining off site access.

A7 Data Quality Objectives (DQOs) and Data Quality Indicators (DQIs)

A site location map (Figure 1) showing the location of the site in relation to roadways, a USGS topographic map (Figure 2), and a site map illustrating proposed drilling locations (Figure 3) are presented in Appendix C.

A8 Training and Certificates

Required training and licenses:

Title/Job	Name	Training Required	Date training received	Type of License	License Number
Contractor	William C. McClary, P.G.			Certified Contractor	67
Project Manager	William C. McClary, P.G.	Professional Geologist	2004	P.G.	2386
		OSHA 8hr Refresher	5/27/11		
Field Manager	Dalton Reames	OSHA 8hr Refresher	5/27/11		
Field Staff	Robbie Robertson	OSHA 40 hr	9/23/11		
Field Staff	Jamie Bateman	OSHA 8hr Refresher	5/27/11		
Well Driller	James Hess, Jr.	OSHA 8hr Refresher	4/30/11		C 1929
		Well Driller	9/13/11		C 01929
Well Driller	Daniel Summers	OSHA 8hr Refresher	4/30/11		
		Well Driller			B 01430
Well Driller	Jonathan Burr	OSHA 8hr Refresher	4/30/11		
		Well Driller			C 01740
Surveying	Jay S. Joshi	SC Registered Surveyor	6/1/92	PLS	14811
Lab Manager	Jeff Graham	BS Chemistry	May 1984	Lab Certification	SC 9900601

Table 3A Required Training and Licenses

William C. McClary of Emerald, Inc. is responsible to ensuring that personnel participating in this project receive the proper training. All training records will be stored in the following location: 2520 Tahoe Drive, Sumter, SC.

It is understood that training records will be produced if requested by SC DHEC.
The Following Laboratory(ies) will be used for this Project: Pace Analytical Services, Inc.

Commercial Lab(s)

Please give the information as listed below for each Laboratory that is being used for sample analysis.

Full Name of the Laboratory Pace Analytical Services, Inc.-Huntersville
Name of Lab Director Jeff Graham
SC DHEC Certification Number 9900601
Parameters this Lab will analyze for this project:

Soils
BTEX and Naphthalene by EPA Method 8260B
PAH's by EPA Method 8270C

Please note: SC DHEC may require that the contractor submit some or all of the Laboratory's SOPs as part of this QAPP.

A9 Documents and Records

Personnel will receive the most current version of the QAPP Addendum via:
(Check all that apply)

__X__ US Mail ____ Courier __X__ Hand delivered

Other (please specify):_____

Record	Produced By	Hardcopy/ Electronic	Storage Location For how long?	Archival
Instrument Raw Data	Target software	Electronic	To Disc –offsite storage for 5 yrs	Yes
Laboratory Reports	Pace Analytical, Inc.	Hardcopy/Electronic	At Office/minimum 5 Years	Yes
Final Reports	LIMS	Electronic	Tape backup – offsite storage for 5 years	Yes
Monitoring Report	Emerald, Inc	Hardcopy/Electronic	At Office/minimum 5 Years	Electronic Copy

Table 4A Record Identification, Storage, and Disposal

Section B Measurement/Data Acquisition

B1 Sampling Process/Experimental Design

D is the date of the letter approving the QAPP Contractor Addendum

Item	Start Date	End Date	Comments
Site Visit	11/11/11	11/11/11	Site visit - to assess site conditions
QAPP Preparation	11/10/11	11/11/11	
QAPP Revision 1	11/18/11	12/20/11	
QAPP Approval	12/22/11	1/7/12	Estimated 1 week turnaround
Off-Site Access	1/7/12	2/3/12	Allowing 30 days to obtain access
Well Drilling	2/4/12	2/11/12	
Soil Sampling	2/4/12	2/11/12	
Well Development	2/4/12	2/11/12	
Soil Samples Delivered to Laboratory	2/4/12	2/11/12	Samples sent via FedEx or BeavEx
Soil Samples are Analyzed by Lab	2/11/12	2/20/12	
Project data verified and report prepared	2/21/12	2/28/12	
Surveying	2/14/12	2/15/12	
Report submitted to SCDHEC project manager	3/2/12	NA	

Table 5A Sampling Activities

B2 Sampling Methods

Please note: The contractor must follow sampling protocols as given in the UST QAPP.

***Estimate* the number of samples of each matrix that are expected to be collected:**

Soil Samples	4 (wells near possible former UST site)
Gauge Well Only	
Ground Water (purge)	
Groundwater (no purge)	
Surface water/water supply wells	
Duplicate Samples	1
Field Blanks	1
Trip Blanks	1
Total number of Samples	7

The samples will be (check as many as apply): X Grab ____Split

For the sample matrices indicated above, please describe how samples will be collected and the equipment needed. Soil samples will be collected using direct push equipment to collect a continuous soil sample until the desired depth is reached. Soil will be screened in the field using a properly calibrated photoionization detector (PID) at five foot intervals and the depth exhibiting the highest response above the watertable will be placed in laboratory supplied container for analysis.

Will Sampling Equipment have to be cleaned and decontaminated or is everything disposable?
Drilling equipment will be properly decontaminated between each drilling location. Sampling equipment requiring decontamination will include the interface probe and/or waterlevel meter. PVC bailers, twine, rope and nitrile gloves (as needed) will be disposed of appropriately after one use. Soil sampling equipment is disposable and will be properly disposed of after one use. Decontamination water will be disposed of using an activated carbon drum.

If sampling equipment must be cleaned please give a detailed description of how this is done and the disposal of by-products from the cleaning and decontamination.
Sampling equipment requiring decontamination will be cleaned by rinsing with distilled water, cleaned with a solution of detergent soap, rinsed with distilled water and rinsed a second time with distilled water. If any particulates are observed on the sampling equipment after the initial decontamination, a soft brush will be used to remove the particles and the process will be repeated. Drilling equipment requiring decontamination will be cleaned using a soap and pressure washer to remove particulate matter. Once

free of surface contamination, drilling equipment will then be rinsed with tap water on the decontamination pad. Decontamination (drilling and sampling equipment) water will be containerized and treated on-site, along with purge water, by an activated carbon drum.

Identify any equipment and support facilities needed. This may include such things as Fed-ex to ship the samples, a Geoprobe, field analysis done by another contractor (who must be certified), and electricity to run sampling equipment.

Well drilling will be conducted by Geologic Exploration, Inc. utilizing an ATV mounted drilling rig (Geoprobe) to install the monitoring wells. Wells will be installed using 7.5-inch outer diameter hollow stem augers to construct the borehole. Each well will be completed with a ten foot 0.010 slot screen installed to bracket the watertable. Well sand pack will consist of #2 clean washed sand placed a minimum of 1.5 feet above the well screen. A minimum of a one foot bentonite seal will be placed above the sand pack and a portland grout will used to fill the borehole to ground surface. All wells will be installed in accordance with the SC Well Standards and Regulations (R-61-71). Soil cuttings will be disposed of by Emerald, Inc. personnel at the Waste Management Richland County Landfill in Elgin, SC. After well installation, each well will be developed by pumping until the turbidity is reduced. Wells containing free product will be purged using disposable PVC bailers and purge water drummed for disposal. Construction Support Services will provide a RSL survey of the site to determine horizontal and vertical locations of the newly installed wells.

Address the actions to be taken when problems occur in the field, and the person responsible for taking corrective action and how the corrective action will be documented.

Failure	Response	Documentation	Individual Responsible
Equipment Failure (sampling equip.)	Contact William McClary. Clean and attempt to repair in the field. Use alternate equipment if available.	Record on field sheets noting date, problem and actions taken to correct problem.	William McClary, P.G.
Equipment Failure (drilling equip.)	Contact William McClary and Geologic Exploration, Inc. Attempt to use alternate equipment and/or repair rig on-site. Notify SCDHEC if drilling schedule changes	Record on field sheets noting date, problem and actions taken to correct problem	William McClary, P.G.
Off Site Access Issues	Contact SCDHEC project manager, attempt to find alternate drilling location	Record in Off-Site Access field sheet	William McClary, P.G.
Loss or Delay of Samples	Resample	Notice by Pace Analytical	Pace Analytical
Sample failure (out of hold, temp. limit exceeded, ect.)	Resample	Notice by Pace Analytical	Pace Analytical

Table 6A Field Corrective Action

B3 Sample Handling and Custody

1. ***How will the samples get from the Site to the Lab to ensure holding requirements are met?***

Samples will be shipped by overnight courier to Pace Analytical Services, Inc. in Huntersville, NC. Short hold time samples will be shipped on the date collected. Non-short hold time samples will be shipped on the day collected or the following day.

2. ***How will the contactors cool the samples and keep the samples cool?***

Samples will be placed in ice filled coolers immediately after sample collection. In the field, ice levels will be monitored throughout the day to ensure proper sample temperatures are maintained. Prior to shipment, additional ice will be added to the coolers to maintain desired sample temperatures until arrival at the laboratory.

3. ***How will the lab determine the temperature of the samples upon receipt? Will they be using a temperature blank?***

Laboratory procedures are presented in the most recent revision of SOP S-CAR-C-001, Sample Management are used. The laboratory personnel will open the cooler and verify the temperature of the samples by taking the temperature of the temperature blank. If there is no temperature blank in the cooler, measure the temperature of a representative sample bottles using the infrared (IR) thermometer gun.

4. ***Where will the samples be stored in the Lab once they are received?***

The procedures in the most recent revision of SOP S-CAR-C-001, Sample Management are used. Once logged in and labeled, samples are place in the appropriate storage areas. Specific temperature requirements are outlined in the analytical methods, but general guidelines are outlined below.

Volatile Analyses

Soil and other solid samples received preserved in methanol are stored by receiving date or by project number in a segregated volatiles cooler. Associated trip blanks are stored with the samples.

Soil and other solid samples received preserved with a stir bar, or deionized water and a stir bar, are stored by receiving date or by project number in a segregated volatiles freezer. Associated trip blanks are stored with samples.

Soil and other solid samples received in 4oz containers or similar bottleware must be preserved within 48 hours. In order to preserve these samples, it is necessary to collect a 5g aliquot of the sample and transfer it to a 40mL vial. One of the following preservation options must be utilized:

The 5g aliquot is preserved with a stir bar, 5mL of deionized water and a stir bar, or 5mL of sodium bisulfate and a stir bar and stored in a freezer until analysis, or

Within 48 hours of collection in the field, the 5g aliquot must be immediately extracted with 5mL of methanol and stored in a segregated volatiles cooler until analysis, or

Within 48 hours of collection in the field, the 5g aliquot can be preserved with 10mL of deionized water and a stir bar, stored in a segregated volatiles cooler and analyzed within 48 hours of collection.

General Chemistry and Semi-volatile Analyses

Waters and other liquid samples are staged by receiving date or by project number on the shelves in the appropriate sample storage cooler.

Soils and other solid samples are staged by receiving date or by project number on the shelves in the appropriate sample storage cooler.

5. ***Describe the chain of custody procedure and attach a copy of each chain of custody that will be used. If a Chain of Custody SOP exists from the Lab and the Contractor is willing to adhere to it, then this may be attached.***

Laboratory Chain of Custody procedures are outlined in the most recent revision of SOP S-CAR-C-001, Sample Management. Emerald, Inc. field personnel will prepare the chain of custody form in the field. The project manager will review the chain of custody upon return to the office. Prior to shipment of the samples, copy two of the chain of custody will be removed for Emerald's records. The remaining chain of custodies will be placed in the sample cooler in a waterproof bag.

B4 Analytical Methods

1. ***Identify the SOPs which will be used to analyze the samples, the method which the SOP references and the equipment or instrumentation that is needed:***

Parameter	SOP ID*	Method Referenced	Equipment	Comments
8260	S-CAR-0-023	8260B	Purge and Trap Mass Spectrometer System	
8270	S-CAR-O-015	8270D	Direct Inject Mass Spectrometer System	
8270 SIM PAH	S-CAR-O-052	8270D	Direct Inject Mass Spectrometer System	

Table 7A Analytical SOPs and Referenced Methods

- **This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.**

Abbreviation	Lab Identification of this SOP	Full Name of the SOP
S-CAR-O-023	S-CAR-O-023-rev.08	Determination of Volatile Organic Compounds by GC/MS
S-CAR-O-015	S-CAR-O-015-rev.05	Determination of Semi-Volatile Organic Compounds in Aqueous, Solid or Waste Samples by GC/MS
S-CAR-O-052	S-CAR-O-052-rev.2	Determination of Semi-Volatile Organics by GC/MS-SIM, Selective Ion Monitoring

Table 8A SOP Abbreviation Key

2. Identify procedures to follow when failures occur, identify the individual responsible for corrective action and appropriate documentation:

Quality Control	Failure	Response	Documented Where?	Individual Responsible
Method Blank, one per batch of 20 samples	If hits in Method Blank	Samples with hits above reporting limit are reextracted or reanalyzed. Samples with hits less than reporting limit are reported and the method blank is qualified. Samples with hits more than 10x the hit in the MB maybe footnoted with a B-flag	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor
Method Blank, one per batch of 20 samples	If Surrogates outside of control limits	All samples reextracted or reanalyzed if surrogate recovery is below control limits. Samples are reported and MB is footnoted if surrogate recovery is above control limits	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor
Laboratory Control Sample, one per batch of 20 samples	For any analytes outside of control limits or if the number of analytes outside control limits is over allowable number of exceedances.	If LCS analyte recoveries are above control limits, samples with a hit for the failing analyte above the reporting limit are reextracted or analyzed. If LCS analyte recoveries are below control limits, all samples are reextracted or reanalyzed. If LCS analyte recoveries are above control limits, samples without a hit for the failing analyte above the reporting limit are footnoted and reported. Samples may be reported if there is an acceptable matrix spike (where allowable) or laboratory control sample duplicate associated and the LCS is footnoted	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor
Laboratory Control Sample Duplicate, when needed	For any analytes outside of control limits or if the number of analytes outside control limits is over allowable number of exceedances.	Corrective actions are the same as Laboratory Control Sample. Samples are reported if LCS is acceptable and LCSD is footnoted	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor

Matrix Spike, one per batch of 20 samples	For any analytes outside of control limits or if the number of analytes outside control limits is over allowable number of exceedances.	Matrix spike is footnoted and samples are reported	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor
Matrix Spike Duplicate, when required	RPD outside control limits	Matrix spike duplicate is footnoted and samples are reported	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor
Matrix Spike Duplicate, when required	For any analytes outside of control limits or if the number of analytes outside control limits is over allowable number of exceedances.	Matrix spike duplicate is footnoted and samples are reported	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor
Surrogates, all samples	If Surrogates outside control limits	If surrogate recovery is high and samples are non-detected samples are reported with qualification. If surrogate recoveries are low samples are re-extracted or reanalyzed.	Batch data, LIMS, Run logs.	Analyst, Peer Review, Supervisor
Equipment Failure	Contact QA Officer	Attempt to repair, reschedule if possible	Document in field notes and report	QA officer and field staff
QC Failure	Contact QA Officer	Discuss with DHEC Project Manager, resample if necessary	Document in report	QA officer
Sample Accident in Lab	Contact QA Officer	Discuss with DHEC Project Manager, resample if necessary	Document in report	Laboratory
Sample Accident in Transit	Contact QA Officer	Discuss with DHEC Project Manager, resample if necessary	Document in report	Laboratory
Insufficient sample for analysis	Contact QA Officer	Discuss with DHEC Project Manager, resample if necessary	Document in report	Laboratory

Table 9A Corrective Action Procedures

3. Identify sample disposal procedures.

Analysis	Matrix	Schedule for disposal	Method for disposal	Comments
All (Laboratory Samples)	Soil and Water	Monthly	Veolia Technical Solutions	All laboratory samples are disposed according to S-CHR-S-002, Waste Handling and Management
Dissolved Oxygen, pH, Conductivity, Temperature	Water	Daily	Activated Carbon Drum	Treated on-site
PID soil samples	Soil	As Needed	Waste Management, Inc.	Disposed of with drill cuttings

4. Provide SOPs for the Kerr Method or the Ferrous Iron Method if these are parameters for this study. This can be attached or written here. If attached please note that it is an attachment and where it is located (if applicable).

B5 Quality Control Requirements:

All QC will follow the requirements laid out in Section B5 of the UST Programmatic QAPP.

B6 Field Instrument and Equipment Testing, Inspection and Maintenance

1. Identify all field and laboratory equipment needing periodic maintenance, the schedule for this, and the person responsible. Note the availability and location of spare parts.

Instrument	Serial Number	Type of Maintenance	Frequency	Parts needed/Location	Person responsible
MiniRae Lite PID	590-902163	Check Batteries Calibration	Daily Daily	Field Kit / Office	William McClary
MiniRae Plus (PID)	102182	Check Batteries Calibration	Daily Daily	Field Kit / Office	William McClary
Heron H.01L (Interface Probe)	01-0337	Check Batteries Clean Probe	Daily	Field Kit / Office	Dalton Reames/William McClary
Heron SM.01L (Interface Probe)	02-0586	Check Batteries Clean Probe	Daily	Field Kit / Office	Dalton Reames/William McClary
Field Instruments	All	Inspect for damage	Daily	Enviro-Equipment if repairs needed	Dalton Reames/William McClary
Volatiles Mass Spec	ALL	Change traps, clean ion source, replace filaments	Periodic	Laboratory	MSV Analyst

Semivolatile Mass Spec	ALL	Injection port maintenance, ion source maintenance, column replacement	Periodic	Laboratory	MSSV Analyst

Table 11A Instrument and Equipment Maintenance

2. Identify the testing criteria for each lab or field instrument that is used to ensure the equipment is performing properly. Indicate how deficiencies, if found, will be resolved, re-inspections performed, and effectiveness of corrective action determined and documented. Give the person responsible for this

Instrument/Equipment & Serial Number	Type of Inspection	Requirement	Individual Responsible	Resolution of Deficiencies
Volatiles Mass Spec	Daily calibration check	Method Requirements	MSV Analyst	Recalibration or instrument maintenance
Semivolatiles Mass Spec	Daily calibration check	Method Requirements	MSSV Analyst	Recalibration or instrument maintenance
Interface probe	Daily Check	Check Batteries Clean probe as necessary	Field Personnel	Recalibration or instrument maintenance
MiniRae Lite PID	Daily Calibration Check	Within 15 parts per million	Field Personnel	Recalibration or instrument maintenance
MiniRae Plus (PID)	Daily Calibration Check	Within 15 parts per million	Field Personnel	Recalibration or instrument maintenance

Table 12A Instrument and Equipment Inspection

B7 Instrument Calibration and Frequency

1. Identify equipment, tools, and instruments for field or lab work that should be calibrated and the frequency.
2. Describe how the calibrations should be performed and documented, indicating test criteria and standards or certified equipment.
3. Identify how deficiencies should be resolved and documented. Identify the person responsible for corrective action.

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
Volatiles Mass Spec	5 calibration standards for all compounds	When indicated by daily calibration verification standard	Method Criteria	Detailed in SOP	MSV Analyst	S-CAR-0-023
Semivolatile Mass Spec	5 calibration standards for all	When indicated by daily calibration	Method Criteria	Detailed in SOP	MSSV Analyst	S-CAR-O-015 S-CAR-O-052

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
	compounds	verification standard				
Interface Probe	Checked vs. standard	Monthly	+/-0.01 ft. per 10 ft. length	Replace probe tape	Field Personnel	
MiniRae Lite PID	Per manuf. recommendations	Daily	Within 15 ppm	Recalibration or instrument maintenance	Field Personnel	
MiniRae Plus (PID)	Per manuf. recommendations	Daily	Within 15 ppm	Recalibration or instrument maintenance	Field Personnel	

Table 13A Instrument Calibration Criteria and Corrective Action

*** This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.**

B8 Inspection/Acceptance Requirements for Supplies and Consumables

1. Identify critical supplies and consumables for field and laboratory, noting supply source, acceptance criteria, and procedures for tracking, storing and retrieving these materials.
2. Identify the individual(s) responsible for this.

Item	Vendor	Acceptance criteria	Handling/Storage Conditions	Person responsible for inspection and tracking.
Laboratory Chemicals	Fisher,VWR,	Certificates of analysis and laboratory testing	Laboratory storage	Receiving and laboratory personnel
Laboratory standards	O2Si, Restek, Fisher, VWR, Inorganic Ventures, CPI	Certificates of analysis and laboratory verifications	Vendor specific storage conditions	Laboratory Analysts
Sample Containers	Daniels Scientific, Fisher, O2Si	Certificates of analysis and laboratory testing	Bottle storage area	Sample receiving personnel - Lab/ Warehouse - Emerald
Coolers	Pace Analytical	Clean, dry	Stored office warehouse	William C. McClary
Standards (pH, Cond. DO, PID)	Enviro-Equipment	Within Expiration Date	Stored office warehouse	William C. McClary
Nitrile Gloves and rope	Preferred Pump	Sealed	Stored office warehouse	William C. McClary
Batteries	Any	Sealed	Stored office warehouse	William C. McClary

Table 14A List of Consumables and Acceptance Criteria

B9 Data Acquisition Requirements (Non-Direct Measurements)

1. Identify data sources, for example, computer databases or literature files, or models that should be accessed or used.
2. Describe the intended use of this information and the rationale for their selection, i.e., its relevance to project.
3. Indicate the acceptance criteria for these data sources and/or models.

Data Source	Used for	Justification for use in this project	Comments
SCDHEC Files	Background Information	Historic depth to water measurements, CoC Data and UST Information	

Table 15A Non-Direct Measurements

4. Identify key resources/support facilities needed. Not Applicable.

B10 Data Management

1. Describe the data management scheme from field to final use and storage.

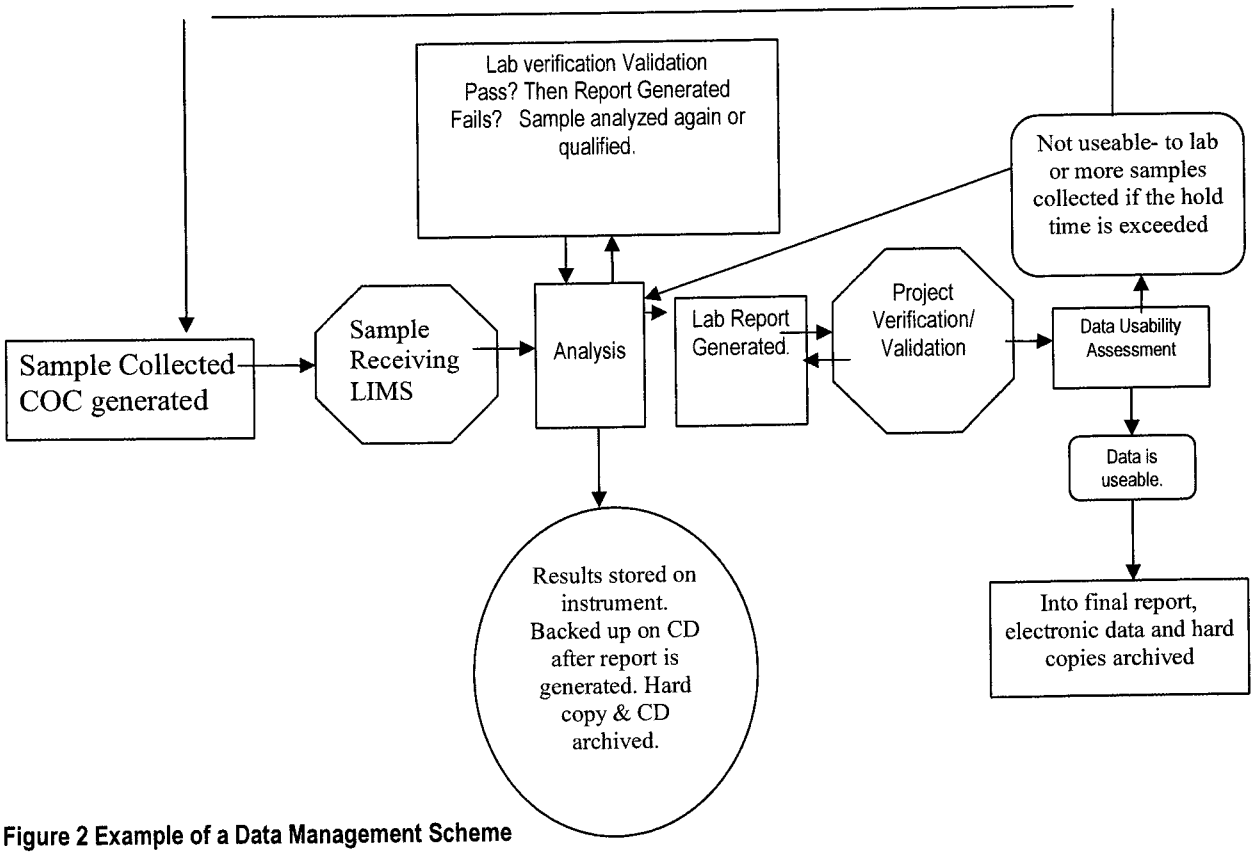

Figure 2 Example of a Data Management Scheme

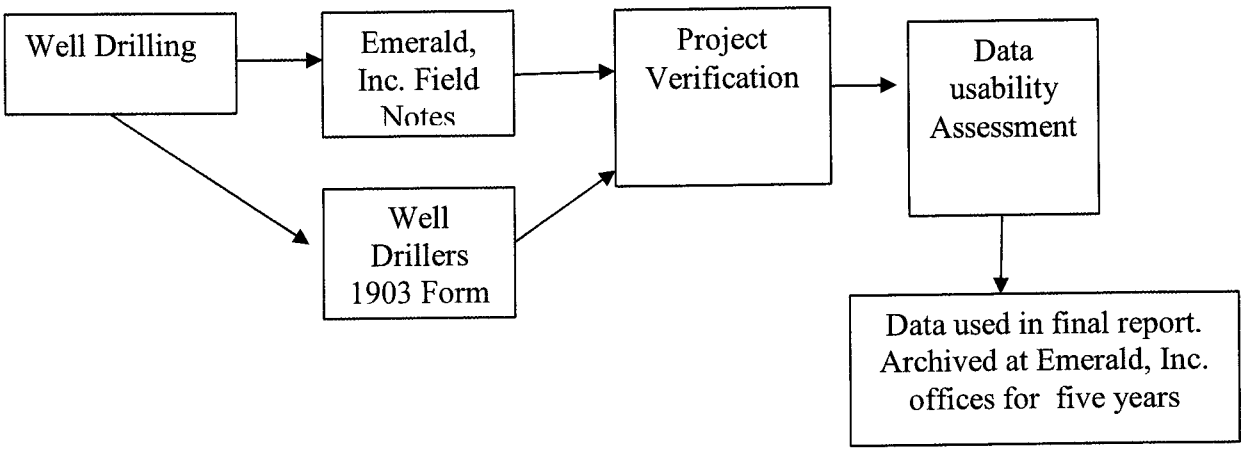

Figure 2A Drilling Data Management Scheme

2. How does the lab and field staff ensure that no unauthorized changes are made to the chain of custody, sampling notebooks, laboratory notebooks and computer records?

The laboratory maintains comprehensive Quality Control and Training Programs. All sample receipt data, sample log-in and analytical data is peer reviewed, including review for inappropriate changes. Data management, review procedures and the Quality Systems Program are documented in the laboratory's Quality Manual and Standard Operating Procedures. The Quality Management Department oversees adherence to and review of these programs.

Emerald, Inc. field notes will be written in pencil on dedicated field sheets documenting field activities. Any changes to field notes will be changed with a single line strikeout and must be initialed and dated by the Emerald, Inc. personnel with any comments noted in the comments section of the field sheet. Field notes will be filed in appropriate file upon return from field activities and archived in filing cabinets. Data obtained from field activities (laboratory reports and final reports) will be saved on the company server which is backed up on a weekly basis to preserve data. The project QA/QC officer will be responsible for oversight.

3. How does the lab ensure that there are no errors in samples records including times when sample information is compiled, data calculated and/or transmitted?

Sample data acquisition software included audit trails which are reviewed periodically under the Laboratory's Quality Systems Program. Laboratory data systems are backed up daily and able to be restored in the event of a system failure. These procedures are documented in laboratory SOPs S-ALL-IT-001, System Security and Integrity and S-ALL-IT-002, Server Backup. The IT System Manager is responsible for these systems and procedures.

4. How will the data be archived once the report is produced? How can it be retrieved? (This applies to both electronic and hard copies).

Laboratory Hardcopy data stored off site is logged, maintained and archived by the Quality Management Department. Laboratory Electronic Data Reports are maintained through IT back up under the responsibility of the IT Systems Manager and the Corporate IT Department.

Emerald, Inc. will archive field notes and paper copies in an on-site filing cabinet. Paper copies will be stored for a minimum of five years. Electronic copies of reports will be stored on the Emerald, Inc. server for future retrieval. Electronic copies will be maintained for a minimum of five years.

Section C Assessment and Oversight

C1 Assessment and Response Actions

1. *The Contractor is supposed to observe field personnel daily during sampling activities to ensure samples are collected and handled properly and report problems to DHEC within 24 hours. . Please state who is responsible for doing this and what observations will be made. Will this person have the authority to stop work if severe problems are seen?*

Field audits will be conducted on a regular basis by Ronny Lowder Project QA officer, to ensure field personnel adherence to the QAPP. If problems are identified during the field audit, Ronny Lowder has the authority to suspend field activities until the problems are addressed. Audit results will be reviewed by William McClary, Project Manager and Ronny Lowder, Project QA officer.

2. The SCDHEC UST QAPP states that the Lab will receive an Offsite Technical System Audit. For this project, what assessments will be done on the Commercial Lab(s) that are being used—other than their certification audit? When or how often are these done? Who will the results be given to and who has the ability to stop work if problems are severe?

The laboratory participates in annual Proficiency Testing through an approved vendor, Environmental Resources Associates. Proficiency Testing results are provided to the Office of Environmental Laboratory Certification. Laboratory reports will include full QA/QC data and the data will be reviewed for quality control issues. Quality issues will be brought to the attention of the Laboratory Director for explanation and resolution. The Emerald, Inc. Project QA officer and Project Manager will have authority to stop work and, upon approval from SCDHEC, chose an alternate laboratory.

C2 Reports to Management

See the SC DHEC UST Programmatic QAPP (UST Master QAPP).

Section D Data Validation and Usability

All data produced during these work activities will be validated by Ronny Lowder. of Emerald, Inc. before submission to SCDHEC. See the SC DHEC UST Programmatic QAPP (UST Master QAPP).

Pace Analytical®
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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: of

1477794

Section A **Required** Client Information:	Section B **Required** Project Information:	Section C Invoice Information:
Company:	Report To:	Attention:
Address:	Copy To:	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name:	Pace Project Manager:
Requested Due Date/TAT:	Project Number:	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER _____

Site Location *STATE:* _____

Section D
Required Client Information

Matrix Codes
MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COLLECTED: COMPOSITE START TIME	COLLECTED: COMPOSITE END/GRAB DATE	COLLECTED: COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N: Analysis Test ↓	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS

ORIGINAL

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:					
SIGNATURE of SAMPLER:	DATE Signed (MM/DD/YY):				

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

Assessment Component Cost Agreement

South Carolina Department of Health and Environmental Control

Underground Storage Tank Program

State Underground Petroleum Environmental Response Bank Account

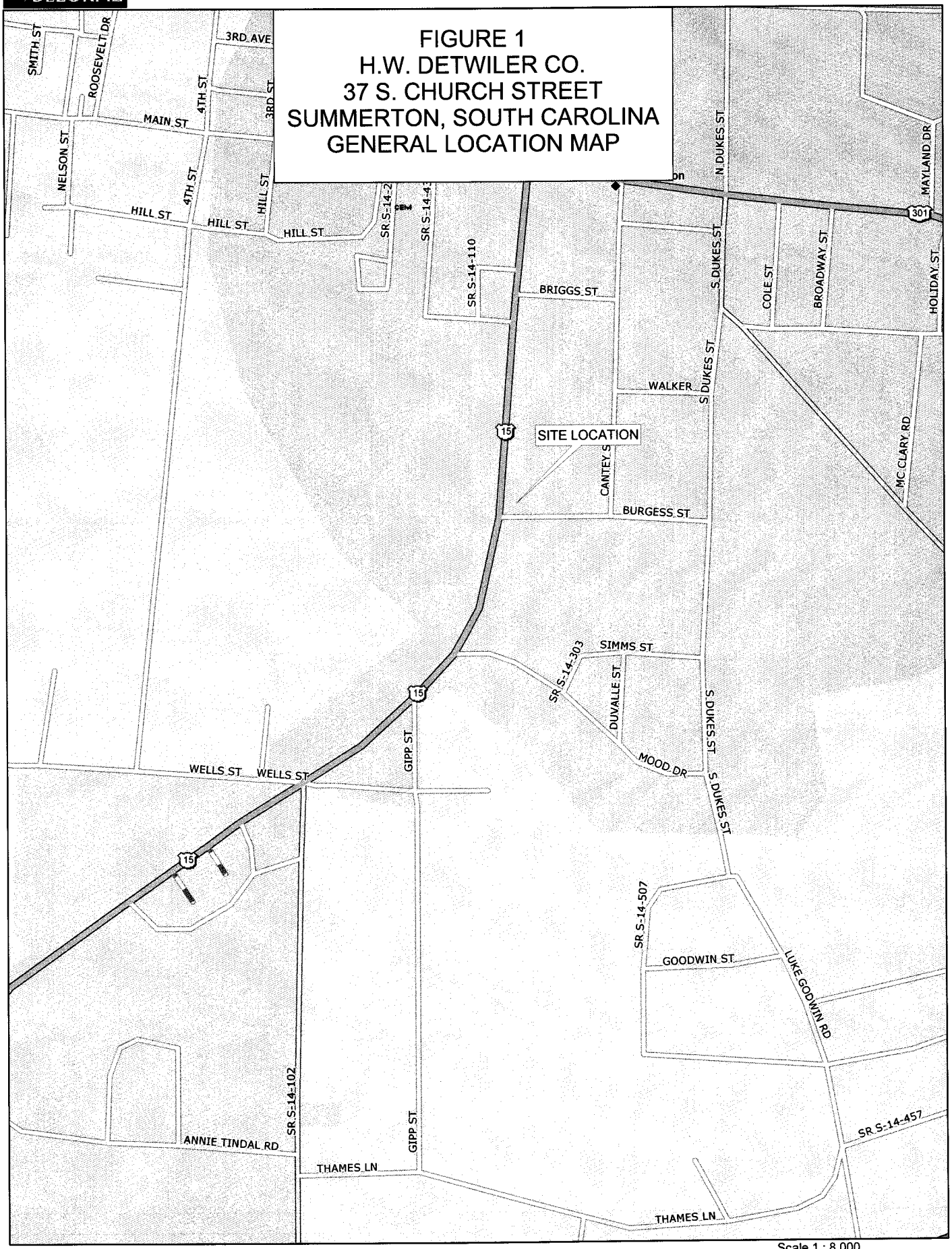
Facility Name H. W. Detwiler Company

UST Permit # 15729 Cost Agreement # _____

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
1 Plan*				
A. Tier II or Comp. Plan/QAPP App. B	1	x	$525.00	**$525.00**
B. Tax Maps		x	$50.00	**$0.00**
2. Receptor Survey*		x	$500.00	**$0.00**
3. Survey				
A. Comprehensive Survey	2	x	$1,000.00	**$2,000.00**
B. Subserface Geophysical Survey		x		**$0.00**
< 10 Meters below grade		x	$2,750.00	**$0.00**
> 10 Meters below grade		x	$3,250.00	**$0.00**
C. Geophysical UST or Drum Survey		x	$1,125.00	**$0.00**
4. Mob/Demob				
A. Equipment	1	x	$575.00	**$575.00**
B. Personnel	4	x	$290.00	**$1,160.00**
C. Adverse Terrain Vehicle		x	$575.00	**$0.00**
5. Soil Borings (hand augered)*		feet x	$14.00	**$0.00**
6. Soil Borings (drilled) & Field Screening	(includes collection and quantification)			
A. Standard		feet x	$17.00	**$0.00**
B. Fractured Rock		feet x	$27.50	**$0.00**
7. Soil Leachability Model		x	$200.00	**$0.00**
8. Abandonment				
A. 2" or less		feet x	$5.00	**$0.00**
B. 2+" to 6"		feet x	$5.50	**$0.00**
C. Dug/bored well (up to 6 ft. dia.)		feet x	$18.00	**$0.00**
9. Well Installation*	(includes drilling costs)			
A. Water Table (hand auger)		feet x	$20.00	**$0.00**
B. Water Table	550	feet x	$38.00	**$20,900.00**
C. Telescoping		feet x	$58.00	**$0.00**
D. Rock Drilling		feet x	$58.00	**$0.00**
E. 2" Rock Coring		feet x	$45.00	**$0.00**
F. Multi-sampling ports/screens		feet x	$47.20	**$0.00**
G. Recovery Well (4" Dia.)		feet x	$45.00	**$0.00**
H. Pre-packed screen (1.25 dia)		feet x	$18.50	**$0.00**
I. Rotosonic (2" dia.)		feet x	$45.00	**$0.00**
10. Sample collection				
A. Groundwater (Purge)		samples x	$55.00	**$0.00**
B. Air or Vapors		samples x	$90.00	**$0.00**
C. Water Supply		samples x	$30.00	**$0.00**
D. Groundwater (No Purge or duplicate)		samples x	$35.00	**$0.00**
E. Gauge Well Only		samples x	$20.00	**$0.00**
F. Sample Below Product		samples x	$50.00	**$0.00**
G. Passive Diffusion Bag		samples x	$40.00	**$0.00**
H. Field Blank		samples x	$5.00	**$0.00**
11. Analyses-Groundwater	(See Analytical Methodology for site specific analyses)			
A. BTEXNM+Oxy's+1,2 DCA+Eth (8260B)		samples x	$100.00	**$0.00**
B. 8260B **RUSH Analysis**		samples x	$143.00	**$0.00**
C. Trimethyl, butyl and Isopropyl Benzenes		samples x	$40.00	**$0.00**
D. PAH's		samples x	$120.00	**$0.00**
E. Lead		samples x	$20.00	**$0.00**
F. EDB by 8011		samples x	$55.00	**$0.00**
G. EDB by 8011 RUSH		samples x	$75.00	**$0.00**
H. 8 RCRA Metals		samples x	$140.00	**$0.00**
I.TPH (9070)		samples x	$55.00	**$0.00**
J. pH		samples x	$10.00	**$0.00**
K. BOD		samples x	$40.00	**$0.00**
L. Filtered Lead		samples x	$46.00	**$0.00**
M. Ethanol		samples x	$21.50	**$0.00**

Analyses-Soil				
N. BTEX + Napth.	8	samples x	$100.00	**$800.00**
O. PAHs	8	samples x	$120.00	**$960.00**
P. 8 RCRA Metals		samples x	$150.00	**$0.00**
Q. Oil & Grease (9071)		samples x	$60.00	**$0.00**
R. TPH DRO (3550C/8015C)		samples x	$65.00	**$0.00**
S. TPH GRO (5035C/8015C)		samples x	$65.00	**$0.00**
T. Grain size / hydrometer		samples x	$99.00	**$0.00**
U. Total Organic Carbon		samples x	$35.00	**$0.00**
Analyses-Air				
V. BTEX + Naphthalene		samples x	$247.50	**$0.00**
Analyses-Free Phase Product				
W. Hydrocarbon Fuel Identification		samples x	$620.00	**$0.00**
12. Aquifer Characterization*				
A. Pumping Test		hours x	$120.00	**$0.00**
B. Slug test		tests x	$150.00	**$0.00**
C. Fractured Rock		tests x	$500.00	**$0.00**
13. Free Product Recovery Rate Test*		tests x	$120.00	**$0.00**
14. Fate & Transport Modeling				
A. Mathematical Model		models x	$300.00	**$0.00**
B. Computer Model		models x	$500.00	**$0.00**
15. Risk Evaluation				
A. Tier I		x	$300.00	**$0.00**
B. Tier II		x	$500.00	**$0.00**
16. Subsequent Survey*		x	$300.00	**$0.00**
17. Disposal				
A. Wastewater	500	gallon x	$0.80	**$400.00**
B. Free Product	100	gallon x	$0.85	**$85.00**
C. Soil Treatment/Disposal	5	tons x	$72.50	**$362.50**
D. Drilling Fluids		gallon x	$0.80	**$0.00**
18. Miscellaneous				
A. Additional Copies of Report		each x	$32.50	**$0.00**
23. AFVR				
A. 8-Hour Event*		x	$3,000.00	**$0.00**
B. AFVR per hour continuance		x	$204.00	**$0.00**
C. Off-Gas Treatment per hour		x	$35.00	**$0.00**
24. Granular Activated Carbon (GAC) filter System installation/service				
A. New GAC System Installation		x	$2,500.00	**$0.00**
B. Refurbished GAC System Installation		x	$1,180.00	**$0.00**
C. Filter Replacement/removal*		x	$450.00	**$0.00**
D. GAC System Removal, cleaning & refurbishment		x	$720.00	**$0.00**
E. GAC System housing		x	$450.00	**$0.00**
F. In-line particulate filter		x	$150.00	**$0.00**
G. Additional piping & fittings		x	$4.00	**$0.00**
25. Well Repair				
A. Repair 2x2 monitoring well pad	2	each x	$100.00	**$200.00**
B. Repair 4x4 monitoring well pad		each x	$150.00	**$0.00**
C. Replace well vault	2	each x	$225.00	**$450.00**
D. Replace/repair stickup		each x	$137.50	**$0.00**
E. Convert flush-mount to stickup		each x	$175.00	**$0.00**
F. Convert stickup to flush-mount		each x	$125.00	**$0.00**
G. Replace missing/illegible well ID plate		each x	$22.50	**$0.00**
H. Replace well cover bolts		each x	$10.00	**$0.00**
I. Replace locaking well cap and lock		each x	$15.00	**$0.00**
19. Report/Project Management and Coordination	15%	x	(SUBTOTAL) **$28,417.50**	**$4,262.63**
25. **Total**				**$32,680.13**

FIGURE 1
H.W. DETWILER CO.
37 S. CHURCH STREET
SUMMERTON, SOUTH CAROLINA
GENERAL LOCATION MAP



Data use subject to license.

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TN

MN (7.4°W)

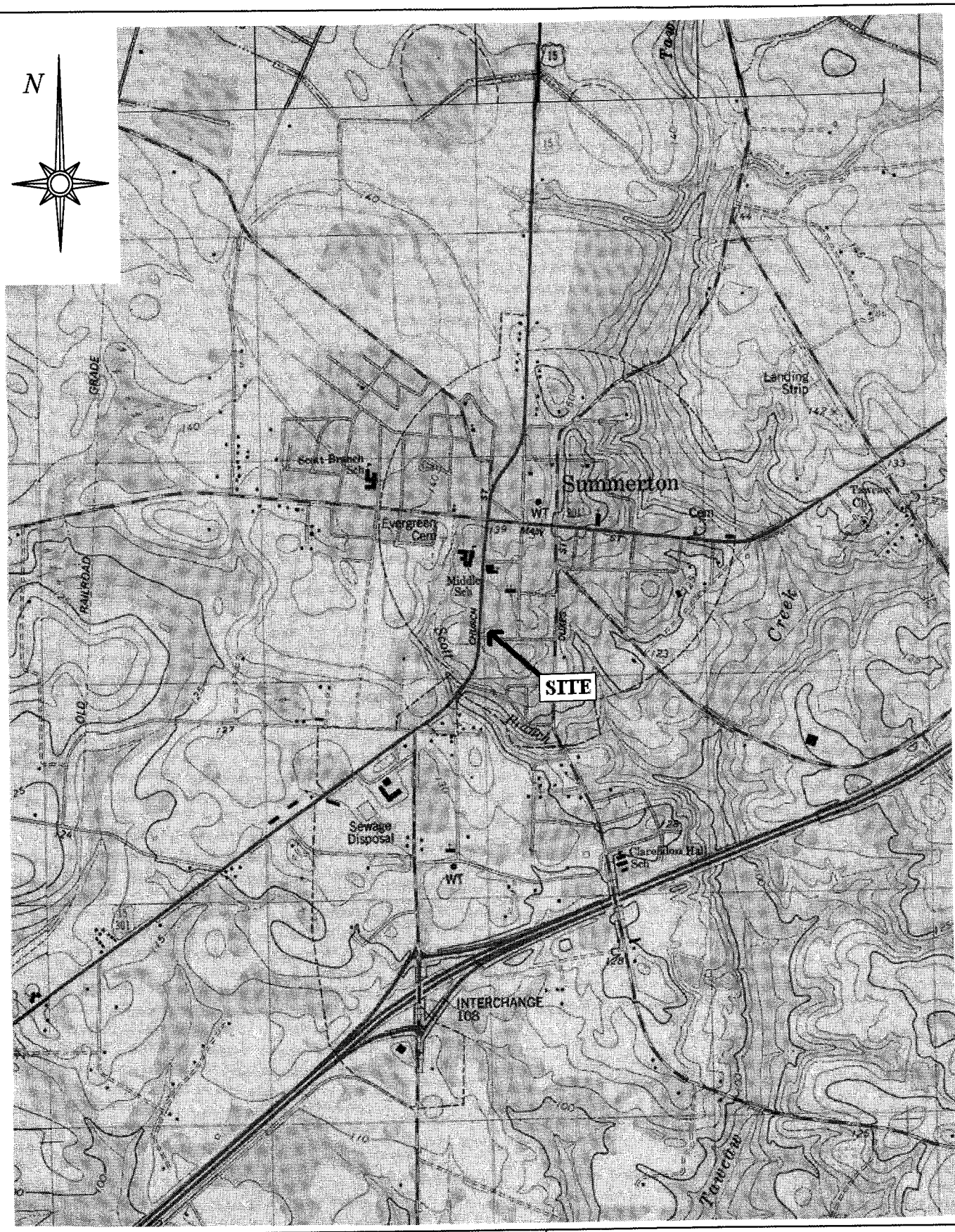
Scale 1 : 8,000

0 200 400 600 800 1000 ft

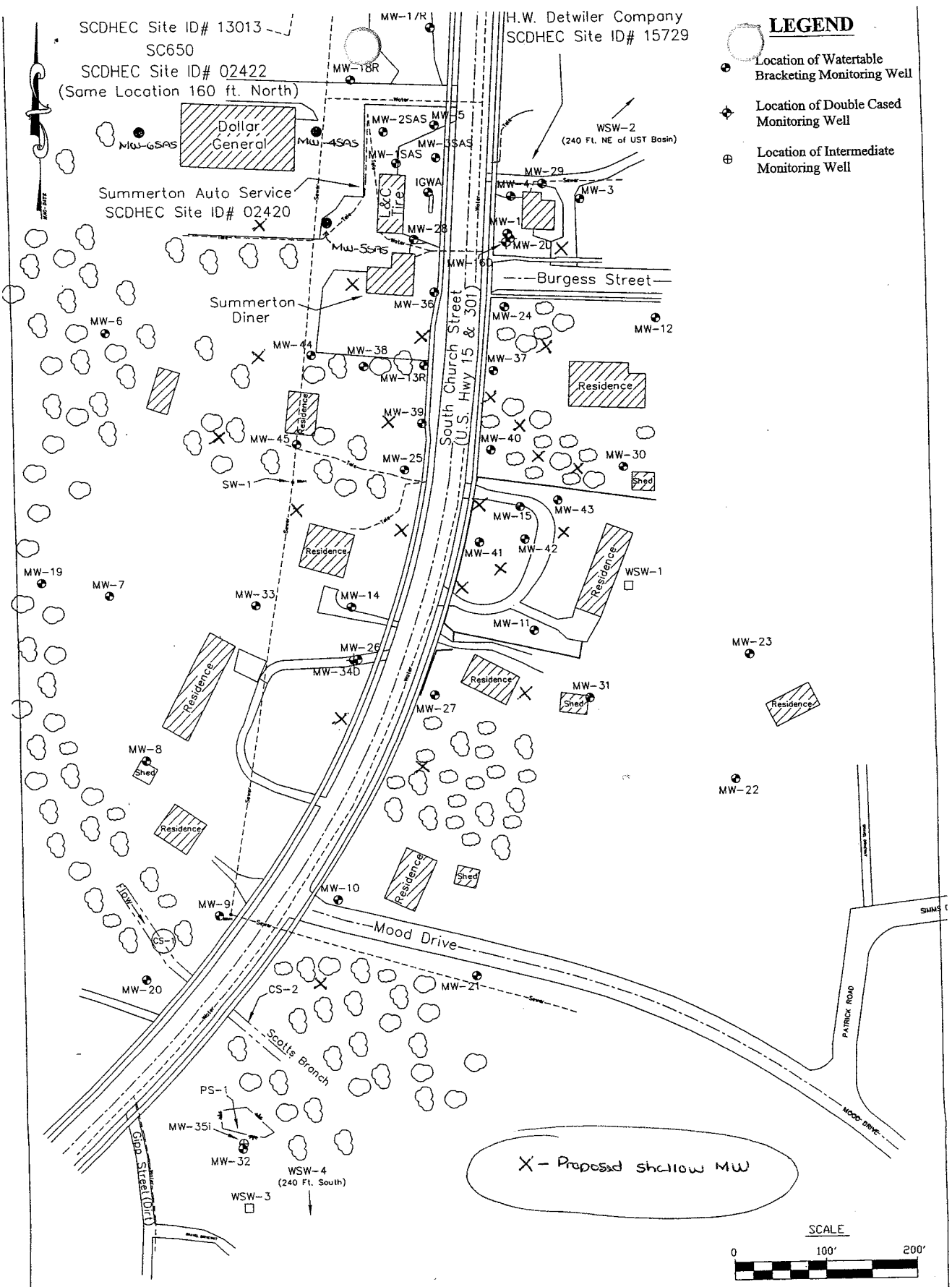
0 60 120 180 240 300 m

1" = 666.7 ft

Data Zoom 14-6



H.W. Detwiler Company 37 South Church Street Summerton, SC SCDHEC Site ID# 15729	Figure 2 USGS Topographic Map 7.5 Minute Map "Summerton, SC" Quadrangle Scale 1 to 2,000	EMERALD, INC. Sumter, SC



PROJECT:	SHEET TITLE:	FILE NUMBER:	EMERALD, INC.
H.W. Detwiler Company 37 South Church Street Summerton, SC UST PERMIT #15729	FIGURE 3 SITE MAP	E1390DWLO WORK DATE(S): 7/11/11, 7/13/11, 7/29/11	SUMTER, SOUTH CAROLINA