51316

Record of Decision

Philip Services Corporation Site (PSC) State Superfund Site

York County, South Carolina

South Carolina Department of Health and Environmental Control

Bureau of Land and Waste Management

June 2016

2738

DECLARATION
RECORD OF DECISION
PSC SITE

Site Name and Location

The Philip Services Corporation Site (PSC) Site ("the Site") is located at 2324 Vernsdale Road, approximately 4.5 miles southwest of the City of Rock Hill, South Carolina (Figure 1). Robertson Road borders the property to the northeast, and the Norfolk Southern Railroad forms the northwestern boundary. Wildcat and Fishing Creeks border the industrial property on the southeast and southwest, respectively. The former PSC Property (the Site) consists of approximately 44.5 acres of industrial property on the west side of Wildcat Creek and approximately 108 acres of undeveloped woodland on the east side of Wildcat Creek.

Statement of Basis and Purpose

This Decision Document presents the Selected Remedy for the PSC Site, in York County, South Carolina, which was chosen in accordance with the Comprehensive Environmental Response Compensation and Liability Act ("CERCLA"), and to the extent practicable, the National Contingency Plan ("NCP"). The decision is based on the Administrative Record for the Site.

Assessment of the Site

The response action selected in the record of decision ("ROD") is necessary to protect the public health and welfare or the environment from actual or threatened releases of hazardous substances into the environment.

Description of Selected Remedy

The Department has identified Combined Alternative 3 - Hydraulic Containment, Soil Vapor Extraction ("SVE"), Thermal Enhanced Multi-Phase Extraction ("MPE") and In Situ Thermal Treatment as the selected remedy for the site.

This alternative involves hydraulic containment in the regolith and bedrock zones (if necessary), SVE in the Burn Pit Area (if necessary), Thermal Enhanced MPE in the Fuel Oil Area, and in situ thermal treatment for both soil and groundwater. Specifically, this alternative includes the following components:

- Excavation and offsite disposal of soils with metals exceeding Remedial Goals (Table 3-5) outside of VOC treatment areas.
- SVE in the Burn Pit Area, if necessary based on the results of the preliminary design investigation and additional assessment of this area.
- Thermal-enhanced MPE for the Fuel Oil Area.

groundwater.

- Hydraulic containment with onsite physical/chemical treatment for the regolith and bedrock hydraulic zones, if necessary to limit the migration of COCs.

- Groundwater and surface water monitoring.

- Institutional controls.

Figure 5-6 outlines the approximate treatment areas for this alternative and the associated technologies. These areas will be refined during remedial design. The implementation of this alternative will include sequencing of various elements so that the anticipated benefits associated with one element can be evaluated and taken into account in the implementation of subsequent stages. The precise sequencing will be described and justified during the design process conducted prior to remedy implementation.

Capital costs for this alternative include the installation of extraction wells, thermal wells, and SVE wells, thermal treatment system installation; groundwater treatment system upgrades; institutional controls; and limited excavation. Although relatively short term, O&M costs also exist and include media monitoring and O&M for the thermal remediation system. The present worth of this alternative is $35,854,000.

Statutory Determination

The Selected Remedy attains the mandates of CERCLA § 121 and to the extent practicable the NCP. The remedy is protective of human health and the environment, complies with ARARs, is cost effective, and utilizes permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. The remedy also satisfies the statutory preference for treatment as a principal element of the remedy, which permanently and significantly reduces the toxicity, mobility, and volume of hazardous substances, pollutants or contaminants.

Because this remedy will result in hazardous substances, pollutants or contaminants remaining onsite above levels that allow for unrestricted exposure, a statutory review will be conducted within five years after initiation of remedial action to ensure the remedy is, or will be, protective of human health and the environment.

ROD Data Certification Checklist

The following information is included in the Decision Summary section of this Record of Decision. Additional Information can be found in the Administrative Record for the site

- Chemicals of concern and their respective concentrations.
- Baseline risk represented by the chemicals of concern.
- Cleanup levels established for chemicals of concern and the basis for these levels.

- How source materials constituting principal threats are addressed.
- Current and reasonably anticipated future use assumptions and current future beneficial use of ground water used in the baseline risk assessment and ROD.
- Potential land and groundwater use that will be available at the site as a result of the Selected Remedy.
- Estimated capital, annual operation and maintenance costs, discounted rate, and the number of years over which the remedy costs estimates are projected.
- Key factors that led to selection of the remedy.

Daphne D. Neel

Daphne G. Neel, Chief
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control

6/22/16

Date

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1.0 Site Name and Location

The Philip Services Corporation (PSC) Site ("the Site") is located at 2324 Vernsdale Road, approximately 4.5 miles southwest of the City of Rock Hill, South Carolina (Figure 1). Robertson Road borders the property to the northeast, and the Norfolk Southern Railroad forms the northwestern boundary. Wildcat and Fishing Creeks border the industrial property on the southeast and southwest, respectively. The former PSC Property consists of approximately 44.5 acres of industrial property on the west side of Wildcat Creek and approximately 108 acres of undeveloped woodland on the east side of Wildcat Creek.

The Site is immediately surrounded by undeveloped land and commercial/industrial properties. Osmose Wood Preserving, Inc., is located directly across the railroad to the northwest. Low-density residential properties and a high school are located in the vicinity of the Site. Higher density residential areas are located to the southeast and northeast toward the City of Rock Hill.

The Site includes several buildings: a former office on the northern portion of the property close to Robertson Road, a large warehouse building along the northwest portion of the property bordered by the railroad, a wastewater treatment building located in the southwest portion of the property, and several other small buildings across the property.

2.0 Site History

2.1 Operational History

The PSC facility is a former Resource Conservation Recovery Act (RCRA) hazardous waste treatment, storage, and disposal facility. Beginning in 1966, Quality Drum Company and, later, Industrial Chemical Company conducted operations consisting of waste storage, treatment, and recycling. The facility received spent solvents from offsite facilities, stored the solvents at the facility in drums and tanks, and recovered these solvents through distillation. Until 1981, wastes from the distillation process (e.g., still bottoms) were sent to a local landfill. In 1981, a hazardous waste incinerator was installed at the facility for still bottoms treatment and the facility began to process a broader variety of waste streams. Quality Drum and Industrial Chemical merged in December 1982.

In May 1983, Stablex South Carolina, Inc. acquired the facility. At that time, approximately 26,000 drums and 200,000 gallons of bulk liquid waste stored in tanks were present at the facility. In 1986, NUKEM purchased the stock of Stablex. Stablex South Carolina, Inc., changed its name to ThermalKem, Inc., in January 1987. ThermalKem operated the facility as a hazardous waste incinerator and storage facility under RCRA interim status (EPA I.D. No. SCD 044 442 333).

PSC purchased the stock of ThermalKem through ThermalKem's subsidiary, Petro-Chem, and took over operation and management of the facility in November 1995. PSC ceased operation of the incinerator one month later and submitted an incinerator closure plan in 1998. PSC continued to operate the facility as a fuel blending, storage, and transfer facility until 1999. PSC filed for bankruptcy protection in June 2003.

During the years of operation, the facility sustained two large structural fires. The facility also experienced a subsurface diesel fuel release, with the quantity of fuel spilled estimated to be greater than 200,000 gallons, as well as various releases of hazardous substances.

2.2 Enforcement History

In 1966, Quality Drum Company and Industrial Chemical Company began operations consisting of waste storage, treatment, and recycling. The facility received spent solvents from offsite facilities, stored the solvents on site in drums and tanks, and recovered these solvents through distillation. Until 1980, wastes from the distillation process (still bottoms) were sent to a local landfill. In 1980, a hazardous waste incinerator was installed for still bottoms treatment.

In May 1983, Stablex Inc. acquired the facility. At that time, approximately 26,000 drums and 200,000 gallons of bulk liquid waste (stored in tanks) were present on site. In 1983, groundwater monitoring was initiated through the DHEC RCRA program. In 1985 the burn pit was excavated. In 1986, studies were conducted to design and implement a groundwater treatment system to contain contaminated groundwater from impacting the creek. In 1986, ownership of the property was transferred to NUKEM, who changed its company name to ThermalKEM in 1987. ThermalKEM operated as a hazardous waste incinerator and storage facility under RCRA interim status. In 1991, a diesel fuel release was detected and the pump and treat system was modified to address containment of this area. PSC took over operation and management of the site in November 1995 and ceased operation of the incinerator one month later.

In June 2, 2003, PSC and its related debtors filed a petition for relief under Chapter 11 of the Bankruptcy Code. In December 2003, DHEC and the United States Environmental Protection Agency ("EPA") entered into a settlement agreement with PSC and its related debtors. Reorganized PSC placed funds (approximately $4.2 million) in a bankruptcy custodial trust account managed by Restoration & Redevelopment Solutions, LLC ("R&R"), a court-appointed trustee. DHEC and the EPA are the beneficiaries of the custodial trust account.The bankruptcy settlement agreement specifically authorizes use of funds in the custodial trust account for investigation and remediation actions, and closure and post-closure actions selected and approved by DHEC and/or EPA. A memorandum of understanding between DHEC and EPA established DHEC as the lead governmental agency for managing the environmental response actions.

Between November 2004 and May 2005, DHEC provided General/Special Notice of Potential Liability letters to 98 Potentially Responsible Parties (PRPs) under CERCLA. These were believed to be the largest contributors by volume of waste during the period of 1993 through 1999. Hazardous waste manifests and other documents identify over 7,000 generator PRPs at the Site. DHEC held PRP meetings on December 7, 2004 and again on May 17, 2005. Based on a good-faith offer of settlement to fund and perform work associated with the remedial investigation and feasibility study at the Site, DHEC entered into settlement negotiations with a number of those PRPs, which later formed a single cohesive PRP Group ("PRP Group") to participate effectively in settlement negotiations. A timely settlement for performance of the RI/FS could not be reached so DHEC initiated a fund-lead RI/FS. On August 5, 2014, DHEC sent letters to approximately 1,700 additional parties notifying them of their potential liability (this letter also included notice of an August 26, 2014 public meeting).

2.3 Environmental Response History

Several soil and groundwater investigations were conducted during the operation of the facility. Based on these investigations a groundwater extraction and treatment system was installed in 1988 to address petroleum contamination. Additional extraction components (groundwater extraction wells EW-2 and EW-3 and a fuel interceptor trench) were installed in the mid-1990s. The incinerator was shut down and dismantled in the late 1990s, and soil was excavated beneath the incinerator leaving an open pit.

In 2004, the open pit was backfilled and the incinerator building was demolished under the direction of DHEC. DHEC also completed upgrades to the groundwater treatment system in 2005.

DHEC began a Remedial Investigation in 2004 consisting of several phases of soil and groundwater investigation to determine the nature and extent of contamination. The Remedial Investigation Report (RI) was completed in September 2008. A Feasibility Study (FS) which evaluated remedial alternatives was completed on July 22, 2011.

3.0 Public Relations

The Department held a public meeting on May 25, 2006 to announce the start of the Remedial Investigation and provide an opportunity for public input into the remedial investigation. An update fact sheet was provided to the attendees on May 30, 2007. The fact sheet is included in Appendix (C).

The Department held a public meeting on August 26, 2014 to present the Proposed Plan. The meeting opened a thirty (30) day public comment period that the Department chose to extend to ninety (90) days at the request of the public. Overall there were few comments directed to the preferred remedy and there was no major opposition. The majority of the public's comments were focused on a recently permitted construction and debris landfill located in close proximity of the site. Several residents expressed concern because they had drinking water wells and were downgradient of the PSC Site. The Department agreed to investigate this issue further. A more detailed discussion is in the Responsiveness Summary of this report. A transcript of the public meeting is included in Appendix B.

4.0. Scope and Role

As with many Superfund sites the problems at the PSC Site are complex. As a result the remedy for cleanup has been broken down into several distinct areas for the purpose of developing a comprehensive cleanup alternative. The selected alternative involves hydraulic containment in the regolith and bedrock zones, SVE in the Burn Pit Area, thermal-enhanced MPE in the Fuel Oil Area, and in situ thermal treatment for both soil and groundwater. Specifically, this alternative includes the following components:

- Excavation and offsite disposal of metals exceeding RGs outside of VOC treatment areas.
- Thermal-enhanced MPE for the Fuel Oil Area.
- In situ thermal treatment for select areas to treat for VOCs in soil and regolith groundwater.
- Upon evaluation of the thermal treatment, hydraulic containment with onsite physical/chemical treatment for the regolith and bedrock hydraulic zones, could be necessary, to limit the migration of COCs.
- SVE in the Burn Pit Area, if necessary based on the results of the preliminary design investigation and additional assessment of this area.
- Institutional controls.
- Groundwater and surface water monitoring. The selected remedial alternative is anticipated to be the final remedy for the site.

The selected alternative includes both soil and groundwater treatment. The remedy will be evaluated annually after completion to assure that the remedial action objectives have been met following completion of the remediation.

5.0 Site Characteristics

5.1 Topography and Drainage

The PSC Site is located in the Piedmont Physiographic Province of South Carolina. This province is characterized by gently rolling hills and ridges intersected by stream and river valleys. Within the vicinity of the site, land surface elevations range from about 650 feet east of the site down to about 480 feet on Fishing Creek south of the Site. Elevations on the site average from about 510 feet to 530 feet. The surface drainage basin for the site vicinity covers approximately 55 acres including the site and areas to the east.

Two surface water features are adjacent to the Site. Fishing Creek flows from the northwest to form the south boundary of the Site and continues to flow to the south downstream of the Site. Wildcat Creek flows from the north to form the east boundary of the operations area of the former facility. Wildcat Creek flows into Fishing Creek along the south boundary of the Site. Most surface drainage from the operations area of the former facility is directed to the east into Wildcat Creek through several stormwater outfalls. One stormwater outfall also directs surface runoff from the southwest corner of the former operations area to Fishing Creek.

5.2 Hydrogeology

The geology of the Piedmont Physiographic Province includes crystalline bedrock of metamorphic and igneous origin. The metamorphic rocks range from coarsely-crystalline, weather-resistant gneiss to easily weathered mica schist and the finer-grained form called phyllite. Igneous rock, referred to as gabbro, exists beneath the site. Gabbro is a crystalline rock that is dark in color and contains minerals that are moderately susceptible to weathering processes. It is probable that this gabbro has been subjected to some degree of metamorphism and may be more appropriately classified as a meta-gabbro. Although the mineral composition may not be significantly altered by the regional metamorphism, it could have imparted structural changes in the rock such as the development of regional fracture systems. If regional metamorphism has not affected the rock, stress-relief fractures are expected in this unaltered rock type.

The regional nomenclature applied to aquifer systems in the Piedmont Physiographic Province is to classify the system as the Piedmont Aquifer regardless of the depth zone. Groundwater in the Piedmont Aquifer systems typically occurs in three zones of interest. In descending order these zones include the regolith zone, the transition zone between bedrock and the regolith, and the bedrock zone.

5.3 Site Conceptual Model

The Department used the sampling data collected during the RI to develop a site conceptual model. The site conceptual model identified the following potential receptors for the site:

- Current O&M workers.
- Current and future trespassers.
- Current and future recreational visitors.
- Future excavation workers.
- Future industrial workers.
- Future site residents.
- Future site workers.

The potentially complete exposure pathways that currently exist at the site are:

- Inadvertent ingestion of soil.
- Dermal contact with soil.
- Inhalation of soil vapor.
- Inhalation of fugitive dust.
- Inhalation of groundwater vapors in indoor air.
- Ingestion of groundwater.

- Dermal contact with groundwater.
- Dermal contact with vapors in indoor air.

The evaluation of the future receptors and complete exposure pathways are illustrated in Figure 5.

6.0 Site Assessment Summary

6.1 Historic Areas of Concern (RCRA Part B Corrective Action Process)

During operation of the facility, the RCRA Part B Permit Corrective Action process identified four solid waste management units (SWMUs) and seven areas of concern (AOCs). These SWMUs and AOCs are approximately shown on **Figure 2-2**.The SWMUs and AOCs, as listed in the RCRA Facility Investigation (RFI) Part 1 Report (Philip, 1999), and a brief description of the wastes managed/disposed in each area, are presented below. An additional summary of the information is also presented in the Environmental Data Review and Current Environmental Conditions Report prepared by URS Corporation (March 2006).

Incinerator Building Sump (SWMU 8) – This area contained ash and water from the incinerator water seals. The incinerator was operated from approximately 1981 to 1995.

Container Storage Area (SWMU 11) – This area was used for the storage of a large number of drums of spent halogenated and non-halogenated solvents on the ground surfaces. This location was used for container storage from pre-1983 until 1995.

Truck Washing Station and Sump (SWMU 19) – Wastes managed included wash water, residue, and soil from trucks carrying spent halogenated and non-halogenated solvents. The truck washing station/sump was operated from 1981 until 1995.

Burn Pits (SWMU 41) – This area was used for the disposal of solvent distillation still bottoms by open pit burning. The burn pits were operated approximately between 1966 and the early 1970's.

Impacted soil, drums, and waste material were excavated in this area to a depth of 8 feet in 1985 under supervision of SCDHEC.

Solvent Ditch Area of Concern – Spillage and leakage from tank trucks and the tank farm migrated to this area via stormwater runoff. This ditch existed from the 1960's until 1983. Soil excavation was performed to remove visiblyimpacted material in 1983.

Fuel Oil Area of Concern – This area was an area of concern due to the suspected diesel fuel leaks from underground piping associated with three underground storage tanks and from diesel fuel delivery piping to the incinerator.

Drum Repacking Area Fire Area of Concern – A building in this area housed spent halogenated and non-halogenated solvents in lab pack form and drums of solids and sludges from spent solvents. The building was destroyed by fire in 1995 and rebuilt the same year.

Blend Tank Overflow Area of Concern – This area included a tank farm where liquids containing spent halogenated and non-halogenated solvents were blended for incineration prior to 1995.

Scrubber Containment Overflow Area of Concern – Wastes managed at this location included caustic solutions of scrubber water with particulate matter from incineration.

Boiler Explosion Area of Concern – The boiler was used as a backup steam supply for the scrubber and was replaced after it exploded in March 1991. No wastes were managed here but approximately 50 gallons of diesel fuel would have exploded with this boiler.

Stormwater Outflows Areas of Concern – These areas of concern include the collection and outflow areas for stormwater runoff from the site and treatment, storage, and disposal areas.

6.2 DHEC's Remedial Investigation ("RI")

DHEC initiated the RI in 2004 and completed it in 2008. RI activities included sampling soil, groundwater, sediment, and surface water to determine the nature and extent of contamination. The sampling results for these media are summarized below:

6.2.1 Chemicals of Concern ("COCs")

Three classes of VOCs and their typical degradation products were identified as having the highest concentrations in both soil and groundwater sitewide. Although other compounds were detected onsite, they were generally coupled with higher concentrations of compounds from one of the three identified classes shown below. Remedial Goals for these compounds are located in Table 3-4 and Table 3-5.

- BTEX – Benzene, toluene, ethylbenzene, and xylene.
- Chlorinated ethenes and ethanes ("CEE") – Chloroethane; 1,1-dichloroethane; 1,2-dichloroethane; 1,1-dichloroethene; cis-1,2-dichloroethene; 1,1,2,2- tetrachloroethane; tetrachloroethene; 1,1,1- trichloroethane; trichloroethene; 1,1,2- trichloroethane; and vinyl chloride.
- Chlorinated benzenes ("CB") – Chlorobenzene; 1,2-dichlorobenzene; 1,3-dichlorobenzene; 1,4-dichlorobenzene; 1,2,3-trichlorobenzene; and 1,2,4-trichlorobenzene.

6.2.2 Soil Areas of Concern

Soil samples were compared with EPA Region 9 Preliminary Remediation Goals ("PRGs") for industrial soil and/or EPA Region 9 Soil Screening Levels (SSLs) with a dilution-attenuation factor (DAF) of 20 in the RI report. Surface soil sampling results revealed concentrations that exceed the EPA Region 9 PRGs for industrial soil and/or EPA Region 9 SSLs for the VOCs.

The highest concentrations of VOCs were primarily confined to four areas of the site: North Drum Storage Area, Solvent Ditch Area, Incinerator/Drum Repackaging Area, and South Drum

Storage Area. The four areas shown on **Figure 2-3** were estimated based on the extent of SSL exceedances with a DAF of 20, and are summarized below:

Soil Area #1 - Warehouse (Drum Storage and Management) Area. This area is located on the northern end of the warehouse and includes the former East Drum Storage, Drum Receiving, and Drum Packaging areas. Only CEE compounds were detected above SSL/PRG screening criteria in this area.

Soil Area #2 - Incinerator /Drum Repackaging Area. This area includes both the southern end of the warehouse (Drum Repackaging and Fire Area) and the former incinerator area southeast of the warehouse. BTEX, CB, and CEE compounds were all detected above screening criteria in this area. Sitewide, the highest concentrations were detected in this area for all three VOC classes.

Soil Area #3 - Solvent Ditch Area. This area contains the former solvent ditch area. This area is also located southeast of the former Blend Tanks Overflow area. BTEX and CEE compounds were detected above screening criteria in this area.

Soil Area #4 - South Drum Storage Area. This area is the furthest southeast on the site and although this area does not include any previously identified SWMUs, it is adjacent to the former stormwater pond and a former drum storage area. BTEX and CEE compounds were detected above screening criteria in this area.

Of these areas, the Incinerator Area had the highest concentrations of all three classes of compounds. The South Drum Storage Area had the lowest average concentrations in surface soil. Soil sampling results revealed that concentrations also exceed industrial soil PRGs and/or SSLs in the subsurface of the four identified areas. The detected concentrations in subsurface soils were generally higher than surface soil in all four areas, and in some cases, exceeded surface soil detections by a factor of ten. Subsurface samples also contained detections of the three VOC classes below the water table in each area

6.2.3 Groundwater Areas of Concern

Based on information derived from the hydrogeology and concentration contour maps prepared during the RI, four (4) groundwater areas (GW Areas) of concern were identified. These areas of concern are shown on Figure 2-4 and include the following:

GW Area #1 - Incinerator / Drum Repackaging Area. The incinerator area is an Area of Concern because it is the area in regolith (shallow) groundwater and soil with the highest concentrations of CB. GW Area #1 contained concentrations of up to 13,000 μg/l of 1,2 DCA, and 14,000 μg/l of TCE which are above their respective MCLs of 5 μg/l.

GW Area #2 - Solvent Ditch Area. Groundwater in the solvent ditch area contains the highest concentrations of chlorinated ethenes in regolith, and the highest concentrations of all three VOC classes were detected in bedrock in this area. This area extends into the North Drum Storage location because detected compounds in groundwater there are consistent with concentrations in the solvent area. GW Area #2 contained concentrations of 1,2 DCA of 52,000 μg/l, above the MCL of 5 μg/l.

GW Area #3 - Burn Pits. Although a removal action occurred in this area in 1983, groundwater concentrations in this area do not suggest that VOCs in this area are a result of migration from other areas. Stable concentrations in this area indicate there is a source remaining. GW Area #3 contained concentrations of 1,2 DCA of 4,100 μg/l, which is above the MCL of 5 μg/l.

GW Area #4 - Fuel Oil Area – The fuel oil area remains an area of concern because free product is still present in this location.

Groundwater sampling results were consistent with the observed soil sampling results. In the areas with the highest concentrations of VOCs in soil, groundwater concentrations were comparably high. Soil concentrations in the burn pit and fuel oil area may not be as high in these areas because soil excavation was previously performed in the burn pit area and because the fuel oil product is in the subsurface. The fuel oil product is associated with a former underground leak, meaning that the oil did not have to migrate through a large depth of soil to reach the groundwater.

Groundwater contamination is likely to be from the primary areas of concern identified for soil. RI data indicates there are plumes originating from the Solvent Ditch Area, Drum Management Area, Incinerator Area, North Drum Storage Area (although co-mingled with the Solvent Ditch area), Burn Pit Area, and Fuel Oil Area. The only soil area of concern that does not correspond to higher concentrations in groundwater is the South Drum Storage Area.

6.2.4 Sediment

Sediment samples were collected from Wildcat and Fishing Creek. Some compounds were detected in the sediment samples from Wildcat Creek that were above laboratory quantitation limits, however all of the compounds were either below PRGs or were consistent with the concentrations detected in the background samples.

6.2.5 Surface Water

An extensive surface water investigation was completed in 2004 and revealed minimal surface water impacts. The investigation included installing vapor diffusion modules in Fishing and Wildcat Creeks and performing onsite screening using a gas chromatograph. The investigation also included collection of surface water samples for laboratory analysis. Limited impacts were observed in the onsite screening and no organics were detected in the laboratory surface water samples. Additional details can be found in the Summary Report – Initial Site Investigation (CDM October 2004).

6.2.6 Current and Future Land Use

The Site is located in an industrial area of Rock Hill, South Carolina. Previous use of the facility as a Hazardous Waste Treatment, Storage, and Disposal facility included a hazardous waste incinerator. Future use of the former PSC property is expected to remain industrial. Deed restrictions will be placed on the property upon completion of the cleanup restricting the future land use.

7.0 Summary of Site Risks

A detailed baseline risk assessment was conducted during the remedial investigation to quantify potential and current and future risks to human health and the environment posed by contaminated media at the site in the absence of remedial actions. Additional information can be found in the Remedial Investigation Report dated September 2008.

The conclusions indicated that environmental contamination may pose potential cancer and non-cancer hazards above acceptable standards for hypothetical **future** users of the facility. No cancer or non-cancer hazards above acceptable standards to off-site receptors were identified. The pathways of principal concern are the exposure to chlorinated VOCs in groundwater through drinking water ingestion, and inhalation of VOCs through indoor air originating from groundwater. Other pathways include direct contact to surface soils and potential exposure to industrial workers to subsurface soils during construction activities.

Table 5-6 provides a summary evaluation of the Risk and Hazard Evaluation for the Site. Data collected for the media of concern (groundwater, surface and subsurface soils) were used to quantify potential risk geographically across the site.

Potential risks were estimated for each area of concern in soil and groundwater for applicable receptors for each COPC, as shown in Table 2-1. Detailed estimates of total cancer and noncancer hazards by exposure route and medium can be found in the RI.

The results of the HHRA risk characterization were used to identify the final constituents of concern (COCs) for the site. In accordance with EPA Region 4 guidance, COCs are those COPCs that either exceed a $1x10^{-6}$ cumulative cancer risk or exceed a non-carcinogenic hazard quotient of one. In accordance with EPA Region 4 guidance, in addition to those chemicals that exceed calculated risk levels, any chemicals that exceed ARARs are also considered COCs. Any COPC in groundwater that exceeds state or federal MCLs is considered a COC. Chemicals that exceed SSLs are also considered COCs. Figure 2-5 outlines the COPC and COC development process.

The remedial goals (RGs) for protection of human health are identified for groundwater and soil in Table 3-4 and Table 3-5, respectively. The RGs are based on those compounds that have been identified as COCs and/or detected above an ARAR in a particular medium.

Figure 3-1 presents a flowchart showing how RGs were developed. PRGs for industrial soil are proposed as RGs for metals in soil, and SSLs are proposed as RGs for VOCs in soil. For groundwater, EPA MCLs are proposed as RGs.

8.0 REMEDIAL ACTION OBJECTIVES

Remedial Action Objectives (RAOs) are designed to meet regulatory requirements and to protect human health and the environment. The RAOs are established to protect human health and the environment by considering the nature and extent of contamination, the potential exposure pathways, and the location and sensitivity of potential receptors. Based on the results of the RI (CDM, September 2008), the following RAOs have been developed for the site:

- Minimize potential for human contact with COCs in soil.
- Minimize future releases of COCs from soil to groundwater and from groundwater to surface water.
- Maintain surface water quality below regulatory criteria.
- Prevent human exposure to groundwater having concentrations in excess of remedial goals (i.e., MCLs) established for the site.
- Meet groundwater remedial goals at monitoring wells (to be established during remedial design) located immediately up-gradient of Wildcat Creek.
- Restore groundwater across the site to drinking water standards.
- Prevent future releases of COCs from soil and groundwater to indoor air.

9.0 Summary of Response Alternatives

Based on information collected during the RI, DHEC conducted a Feasibility Study (FS), dated July 22, 2011, to identify, develop, and evaluate various cleanup technologies and remedial alternatives. Six (6) alternatives were evaluated to address groundwater contamination across all areas of concern and six (6) alternatives were also evaluated to address soil contamination across all areas of concern. The evaluation of these alternatives assumed that only one technology would be used to treat all areas of concern for groundwater and only one technology would be used to treat all areas of concern for soil. In addition, the FS evaluated (3) "combined" alternatives that applied multiple technologies to treat different areas of soil and groundwater contamination.

9.1 Summary of Remedial Alternatives for Groundwater

SCDHEC evaluated remedial alternatives for cleanup of the site in the FS. This section evaluates the groundwater remedies for the site. A detailed comparison is found in Table 6-1.

Groundwater Alternative 1 - No Action

Under this alternative, no action would be taken to remediate any affected media at the site. Reassessments of conditions would occur at 5- year intervals in accordance with CERCLA. The present worth of this alternative is $420,000.

Groundwater Alternative 2:- Institutional Controls and Long-Term Monitoring

Deed restrictions would be implemented to prevent prolonged exposure to COCs, control future development, prevent installation of new potable wells, and prevent potable use of groundwater and surface water within the affected area.

A monitoring plan would be implemented for groundwater and surface water monitoring across the site to evaluate COC concentrations in these media on a routine basis. This monitoring plan would cover 30 years and reassessments of the conditions would be conducted at the site every five years. The present worth of this alternative is $ 1,673,000.

Groundwater Alternative 3 – Hydraulic Containment and Onsite Physical / Chemical Treatment

This alternative would consist of collecting groundwater through extraction wells and trenches, and pumping the impacted water to an onsite wastewater treatment system with subsequent discharge to the municipal publicly owned treatment works (POTW) through an existing industrial discharge permit. Institutional Controls would be established to restrict site use. This alternative could also have a component of phytoremediation, where trees would be planted near the creek to treat groundwater before it discharges to the creek.

Under this alternative containment would be set up in both regolith and bedrock hydraulic zones. Extracted groundwater from both zones would be transferred to the existing groundwater treatment system. It is assumed that six additional extraction wells would be installed in the regolith to the top of bedrock and six other extraction wells would be installed into bedrock. The present worth of this alternative is $7,695,000.

Groundwater Alternative 4 – In Situ Chemical Oxidation, Dual-Phase Extraction, and Bedrock Extraction

This alternative includes several process options. In situ chemical oxidation would be performed to treat dissolved-phase COCs in the regolith zone. Dual phase extraction (DPE) would be used to treat free product fuel oil in GW Area #4. Finally, bedrock COCs would be contained and treated using extraction wells, and water would be transferred to the existing groundwater treatment system. Institutional controls would also be established.

Under this alternative, an oxidizing agent would be injected into the groundwater plumes in the regolith hydraulic zone to destroy organic COCs. The in situ chemical oxidation alternative relies on injection of a powerful oxidizing agent to destroy the organic COCs. Because sodium persulfate is known to effectively oxidize all three COC types (CEE, CB, and BTEX), this oxidizer is used in the FS analysis. Ferrous iron may also be used to enhance the effectiveness. The present worth of this alternative is $32,029,000.

Groundwater Alternative 5 – Air Sparging, Dual-Phase Extraction, and Bedrock Extraction

This alternative involves an air sparging system in regolith groundwater to treat the majority of the plume area. As with Alternative 4, this treatment process would be combined with DPE in the fuel oil GW Area #4 to treat free product, which would be completed prior to starting the air sparging system in this area. Additionally, bedrock COCs would be contained and treated using extraction wells. Institutional controls would also be established.

Air sparging is an in situ treatment technology that uses injected air to remove volatile contaminants from groundwater. As the injected air rises through the groundwater plume, contaminants are stripped from the water and carried towards the surface and removed from the vadose zone through a soil vapor extraction (SVE) system.

Because air sparging in bedrock zones is generally ineffective, bedrock COCs would be contained by installing extraction wells. The present worth of this alternative is $16,713,000.

Groundwater Alternative 6 – Permeable Reactive Barrier Wall, Dual-Phase Extraction, and Bedrock Extraction

This alternative involves constructing a subsurface permeable reactive barrier (PRB) wall to treat affected groundwater before it migrates offsite. Treatment walls involve constructing permanent, semi-permanent, or replaceable units across the flow path of a contaminant plume. As groundwater flows though the treatment wall, contaminants are removed by physical, chemical, and/or biological processes.

It is assumed that the barrier wall would be a funnel-and-gate reactive wall with impermeable sections of the wall being used as a funnel to direct groundwater into the permeable gate sections of the wall. The permeable reactive section would consist of granular zero-valent iron and pea gravel. The reactive wall would be constructed by excavating a trench to approximately 60 feet below land surface perpendicular to groundwater flow.

PRB systems are not designed to treat free product areas. Thus, the PRB would not be used in the fuel oil GW Area #4 where free product is present. DPE would be performed in this area prior to installing the PRB to remove any free product from the subsurface. Finally, institutional controls would also be established. The present worth of this alternative is $16,893,000.

9.2 Remedial Alternatives Soil

This section evaluates the soil remedies for the Site. A detailed comparison is found in Table 6-2.

Soil Alternative 1 : No Action

Under this alternative, no action would be taken to remediate any affected media at the Site. Reassessments of conditions would occur at 5- year intervals in accordance with CERCLA. The present worth of this alternative is $418,000.

Soil Alternative 2 : Institutional Controls

This alternative includes implementation of deed restrictions that prevent prolonged exposure to COCs and control future use of the property. Fencing would be constructed around the soil areas of concern as an additional control. Reassessments of the Site would be conducted every

5 years. The present worth of this alternative is $604,000.

Soil Alternative 3: Soil Excavation and Offsite Disposal

This alternative consists of excavating impacted material and then transporting this material off site to an appropriate regulated landfill. The excavated material would then be landfilled in either a regulated solid waste landfill or, if the waste is determined to be hazardous, in a regulated hazardous waste landfill.

The existing buildings and structures within the areas of concern would be removed. Soils would be excavated in the VOC soil locations. One foot of soil would be excavated from the areas where PRGs are exceeded for metals. Material would be disposed of off-site at an appropriate regulated landfill. The excavations would be backfilled with clean soil. Institutional controls would be established to control future site use. The present worth of this alternative is $32,308,000.

Soil Alternative 4: Source Containment

This alternative includes installing a cap, or cover, over the soil areas of concern. The cap would be either a hydraulic barrier such as clay and/or a synthetic membrane liner. This alternative includes demolishing existing building structures in covered areas. Soil would be excavated to a depth of one foot in locations where metals exceed PRGs. Excavated soils for metals exceedances would be relocated to defined VOC location areas for capping. Soil areas of concern would be capped. The estimated combined surface area of the affected soil areas is approximately 300,000 square feet (approximately 7 acres). Surface water controls would be established to capture water and direct it around the perimeter of the cap. Institutional controls would be established to control site use. The present worth of this alternative is $4,936,000.

Soil Alternative 5: Soil Excavation and Onsite Ex-Situ Treatment

This alternative is similar to Alternative 3 except that excavated materials would be treated on site and returned to the excavation locations. Soils would be excavated and stored in a central area for staging and treatment. Excavation would include removal of soil to the impacted depth above the water table. The material would then be treated and returned to its original location as fill material. This alternative also includes additional controls consisting of fugitive dust controls during excavation, transport, handling, and replacement; covering stockpiles with tarps or plastic sheeting; and surface water runoff controls. The present worth of this alternative is $24,459,000.

Soil Alternative 6: Soil Vapor Extraction

This alternative involves the in-situ treatment of affected soils. Organic COCs within the affected soil would be collected by SVE or, as a contingency, thermal enhanced SVE. This alternative also includes institutional controls and focused metals excavation.

An in situ SVE treatment system would be developed by installing a series of wells above the water table and applying a vacuum to the unsaturated soil. The soil vapor recovered by the wells would then be treated ex situ. Impermeable (geomembrane) covers are often placed on top of the soil to increase the radius of influence of the SVE wells and reduce short-circuiting of air in the subsurface. Existing concrete slabs might serve the same purpose as the geomembrane covers. This analysis assumes that the SVE wells will have a 20-foot radius of influence, and each well will be operated at a vapor flow rate of 20 cubic feet per minute. Approximately 600 SVE wells would be required.

Thermal enhancements include installing a series of electrodes to the subsurface above the water table. The electrodes heat the soil by electrical resistance, which increases the vadose zone permeability by reducing moisture and mobilizes VOCs from soil. Thermal enhancement can be applied as a contingency should the vapor extraction rates be limited by the geologic formation and prolonged SVE operation. As SVE removes the vapors, water condensed from the vapor stream and the extracted vapors require ex situ treatment. The present worth of this alternative is $45,462,000.

9.3 Summary of Combined Soil and Groundwater Remedial Alternatives

This section presents combination alternatives for both soil and groundwater. Whereas the alternatives presented in the previous subsections were focused on applying technologies across all areas of concern, the alternatives in this section are more focused on applying different technologies, as appropriate, to different areas and on applying those technologies that treat groundwater and soil simultaneously. Treatment areas will be refined during remedial design.

Combined Alternative 0 – No Action

Under this alternative no remedial action will be conducted and conditions will remain as they are currently except that the groundwater treatment system will no longer be operated. This alternative is used for a baseline of comparison of all other alternatives. The present worth of this alternative is $0.

Combined Alternative 1 – Hydraulic Containment, Select Excavation, SVE, Thermal-Enhanced Multi- Phase Extraction, and Deep Soil Mixing

This alternative involves hydraulic containment for groundwater and soil remediation consisting of hot spot removal, SVE in the Burn Pit Area, thermal-enhanced multi-phase extraction (MPE) in the Fuel Oil Area, and deep soil mixing with an oxidant. Specifically, this alternative includes the following components:

- Institutional controls.
- Excavation and offsite disposal of VOC Principal Threat Source Material (PTSM). This is calculated as any VOC whose concentration exceeds 1,000 times the corresponding SSL (covered or uncovered) for that location.
- Excavation and offsite disposal of metals in soil exceeding RGs outside of VOC treatment areas.

- SVE in the Burn Pit Area, if necessary based on the results of the preliminary design investigation and additional assessment of this area.

- MPE with thermal enhancements in the Fuel Oil Area.

- Deep soil mixing with oxidant in VOC impacted areas in soil and regolith groundwater outside of the Burn Pit and Fuel Oil areas.

- Hydraulic containment with onsite physical/chemical treatment for both the regolith and bedrock hydraulic zones if necessary to limit the migration of COCs

- Groundwater and surface water monitoring.

Excavation of PTSM soil would be performed in areas where any VOC concentration exceeds 1,000 times the corresponding SSL. The excavated soil disposal would be at an offsite permitted facility.

The soil surrounding the PTSM locations and other soil exceeding the RGs for VOCs would be addressed using deep soil mixing with an oxidant to destroy the VOCs. In areas where the soil exceedances are above shallow groundwater having VOC concentrations in groundwater in excess of approximately 1,000 ug/L, the soil mixing depth would be extended through the vadose zone to the depth of auger refusal, estimated to range from 15 to 30 feet. In other areas with RG exceedances, identified by the shallow zones areas on Figure 5-4, soil mixing would extend to the depth of the water table, approximately 17 to 18 feet.

The oxidant selected for this analysis is potassium permanganate. The soil mixing is assumed to use mixing columns consisting of a system of overlapping augers or blade mixers.

This alternative also includes applying SVE to the Burn Pit Area soil. However, because of the limited amount of soil data currently available in the Burn Pit Area, additional assessment would be performed during the Remedial Design to confirm the need for SVE in this area.

The Fuel Oil Area under this alternative would be remediated using thermal-enhanced MPE. The thermal enhancements would be applied using electrical resistance heating (ERH) to volatize and mobilize the fuel oil for recovery as vapors using SVE and as free product liquid using total fluids extraction. MPE wells will be co-located with the ERH electrodes. Vapors and total fluids would be collected from the MPE wells. The treatment for this process would include condensate collection from the vapor, vapor treatment by thermal oxidation, disposal of fuel oil, and water treatment.

Thermal treatment using ERH would permanently destroy wells and other equipment located within the treatment area. As such, operation of the existing groundwater extraction and treatment system would cease during thermal treatment. For costing purposes, a new hydraulic containment system is assumed to be required under this alternative. If this alternative is selected, a more detailed analysis involving groundwater modeling and monitoring would be necessary to support decisions regarding the need for the hydraulic containment system following thermal treatment and the associated design of any such containment system. This alternative could also have a component of phytoremediation, where trees would be planted near the creek to treat groundwater before it discharges to the creek.

For scoping purposes ERH has been assumed as the thermal treatment technology. However, if this alternative is selected, other technologies, such as thermal conductive heating, will be evaluated during pre-design activities to determine the most effective approach for this site.

Following certain components of this remedial alternative, Monitored Natural Attenuation (MNA) may be warranted in areas that did not reach regulatory criteria and monitoring required to assure that COC concentrations in all treated areas remain below regulatory criteria following treatment. If MNA is not demonstrated as effective in this period, more active remediation may be warranted. MNA and associated monitoring are assumed to last for 10 years in regolith groundwater. The present worth of this alternative is $43,242,000.

Combined Alternative 2 – Hydraulic Containment, Select Excavation, SVE, Thermal-Enhanced MPE, and Air Sparging

This alternative involves hydraulic containment, thermal-enhanced MPE, and air sparging for groundwater, and soil remediation by hot spot removal and SVE. Specifically, this alternative includes the following components:

- Institutional controls (see Alternative 1).
- Excavation and offsite disposal of VOC PTSM (see Alternative 1).
- Excavation and offsite disposal of soil with metals exceeding RGs outside VOC treatment areas (see Alternative 1).
- SVE and air sparging for VOC impacted areas above the water table that exceed regulatory standards (see Alternative 1).
- Thermal-enhanced MPE for the Fuel Oil Area (see Alternative 1).
- Air sparging for VOC impacted areas in regolith groundwater following excavation of PTSM.
- Hydraulic containment with onsite physical/chemical treatment for the bedrock hydraulic zone if necessary to limit the migration of COCs (see Alternative 1).
- Groundwater and surface water monitoring.

Following certain components of this remedial alternative, Monitored Natural Attenuation (MNA) may be warranted in areas that did not reach regulatory criteria and monitoring required to assure that COC concentrations in all treated areas remain below regulatory criteria following treatment. If MNA is not demonstrated as effective in this period, more active remediation may be warranted. For the purposes of the FS, MNA and associated monitoring are assumed to last for 10 years in regolith groundwater. The present worth of this alternative is $28,9602,000.

Combined Alternative 3 – Hydraulic Containment, SVE, Thermal-Enhanced MPE, and In Situ Thermal Treatment

This alternative involves hydraulic containment in the regolith and bedrock zones, SVE in the Burn Pit Area, thermal-enhanced MPE in the Fuel Oil Area, and in situ thermal treatment for both soil and groundwater. Specifically, this alternative includes the following components:

- Institutional controls.
- Excavation and offsite disposal of metals exceeding RGs outside of VOC treatment areas (see Alternative 1).
- SVE in the Burn Pit Area, if necessary (see Alternative 1).
- Thermal-enhanced MPE for the Fuel Oil Area (see Alternative 1).
- In situ thermal treatment for select areas to treat for VOCs in soil and regolith groundwater (see Alternative 1).
- Hydraulic containment with onsite physical/chemical treatment for the regolith and bedrock hydraulic zones if necessary to limit the migration of COCs, except that the two most southern proposed regolith extraction wells are not included under this alternative (see Alternative 1).
- Groundwater and surface water monitoring.

Under this combination alternative, soil and regolith groundwater treatment using in situ thermal methods such as ERH would be applied to the areas of higher VOC concentrations to quickly reduce the COC mass to relatively low concentrations that will be protective of human health via direct contact. In general, these are the areas exceeding 1,000 mg/kg total VOCs in soil and 1,000 ug/L total VOCs in groundwater. These areas will be refined during remedial design.

This technology would not be used to treat all areas of VOC contamination. However, it would have a remedial effect beyond the direct treatment zone through enhanced degradation and volatilization. For the purposes of this analysis, the indirect treatment zone for in situ thermal treatment is assumed to be a fifty (50) foot perimeter surrounding each treatment zone.

Because this technology will not immediately treat all areas of VOC contamination, but is anticipated to accelerate attenuation outside of the immediate treatment zone, groundwater containment may be necessary for both the regolith and bedrock zones. A more detailed analysis involving groundwater modeling and monitoring will be necessary to support decisions regarding the need for the hydraulic containment system following thermal treatment and the associated design of any such containment system. This alternative could also have a component of phytoremediation, where trees would be planted near the creek to treat groundwater before it discharges to the creek.

Following certain components of this remedial alternative, Monitored Natural Attenuation (MNA) may be warranted in areas that did not reach regulatory criteria and monitoring required to assure that COC concentrations in all treated areas remain below regulatory criteria following treatment. If MNA is not demonstrated as effective in this period, more active remediation may be warranted. MNA and associated monitoring are assumed to last for 10 years in regolith groundwater. The present worth of this alternative was $35,854,000.

10.0 COMPARATIVE EVALUATION OF ALTERNATIVES

The National Contingency Plan requires DHEC to use specific criteria to evaluate the different remediation alternatives individually and against each other in order to select a remedy. This section of the proposed plan profiles the relative performance of each alternative against the criteria, noting how it compares to the other options under consideration. Because of the complex geology / hydrogeology of the site and the wide variety of COC types (fuel oil, chlorinated solvents, metals, etc.), there is no specific technology that is feasible for addressing all contaminated areas in a particular media. Therefore, DHEC is only performing a comparative evaluation of the No Action and Combined Alternatives 1 through 3, which use multiple technologies to treat various areas of soil and groundwater contamination. The FS includes evaluation of all remedial alternatives and is summarized in Table 6-4 and Table 6-5. The criteria for this evaluation are listed below:

10.1 Overall Protection of Human Health and the Environment

When evaluating alternatives in terms of overall protection of human health and the environment, consideration is given to the degree to which site-related risks are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.

Alternative 0 - No Further Action

This alternative would not be protective of human health and the environment. The shutdown of the groundwater treatment system could allow contaminated groundwater to discharge into the creek and migrate offsite. There would be no increased protection of human health and the environment.

Because the "No Action" alternative is not protective of human health and the environment, it was eliminated from consideration under the remaining criteria.

Alternative 1 - Hydraulic Containment, Select Excavation, SVE, Thermal-Enhanced MPE, and Deep Soil Mixing

Performing thermal-enhanced MPE in the Fuel Oil Area, and using deep soil mixing with an oxidant in other VOC impacted areas is expected to be protective of human health and the environment because it removes the areas with the highest concentrations of COCs and treats source material while using different techniques in the remaining soil impacted areas. Future releases of COCs to groundwater and surface water would be reduced, and hydraulic containment of groundwater (to the extent necessary) would limit the migration of COCs.

However, limited groundwater treatment is proposed under this alternative. The deep soil mixing would be applied to regolith groundwater with VOCs generally exceeding 1,000 ug/L. Monitoring proposed under this alternative would be annual and would allow evaluation of whether additional actions need to be taken.

Alternative 2 – Hydraulic Containment, Select Excavation, SVE, Thermal-Enhanced MPE, and Air Sparging

This alternative would be expected to be protective of human health and the environment. PTSM excavation and SVE would significantly reduce COC concentrations in soil, and thermal-enhanced MPE and air sparging with hydraulic containment of groundwater would significantly reduce COC concentrations in groundwater. Monitoring proposed under this alternative would allow for evaluation of whether additional actions need to be taken.

Alternative 3 – Hydraulic Containment, SVE, Thermal-Enhanced MPE, and In Situ Thermal Treatment

Thermal treatment would destroy the largest mass of COCs in soil and groundwater. SVE and enhanced thermal MPE would reduce the product in the soil and groundwater in the fuel oil areas.

Alternative 3 is expected to be the most protective of human health and the environment when compared to the other alternatives and applied to the same areas of concern. In situ thermal treatment is a demonstrated technology for multiple chemical types and for substantial contaminant concentration reductions. Monitoring proposed under this alternative would allow for evaluation of whether additional actions need to be taken.

10.2 Compliance with State and Federal Regulations (ARARs – Applicable or Relevant and Appropriate Requirements)

Each of the alternatives is evaluated with respect to its ability to comply with applicable or relevant and appropriate state and federal requirements.

Alternative 1 – Hydraulic Containment, Select Excavation, SVE, Thermal-Enhanced MPE, and Deep Soil Mixing

This alternative would likely achieve chemical-specific ARARs for a majority of the impacted soil since much or all of the source material would be excavated and disposed off-site or treated to below RGs. Chemical-specific ARARs may not be met for several years in regolith and bedrock zone groundwater though concentrations would be expected to decline with the treatment of source material in soil and the areas of higher regolith zone VOCs. All location- and action-specific ARARs would be expected to be met.

Alternative 2 – Hydraulic Containment, Select Excavation, SVE, Thermal-Enhanced MPE, and Air Sparging

This alternative would likely achieve chemical-specific ARARs for a majority of the site in both soil and groundwater. RGs may not initially be met for bedrock groundwater, but the significant reductions in regolith and vadose zone concentrations should yield reductions in bedrock groundwater concentrations over time. All location- and action-specific ARARs should be met.

Alternative 3 – Hydraulic Containment, SVE, Thermal-Enhanced MPE, and In Situ Thermal Treatment

This alternative would likely achieve chemical-specific ARARs for a majority of the site in both soil and groundwater. RGs may not initially be met for bedrock groundwater, but the significant reductions in regolith and vadose zone concentrations should yield reductions in bedrock groundwater concentrations over time. All location and action-specific ARARs should be met.

Alternative 3 would treat the largest portion of the site to remedial goals in the fastest time and would meet the ARARs faster than the other active remedial alternatives.

10.3 Long-Term Effectiveness and Permanence

This factor considers the ability of an alternative to maintain protection of human health and the environment over time, once cleanup levels have been met.

Alternative 1 – Hydraulic Containment, Select Excavation, SVE, Thermal-Enhanced MPE, and Deep Soil Mixing

With the removal of COCs from soil via excavation and onsite treatment, long-term public health threats would be minimal. Hydraulic containment is includedto the extent necessary to limit migration of COCs to surface water and potential offsite receptors. Deed restrictions and institutional controls would still be required to limit access to any COCs that remain on site, particularly in groundwater.

Alternative 2 – Hydraulic Containment, Select Excavation, SVE, Thermal-Enhanced MPE, and Air Sparging

With the removal of COCs from soil via excavation and onsite treatment, long-term public health threats would be minimal. Hydraulic containment is included to the extent necessary to limit migration of COCs to surface water and potential offsite receptors. Deed restrictions and institutional controls would still be required to limit access to any COCs that remain on site, particularly in groundwater.

Alternative 3 – Hydraulic Containment, SVE, Thermal-Enhanced MPE, and In Situ Thermal Treatment

This alternative is expected to be effective in meeting the RAOs established for the site. With the removal of COCs from both soil and regolith groundwater, long-term public health threats would be minimal. Long-term monitoring (of media and institutional controls) would identify any ongoing risks that the site poses to human health and the environment.

Alternative 3 would treat the largest portion of the site to remedial goals faster than the other active remedial alternatives.

10.4 Reduction of Toxicity, Mobility or Volume through Treatment (T/M/V)

This factor evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.

Alternative 1 – Hydraulic Containment, Select Excavation, SVE, Thermal-Enhanced MPE, and Deep Soil Mixing

Excavation and onsite treatment would effectively reduce the T/M/V of COCs in soil. This alternative would also be effective in reducing the mobility of COCs in groundwater where deep soil mixing is applied. However, groundwater extraction for COCs will only partially reduce the toxicity and volume of COCs in groundwater, particularly in the bedrock zone.

Alternative 2 – Hydraulic Containment, Select Excavation, SVE, Thermal-Enhanced MPE, and Air Sparging

Alternative 2 would be effective in reducing the T/M/V of COCs in both soil and shallow groundwater. The mobility of COCs in bedrock groundwater would also be reduced, and toxicity and volume of COCs should decline in bedrock after removing COC concentrations in the regolith and vadose zones.

Alternative 3 – Hydraulic Containment, SVE, Thermal-Enhanced MPE, and In Situ Thermal

Alternative 3 would be effective in reducing the T/M/V of COCs in both soil and shallow groundwater. The mobility of COCs in bedrock groundwater would also be reduced, and toxicity and volume of COCs should decline in bedrock after thermal treatment in the regolith and vadose zones.

Overall Alternatives 1-3 all give reductions in mobility, toxicity and volume by treatment in soil and groundwater. Alternative 3 would treat the largest area and therefore be more effective than the other active alternatives.

10.5 Short-Term Effectiveness

The short-term effectiveness evaluation considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment until cleanup goals are achieved.

Alternative 1 – Hydraulic Containment, Select Excavation, SVE, Thermal-Enhanced MPE, and Deep Soil Mixing

The construction and treatment phase of this alternative would likely be accomplished within approximately five years. Short-term impacts associated with this alternative include disturbance and mobilization of soils during excavation, well installation, and backfilling activities; exposure to soil gas during SVE and MPE activities; and the potential of worker exposure to oxidant during deep soil mixing. Additionally, demolition of existing buildings may include worker risks for potential asbestos exposure. Thermal treatment also uses high voltage, but operation is relatively straightforward after installation. Risks associated with construction and treatment should be considered moderate.

Onsite workers would be adequately protected from short-term risks by using appropriate personal protective equipment and by following proper operating and safety procedures. Short-term air quality impacts to the surrounding environment may occur during soil grading and SVE activities. Air monitoring would be performed at the property boundaries, and fugitive dust emissions would be controlled by applying water as needed to surfaces receiving heavy vehicular traffic. Other potential short-term impacts to the surrounding area could include increased vehicular traffic and associated safety hazards, and noise.

Alternative 2 – Hydraulic Containment, Select Excavation, SVE, Thermal-Enhanced MPE, and Air Sparging

The construction and treatment phase of this alternative would likely be accomplished within 10 years. Short-term impacts associated with this alternative include disturbance and mobilization of soils during excavation, well installation, and backfilling activities; and worker exposure to soil gas during air sparging and SVE activities. Additionally, thermal treatment uses high voltage, but operation is relatively straightforward after installation. Risks associated with construction and treatment should be considered moderate.

Onsite workers would be adequately protected from short-term risks by using appropriate personal protective equipment and by following proper operating and safety procedures. Short-term air quality impacts to the surrounding environment may occur during soil grading and SVE activities. Air monitoring would be performed at the property boundaries, and fugitive dust emissions would be controlled by applying water as needed to surfaces receiving heavy vehicular traffic. Other potential short-term impacts to the surrounding area could include increased vehicular traffic and associated safety hazards, and noise.

Alternative 3 – Hydraulic Containment, SVE, Thermal-Enhanced MPE, and In Situ Thermal Treatment

The construction and treatment phases of this alternative would likely be accomplished within five years. Minimal contact with soil or groundwater is anticipated following well construction. However, if not properly monitored and if necessary controlled, vapors from thermal treatment could be a risk to workers. Thermal treatment also uses high voltage, but operation is relatively straightforward after installation. Risks associated with construction and treatment should be considered moderate.

Onsite workers would be adequately protected from short-term risks by using appropriate personal protective equipment and by following proper operating and safety procedures. Short-term air quality impacts to the surrounding environment may occur during thermal treatment. Other potential short-term impacts to the surrounding area could include increased vehicular traffic and associated safety hazards, potential dust generation, and noise.

Of the active treatment the most protective in the short term would be Alternative 3 with Alternative 1 being the least effective in the short term.

10.6 Implementability

The analysis of implementability considers the technical and administrative feasibility of implementation, as well as the availability of required materials and services.

Alternative 1 – Hydraulic Containment, Select Excavation, SVE, Thermal-Enhanced MPE, and Deep Soil Mixing

Excavation, SVE, and extraction well installation utilize standard construction practices. More specialized construction is required for the thermal-enhanced MPE and deep soil mixing, but no significant construction issues would be expected to be encountered. Treatability testing would be required prior to full-scale implementation. Associated permits would be obtained from SCDHEC prior to implementation of this alternative.

Alternative 2 – Hydraulic Containment, Select Excavation, SVE, Thermal-Enhanced MPE, and Air Sparging

All technologies proposed for this alternative utilize standard construction practices. More specialized construction is required for the thermal-enhanced MPE, but no significant construction issues would be expected to be encountered. Treatability testing would be required prior to full-scale implementation. Associated permits would be obtained from DHEC prior to implementation of this alternative.

Alternative 3 – Hydraulic Containment, SVE, Thermal-Enhanced MPE, and In Situ Thermal Treatment

In situ thermal treatment utilizes standard construction practices combined with more specialized equipment. However, the number of vendors for each thermal technology type is limited. No significant construction issues are expected to be encountered. Associated permits would be obtained from SCDHEC prior to implementation of this alternative.

Alternative 3 would be the easiest alternative to implement of the active alternatives, with both Alternative 1 and 2 being more difficult.

10.7 Cost

The cost analysis evaluated capital costs and annual operation and maintenance (O&M) costs. The net present value of an alternative is the sum of initial capital costs and the discounted value of O&M costs over the lifespan of the remedy.

Alternative 0 – $0
Alternative 1 – $43.2 million.
Alternative 2 – $29 Million
Alternative 3 – $35.9 million.

10.8 Community Acceptance

The Department held a public meeting at South Point High School in Rock Hill, South Carolina on August 26, 2014 to discuss the Proposed Plan for cleanup of the PSC Site. An Administrative Record was established online and at the York County Library's Main Branch at 138 East Black Street, Rock Hill, South Carolina. A transcript of the public meeting is attached as Appendix B.

The Department presented its preferred remedy and received a mixture of public feedback. The majority of the concerns expressed by multiple members of the public were not directed at the PSC Site, but rather at a recently permitted construction and debris (C&D) landfill to be constructed along Vernsdale Road in the vicinity of the PSC Site. Multiple people asked why the Department is cleaning up the PSC Site only to build a landfill next door. Many attendees stated it had taken DHEC too long to get to the point where the site was to be cleaned up. It was also brought to the Department's attention that several residents had private wells down-gradient of the Site. These wells were sampled by the Department and they did not contain contaminants of concern from PSC. The results are included in Appendix D.

Overall, the public comments and concerns of the citizens were not opposed to the Department's preferred remedy and did not propose a different remedy, but rather expressed concern and disappointment over the completely different issue of the recently permitted C&D landfill nearby.

11.0 SUMMARY OF THE SELECTED REMEDY

The Department has identified Combined Alternative 3 - Hydraulic Containment, SVE, Thermal Enhanced MPE and In Situ Thermal Treatment as the selected remedy for the site.

This alternative involves hydraulic containment in the regolith and bedrock zones (if necessary), SVE in the Burn Pit Area (if necessary), thermal-enhanced MPE in the Fuel Oil Area, and in situ thermal treatment for both soil and groundwater. Specifically, this alternative includes the following components:

- Excavation and offsite disposal of metals exceeding RGs outside of VOC treatment areas.
- SVE in the Burn Pit Area, if necessary based on the results of the preliminary design investigation and additional assessment of this area.
- Thermal-enhanced MPE for the Fuel Oil Area.
- In situ thermal treatment for select areas to treat for VOCs in soil and regolith groundwater.
- Hydraulic containment with onsite physical/chemical treatment for the regolith and bedrock hydraulic zones, as described, if necessary to limit the migration of COCs.
- Groundwater and surface water monitoring.
- Institutional controls.

Figure 5-6 outlines the approximate treatment areas for this alternative and the associated technologies. These areas will be refined during remedial design. The implementation of this alternative would include sequencing of various elements so that the anticipated benefits associated with one element can be evaluated and taken into account in the implementation of subsequent stages. The precise sequencing will be described and justified during the design process conducted prior to remedy implementation.

Based on the total mass removal and proven ability of in situ thermal remediation by ERH (or a similar technology) to remediate high concentration VOCs in soil and groundwater quickly, this alternative is expected to be the most protective of human health and the environment when compared to the other remedial alternatives. Thermal remediation would significantly reduce the Toxicity, Mobility and Volume (T/M/V) of COCs in both soil and groundwater in a short timeframe. Bedrock groundwater concentrations would be expected to decline significantly in the immediate vicinity of the treatment zone and then continue to decline once thermal treatment in the regolith and vadose zones is complete. The hydraulic containment system, to the extent necessary, would limit the mobility of COCs that remain in regolith and bedrock groundwater.

Implementation of this alternative is considered technically feasible and would require specialty construction methods. The number of vendors providing thermal remediation services is limited but sufficient to promote competition. Those vendors that do exist have demonstrated a high level of success on several projects.

The cost for this alternative falls between the other two combination alternatives. The costs are also moderate when comparing to combinations of individual groundwater and soil alternatives. In general, in situ thermal treatment costs are high compared to other remedial alternatives. However, the treatment area proposed for this alternative is slightly smaller than for some of the other alternatives. This reduces overall costs. The identified treatment area still provides a high level of COC reduction. Additionally, the actual completion costs for in situ thermal treatment tend to be closer to initial estimates than for other alternatives because the technology is less susceptible to unpredictably variable field conditions.

Capital costs for this alternative include extraction well installation; thermal well, SVE well, and thermal treatment system installation; groundwater treatment system upgrades; institutional controls; and limited excavation. Although relatively short term, O&M costs also exist and include media monitoring and O&M for the thermal remediation system. Electrical power is one of the primary factors affecting in-situ thermal treatment costs, and power costs are driven by system operation duration. Careful planning, design, and understanding of existing conditions are needed to minimize the cost and the duration of thermal treatment.

12.0 Principal Threat Wastes

The National Contingency Plan (NCP) establishes an expectation that selected remedies will include treatment to address principal threats posed by a site wherever practicable (NCP § 300.430(a)(1)(iii)(A)). The "principal threat" concept is applied to the characterization of "source materials" at a Superfund site. A source material is material that includes or contains hazardous substances, pollutants, or contaminants that act as a reservoir for migration of contamination to ground water, surface water or air, or acts as a source for direct exposure. Identifying principal threat wastes combines concepts of both hazard and risk. In general, principal threat wastes are those source materials considered to be highly toxic or highly mobile which generally cannot be contained in a reliable manner or would present a significant risk to human health or the environment should exposure occur.

Conversely, non-principal threat wastes are those source materials that generally can be reliably contained and that would present only low risk in the event of exposure. According to A Guide to Principal Threat and Low Level Threat Wastes (OSWER 380.3-06FS, November 1991), wastes that generally do not constitute principal threats include, but are not limited to the following: (1) nonmobile contaminated source material of low to moderate toxicity (surface soil containing COCs that generally are relatively immobile in air or ground water, i.e., non-liquid, low volatility, low leachability contaminants such as high molecular weight compounds) and (2) low toxicity source material (soil and subsurface soil concentrations not greatly above reference dose levels or that present an excess cancer risk near the acceptable risk range were exposure to occur).

Thermal treatment will be applied to the VOC contaminated soil in all areas of principal threat waste at the PSC Site. The VOC soil contaminants are mobile and may act as a potential threat to groundwater. The non-VOC soil contaminants pose a risk to human health but are not mobile.

13.0. Statutory Determinations

The Selected Remedy is protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to the remedial action, is cost-effective, and utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable.

This remedy also satisfies the statutory preference for treatment as a principal element of the remedy (i.e., reduces the toxicity, mobility, or volume of hazardous substances, pollutants, or contaminants as a principal element through treatment).

Because this remedy will result in hazardous substances, pollutants, or contaminants remaining on-site above levels that allow for unlimited use and unrestricted exposure, a statutory review will be conducted within five years after initiation of remedial action to ensure that the remedy is, or will be, protective of human health and the environment.

14.0 Responsiveness Summary

The Department held a public meeting, at South Point High School in Rock Hill, South Carolina on August 26, 2014 to discuss the Proposed Plan for cleanup of the PSC Site. An Administrative Record was established online and at the York County Library's Main Branch at 138 East Black Street, Rock Hill, South Carolina. A transcript of the public meeting is attached as Appendix B.

The Department presented the Proposed Remedy and received a mixture of public feedback.

The majority of the concerns expressed by attendees were directed at a recently permitted construction and debris landfill that was about to begin construction on Vernsdale Road in the vicinity of the PSC Site.

Very few comments from the public were directed at the Proposed Remedial Alternative. There were some questions about the historic use of the property and if the contamination had spread offsite but there were no arguments that an alternative remedy should be selected. An extension to the public comment period was requested, and granted to 90 days. The Department extended the comment period from September 26, 2014 to November 26, 2014.

After the public meeting the Department received 3 comment letters. The first was from Ms. Annie Williams requesting additional information on the PRP list and a copy of the transcript and meeting presentation. The Department's response to Ms. Williams comments is attached in Appendix C. The other two comment letters came from United States Representative Graham and United States Senator Scott. Both of their letters were in response to letters sent to them by Ms. Williams and restated her concerns mostly about the landfill and not the PSC Site.

It came to the Department's attention during this meeting that there were several water supply wells downgradient of the PSC Site. The Department did not believe that the contamination was migrating to these areas based on the RI Report. However the Department sent notices to residents to request access their property for the purpose of collecting water samples. Water samples were collected on November 19, 2014. The sampling results showed that the private wells were not impacted from the site. The sample results are included in Appendix D.

Figures

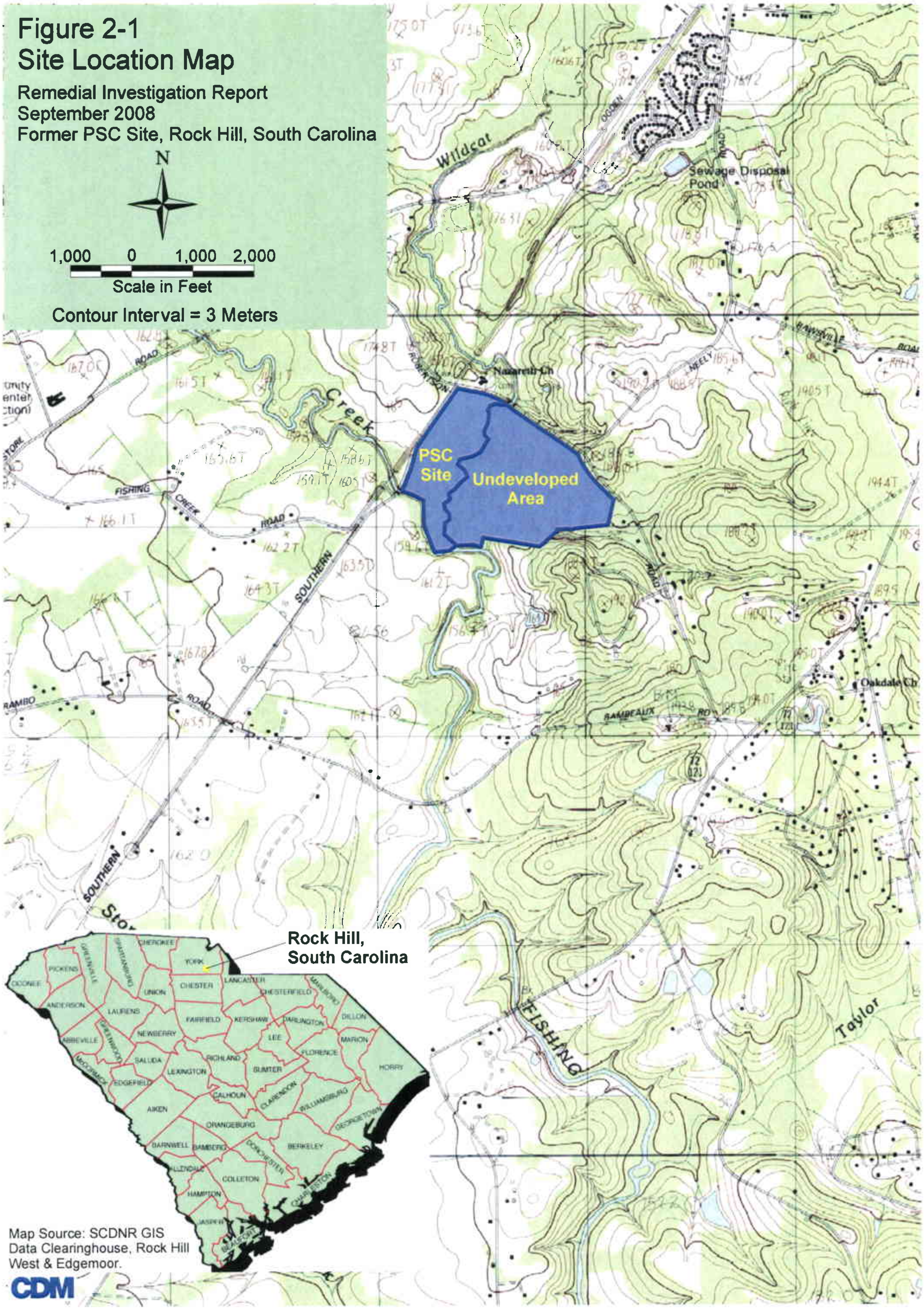


Figure 2-1
Site Location Map
Remedial Investigation Report
September 2008
Former PSC Site, Rock Hill, South Carolina

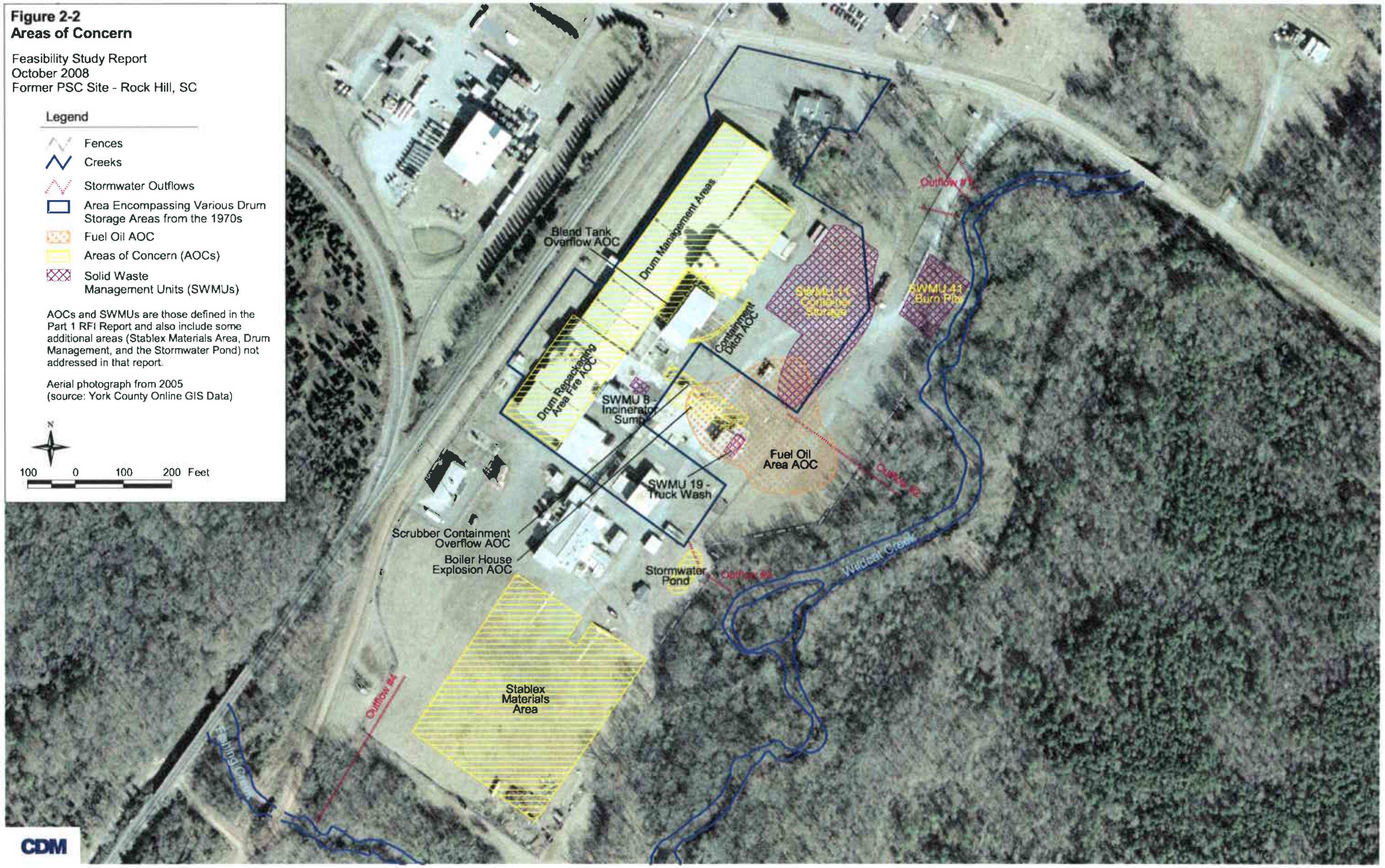


Figure 2-2
Areas of Concern

Figure 2-3
Soil Areas of Concern
Feasibility Study Report
October 2008
Former PSC Site, Rock Hill, South Carolina

CDM

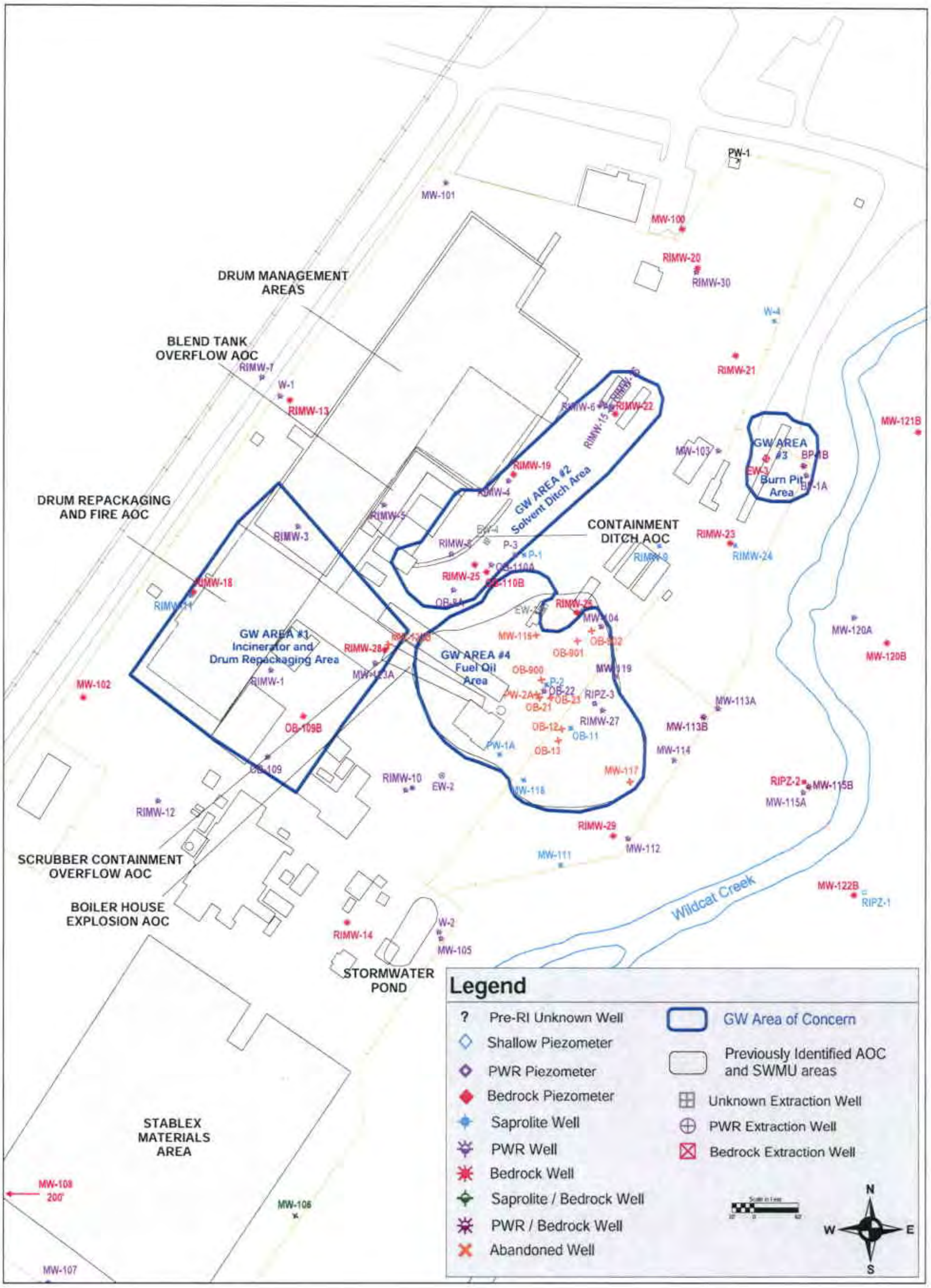
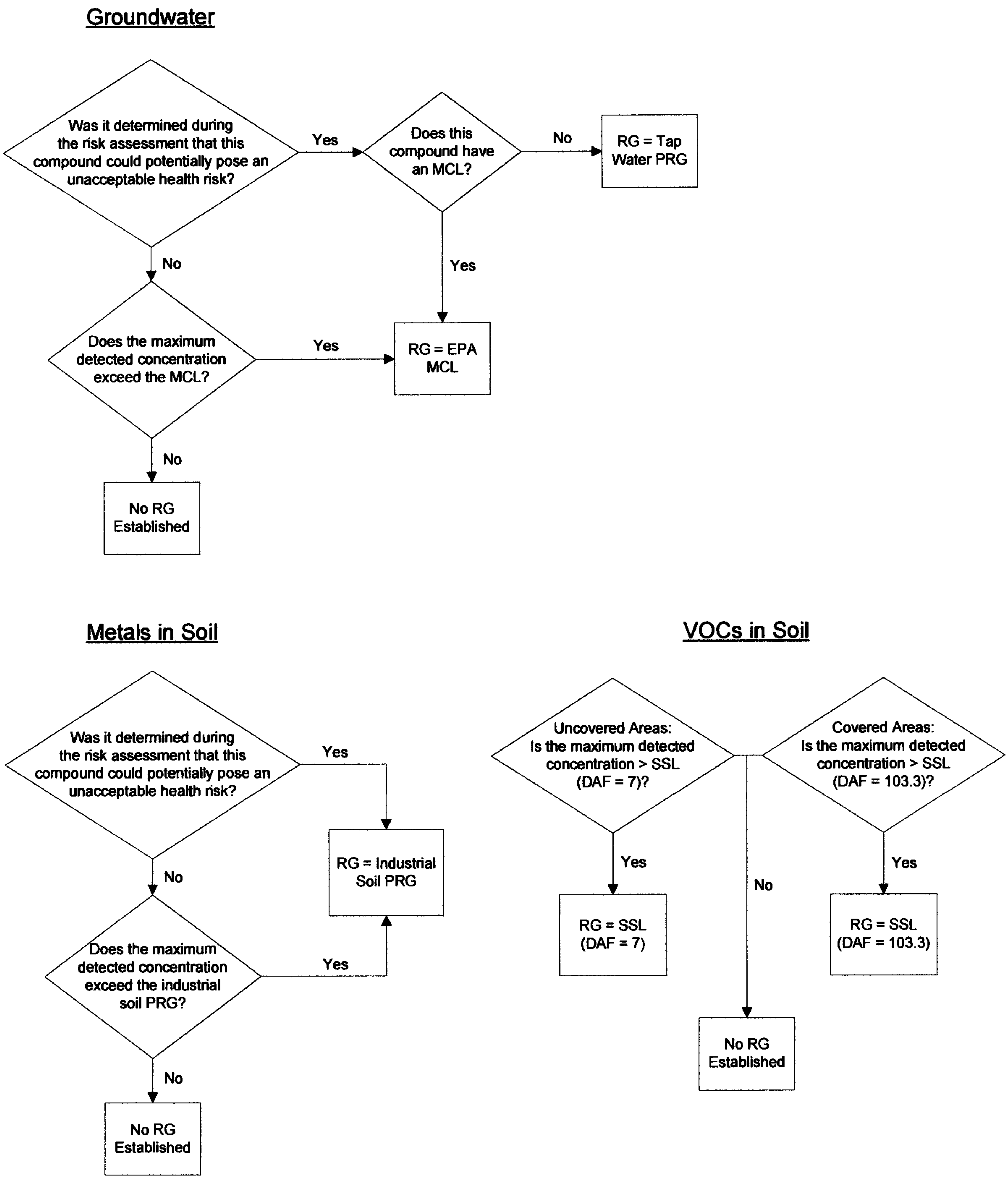
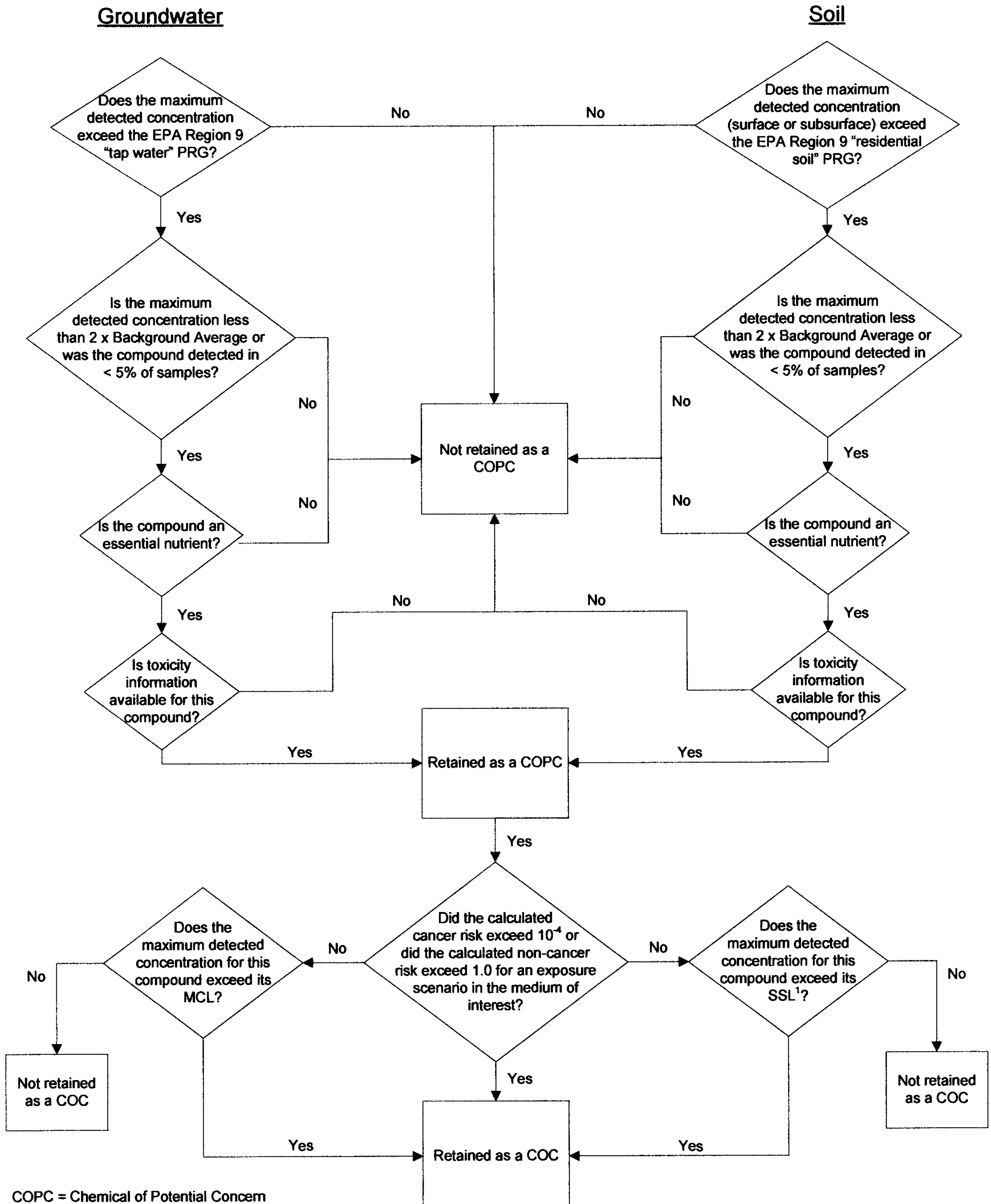


Figure 2-4
Groundwater Areas of Concern



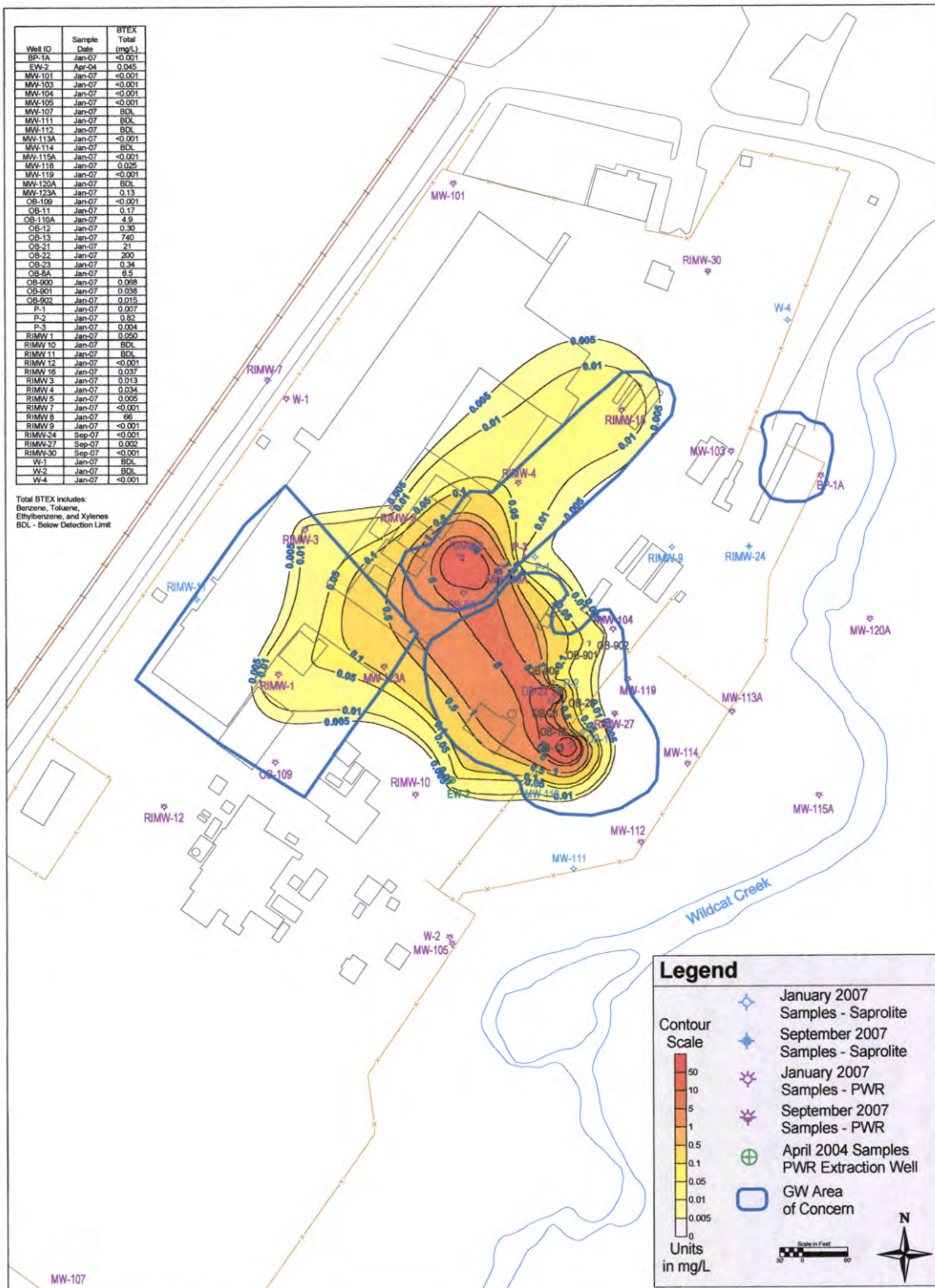
VOC = Volatile Organic Compound
RG = Remediation Goal
PRG = Preliminary Remediation Goal
MCL = EPA Maximum Contaminant Level
SSL = Soil Screening Level
DAF = Dilution Attenuation Factor

Figure 3-1
Remedial Goals Development
Feasibility Study Report
Former PSC Site – Rock Hill, SC



COPC = Chemical of Potential Concern
COC = Chemical of Concern
PRG = Preliminary Remediation Goal
MCL = EPA Maximum Contaminant Level
SSL = Soil Screening Level
DAF = Dilution Attenuation Factor
[1] The maximum concentration detected in uncovered areas was compared to an SSL with a DAF = 7 while the maximum concentration detected in covered areas was compared to an SSL with a DAF = 103.3.

Figure 2-5
Chemicals of Concern Development
Feasibility Study Report
Former PSC Site – Rock Hill, SC



Well ID	Sample Date	BTEX Total (mg/L)
BP-1A	Jan-07	<0.001
EW-2	Apr-04	0.045
MW-101	Jan-07	<0.001
MW-103	Jan-07	<0.001
MW-104	Jan-07	<0.001
MW-105	Jan-07	<0.001
MW-107	Jan-07	BDL
MW-111	Jan-07	BDL
MW-112	Jan-07	BDL
MW-113A	Jan-07	<0.001
MW-114	Jan-07	BDL
MW-115A	Jan-07	<0.001
MW-118	Jan-07	0.025
MW-119	Jan-07	<0.001
MW-120A	Jan-07	BDL
MW-123A	Jan-07	0.13
OB-109	Jan-07	<0.001
OB-11	Jan-07	0.17
OB-110A	Jan-07	4.9
OB-12	Jan-07	0.30
OB-13	Jan-07	740
OB-21	Jan-07	21
OB-22	Jan-07	200
OB-23	Jan-07	0.34
OB-8A	Jan-07	6.5
OB-900	Jan-07	0.068
OB-901	Jan-07	0.038
OB-902	Jan-07	0.015
P-1	Jan-07	0.007
P-2	Jan-07	0.82
P-3	Jan-07	0.004
RIMW 1	Jan-07	0.050
RIMW 10	Jan-07	BDL
RIMW 11	Jan-07	BDL
RIMW 12	Jan-07	<0.001
RIMW 16	Jan-07	0.037
RIMW 3	Jan-07	0.013
RIMW 4	Jan-07	0.034
RIMW 5	Jan-07	0.005
RIMW 7	Jan-07	<0.001
RIMW 8	Jan-07	66
RIMW 9	Jan-07	<0.001
RIMW-24	Sep-07	<0.001
RIMW-27	Sep-07	0.002
RIMW-30	Sep-07	<0.001
W-1	Jan-07	BDL
W-2	Jan-07	BDL
W-4	Jan-07	<0.001

Total BTEX includes:
Benzene, Toluene,
Ethylbenzene, and Xylenes
BDL - Below Detection Limit

Figure 4-16
Total BTEX Concentration Map
Regolith Groundwater

Remedial Investigation Report
September 2008
Former PSC Site, Rock Hill, South Carolina

CDM

Well ID	Sample Date	Total Chlorinated Ethenes/Ethanes (mg/L)
BP-1A	Jan-07	0.053
EW-2	Apr-04	3.0
MW-101	Jan-07	0.002
MW-103	Jan-07	0.002
MW-104	Jan-07	0.008
MW-105	Jan-07	<0.001
MW-107	Jan-07	BDL
MW-111	Jan-07	BDL
MW-112	Jan-07	BDL
MW-113A	Jan-07	BDL
MW-114	Jan-07	BDL
MW-115A	Jan-07	BDL
MW-118	Jan-07	BDL
MW-119	Jan-07	BDL
MW-120A	Jan-07	BDL
MW-123A	Jan-07	6.3
OB-109	Jan-07	0.067
OB-11	Jan-07	0.004
OB-110A	Jan-07	1.7
OB-12	Jan-07	0.002
OB-13	Jan-07	BDL
OB-21	Jan-07	BDL
OB-22	Jan-07	BDL
OB-23	Jan-07	0.018
OB-8A	Jan-07	2.5
OB-900	Jan-07	<0.001
OB-901	Jan-07	BDL
OB-902	Jan-07	<0.001
P-1	Jan-07	3.1
P-2	Jan-07	0.018
P-3	Jan-07	6.9
RIMW 1	Jan-07	21
RIMW 10	Jan-07	1.5
RIMW 11	Jan-07	0.68
RIMW 12	Jan-07	0.016
RIMW 16	Jan-07	27
RIMW 3	Jan-07	14
RIMW 4	Jan-07	10
RIMW 5	Jan-07	53
RIMW 7	Jan-07	0.032
RIMW 8	Jan-07	89
RIMW 9	Jan-07	0.24
RIMW-24	Sep-07	1.1
RIMW-27	Sep-07	2.0
RIMW-30	Sep-07	<0.001
W-1	Jan-07	0.25
W-2	Jan-07	BDL
W-4	Jan-07	<0.001

Total Chlorinated Ethenes/Ethanes include:
Chloroethane, 1,1-Dichloroethane,
1,1-Dichloroethene, 1,2-Dichloroethane,
cis-1,2-Dichloroethene, 1,1,1-Trichloroethane,
Tetrachloroethene, 1,1,2,2-Tetrachloroethane,
Trichloroethene, 1,1,2-Trichloroethane,
and Vinyl Chloride
BDL - Below Detection Limit

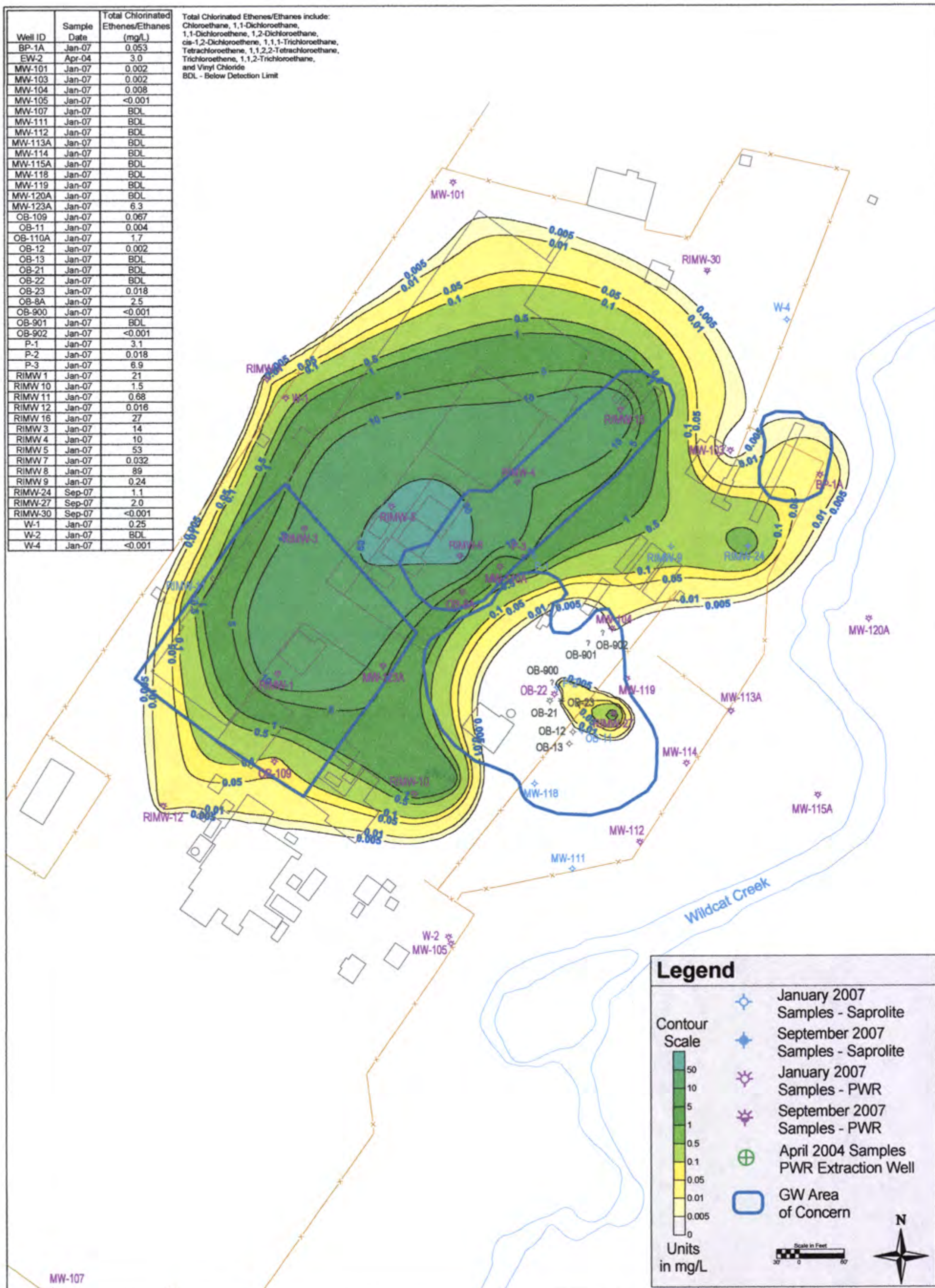


Figure 4-17
Total Chlorinated Ethenes/Ethanes Concentration Map
Regolith Groundwater

CDM

Remedial Investigation Report
September 2008
Former PSC Site, Rock Hill, South Carolina

Well ID	Sample Date	Total Chlorinated Benzenes (mg/L)
BP-1A	Jan-07	0.002
EW-2	Apr-04	0.23
MW-101	Jan-07	<0.001
MW-103	Jan-07	BDL
MW-104	Jan-07	BDL
MW-105	Jan-07	0.003
MW-107	Jan-07	BDL
MW-111	Jan-07	<0.001
MW-112	Jan-07	BDL
MW-113A	Jan-07	BDL
MW-114	Jan-07	BDL
MW-115A	Jan-07	BDL
MW-118	Jan-07	0.07
MW-119	Jan-07	BDL
MW-120A	Jan-07	BDL
MW-123A	Jan-07	6.9
OB-109	Jan-07	BDL
OB-11	Jan-07	BDL
OB-110A	Jan-07	0.07
OB-12	Jan-07	BDL
OB-13	Jan-07	BDL
OB-21	Jan-07	BDL
OB-22	Jan-07	BDL
OB-23	Jan-07	0.001
OB-8A	Jan-07	0.47
OB-900	Jan-07	BDL
OB-901	Jan-07	BDL
OB-902	Jan-07	BDL
P-1	Jan-07	0.046
P-2	Jan-07	BDL
P-3	Jan-07	0.072
RIMW 1	Jan-07	0.025
RIMW 10	Jan-07	BDL
RIMW 11	Jan-07	<0.001
RIMW 12	Jan-07	BDL
RIMW 16	Jan-07	0.010
RIMW 3	Jan-07	0.002
RIMW 4	Jan-07	0.12
RIMW 5	Jan-07	0.012
RIMW 7	Jan-07	<0.001
RIMW 8	Jan-07	0.54
RIMW 9	Jan-07	<0.001
RIMW-24	Sep-07	BDL
RIMW-27	Sep-07	0.007
RIMW-30	Sep-07	BDL
W-1	Jan-07	BDL
W-2	Jan-07	BDL
W-4	Jan-07	BDL

Total Chlorinated Benzenes include:
1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, and Chlorobenzene
BDL - Below Detection Limit

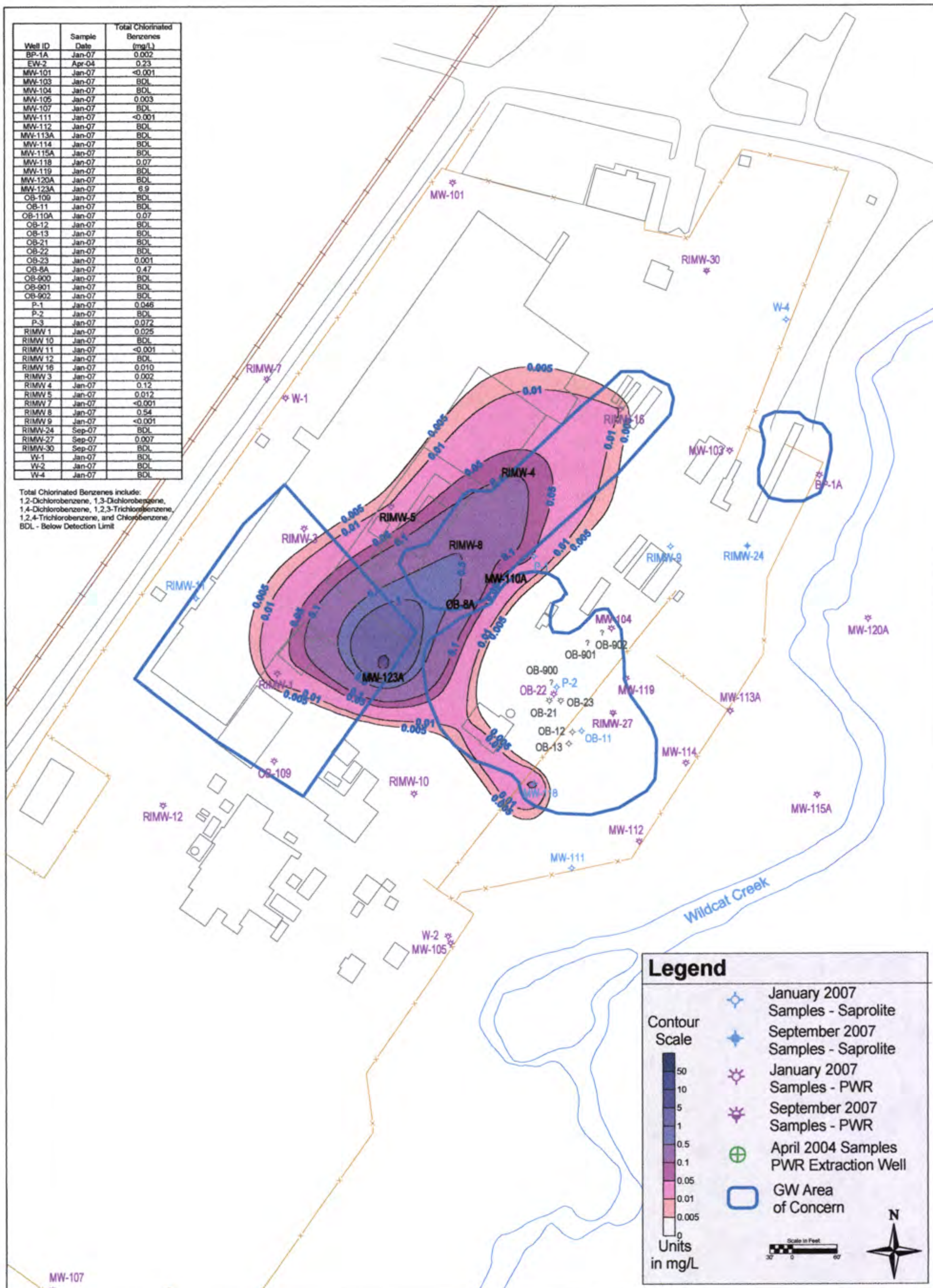
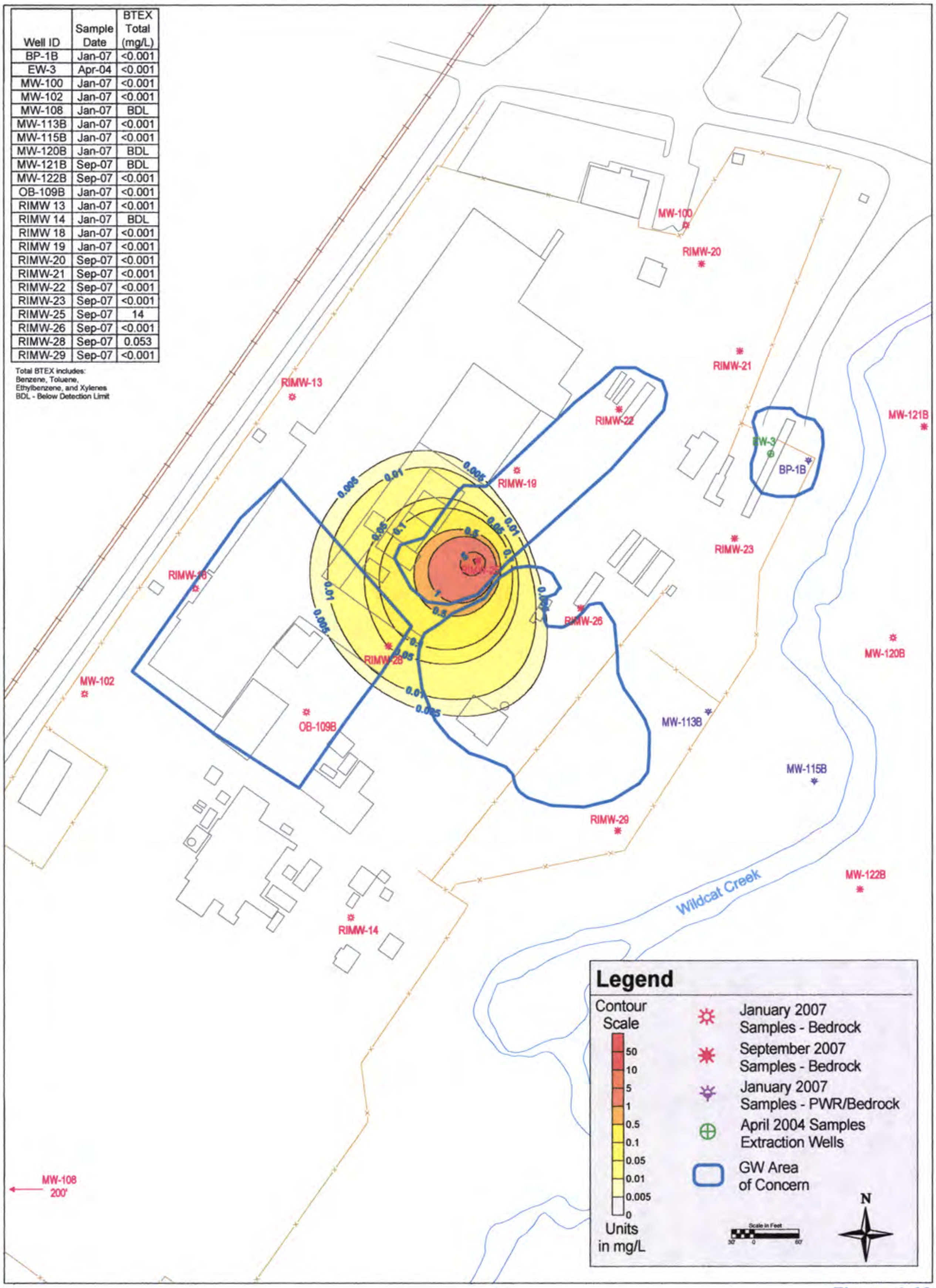


Figure 4-18
Total Chlorinated Benzenes Concentration Map
Regolith Groundwater

Remedial Investigation Reoport
September 2008
Former PSC Site, Rock Hill, South Carolina

CDM



Well ID	Sample Date	BTEX Total (mg/L)
BP-1B	Jan-07	<0.001
EW-3	Apr-04	<0.001
MW-100	Jan-07	<0.001
MW-102	Jan-07	<0.001
MW-108	Jan-07	BDL
MW-113B	Jan-07	<0.001
MW-115B	Jan-07	<0.001
MW-120B	Jan-07	BDL
MW-121B	Sep-07	BDL
MW-122B	Sep-07	<0.001
OB-109B	Jan-07	<0.001
RIMW 13	Jan-07	<0.001
RIMW 14	Jan-07	BDL
RIMW 18	Jan-07	<0.001
RIMW 19	Jan-07	<0.001
RIMW-20	Sep-07	<0.001
RIMW-21	Sep-07	<0.001
RIMW-22	Sep-07	<0.001
RIMW-23	Sep-07	<0.001
RIMW-25	Sep-07	14
RIMW-26	Sep-07	<0.001
RIMW-28	Sep-07	0.053
RIMW-29	Sep-07	<0.001

Total BTEX includes:
Benzene, Toluene,
Ethylbenzene, and Xylenes
BDL - Below Detection Limit

Figure 4-19
Total BTEX Concentration Map
Bedrock Groundwater
Remedial Investigation Report
September 2008
Former PSC Site, Rock Hill, South Carolina

CDM

Well ID	Sample Date	Total Chlorinated Ethene Ethanes (mg/L)
BP-1B	Jan-07	1.5
EW-3	Apr-04	2.4
MW-100	Jan-07	BDL
MW-102	Jan-07	<0.001
MW-108	Jan-07	BDL
MW-113B	Jan-07	0.085
MW-115B	Jan-07	0.027
MW-120B	Jan-07	BDL
MW-121B	Sep-07	0.010
MW-122B	Sep-07	BDL
OB-109B	Jan-07	0.35
RIMW 13	Jan-07	0.003
RIMW 14	Jan-07	<0.001
RIMW 18	Jan-07	0.03
RIMW 19	Jan-07	0.28
RIMW-20	Sep-07	0.002
RIMW-21	Sep-07	BDL
RIMW-22	Sep-07	0.12
RIMW-23	Sep-07	0.002
RIMW-25	Sep-07	11
RIMW-26	Sep-07	<0.001
RIMW-28	Sep-07	0.08
RIMW-29	Sep-07	0.76

Total Chlorinated Ethenes/Ethanes include: Chloroethane, 1,1-Dichloroethane, 1,1-Dichloroethene, 1,2-Dichloroethane, cis-1,2-Dichloroethene, 1,1,1-Trichloroethane, Tetrachloroethene, 1,1,2,2-Tetrachloroethane, Trichloroethene, 1,1,2-Trichloroethane, and Vinyl Chloride
BDL - Below Detection Limit

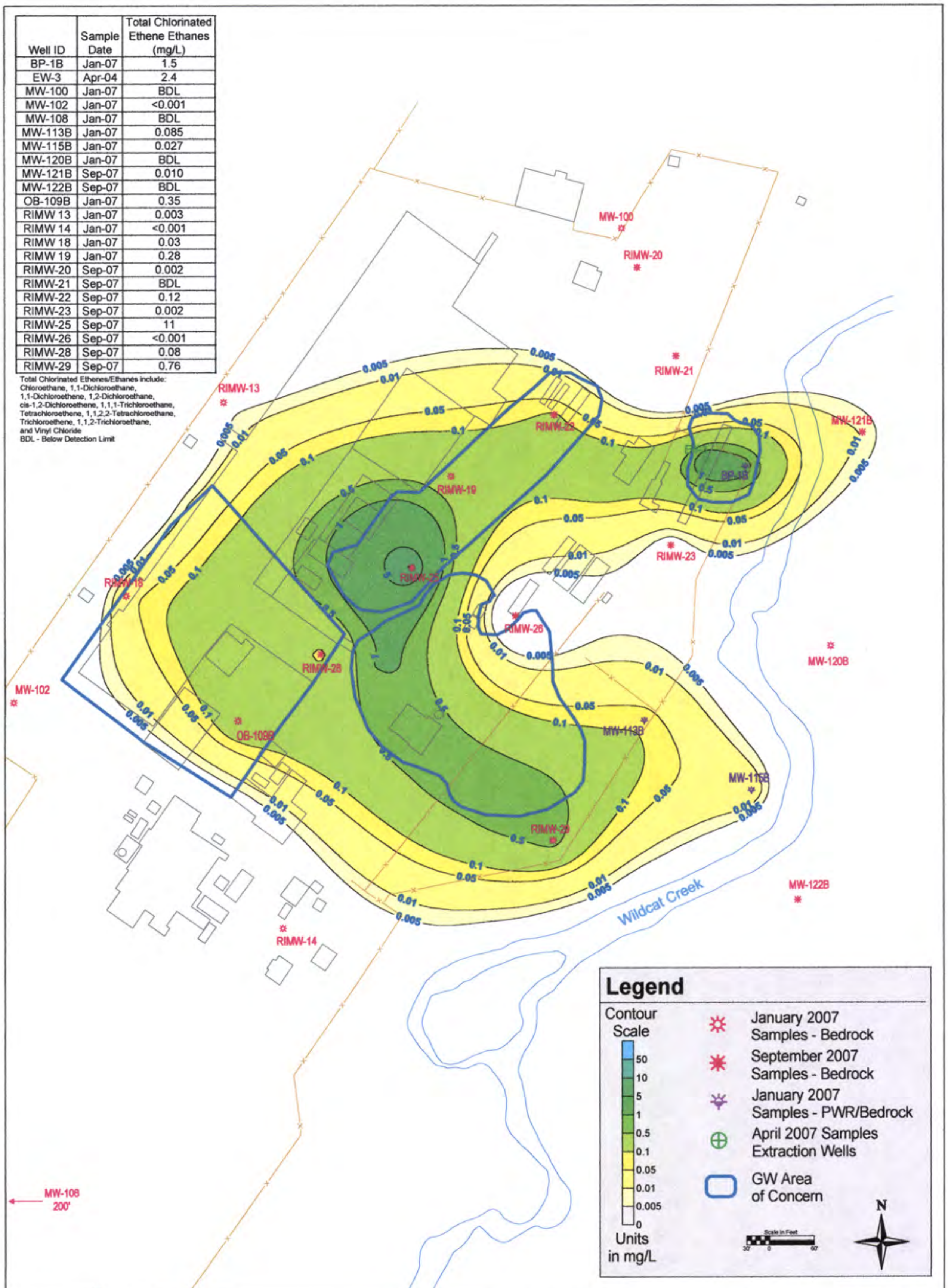
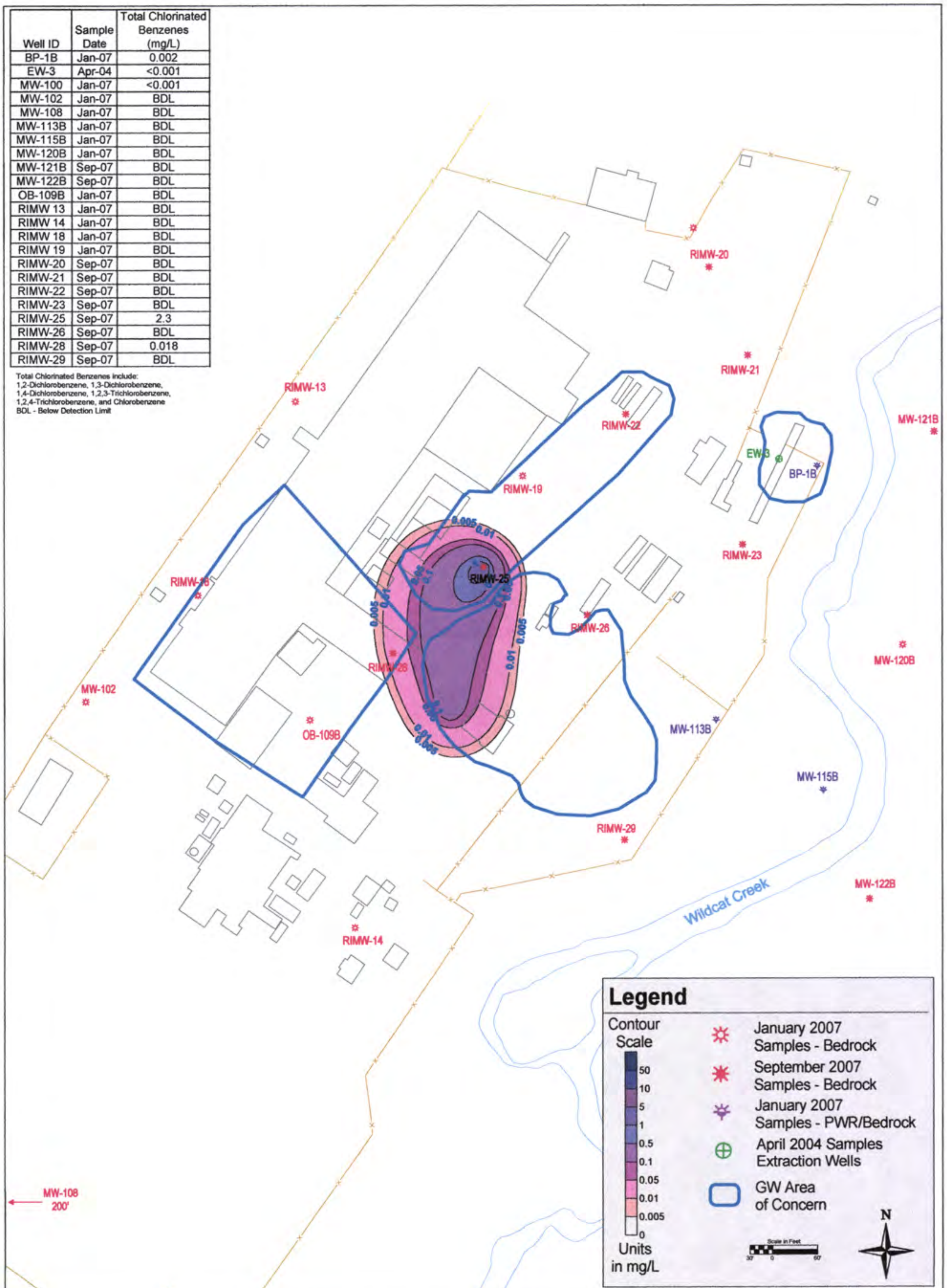


Figure 4-20
Total Chlorinated Ethenes/Ethanes Concentration Map
Bedrock Groundwater

CDM

Remedial Investigation Report
September 2008
Former PSC Site, Rock Hill, South Carolina



Well ID	Sample Date	Total Chlorinated Benzenes (mg/L)
BP-1B	Jan-07	0.002
EW-3	Apr-04	<0.001
MW-100	Jan-07	<0.001
MW-102	Jan-07	BDL
MW-108	Jan-07	BDL
MW-113B	Jan-07	BDL
MW-115B	Jan-07	BDL
MW-120B	Jan-07	BDL
MW-121B	Sep-07	BDL
MW-122B	Sep-07	BDL
OB-109B	Jan-07	BDL
RIMW 13	Jan-07	BDL
RIMW 14	Jan-07	BDL
RIMW 18	Jan-07	BDL
RIMW 19	Jan-07	BDL
RIMW-20	Sep-07	BDL
RIMW-21	Sep-07	BDL
RIMW-22	Sep-07	BDL
RIMW-23	Sep-07	BDL
RIMW-25	Sep-07	2.3
RIMW-26	Sep-07	BDL
RIMW-28	Sep-07	0.018
RIMW-29	Sep-07	BDL

Figure 4-21
Total Chlorinated Benzenes Concentration Map
Bedrock Groundwater

Remedial Investigation Report
September 2008
Former PSC Site, Rock Hill, South Carolina

CDM

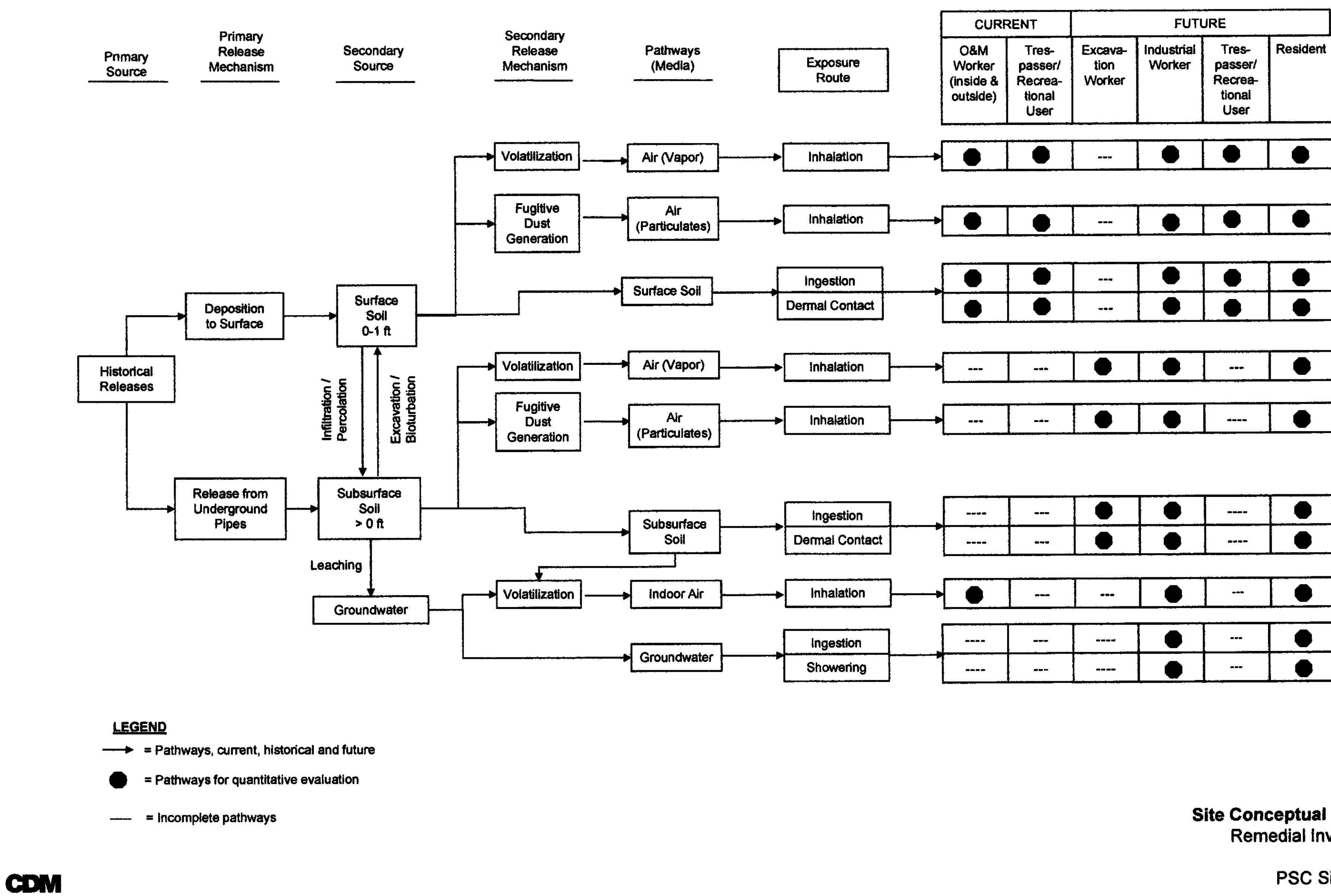
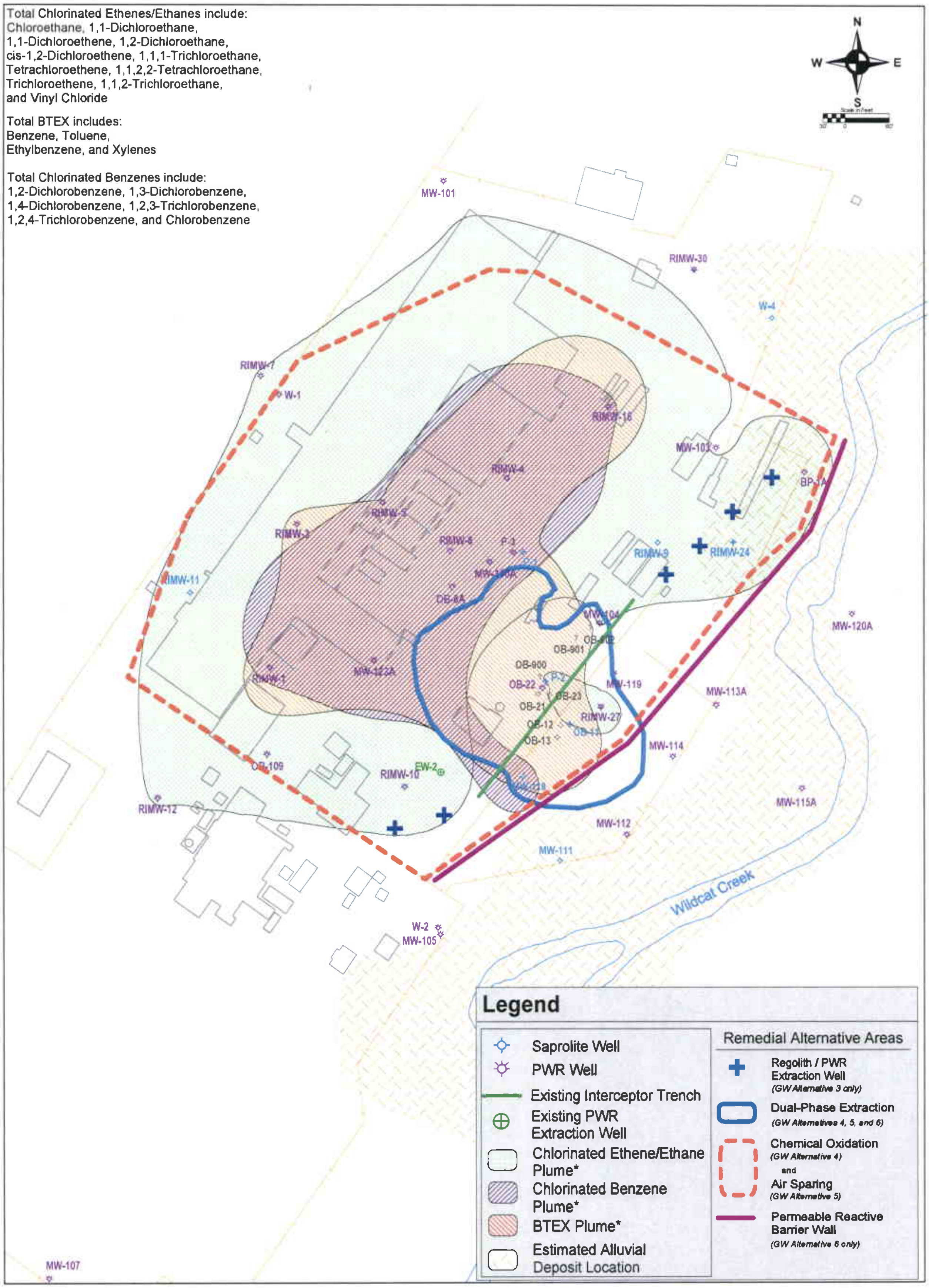


Figure 5-1
Site Conceptual Exposure Model
Remedial Investigation Report
September 2008
PSC Site - Rock Hill, SC



*Plume - Areas with greater than 5 ug/L total Chlorinated Ethene/Ethanes, Chlorinated Benzenes, or BTEX

Figure 5-1
Regolith Groundwater Remedial Alternative Locations
Feasibility Study Report
Former PSC Site - Rock Hill, SC

CDM

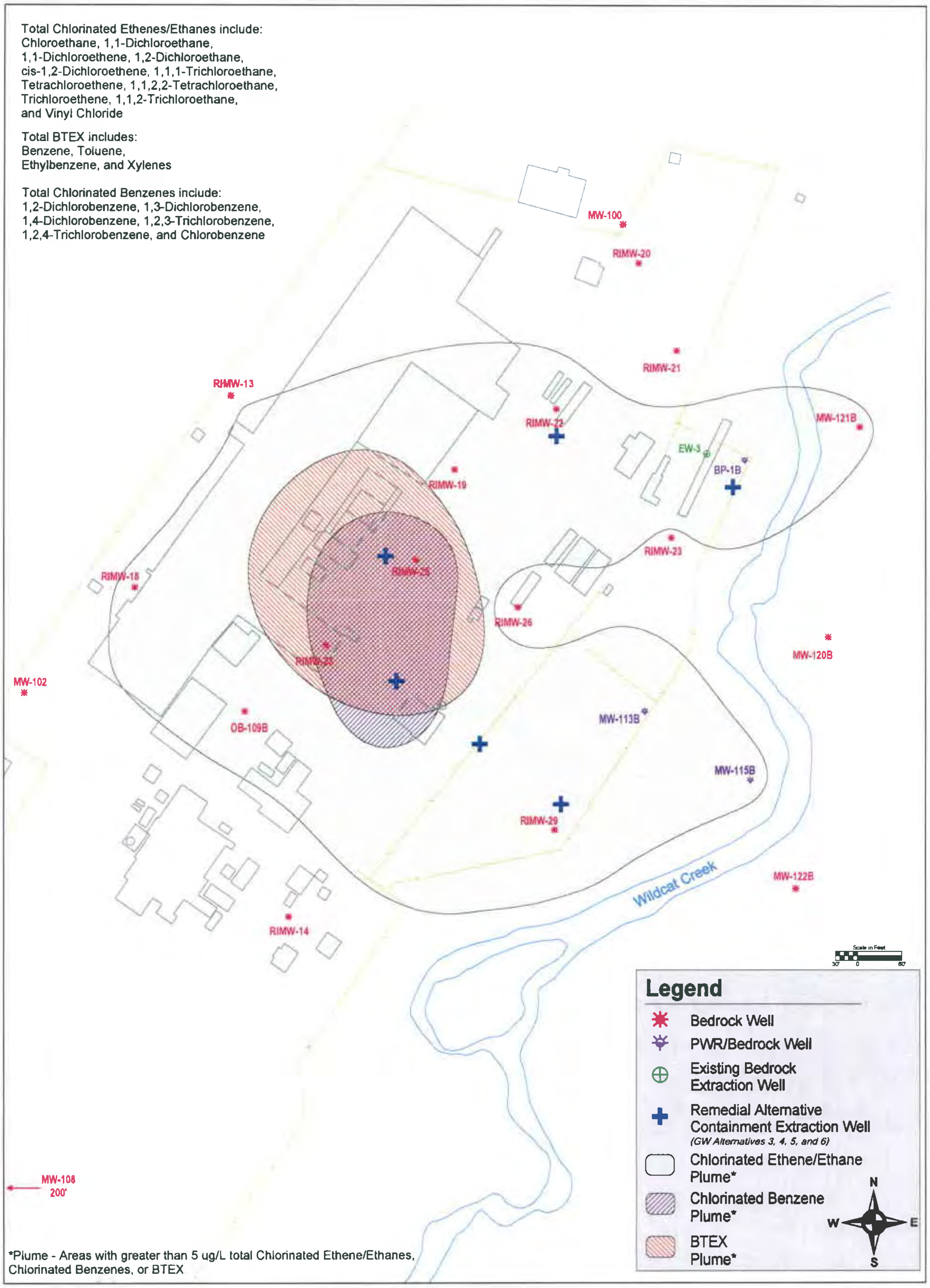
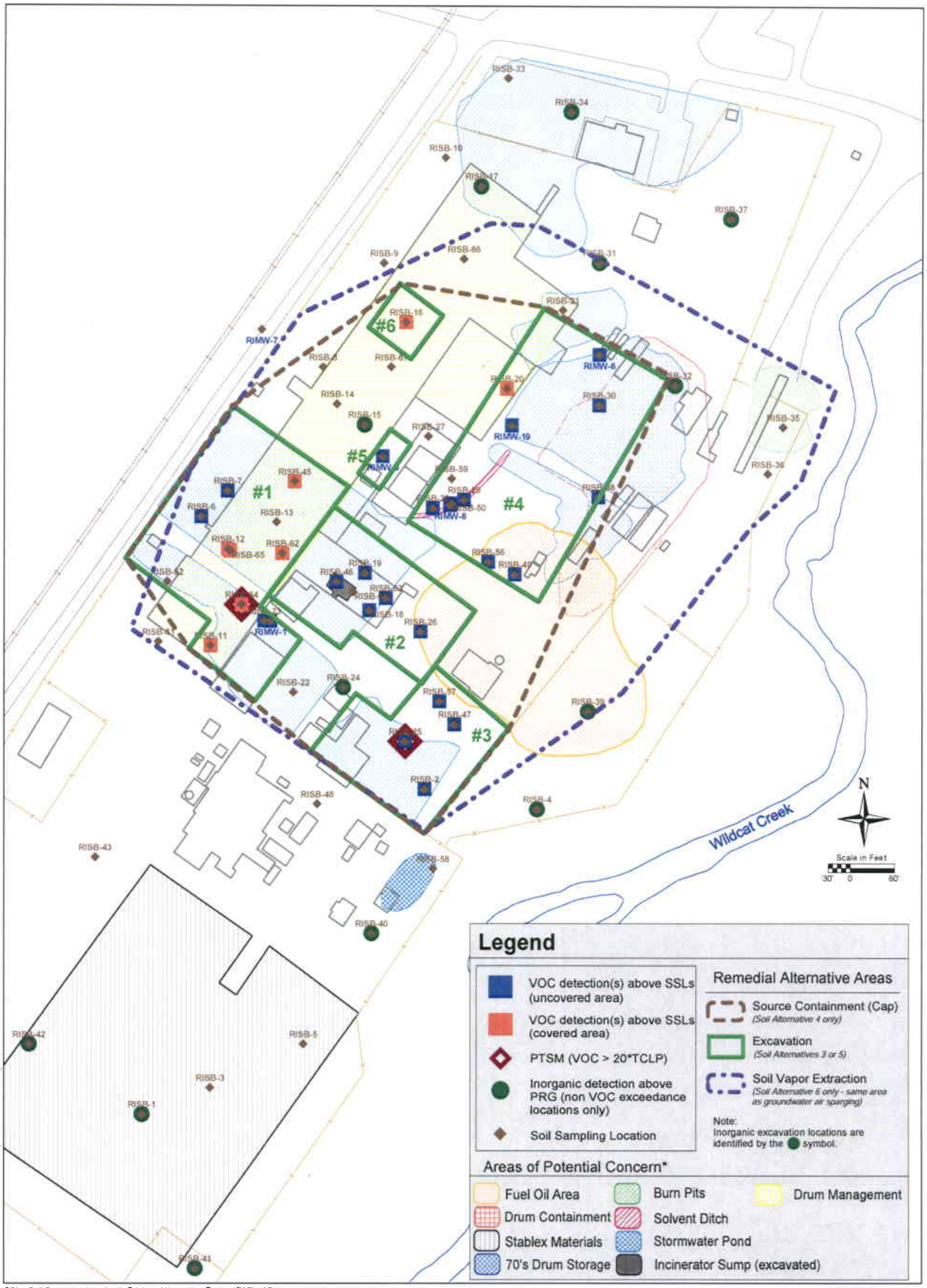


Figure 5-2
Bedrock Groundwater Remedial Alternative Locations
Feasibility Study Report
Former PSC Site - Rock Hill, SC

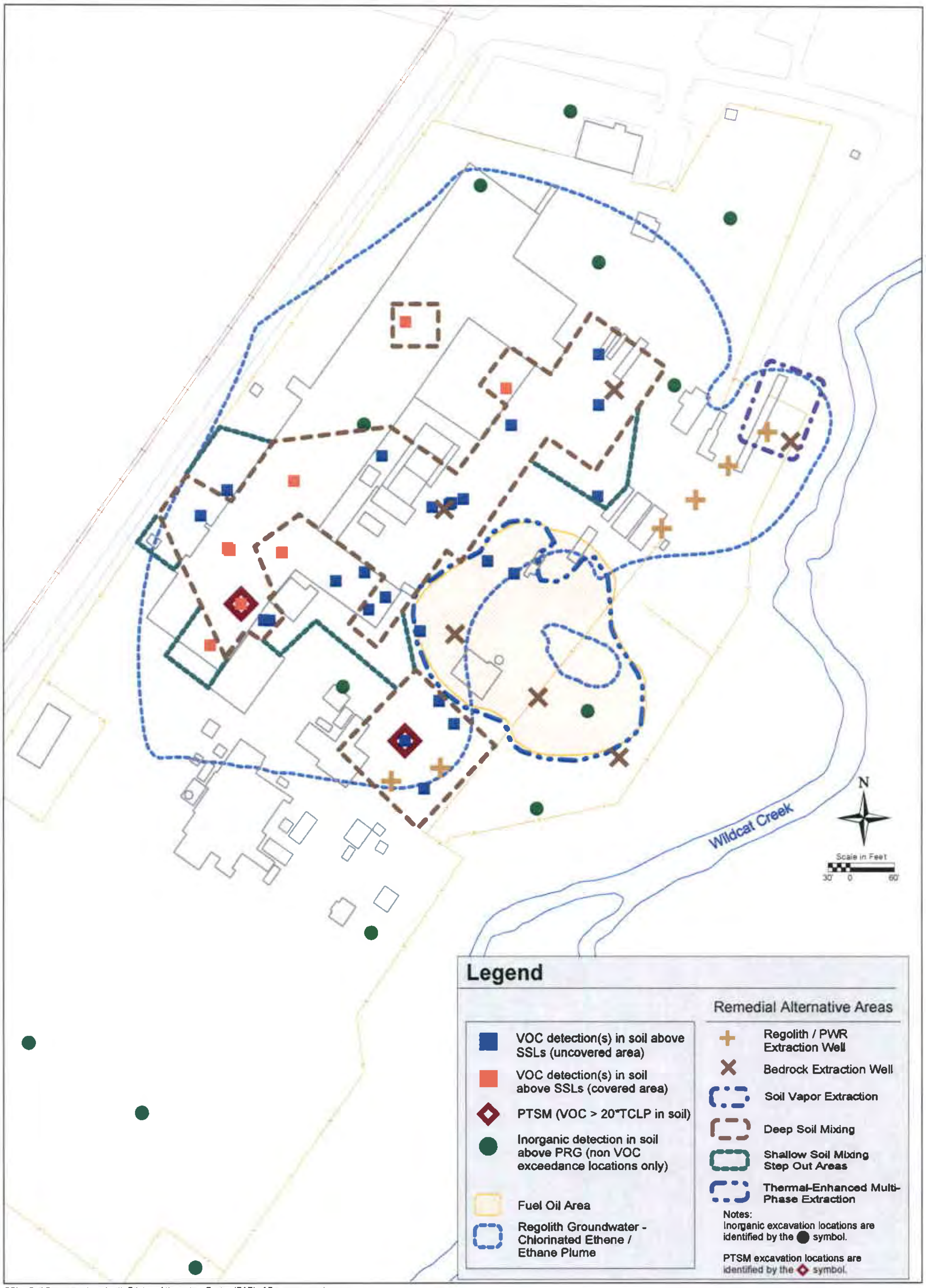
CDM



SSL - Soil Screening Level with Dilution-Attenuation Factor (DAF) of 7 in uncovered areas and DAF of 103.3 in covered areas
PRG - Preliminary Remediation Goal for industrial soil
PTSM - Principal Threat Source Material, defined as 20 * EPA toxicity criteria (i.e., TCLP)
*Areas of Potential Concern derived from "Environmental Data Review and Summary of Current Environmental Conditions," prepared by URS Corporation (March 2006)

CDM

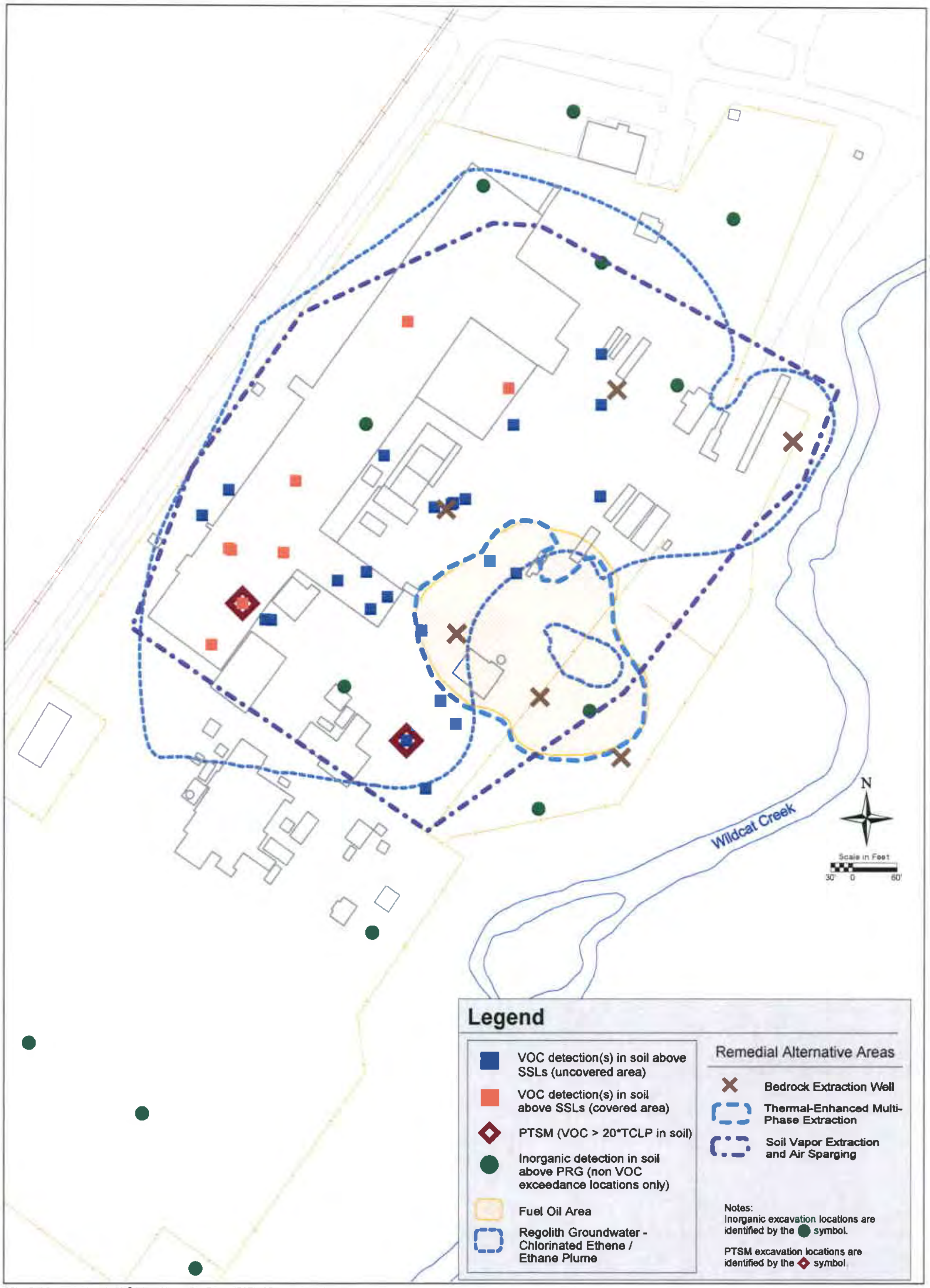
Figure 5-3
Soil Remedial Alternative Locations
Feasibility Study Report
Former PSC Site - Rock Hill, SC



SSL - Soil Screening Level with Dilution-Attenuation Factor (DAF) of 7 in uncovered areas and DAF of 103 3 in covered areas
PRG - Preliminary Remediation Goal for industrial soil
PTSM - Principal Threat Source Material, defined as 20 * EPA toxicity criteria (i e , TCLP)

Figure 5-4
Combination Alternative 1 Locations
Feasibility Study Report
Former PSC Site - Rock Hill, SC

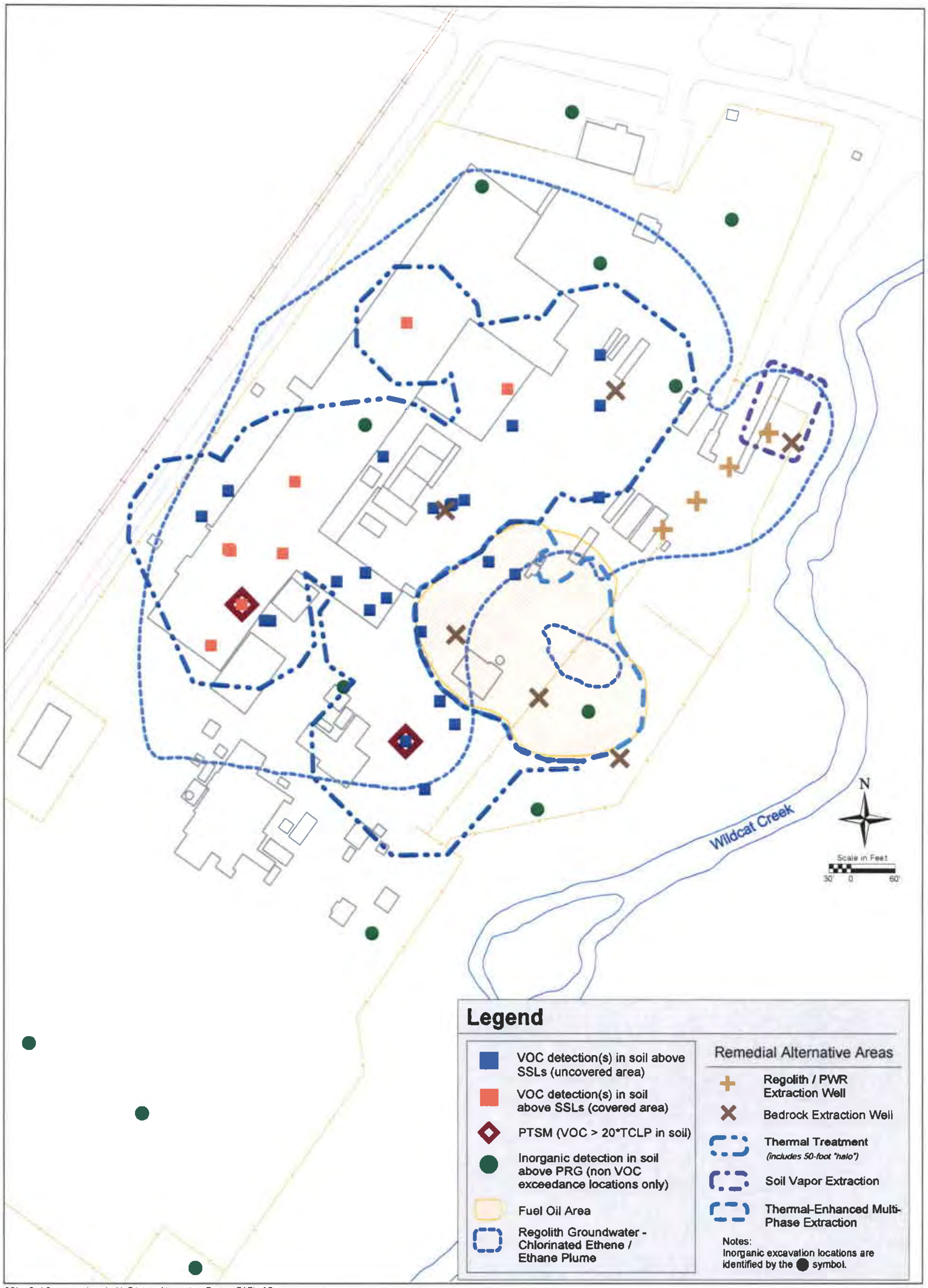
CDM



SSL - Soil Screening Level with Dilution-Attenuation Factor (DAF) of 7 in uncovered areas and DAF of 103 3 in covered areas
PRG - Preliminary Remediation Goal for industrial soil
PTSM - Principal Threat Source Material, defined as 20 * EPA toxicity criteria (i e , TCLP)

CDM

Figure 5-5
Combination Alternative 2 Locations
Feasibility Study Report
Former PSC Site - Rock Hill, SC



SSL - Soil Screening Level with Dilution-Attenuation Factor (DAF) of 7 in uncovered areas and DAF of 103 3 in covered areas
PRG - Preliminary Remediation Goal for industrial soil
PTSM - Principal Threat Source Material, defined as 20 * EPA toxicity criteria (i e , TCLP)

CDM

Figure 5-6
Combination Alternative 3 Locations
Feasibility Study Report
Former PSC Site - Rock Hill, SC

Tables

Table 2-1
Risk and Hazard Evaluation
Feasibility Study Report
Former PSC Site - Rock Hill, SC

	Exceeds Acceptable Cancer Risk Range?[1]	Exceeds Noncancer HI Threshold?[2]
CURRENT EXPOSURE TO CHEMICALS SURFACE SOIL (EXCLUDING HOT SPOT AREAS AND BENEATH STRUCTURES) AND GROUNDWATER		
O&M Worker	No	No
Trespasser	Yes	No
CURRENT EXPOSURE TO CHEMICALS IN HOT SPOT AREA 1 SURFACE SOIL AND GROUNDWATER		
O&M Worker	Yes	No
FUTURE EXPOSURE TO CHEMICALS IN HOT SPOT AREA 1 SURFACE SOIL AND GROUNDWATER		
Industrial Worker	Yes	Yes
Resident	Yes	Yes
CURRENT/FUTURE EXPOSURE TO CHEMICALS IN HOT SPOT AREA 1 SURFACE SOIL AND GROUNDWATER		
Trespasser / Recreational	Yes	Yes
CURRENT EXPOSURE TO CHEMICALS IN HOT SPOT AREA 2 SURFACE SOIL AND GROUNDWATER		
O&M Worker	Yes	No
FUTURE EXPOSURE TO CHEMICALS IN HOT SPOT AREA 2 SURFACE SOIL AND GROUNDWATER		
Industrial Worker	Yes	Yes
Resident	Yes	Yes
CURRENT/FUTURE EXPOSURE TO CHEMICALS IN HOT SPOT AREA 2 SURFACE SOIL AND GROUNDWATER		
Trespasser / Recreational	No	No
FUTURE EXPOSURE TO CHEMICALS IN HOT SPOT AREA 3 SURFACE SOIL AND GROUNDWATER		
Trespasser / Recreational	Yes	Yes
Industrial Worker	Yes	Yes
Resident	Yes	Yes
FUTURE EXPOSURE TO CHEMICALS IN SURFACE SOIL (EXCLUDING HOT SPOT AREAS) AND GROUNDWATER		
Industrial Worker	Yes	Yes
Trespasser / Recreational	Yes	No
Resident	Yes	Yes
FUTURE EXPOSURE TO CHEMICALS IN SUBSURFACE SOIL (EXCLUDING HOT SPOT AREAS) AND GROUNDWATER		
Excavation Worker	No	Yes
Industrial Worker	Yes	Yes
Resident	Yes	Yes
FUTURE EXPOSURE TO CHEMICALS IN RIMW-6 AREA SUBSURFACE SOIL AND GROUNDWATER		
Industrial Worker	Yes	Yes
Excavation Worker	No	No
Resident	Yes	Yes
FUTURE EXPOSURE TO CHEMICALS IN RISB-12 AREA SUBSURFACE SOIL AND GROUNDWATER		
Industrial Worker	Yes	Yes
Excavation Worker	No	Yes
Resident	Yes	Yes
FUTURE EXPOSURE TO CHEMICALS IN RISB-18 AREA SUBSURFACE SOIL AND GROUNDWATER		
Industrial Worker	Yes	Yes
Excavation Worker	No	No
Resident	Yes	Yes
FUTURE EXPOSURE TO CHEMICALS IN RISB-25 AREA SUBSURFACE SOIL AND GROUNDWATER		
Industrial Worker	Yes	Yes
Excavation Worker	Yes	Yes
Resident	Yes	Yes
FUTURE EXPOSURE TO CHEMICALS IN RISB-64 AREA SUBSURFACE SOIL AND GROUNDWATER		
Industrial Worker	Yes	Yes
Excavation Worker	Yes	Yes
Resident	Yes	Yes

1: EPA's target risk range is $1E^{-6}$ to $1E^{-4}$.
2: EPA's noncancer threshold is 1
Hot Spot Area 1 Area including RISB-6, RISB-19, RISB-26 and RISB-46
Hot Spot Area 2: Area including RIMW-6
Hot Spot Area 3: Area including RISB-16

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Table 2-2
Final Chemicals of Concern (COCs)
Feasibility Study Report
Former PSC Site - Rock Hill, SC

Soil COCs	Selection Rationale
Metals	
Arsenic	Exceeds SSL
Barium	Exceeds SSL
Chromium	Exceeds SSL
Iron	Exceeds Non-Cancer HI of 1.0
Manganese	Exceeds Non-Cancer HI of 1.0
Nickel	Exceeds SSL
Selenium	Exceeds SSL
Thallium	Exceeds Non-Cancer HI of 1.0
Vanadium	Exceeds Non-Cancer HI of 1.0
SVOCs	
N-Nitrosodiphenylamine	Exceeds SSL
VOCs	
1,1,1-Trichloroethane	Exceeds SSL
1,1,2-Trichloroethane	Exceeds SSL
1,1-Dichloroethene	Exceeds SSL
1,2,4-Trichlorobenzene	Exceeds SSL
1,2-Dichlorobenzene	Exceeds SSL
1,2-Dichloroethane	Exceeds Cancer Risk Range
1,4-Dichlorobenzene	Exceeds SSL
Acetone	Exceeds SSL
Benzene	Exceeds SSL
Chlorobenzene	Exceeds SSL
Chloroform	Exceeds SSL
cis-1,2-Dichloroethene	Exceeds SSL
Ethylbenzene	Exceeds SSL
Methylene chloride	Exceeds SSL
Tetrachloroethene	Exceeds Cancer Risk Range
Toluene	Exceeds SSL
Trichloroethene	Exceeds Cancer Risk Range
Vinyl chloride	Exceeds SSL
Xylenes (Total)	Exceeds SSL

Groundwater COCs	Selection Rationale
Metals	
Manganese	Exceeds Non-Cancer HI of 1.0
VOCs	
1,1,1-Trichloroethane	Exceeds MCL
1,1,2-Trichloroethane	Exceeds MCL
1,1-Dichloroethene	Exceeds MCL
1,2,4-Trichlorobenzene	Exceeds MCL
1,2-Dichlorobenzene	Exceeds MCL
1,2-Dichloroethane	Exceeds Cancer Risk Range
1,4-Dichlorobenzene	Exceeds Cancer Risk Range
Benzene	Exceeds Cancer Risk Range
Bis(2-ethylhexyl)phthalate	Exceeds MCL
Carbon Tetrachloride	Exceeds MCL
Chlorobenzene	Exceeds MCL
Chloroethane	Exceeds Non-Cancer HI of 1.0
cis-1,2-Dichloroethene	Exceeds Cancer Risk Range
Ethylbenzene	Exceeds Non-Cancer HI of 1.0
Isopropylbenzene	Exceeds Non-Cancer HI of 1.0
Methylene chloride	Exceeds Cancer Risk Range
Tetrachloroethene	Exceeds Cancer Risk Range
Toluene	Exceeds Non-Cancer HI of 1.0
Trichloroethene	Exceeds Cancer Risk Range
Vinyl chloride	Exceeds Cancer Risk Range
Xylenes (Total)	Exceeds Non-Cancer HI of 1.0

Notes:
HI - Hazard Index
MCL - EPA Maximum Contaminant Level
SSL - EPA Region 9 Soil Screening Level (7 for uncovered, 103.3 for covered areas)
SVOCs - Semi-Volatile Organic Compounds
VOCs - Volatile Organic Compounds

Table 3-1
Potential Chemical-Specific ARARs
Feasibility Study Report
Former PSC Site - Rock Hill, SC

Standard Requirement, Criteria, or Limitation	Citation	Description	ARAR/TBC	Rationale for implementation
Federal				
Clean Air Act	42 USC Section 7409			
National Primary and Secondary Ambient Air Quality Standards	40 CFR Part 50	Establishes air quality levels that protect public health.	Applicable	Treatment of contaminated media may result in release of contaminants into the air.
Safe Drinking Water Act	40 USC Section 300			
National Primary Drinking Water Standards	40 CFR Part 141	Establishes health-based standards for public water systems. Maximum Contaminant Levels (MCLs) are legally enforceable federal drinking water standards.	Relevant & Appropriate	Institutional controls preventing potable water use at the site should preclude applicability; however, standards may still be relevant and appropriate.
Maximum Contaminant Level Goals (MCLGs)	Publication L. No. 99-399, 100 State. 642 (1986)	Establishes drinking water quality goals set at levels of no known or anticipated adverse health effects.	Relevant & Appropriate	MCLGs for organic and inorganic contaminants should not be applicable if institutional controls are implemented but they may still be relevant and appropriate.
National Secondary Drinking Water Standards	40 CFR 143	Establishes welfare-based standards for public water systems (secondary maximum contaminant levels).	Relevant & Appropriate	Secondary standards for organic and inorganic contaminants are not enforceable regulations but may be considered relevant and appropriate.
Resource Conservation and Recovery Act (RCRA) as Amended	42 USC 6901, 6905, 6912, 6924, 6925			
Identification and Listing of Hazardous Waste	40 CFR Parts 262-265 and Parts 124, 270, and 271	Defines those solid wastes that are subject to regulation as hazardous wastes under 40 CFR Parts 262-265, 124, 270, and 271.	Applicable	Some of the site's COCs may be considered hazardous for disposal purposes.
RCRA Land Disposal Restrictions	40 CFR Part 268	Sets proper disposal protocols for contaminants found in soil or residues from any treatment process.	Applicable	Contamination in site soils, sediments, or other residues should be disposed of properly, so the regulation is applicable if remediation requires disposal of waste.

Table 3-1
Potential Chemical-Specific ARARs
Feasibility Study Report
Former PSC Site - Rock Hill, SC

Standard Requirement, Criteria, or Limitation	Citation	Description	ARAR/TBC	Rationale for implementation
Clean Water Act	33 USC Section 1251-1376			
Ambient Water Quality Criteria (AWQC)	40 CFR Part 131	Sets criteria for surface water quality based on toxicity to aquatic organisms and human health.	Applicable	AWQC criteria for organic and inorganic contaminants are applicable to surface waters on site, unless superseded by South Carolina water quality criteria.
Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects on Sediment Assoc. Biota: 1997 Revision	Publication ES/ER/TM-95/R4 Oak Ridge National Lab	Presents sediment concentration guidelines based on in-stream studies.	To Be Considered	Sediment contamination is not anticipated to be an issue at this site. However, Wildcat Creek is close to anticipated remediation areas and therefore sediment guidelines may need to be considered in the future.
Preliminary Remediation Goals and Soil Screening Levels	EPA Region 9	Establishes risk-based criteria for exposures to soil, air, and water and established soil screening levels for protection of groundwater.	Applicable	In the absence of state standards, these criteria are applicable to site soils. PRGs are used for metals COCs in soil.
State				
South Carolina Safe Drinking Water Regulations	CR, Chap. 61, Reg. 58.5	Identifies specific contaminants and establishes the maximum concentration of the contaminants that are allowed in drinking water served to the public.	Applicable	Applicable to waters at the site.
South Carolina Water Classification Standards	CR, Chap. 61, Reg. 68	Establishes specific numeric water quality standards for protecting classified and existing water uses.	Applicable	These standards are relevant and appropriate because of connection between groundwater and surface water.
South Carolina Ambient Water Quality Standards	Dept. of Health and Environmental Control; Regulation 61-62.5	Standards for the quality of ambient air at or beyond a property line on which a source of pollution is emitting.	Relevant & Appropriate	May be relevant and appropriate if onsite treatment units are part of remedial action.

Table 3-2
Potential Action-Specific ARARs
Feasibility Study Report
Former PSC Site - Rock Hill, SC

Standard Requirement, Criteria, or Limitation	Citation	Description	ARAR/TBC	Rationale for implementation
Federal *Clean Air Act (CAA)*				
Air Quality Particulate Non-Degradation Policy	40 CFR 50 NAAQS	Establishes specific standards for total suspended particulates and prohibits degradation in any area where air quality is better or equal to the standards in OAC 3745-17-02.	Relevant & Appropriate	This citation is relevant for any remedial action involving treatment or construction that might result in the release of total suspended particulates that might contribute to deterioration of air quality.
National Emissions Standards for Hazardous Air Pollutants (NESHAPs)	40 CFR 61	Emissions standard for hazardous air pollutants for which no ambient air quality standard exists.	Relevant & Appropriate	May be relevant or appropriate if groundwater recovery and/or onsite treatment units are part of remedial actions.
Resource Conservation and Recovery Act (RCRA) as amended				
Hazardous Waste Determinations and Generators for Offsite TSD	40 CFR Part 262	Requirements for any generator who treats, stores, or disposes of hazardous wastes to determine whether or not the waste is hazardous.	Relevant & Appropriate	The procedures are established to determine whether wastes are subject to the requirements of RCRA. This citation is relevant if any soils, sediments, or other residue require characterization and removal for treatment, storage, or disposal (TSD).
Generators Who Transport Hazardous Waste for Offsite Treatment, Storage, or Disposal	40 CFR Part 262	Any generator of hazardous waste must use manifest system.	Relevant & Appropriate	This citation is relevant for any soils, sediments, and waters determined to be RCRA hazardous waste subject to the manifest requirements.
Land Disposal Restrictions	40 CFR 268	Provides for proper disposal of regulated contaminants found in soils and sediments.	Applicable	Potentially applicable if remedial actions call for the removal of contaminated sediment or soil for disposal.
Standards Applicable to Transport of Hazardous Waste	40 CFR Part 263	Establishes standards that apply to persons transporting hazardous waste with the U.S. if the transportation requires a manifest under 40 CFR 262.	Applicable	Potentially applicable if remedial actions call for offsite treatment and/or disposal of waste.

Table 3-2
Potential Action-Specific ARARs
Feasibility Study Report
Former PSC Site - Rock Hill, SC

Standard Requirement, Criteria, or Limitation	Citation	Description	ARAR/TBC	Rationale for implementation
Criteria for Classification of Solid Waste Disposal Facilities and Practices	40 CFR Part 257	Establishes criteria for use in determining which solid waste disposal facilities and practices pose a reasonable probability of adverse effects on health or the environment and thereby constitute prohibited open dumps.	Relevant & appropriate	Potentially applicable if remedial actions call for offsite treatment and/or disposal of waste.
RCRA Waste Management Program	40 CFR 264	Requires owner/operator to control wind dispersal of particulate matter and provides technical criteria for hazardous waste treatment, storage, and disposal (TSD). Citation also specifies closure performance standard.	Relevant & Appropriate	Some remedial actions will require conformance with RCRA closure performance standard. The control of fugitive dust is potentially relevant to this site. If the contamination is deemed a RCRA waste, then these requirements are also relevant.
RCRA Releases from Solid Waste Management Units	40 CFR Part 264 Subpart F	Establishes groundwater protection standards, monitoring requirements, and technical requirements.	Relevant & Appropriate	onsite disposal might cause migration into the underlying aquifer, and potentially contaminate the groundwater systems.
		Establishes minimum national standards which define the acceptable management of hazardous waste for owners and operators of facilities which treat, store, or dispose of hazardous waste.	Relevant & Appropriate	Some remedial actions will require conformance with RCRA closure performance standard. If the contamination is deemed a RCRA waste, then these requirements are also relevant.
Discharge of Storm Water Runoff	40 CFR 122.26	Requires storm water management.	Relevant & Appropriate	Required of all industrial and construction sites of greater than 1 acre that discharge storm water runoff to the waters of the United States.
NPDES	40 CFR 122	General permits for discharge from construction.	Relevant & Appropriate	Relevant to discharge of treated groundwater or surface water.

Table 3-2
Potential Action-Specific ARARs
Feasibility Study Report
Former PSC Site - Rock Hill, SC

Standard Requirement, Criteria, or Limitation	Citation	Description	ARAR/TBC	Rationale for implementation
Occupational Safety and Health Administration (OSHA)				
Hazardous Waste Site Operations	29 CFR 1910	Provides safety rules for handling specific chemicals for site workers during remedial activities.	Relevant & Appropriate	Health and safety requirements are appropriate to all potential remedial actions.
State				
South Carolina Safe Drinking Water Regulations	CR, Chap. 61, Regulation 60	Establishes MCLs for the protection of human health.	Relevant & Appropriate	Relevant with discharge to surface water or POTW.
South Carolina Water Classification Standards	CR, Chap. 61, Reg. 68	Establishes surface water quality standards for the protection of the environment.	Relevant & Appropriate	Relevant if remedial action includes discharge of treated water.
South Carolina Hazardous Waste Management Regulations	CR, Chap. 61, Reg. 79	Establishes requirements for hazardous waste treatment, storage, and disposal (TSD) facilities	Applicable	Applicable if remedial action includes onsite treatment or storage of hazardous wastes.
South Carolina Hazardous Waste Management Location Standards	CR, Chap. 61, Reg. 104	Establishes requirements for the location of hazardous waste treatment, storage, and disposal (TSD) facilities	Applicable	Relevant if remedial action includes onsite treatment or storage of hazardous wastes.
South Carolina Solid Waste Management Regulations	CR, Chap. 61, Reg. 107	Specifies the performance standards that must be met by disposal facilities.	Applicable	Applicable if remedial action includes onsite treatment, storage, disposal, or transport of solid wastes.
South Carolina Air Pollution Control Regulations	Dept. of Health & Environmental Control, Regulation 61-62	Air pollution control by established air quality and emission standards.	Relevant & Appropriate	Applicable if selected remedial alternative produces air emissions.
South Carolina NPDES Permit Regulations	CR, Title 61, Cap. 9	Requires permit for discharge of wastes into waters of the state.	Relevant & Appropriate	Relevant if remedial action includes discharge of treated water.
South Carolina Underground Injection Control Regulations	CR, Chap. 61, Reg. 87	Requirements for controlling underground injection in the state.	Relevant & Appropriate	Relevant if remediation involves underground injection of contaminated media or chemical additive.

Table 3-3
Potential Location-Specific ARARs
Feasibility Study Report
Former PSC Site - Rock Hill, SC

Standard Requirement, Criteria, or Limitation	Citation	Description	ARAR/TBC	Rationale for implementation
Federal				
Clean Water Act	33 USC Section 1251-1376			
Dredge or Fill Requirements (Section 404)	40 CFR Part 230	Requires Permit for discharge of dredge or fill material into aquatic environments.	To Be Considered	May be applicable at the site if remedies involve work in Wildcat Creek.
Endangered Species Act	16 USC Section 1531; 40 CFR Part 6.302; 50 CFR Part 402	Requires action to conserve endangered species within critical habitat upon which species depend; includes consultation with the Department of the Interior.	Relevant & Appropriate	No threatened or endangered species are known to occur on site, but some have the potential to occur in the general area of the site.
Migratory Bird Treaty of 1973	16 USC Section 703	Established a prohibition, unless permitted, to pursue, hunt, capture, kill, or take any migratory bird or attempt any of these actions. Also protects migratory birds in their environments.	Relevant & Appropriate	Potential remedial alternatives may adversely affect migratory birds.
U.S. Fish and Wildlife Service Mitigation Policy	FR Vol 46 (15): 7656-7663	Provides for the policy to develop consistent and effective recommendations to protect and conserve natural resources. Also allows federal and private developers to incorporate mitigation measures.	Applicable	Many species of plants and animals occur on site or are expected to occur on site.
Groundwater Classification	EPA Groundwater Protection Strategy	Through process of classification, groundwater resources are separated into categories on the basis of their value to society, use, and vulnerability to contamination. Groundwater classes factor into deciding the level of protection or remediation the resource will be provided.	To Be Considered	Contaminants are present in groundwater.

Table 3-3
Potential Location-Specific ARARs
Feasibility Study Report
Former PSC Site - Rock Hill, SC

Standard Requirement, Criteria, or Limitation	Citation	Description	ARAR/TBC	Rationale for implementation
Resource Conservation and Recovery Act (RCRA) Releases from Solid Waste Management Units	42 USC 6901, 6905, 6912, 6924, 6925			
RCRA Location Standards	40 CFR Part 264.18(b)	A TSD facility must be designed, constructed operated and maintained to avoid washout on a 100-year floodplain. Also, a TSD facility must not be located within 200 feet from a fault line.	Applicable	Potential remedial alternatives may be implemented within the 100-year floodplain.
Protection of Wetlands and Floodplains	40 CFR Part 6, Appendix A	Contains EPA's regulations for implementing Executive Orders 11988 and 11990.	Applicable	Site is near Lower Catawba River floodplain.
Floodplain Management Executive Order	Executive Order 11988	Action to avoid adverse effects, minimize potential harm, and restore and preserve natural and beneficial values of the floodplain.	Applicable	Site is near Lower Catawba River floodplain.
State				
South Carolina Hazardous Waste Facility Siting Standards	CR, Chap. 61, Reg. 104	Creates requirements for the location of hazardous waste TSD facilities. Such facilities will be limited to those areas where there will be minimal impact on human health and the environment.	Relevant & Appropriate	May be relevant and appropriate if onsite treatment units are used for remediation of contaminated media.

Table 3-4
Groundwater Remedial Goals
Feasibility Study
Former PSC Site - Rock Hill, SC

Compound	Remedial Goal (ug/L)	Source	Basis for Establishing an RG
1,1,1-Trichloroethane	200	MCL	Exceeds MCL
1,1,2-Trichloroethane	5	MCL	Exceeds MCL
1,1-Dichloroethene	7	MCL	Exceeds MCL
1,2,4-Trichlorobenzene	70	MCL	Exceeds MCL
1,2-Dichlorobenzene	600	MCL	Exceeds MCL
1,2-Dichloroethane	5	MCL	RA and Exceeds MCL
1,4-Dichlorobenzene	75	MCL	RA and Exceeds MCL
Benzene	5	MCL	RA and Exceeds MCL
Bis(2-ethylhexyl)phthalate	6	MCL	Exceeds MCL
Carbon tetrachloride	5	MCL	Exceeds MCL
Chlorobenzene	100	MCL	Exceeds MCL
Chloroethane	4.6	PRG	RA
cis-1,2-Dichloroethene	70	MCL	RA and Exceeds MCL
Ethylbenzene	700	MCL	RA and Exceeds MCL
Methylene chloride	5	MCL	RA and Exceeds MCL
Tetrachloroethene	5	MCL	RA and Exceeds MCL
Toluene	1000	MCL	RA and Exceeds MCL
Trichloroethene	5	MCL	RA and Exceeds MCL
Vinyl chloride	2	MCL	RA and Exceeds MCL
Xylenes (Total)	10000	MCL	RA and Exceeds MCL

Notes:

MCL - U.S. Environmental Protection Agency Maximum Contaminant Level (June 2003)

PRG - EPA Region 9 Preliminary Remediation Goal for tap water (October 2004)

RA - Indicates that this compound was detected at levels that result in a risk assessment calculation above established non-cancer or cancer risk ranges.

Isopropylbenzene was identified as posing a non-cancer human health risk during the risk assessment. However, this compound was not included on this table because neither an MCL or PRG is established for this compound.

Table 3-5
Soil Remedial Goals
Feasibility Study Report
Former PSC Site - Rock Hill, SC

Compound	Protection of Groundwater						Protection of Human Health		
	Uncovered Areas			Areas Under Buildings / Slabs					
	Remedial Goal (mg/kg)	Source	Basis for Establishing an RG	Remedial Goal (mg/kg)	Source	Basis for Establishing an RG	Remedial Goal (mg/kg)	Source	Basis for Establishing an RG
1,1,1-Trichloroethane	0.70	SSL1	Exceeds SSL1						
1,1,2-Trichloroethane	0.006	SSL1	Exceeds SSL1	0.093	SSL2	Exceeds SSL2			
1,1-Dichloroethene	0.021	SSL1	Exceeds SSL1	0.31	SSL2	Exceeds SSL2			
1,2,4-Trichlorobenzene	2.1	SSL1	Exceeds SSL1						
1,2-Dichlorobenzene	6.3	SSL1	Exceeds SSL1						
1,2-Dichloroethane	0.007	SSL1	Exceeds SSL1	0.10	SSL2	Exceeds SSL2	0.6	PRG	RA and Exceeds PRG
1,4-Dichlorobenzene	0.70	SSL1	Exceeds SSL1						
Acetone	5.6	SSL1	Exceeds SSL1						
Arsenic							1.6	PRG	Exceeds PRG
Benzene	0.014	SSL1	Exceeds SSL1	0.21	SSL2	Exceeds SSL2	1.4	PRG	Exceeds PRG
Chlorobenzene	0.49	SSL1	Exceeds SSL1						
Chloroform	0.21	SSL1	Exceeds SSL1				0.47	PRG	Exceeds PRG
cis-1,2-Dichloroethene	0.140	SSL1	Exceeds SSL1	2.1	SSL2	Exceeds SSL2			
Ethylbenzene	4.9	SSL1	Exceeds SSL1	72.3	SSL2	Exceeds SSL2			
Iron							100,000	PRG	RA
Manganese							19,458	PRG	RA
Methylene chloride	0.007	SSL1	Exceeds SSL1	0.10	SSL2	Exceeds SSL2			
N-Nitrosodiphenylamine	0.42	SSL1	Exceeds SSL1						
Tetrachloroethene	0.021	SSL1	Exceeds SSL1	0.31	SSL2	Exceeds SSL2	1.3	PRG	RA and Exceeds PRG
Thallium							67.5	PRG	RA and Exceeds PRG
Toluene	4.2	SSL1	Exceeds SSL1	62.0	SSL2	Exceeds SSL2	520	PRG	Exceeds PRG
Trichloroethene	0.021	SSL1	Exceeds SSL1	0.31	SSL2	Exceeds SSL2	0.11	PRG	RA and Exceeds PRG
Vanadium							1,022	PRG	RA
Vinyl chloride	0.005	SSL1	Exceeds SSL1	0.072	SSL2	Exceeds SSL2			
Xylenes (Total)	70	SSL1	Exceeds SSL1				420	PRG	Exceeds PRG

Notes:
SSL1 - EPA Region 9 Soil Screening Level (October 2004) with a Dilution Attenuation Factor of 7 (see below)
SSL2 - EPA Region 9 Soil Screening Level (October 2004) with a Dilution Attenuation Factor of 103.3 (see below)
PRG - EPA Region 9 Preliminary Remediation Goal for Industrial Soil (October 2004)
RA - Indicates that this compound was detected at levels that result in a risk assessment calculation above established non-cancer or cancer risk ranges.
RGs apply to both surface and subsurface soil.
Dilution Attenuation Factors for uncovered areas and areas under building slabs were calculated by the South Carolina Department of Health and Environmental Control using site-specific assumptions. For determination of SSL exceedances, soil data were first segregated by the samples that were under building slabs and those that were not (e.g., exceedances of SSL2 for areas under buildings only incorporates soil data from samples collected under building slabs). Exceedances for industrial soil PRGs includes all soil areas.
Protection of Groundwater RG = [SSL with DAF of 1] * [Site-Specific DAF]

CDM

Table 4-1
Initial Screening of Technologies and Process Options for Groundwater
Feasibility Study Report
Former PSC Site - Rock Hill, SC

General Response Action	Remedial Technology	Process Option	Description	Screening Comment
No Action	None	Not Applicable	Site is left in its existing state.	Required for consideration by the NCP.
Institutional Controls	Access and Use Restrictions	Land Use and Deed Restrictions	Land use restrictions recorded in property deeds to prohibit groundwater or surface water use in impacted areas	Retained for further evaluation
	Environmental Monitoring	Air, Soil, Sediment, Surface Water, and/or Groundwater	Site conditions and contaminant levels in these media would be monitored during and after implementation of remedial action	Retained for further evaluation
Containment / Removal	Subsurface Barriers	All Processes	Use of grouts, low permeability slurry, or liners placed perpendicular to groundwater flow to form an impermeable barrier (vertical barrier)	Retained for further evaluation
	Extraction Wells	All Processes	Series of wells installed to collect or extract contaminated groundwater	Retained for further evaluation
	Well Points	All Processes	A group of closely-spaced wells within a contaminated area is connected to a header pipe and pumped by a suction pump	Retained for further evaluation.
	Subsurface Drains	All Processes	Perforated pipe or tile with a gravel-filled trench is used to remove or redirect contaminated groundwater	Retained for further evaluation.
Treatment	In Situ	Air Sparging	System of wells to inject air into the aquifer to strip volatile organics from groundwater	Retained for further evaluation.
		Enhanced Bioremediation	Optimization of environmental conditions by injecting oxygen, nutrients, and (if necessary) microorganisms into the subsurface to enhance microbial degradation of contaminants.	Retained for further evaluation.
		Monitored Natural Attenuation	Natural subsurface processes—such as dilution, volatilization, biodegradation, adsorption, and chemical reactions with subsurface that reduce concentrations and/or mobility of contaminants.	Retained for further evaluation.
		Phytoremediation	Phytoremediation is a set of processes that use plants to clean contamination in soil, groundwater, surface water, sediment, and air. Phytoremediation is limited to shallow groundwater.	Rejected Depth to water is too great
		Chemical Oxidation	Oxidation chemically converts hazardous contaminants to non-hazardous or less toxic compounds that are more stable, less mobile, and/or inert The oxidizing agents most commonly used are ozone, hydrogen peroxide, hypochlorites, chlorine, and chlorine dioxide	Retained for further evaluation.
		Dual Phase Extraction (DPE)	A high vacuum system is applied to simultaneously remove various combinations of contaminated groundwater, separate-phase petroleum product, and hydrocarbon vapor from the subsurface	Retained for further evaluation.
		Enhanced DPE	Dual phase extraction used in combination with injection of air or chemical to enhance vapor recovery of free phase LNAPL or high concentrations of dissolved VOCs.	Retained for further evaluation.
		Passive/Reactive Treatment Walls	Trenches or walls are filled with a permeable medium that reacts with or traps contaminants as contaminated groundwater flows through the trench/wall	Retained for further evaluation
		Thermal	Steam/hot air injection or electromagnetic/fiber optic/radio frequency/electrical conduction heating is used to increase the mobility of volatiles and facilitate extraction The process includes a system for handling off-gases.	Retained for further evaluation
		In-Well Air Stripping	Air is injected into a double screened well, lifting the water in the well and forcing it out the upper screen. Simultaneously, additional water is drawn in the lower screen Once in the well, some of the VOCs in the contaminated groundwater are transferred from the dissolved phase to the vapor phase by air bubbles. The contaminated air rises in the well to the water surface where vapors are drawn off and treated by a soil vapor extraction system	Retained for further evaluation
	Ex Situ – Thermal	Evaporation	Contaminated waste stream is placed in large drying beds Its volume is then reduced or eliminated through vaporization caused by solar heating.	Rejected Ex-situ groundwater treatment system already being used on site.

[ ] Technology / process option eliminated from further consideration.

Table 4-1
Initial Screening of Technologies and Process Options for Groundwater
Feasibility Study Report
Former PSC Site - Rock Hill, SC

General Response Action	Remedial Technology	Process Option	Description	Screening Comment
Treatment — Ex Situ	Thermal	Wet Air Oxidation	Oxidation of organics in an aeretor under high temperature and pressure.	Rejected. Ex-situ groundwater treatment system already being used on site.
		Incineration	High temperatures, 1,600 to 2,200 degrees F, are used to volatilize and combust (in the presence of oxygen) organic contaminants in hazardous waste. Processes include liquid injection, rotary-kiln, fluidized- and circulatory-bed, and infrared.	Rejected. Ex-situ groundwater treatment system already being used on site.
	Biological	Biological Sorption	An innovative process being developed under the SITE Emerging Technologies Program. The process is based on the affinity of algae cell walls for heavy metal ions, and is being tested for the removal of matal ions containing high levels of dissolved solids from groundwater or surface leachate.	Rejected. Ex-situ groundwater treatment system already being used on site.
		Wetland-Based Treatment	An innovative approach that uses natural biological and geochemical processes inherent in man-made wetlands to accumulate and remove metals from contaminated water. Process incorporates ecosystem components from wetlands to remove metals by filtration, ion exchange, adsorption, absorption and precipitation through geochemical and microbial oxidation and reduction.	Rejected. Ex-situ groundwater treatment system already being used on site.
		Biological Treatment	Aerated process consists of microbial degradation of wastes in an aerated surface impoundment (oxidation pond), lagoon, or biological digester. Anaerobic process consists of a low surface area to volume ratio (narrow to deep) used to increase degradation action by anaerobic bacteria.	Rejected. Ex-situ groundwater treatment system already being used on site.
	Off Site	Wastewater Treatment Facility	Extracted groundwater or surface water transported to a treatment, storage, and disposal facility for treatment.	Rejected. Ex-situ groundwater treatment system already being used on site.
	Physical / Chemical	Air Stripping	Mixing of large volumes of air with waste stream in a pecked column or through diffused aeration to transfer volatile organics to air.	Rejected. Ex-situ groundwater treatment system already being used on site.
		Carbon Adsorption	Adsorption of contaminants onto activated carbon by passing water through carbon column.	Retained. Current system uses carbon adsorption.
		Centrifugation	Stable colloidal particles are removed by the centrifugal forces created by high speed rotation in a cylindrical vessel.	Rejected. Ex-situ groundwater treatment system already being used on site.
		Dehalogenation	Chemical agent is mixed with waste stream to strip halogen atoms from chlorinated hydrocarbons.	Rejected. Ex-situ groundwater treatment system already being used on site.
		Evaporation & Distillation	Volatile organics are separated at optimum temperature and pressure using evaporation followed by condensation.	Rejected. Ex-situ groundwater treatment system already being used on site.
		Filtration	Removal of suspended particles by pessing the liquid waste stream through a granular or fabric media.	Rejected. Ex-situ groundwater treatment system already being used on site.
		Ion Exchange	Contaminated water is passed through a resin bed where ions are exchanged between resin and water.	Rejected. Ex-situ groundwater treatment system already being used on site.
		Liquid-Liquid Extraction	Two liquids are separated by the addition of a third liquid that is a solvent for one of the liquids and is insoluble for the other	Rejected. Ex-situ groundwater treatment system already being used on site.
		pH Adjustment	A chemical reagent is added to the waste stream to alter the pH.	Rejected. Ex-situ groundwater treatment system already being used on site.
		Oil-Water Separation	A gravity-based process used to separate two immiscible liquids, such as petroleum and water.	Retained. Current system uses oil-water separator.
		Precipitation / Coagulation / Flocculation	A chemical agent is mixed with the waste stream to form an insoluble product that can be removed from the waste stream by settling. Usually in conjunction with coagulation and flocculation and as a pretreatment step before organics treatment where the process could be easily fouled by inorganics.	Rejected. Ex-situ groundwater treatment system already being used on site.

[dashed box] Technology / process option eliminated from further consideration.

Table 4-1
Initial Screening of Technologies and Process Options for Groundwater
Feasibility Study Report
Former PSC Site - Rock Hill, SC

General Response Action	Remedial Technology	Process Option	Description	Screening Comment
Treatment	Ex Situ — Physical / Chemical	Aeration	Aeration can be used to induce chemical precipitation of certain inorganic contaminants or strip volatile constituents.	Rejected. Ex-situ groundwater treatment system already being used on site.
		Adsorption	Process is similar to carbon adsorption with a resin or other material replacing the carbon as the absorbent.	Rejected. Ex-situ groundwater treatment system already being used on site.
		Reverse Osmosis	Use of high pressure to force water through a membrane leaving contaminants behind.	Rejected. Ex-situ groundwater treatment system already being used on site.
		Sedimentation	Suspended solids removed from liquid by gravity in a tank or lagoon. Often preceded by precipitation.	Rejected. Ex-situ groundwater treatment system already being used on site.
		Steam Stripping	Mixing of large volumes of steam with the waste stream in a packed column or through diffused aeration to transfer volatile organics to the air.	Rejected. Ex-situ groundwater treatment system already being used on site.
		Ultrafiltration	Removal of medium to high molecular weight solutes from solution by a semipermeable membrane under a low pressure gradient.	Rejected. Ex-situ groundwater treatment system already being used on site.
Discharge	On Site	Surface Water	Discharge of treated water to a surface water body.	Rejected. Ex-situ groundwater treatment system already being used on site.
		Injection Wells	Discharge of treated water by injection through on site wells.	Rejected. Ex-situ groundwater treatment system already being used on site.
		Spray Irrigation	Treated water discharged through plant uptake, evaporation and percolation through soil.	Rejected. Ex-situ groundwater treatment system already being used on site.
		Infiltration	Treated water allowed to infiltrate into the aquifer through use of open pond or underground piping.	Rejected. Ex-situ groundwater treatment system already being used on site.
		Existing Industrial Wastewater Treatment Facility	Extracted groundwater discharged to existing industrial wastewater treatment plant.	Retained for further evaluation.
	Off Site	POTW	Extracted and/or treated groundwater discharged to local public-owned treatment works (POTW).	Retained for further evaluation.

[dashed box] Technology / process option eliminated from further consideration.

Table 4-2
Initial Screening of Technologies and Process Options for Soil
Feasibility Study Report
Former PSC Site - Rock Hill, SC

General Response Action	Remedial Technology	Process Option	Description	Screening Comment
No Action	None	Not Applicable	Site is left in its existing state.	Required for consideration by the NCP.
Institutional Controls	Access and Use Restrictions	Land Use and Deed Restrictions	Land use restrictions recorded in property deeds to prohibit activities in impacted areas.	Retained for further evaluation.
		Fencing	Security fence installed around contaminated area to limit access.	Retained for further evaluation.
	Environmental Monitoring	Air, Soil, Sediment, Surface Water, and/or Groundwater	Site conditions and contaminant levels in these media would be monitored during and after implementation of remedial action.	Retained for further evaluation.
Containment	Caps	All Processes	Placement of a cap of low permeability material over the landfill or source areas to minimize the infiltration of surface water. Cap types include native soil, clay, asphalt, concrete, synthetic membrane, and RCRA multilayer.	Retained for further evaluation.
	Subsurface Barriers	All Processes	Use of grouts, low permeability slurry, or liners placed perpendicular to wastes to form an impermeable groundwater barrier (vertical barrier).	Retained for further evaluation.
	Surface Diversion / Collection	All Processes	Can include changes to surface topography grade to promote drainage away from contamination source area, creation of dikes and berms for erosion/sedimentation control and creation of channels to convey stream flows away from source areas.	Retained for further evaluation.
Removal / Extraction	Excavation	All Processes	Use of mechanical excavating equipment to remove and load contaminated sediment or soil for transport.	Retained for further evaluation.
Treatment (In Situ)	Biological	Biodegradation	The activity of naturally-occurring microbes is stimulated by circulating water-based solutions through contaminated soil to enhance in situ biological degradation of organic contaminants. Nutrients, oxygen, or other amendments may be used to enhance biodegradation and contaminant desorption from subsurface materials.	Retained for further evaluation.
		Bioventing	Bioventing is the process of aerating soils to stimulate in situ biological activity and promote bioremediation. Bioventing typically is applied in situ to the vadose zone (i.e., unsaturated soils) by injecting oxygen in the form of air. Bioventing systems are designed to maximize biodegradation while minimizing volatilization. Additives required for chlorinated VOC degradation.	Rejected. Not generally used for chlorinated VOCs.
		Phytoremediation	Contaminants are made unavailable to biological organisms after uptake through tree (e.g., poplar) roots.	Retained for further evaluation.
	Physical/Chemical	Chemical Reduction / Oxidation	Reduction/oxidation chemically converts hazardous contaminants to non hazardous or less toxic compounds that are more	Retained for further evaluation.
		Soil Mixing	Stabilized soil columns formed by a series of mixing shafts where oxidant, for example, is injected into soil by pumping through the hollow stems of the shafts as they are advanced into the soil.	Retained for further evaluation.
		Electrokinetic Separation	The Electrokinetic Remediation (ER) process removes metals and organic contaminants from low permeability soil, mud, sludge, and marine dredging. ER uses electrochemical and electrokinetic processes to desorb, and then remove, metals and polar organics. This in situ soil processing technology is primarily a separation and removal technique for extracting contaminants from soils.	Retained for further evaluation.
		Soil Flushing	Water, or water containing an additive to enhance contaminant solubility, is applied to the soil or injected into the groundwater to raise the water table into the contaminated soil zone. Contaminants are leached into the groundwater, which is then extracted end captured/treated/removed.	Rejected. Vadose zone greater than 20 feet in many areas.
		Soil Vapor Extraction	Vacuum is applied through extraction wells to create a pressure gradient that induces gas-phase volatiles to diffuse through soil to extraction wells. The process includes a system for handling off gases. This technology is known as in situ soil venting, in situ volatilization, enhanced volatilization, or soil vacuum extraction.	Retained for further evaluation.
		Solidification / Stabilization	Contaminants are physically bound or enclosed within a stabilized mass (solidification), or chemical reactions are induced between the stabilizing agent and contaminants to reduce their mobility (stabilization).	Rejected. Not used for chlorinated VOCs.
	Thermal	Vitrification	Electrodes for applying electricity, or joule heating, are used to melt contaminated soil, producing a glass and crystalline structure with very low leaching characteristics.	Retained for further evaluation.
		Electrical Resistance Heating	Electrical resistance heating uses an electrical current to heat less permeable soils such as clays and fine-grained sediments so that water and contaminants trapped in these relatively conductive regions are vaporized and ready for vacuum extraction.	Retained for further evaluation.
		Thermal Conductive Heating	Supplies heat to the soil through steel wells or with a blanket that covers the ground surface. As the polluted area is heated, the contaminants are destroyed or evaporated. Also referred to as electrical conductive heating or in situ thermal desorption.	Retained for further evaluation.
		Steam Extraction	Steam/hot air injection is used to increase the mobility of volatiles and facilitate extraction. The process includes a system for handling off gases.	Retained for further evaluation.

[dashed box] Technology / process option eliminated from further consideration.

Table 4-2
Initial Screening of Technologies and Process Options for Soil
Feasibility Study Report
Former PSC Site - Rock Hill, SC

General Response Action		Remedial Technology	Process Option	Description	Screening Comment
Treatment	Ex Situ	Thermal	Incineration	High temperatures, 1,600 to 2,200 degrees F, are used to volatilize and combust (in the presence of oxygen) organic contaminants in hazardous waste. Processes include liquid injection, rotary-kiln, fluidized- and circulatory-bed, and infrared.	Retained for further evaluation.
			Thermal Desorption	Wastes are heated at low or medium temperatures to volatilize water and organic contaminants. A carrier gas or vacuum system transports volatilized water and organics to the gas treatment system.	Retained for further evaluation.
			Vitrification	Contaminated soil is melted at high temperatures to form glass and crystalline characteristics.	Retained for further evaluation.
		Biological	Solid Phase	Excavated sediment is mixed with amendments and placed in aboveground enclosures that have leachate collection systems and some form of aeration. Processes include prepared treatment beds, biotreatment cells, and soil piles. Moisture, heat, nutrients, oxygen, and pH may be controlled to enhance biodegradation.	Retained for further evaluation.
			Slurry Phase	An aqueous slurry is created by combining sediment with additional water and other additives. The slurry is mixed to keep solids suspended and microorganisms in contact with the soil contaminants. Nutrients, oxygen, and pH in the bioreactor may be controlled to enhance biodegradation. Upon completion of the process, the slurry is dewatered and the treated soil is disposed.	Retained for further evaluation.
		Off Site	Waste Treatment Facility	Contaminated sediments are excavated and transported to an offsite facility for treatment and disposal.	Retained for further evaluation.
		Physical / Chemical	Dehalogenation	Reagents are added to soils contaminated with halogenated organics. The dehalogenation process is achieved by either the replacement of the halogen molecules or the decomposition and partial volatilization of the contaminants.	Retained for further evaluation.
			Separation	Separation techniques concentrate contaminated solids through physical and chemical means. These processes seek to detach contaminants from their medium (i.e., the soil, sand, and/or binding material that contains them).	Rejected. Generally not used for chlorinated VOCs.
			Soil Washing	Contaminants sorbed onto the soil particles are separated from soil in an aqueous-based system. The wash water may be augmented with a basic leaching agent, surfactant, pH adjustment, or chelating agent to help remove organics and heavy metals.	Rejected. Generally not used for chlorinated VOCs.
			Solidification / Stabilization	Contaminants are physically bound or enclosed within a stabilized mass (solidification), or chemical reactions/interactions are induced to help remove organics and heavy metals or otherwise prevent solubilization of contaminants.	Rejected. Not used for chlorinated VOCs.
			Chemical Extraction	Waste contaminated soil and extractant are mixed in an extractor, dissolving the contaminants. The extracted solution is then placed in a separator, where the contaminants and extractant are separated for treatment and further use	Retained for further evaluation.
			Chemical Reduction / Oxidation	Reduction/oxidation chemically converts hazardous contaminants to non hazardous or less toxic compounds that are more stable, less mobile, and/or inert. The reducing/oxidizing agents most commonly used are ozone, hydrogen peroxide, hypochlorites, and chlorine. Chemical oxidation is often enhanced using ultraviolet (UV) irradiation or chemical catalysts.	Retained for further evaluation.
Disposal		On Site	New On Site RCRA Landfill	Excavated soil is permanently disposed of in a centrally-located, new onsite RCRA landfill.	Retained for further evaluation.
		Off Site	RCRA Landfill (Hazardous or Non Hazardous)	Excavated material (treated or untreated) is disposed of in a RCRA Subtitle C or D landfill depending on RCRA classification.	Retained for further evaluation.

[dashed box] Technology / process option eliminated from further consideration.

Table 4-3
Evaluation of Technologies and Process Options for Groundwater
Feasibility Study Report
Former PSC Site - Rock Hill, SC

General Response Action	Remedial Technology	Process Option	Effectiveness	Implementability	Cost
No Action	None	Not Applicable	Does not achieve any measure of remediation or meet RAOs.	Readily implementable since no action is taken.	Negligible
Institutional Controls	Access and Use Restrictions	Land Use and Deed Restrictions	Can effectively prevent exposure and reduce risk. Does not actively reduce mobility, toxicity, or volume.	Readily implementable.	Low capital; low O&M
	Environmental Monitoring	Air, Soil, Sediment, Surface Water, and/or Groundwater	Does not achieve any measure of remediation or meet RAOs. Useful for tracking contaminant migration and/or effectiveness of remedial actions. Used in conjunction with other technologies.	Readily implementable. No construction or operation is necessary. Equipment, services, and personnel are readily available and procedures are in place.	Low capital; low to moderate O&M
Containment/Removal	Subsurface Barriers	Physical Control	Would effectively minimize the potential for exposure to contaminated groundwater, although it does not treat contamination.	Easily implemented. Equipment, services, and personnel readily available. Requires long-term maintenance.	Moderate capital; low O&M
	Extraction Wells	All Processes	Effective in partial removal of contaminated groundwater from an aquifer and in providing containment of groundwater plume.	Easily implemented. Equipment, services, and personnel readily available. Requires long-term maintenance.	Low to moderate capital; moderate O&M
	Well Points	All Processes	Not cost effective in aquifers deeper than 20 ft bgs.	Easily implemented. Equipment, services, and personnel readily available. Requires long-term maintenance.	Low capital, low to moderate O&M
	Subsurface Drains	All Processes	Effective in removing contaminated groundwater from an aquifer. Used in conjunction with groundwater treatment and/or hydraulic controls.	Easily implemented. Equipment, services, and personnel readily available. Requires long-term maintenance.	Moderate capital, moderate O&M
Treatment	In Situ	Air Sparging	Heterogeneous subsurface can decrease effectiveness significantly. Reduces contaminants below and above water table.	Easily implementable with standard operation and construction techniques. Chlorinated VOCs must be captured with an SVE system.	Moderate capital; low O&M
		Enhanced Bioremediation	Testing required to determine effectiveness. Good understanding of area hydrology is required. Treats a wide variety of VOCs.	Easily implementable with standard operation and construction techniques. Rebound may require multiple iterations.	Moderate capital; low to moderate O&M
		Monitored Natural Attenuation	Good understanding of area hydrology required to ensure contaminants are not migrating through unknown pathways. Not a treatment technology.	Easily implemented. Equipment, services, and personnel readily available. Requires long-term maintenance.	Low capital; low to moderate O&M
		Chemical Oxidation	Testing required to select oxidizer and prove ultimate effectiveness. Good understanding of area hydrology is required. Contaminant rebound is often observed. Not as effective in source areas.	Easily implementable with standard operation and construction techniques. Oxidizers handling is a safety concern. May require permitting. Rebound may require multiple iterations.	Moderate to high capital; low to moderate O&M
		Dual Phase Extraction (DPE)	Effective process for capturing free phase organics. Used in conjunction with above groundwater and vapor treatment systems.	Easily implementable with standard operation and construction techniques.	Moderate capital; low O&M
		Enhanced DPE	Specialized DPE enhancement. Effectively releases free phase contaminants sorbed to soil during vapor recovery.	Easily implemantable with standard operation and construction techniques. May require permitting.	Moderate to high capital, low O&M
		Passive/Reactive Treatment Walls	Effective in removing contaminants from groundwater. Long term treatment as groundwater is treated as it naturally moves toward the wall. Good understanding of hydrology and lithology is required.	Easily implementable with standard operation and construction techniques. Implementation becomes cost prohibitive in deeper aquifers.	Moderate to high capital; low O&M
		Thermal	Most effective in high cocentration "source" areas. High energy costs required, especially with contaminants with high boiling points.	Implementation requires vaccuum system combined with steam injection.	High capital; low to moderate O&M
		In-Well Air Stripping	Most effective in high concentration areas with high Henry's Law constants.	Implementation requires vacuum system combined with water extraction and air injection.	Moderate to high capital; low to moderate O&M
	Ex Situ	Carbon adsorption	Effective for treating volatile organic compounds.	Already implemented. Expansion may be required.	Moderate capital and moderate O&M
		Oil-Water Separator	Effective for treating free phase contaminants in groundwater.	Already implemented. Expansion may be required.	Moderate capital and low O&M
Discharge	On Site	Existing Industrial Wastewater Treatment Facility	Effective means for disposal of treated groundwater.	Easily implemented with conventional construction materials and methods. Will require compliance with POTW pretreatment standards.	Low capital, moderate to high O&M
	Off Site	POTW	Effective proven method of disposing of treated water. Discharge permit generally required.	Easily implemented with conventional construction materials and methods. Will require compliance with POTW pretreatment standards.	Low capital, low to moderate O&M

Technology / process option eliminated from further consideration.

Table 4-4

Evaluation of Technologies and Process Options for Soil

Feasibility Study Report
Former PSC Site - Rock Hill, SC

General Response Action	Remedial Technology	Process Option	Effectiveness	Implementability	Cost
No Action	None	Not Applicable	Does not achieve any measure of remediation or meet RAOs.	Readily implementable since no action is taken.	Negligible
Institutional Controls	Access and Use Restrictions	Land Use and Deed Restrictions	Can effectively prevent exposure and reduce risk.	Readily implementable.	Low
		Fencing	Can effectively prevent exposure and reduce risk.	Readily implementable. Requires long-term maintenance. Equipment, services, and personnel are readily available and procedures are in place.	Low capital; low O&M
	Environmental Monitoring	Air, Soil, Sediment, Surface Water, and/or Groundwater	Does not achieve any measure of remediation or meet RAOs. Useful for tracking contaminant migration and/or effectiveness of remedial actions. Used in conjunction with other technologies.	Readily implementable. No construction or operation is necessary. Equipment, services, and personnel are readily available and procedures are in place.	Low capital; low O&M
Containment	Caps	Direct Access Control	Would effectively minimize the potential for direct contact with contaminated material, if properly maintained.	Implementable. Conventional technology. Equipment, personnel, and services readily available. Requires restrictions on future land use and long-term maintenance.	Moderate capital; low O&M
		Hydraulic Infiltration Control	Would be effective in reducing surface infiltration and reducing migration of contaminants.	Implementable. Conventional technology. Equipment, personnel, and services readily available. Requires restrictions on future land use and long-term maintenance.	Moderate capital; low O&M
	Subsurface Barriers	Hydraulic Control	Would minimize migration of groundwater through the subsurface soil and reduce transport of contaminants through hydraulic controls.	Implementable. Conventional technology. Equipment, personnel, and services readily available. Requires restrictions on future land use and long-term maintenance.	Low to moderate capital; low to moderate O&M
		Physical Control	Would minimize migration of groundwater through the subsurface soil and reduce transport of contaminants through physical barriers.	Implementable. Conventional technology. Equipment, personnel, and services readily available. Requires restrictions on future land use and long-term maintenance.	Moderate capital; low O&M
	Surface Diversion / Collection	All Processes	Would minimize migration of contaminated runoff from source areas into the river. However large diversion area would be required because of the large soil footprint.	Implementable. Conventional technology. Equipment, personnel, and services readily available.	Low capital, low to moderate O&M
Removal / Extraction	Excavation	All Processes	Proven reliable technology. Would effectively reduce the potential threat to human health and ecological receptors. Short term effects include noise and fugitive dust emissions.	Easily implementable. Equipment, personnel, and services are readily available. Potential ecological impacts must be considered.	Moderate capital; negligible O&M
Treatment — In Situ	Biological	Biodegradation	Can be effective in combination with groundwater bioremediation below the water table. Average depth to groundwater is 15-20 feet makes this a less viable option.	Implementation requires raising the water table elevation to distribute nutrients and microbes. Also, monitoring and controlling biodegradation process during treatment is difficult.	Moderate capital, low O&M
		Phytoremediation	Generally limited to soils within three feet of the surface. Long duration required for remediation. Efficiencies are often too low to meet sensitive endpoints. Contaminants may still enter the food chain through animals/insects that eat plant containing contaminants.	Readily implementable. Ex situ treatment via wetland troughs may be necessary for deeper contamination. Requires a large surface of land. Modification of ground surface at the site may be necessary to prevent flooding or erosion.	Low to moderate capital; low to moderate O&M
	Physical / Chemical	Chemical Reduction / Oxidation	Extensive treatability testing would be required to evaluate the overall effectiveness of the process. Incomplete oxidation or formation of intermediate contaminants may occur depending on the contaminants and the oxidizing agents used.	Implementation requires raising the water table to distribute chemicals throughout vadose zone. Solids must be in solution. Waste composition must be well-known to prevent the inadvertent production of a more hazardous end product.	Moderate capital; moderate O&M
		Soil Mixing	Treatability testing would be required to evaluate the overall effectiveness of the process. Incomplete oxidation or formation of intermediate contaminants may occur, and the potential effects of the oxidant on the existing treatment system must be considered.	Readily implementable. A relatively new technology with limited data availability on previous performance.	Low to moderate capital; low O&M
		Electrokinetic Separation	Moisture content below 10% greatly reduces effective separation. More effective in low permeability soils. Not widely used.	Implementation tools not readily available. More widely used in sediments.	Moderate to high capital; moderate O&M

[dashed box] Technology / process option eliminated from further consideration.

Table 4-4

Evaluation of Technologies and Process Options for Soil

Feasibility Study Report

Former PSC Site - Rock Hill, SC

General Response Action		Remedial Technology	Process Option	Effectiveness	Implementability	Cost
Treatment	In Situ	Physical / Chemical	Soil Vapor Extraction (SVE)	Preferred method for soils VOC remediation with large vadose zone. Effectiveness decreased in lower permeability soils.	Implementable. Well known technology. Difficult to implement below water table and in low permeability sites.	Low to moderate capital, low to moderate O&M
		Thermal	**Vitrification**	Very high temperatures (1,600-2,000 C) required, resulting in significant energy requirements. Cost effectiveness decreases at large sites such as this one to other technologies because of energy costs.	Implementation problems occur where metals concentration in soils exceed their solubility in glass, or arsenic is present in waste. Safe effective treatment cannot be assured when pockets of vapor exist beneath the site.	Very high capital; low O&M
			Electrical Resistance Heating (ERH)	Significant energy requirements to effectively heat soil. Cost effectiveness decreases at large sites such as this one to other technologies because of energy costs. Generally combined with soil vapor extraction. Good for high concentration source areas and short term treatment.	Implementable. Fairly well known technology. Difficult to implement below water table because significant energy would be used to heat groundwater.	Very high capital; low O&M
			Thermal Conductive Heating	High temperatures (650-800 C) required, resulting in significant energy requirements. Cost effectiveness decreases at large sites such as this one to other technologies because of energy costs.	Implementable. Fairly well known technology. Difficult to implement below water table because significant energy would be used to heat groundwater.	Very high capital; low O&M
			Steam Injection	Cost effectiveness decreases with volume compared to other technologies. Moderate to high soil permeability required. Also, impermeable surface generally required below treatment area. Bedrock depths are as low as 110 feet in some areas of this site, decreasing the effectiveness of this technology in these areas	Implementation problems occur where low moisture content exists in subsurface. Technology is well known and fairly straightforward to implement.	High capital, low O&M
	Ex Situ	Thermal	Incineration	High temperatures (870-1,200 C) required, resulting in significant energy requirements. The presence of metals may hinder the overall process. Off gases require treatment.	Extensive performance and permitting requirements must be met. Otherwise technology is very well known.	High capital, high O&M
			Thermal Desorption	Preferred technology for chlorinated VOC soils if ex-situ remediation is required. High energy requirements.	Implementation is well known. Clay and silty soils increase reaction time.	High capital; high O&M
			Vitrification	Very high temperatures (1,600-2,000 C) required, resulting in significant energy requirements. Cost effectiveness decreases with volume compared to other technologies.	Implementation problems occur where metals concentration in soils exceed their solubility in glass, or arsenic is present in waste. Extensive material handling needed to prepare soil or sediment for treatment.	High capital; moderate O&M
		Biological	Solid Phase	Biopiles, land farming, and composting treatments are proven technologies for nonhalogenated VOCs, but effectiveness varies significantly for chlorinated VOCs. Large footprint of available land required for treatment.	Implementation is straightforward and well known, combined with excavation.	Moderate capital, moderate O&M
			Slurry Phase	Primarily used for nonhalogenated compounds.	Implementation issues arise with heterogeneous soils, high fines content soils. Treatability study required.	High capital, high O&M
		Physical / Chemical	**Dehalogenation**	Treatment for halogenated VOCs, however not targeted for chlorinated ethenes, which increases costs significantly. Not for large volumes.	Not generally used for large-scale volumes.	High capital; high O&M
			Chemical Extraction	Effective and reliable method for removing contaminants. Traces of chemical would remain in the treated solid, thus the toxicity of the chemical is an important consideration.	Control of emissions and leachate may be required. Some extraction chemicals may be toxic to some organisms, thus requiring very efficient separation of extraction chemical from solids before disposal.	High capital; moderate O&M
			Chemical Reduction / Oxidation	Extensive treatability testing would be required to evaluate the overall effectiveness of the process. Incomplete oxidation or formation of intermediate contaminants may occur depending on the contaminants and the oxidizing agents used.	Solids must be in solution. Waste composition must be well-known to prevent the inadvertent production of a more hazardous end product.	High capital; moderate O&M
		Off Site	**Waste Treatment Facility**	Not effective for large volumes of waste (soil or sediment).	Readily implementable.	Low to moderate capital, negligible O&M
Disposal		On Site	**New Onsite RCRA Landfill**	Waste is not remediated but RAOs are met with the effective containment of waste material. Applicable land disposal restrictions must be met prior to	Citing and permitting requirements could make implementation difficult.	High capital, moderate O&M
		Off Site	RCRA Landfill (Hazardous or Non Hazardous)	RAOs are met with the removal of waste from the site.	A substantial amount of waste handling and characterization may be required.	Moderate capital; low O&M

[dashed box] Technology / process option eliminated from further consideration.

Table 4-5
Summary of Retained Technologies and Process Options for Groundwater
Feasibility Study Report
Former PSC Site - Rock Hill, SC

General Response Action	Remedial Technology	Process Option
No Action	None	Not Applicable
Institutional Controls	Access and Use Restrictions	Land Use and Deed Restrictions
	Environmental Monitoring	Air, Soil, Sediment, Surface Water, and/or Groundwater Monitoring
Containment	Subsurface Barriers	Physical Control
	Extraction	Extraction Wells
		Subsurface Drains / Horizontal Wells
Treatment	In Situ	Air Sparging
		In-Well Air Stripping
		Enhanced Bioremediation
		Monitored Natural Attenuation
		Chemical Oxidation
		Dual Phase Extraction (DPE)
		Enhanced DPE
		Passive / Reactive Treatment Walls
		Thermal
	Ex Situ	Carbon Adsorption
		Oil-Water Separation
Discharge	On Site	Existing Industrial Treatment System
	Off Site	POTW

Table 4-6
Summary of Retained Technologies and Process Options for Soil
Feasibility Study Report
Former PSC Site - Rock Hill, SC

General Response Action	Remedial Technology	Process Option
No Action	None	Not Applicable
Institutional Controls	Access and Use Restrictions	Land Use and Deed Restrictions
		Fencing
	Environmental Monitoring	Air, Soil, Sediment, Surface Water, and/or Groundwater Monitoring
Containment	Caps	Direct Access Control
		Hydraulic Infiltration Control
	Subsurface Barriers	Hydraulic Control
		Physical Control
	Surface Diversion / Collection	All Processes
Removal	Excavation	All Processes
Treatment	In Situ	Soil Mixing
		Soil Vapor Extraction (SVE)
		Thermal - Electrical Resistance Heating
		Thermal - Thermal Conductive Heating
		Thermal - Steam Injection
	Ex Situ	Incineration
		Biopiles
		Chemical Treatment
		Thermal Desorption
Disposal	Off Site	RCRA Landfill (Hazardous or Non Hazardous)

Table 5-1
Summary of Surface and Subsurface Soil Hot Spot Evaluation
Remedial Investigation Report
September 2008
PSC Site - Rock Hill, South Carolina

		Chemical of Potential Concern									
Region 9 Residential Soil Screening Level		1,2-DCA 0.28 (mg/kg)	1,4-DCB 3.4 (mg/kg)	cis-1,2-DCE 43 (mg/kg)	Benzene 0.64 (mg/kg)	PCE 0.48 (mg/kg)	Toluene 520 (mg/kg)	TCE 0.48 (mg/kg)	VC 0.079 (mg/kg)	Xylenes 270 (mg/kg)	Basis for Identification as a Hot Spot
Hot Spot Location	**Depth (ft)**										
Subsurface Locations											
RISB-25	17-20	45									1,2-DCA
	9-13	24									
RISB-64	5-10	11		58	2.1	7.2		150	0.086		chlorinated VOCs
	10-15	9.3				1.2		16			
	0-5	0.93				1.9		2.7			
RIMW-6	4-6					3.7		3.2	0.37		chlorinated VOCs
(Hot Spot 2)	0-1					0.8					
RISB-12	12-15				5.6		1,900			650	BTEX
RISB-18	1-5	4.8	4.0								chlorinated VOCs
Surface Locations											
RISB-16 (Hot Spot 3)	0-1					2.8					PCE
	1-5					0.88					
SB-6 (Hot Spot 1)	0-1					2.7					PCE

Notes:
Hot spot selection criteria:
Subsurface soil location was selected as a hot spot if: (1) 2 or more chemicals exceeded screening criteria at a given location or (2) if chemical exceeded criteria, the concentration was 10x greater than the screening level.
Surface soil location was selected as a hot spot if residential criteria exceeded.

Table 5-2
Summary of Key Toxicological Properties for Chronic Noncarcinogenic Effects of Study Chemicals - Oral / Dermal
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Study Chemical	ORAL/DERMAL EXPOSURE PATHWAY									
	Chronic Reference Dose (RfD) (mg/(kg/day))	Confidence in Chronic RfD	Subchronic Reference Dose (RfD) (mg/(kg/day))	Medium of Exposure in Critical Study	Species Tested in Critical Study	Effect of Concern in Critical Study	Source of Chronic RfD	Source of Subchronic RfD	Modifying Factor/ Uncertainty Factor
VOCs									
Acetophenone	1.00E-01	Low	1.00E+00	Oral Subchronic Study	rat	General Toxicity	EPA, 2007	EPA, 1997	3000
Benzene	4.00E-03	medium	na	occupational inhalation study	human	Decreased lymphocyte count	EPA, 2007		300
Bromodichloromethane	2.00E-02	medium	2.00E-02	Chronic Mouse Gavage Bioassay	mouse	Renal cytomegaly	EPA, 2007	EPA, 1997	1000
Chlorobenzene	2.00E-02	medium	2.00E-01	13-Week Dog Study, Oral Exposure (capsule)	dog	Histopathologic changes in liver	EPA, 2007	EPA, 1997	1000
Chloroethane	4.00E-01	—	nl	—	—	—	NCEA		—
Chloroform	1.00E-02	medium	1.00E-02	oral (chromic bioassay)	dog	fatty cyst formations in the liver and elevated SGPT	EPA, 2007	EPA, 1997	1000
1,1-Dichloroethane	2.00E-01	—	1.00E-01	—	—	—	EPA PPRV	EPA, 1997	—
1,2-Dichlorobenzene	9.00E-02	low	9.00E-01	Oral Exposure (gavage)	rat	observed	EPA, 2007	EPA, 1997	1000
1,1-Dichloroethene	5.00E-02	medium	9.00E-03	Rat chronic drinking water study	rat	Liver toxicity (fatty change)	EPA, 2007	EPA, 1997	100
1,2-Dichloroethane	na	—	nl	—	—	—	EPA, 2007		—
cis-1,2-Dichloroethene	1.00E-02	---	1.00E-01	---	---	---	EPA PPRV	EPA, 1997	—
1,4-Dichlorobenzene	3.00E-02	---	9.00E-01	---	---	---	NCEA	EPA, 1997	—
Ethylbenzene	1.00E-01	low	1.00E+00	subchronic to chronic oral bioassay	rat	liver/kidney toxicity	EPA, 2007	EPA, 1997	1000
2-Hexanone	—	---	na	---	---	---	EPA, 2007		—
Isopropylbenzene	1.00E-01	low	nl	oral gavage	rat	Increased kidney weight	EPA, 2007		—
4-Methyl-2-pentanone	—	---	8.00E-01	---	---	---	EPA, 2007	EPA, 1997	
Methyl tert butyl ether	na	---	nl	---	---	---	---		—
Methylcyclohexane	na	---	na	---	---	---	---		—
Methylene chloride	6.00E-02	medium	6.00E-02	oral water bioassay	rat	liver toxicity	EPA, 2007	EPA, 1997	100
Tetrachloroethene	1.00E-02	medium	1.00E-01	oral (gavage)	mouse	Hepatotoxicity in mice, weight gain in rats	EPA, 2007	EPA, 1997	1000
Toluene	8.00E-02	medium	2.00E+00	13-week gavage study	rat	Increased kidney weight	EPA, 2007	EPA, 1997	3000
1,1,1-Trichloroethane	2.00E+00	low-medium	9.00E-01	90-Day mouse dietary study	mouse	Reduced body weight	EPA, 2007	EPA, 1997	1000
1,1,2-Trichloroethane	4.00E-03	medium	4.00E-02	Subchronic Drinking Water Study	mouse	Clinical serum chemistry	EPA, 2007	EPA, 1997	1000
Trichloroethene	3.00E-04	---	nl	---	---	---	NCEA		---
Vinyl chloride	3.00E-03	medium	na	Oral	rat/mouse	liver cell polymophism	EPA, 2007		30
Xylenes (Total)	2.00E-01	medium	na	Chronic F344/N rat study (oral)	rat	Decreased body weight, increased mortality	EPA, 2007		1000

Table 5-2
Summary of Key Toxicological Properties for Chronic Noncarcinogenic Effects of Study Chemicals - Oral / Dermal
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Study Chemical	ORAL/DERMAL EXPOSURE PATHWAY									Modifying Factor/ Uncertainty Factor
	Chronic Reference Dose (RfD) (mg/(kg/day))	Confidence in Chronic RfD	Subchronic Reference Dose (RfD) (mg/(kg/day))	Medium of Exposure in Critical Study	Species Tested in Critical Study	Effect of Concern in Critical Study	Source of Chronic RfD	Source of Subchronic RfD		
SVOCs										
2-Chlorophenol	5.00E-03	low	5.00E-02	Sub-Chronic Drinking Water Study	rat	Reproductive Effects	EPA, 2007	EPA, 1997		1000
Bis(2-ethylhexyl)phthalate	2.00E-02	medium	2.00E-02	Sub-chronic-to-Chronic Oral Bioassay	Guinea Pig	increased liver weight	EPA, 2007	EPA, 1997		1000
Naphthalene	2.00E-02	low	na	oral (subchronic)	rat	decreased terminal body weight	EPA, 2007			3000
Metals										
Arsenic	3.00E-04	medium	3.00E-04	oral (drinking water)	human	hyperpigmentation; skin keratosis, vascular complications	EPA, 2007	EPA, 1997		3
Iron	7.00E-01	---	na	---	---	---	NCEA			---
Manganese	2.00E-02	medium	1.40E-01	Chronic Ingestion Data	human	CNS effects	EPA, 2007	EPA, 1997		1
Thallium	7.00E-05	---	nl	---	---	---	Other			---
Vanadium	1.0E-03	---	7.00E-03	---	---	---	NCEA	EPA, 1997		---

Notes:
(na). The chemical is listed, value is not available.
(nl): The chemical is not listed by the reference source.
EPA, 2007. Integrated Risk Information System (IRIS). Chemical-specific database.
NCEA: National Center for Environmental Assessment.
EPA PPRV - EPA Provisional Peer-Reviewed Value. EPA Region 3 RBC Table.
ATSDR MRL (chronic). EPA Region 3 RBC Table.

Table 5-3
Summary of Key Toxicological Properties for Chronic Noncarcinogenic Effects of Study Chemicals - Inhalation
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Study Chemical	INHALATION EXPOSURE PATHWAY											
	Inhalation Chronic Reference Concentration (RfC) (mg/m^3)	Inhalation Chronic Reference Dose (RfD_i) (mg/(kg/day))	Inhalation Subchronic Reference Concentration (RfC) (mg/m^3)	Inhalation Subchronic Reference Dose (RfD_i) (mg/(kg/day))	Source of Chronic Inhalation RfC	Source of Subchronic Inhalation RfC	Date Last Verified	Confidence in RfC	Study Type	Species Tested in Critical Study	Target Organ / Critical Effect	Uncertainty / Modifying Factors
VOCs												
Acetophenone	na	na	na	na	EPA, 2007		---	---	---	---	---	---
Benzene	3.00E-02	8.57E-03	na	na	EPA, 2007		1/26/02	medium	Occupational Inhalation	human	Decreased lymphocyte count	300
Bromodichloromethane	na	na	na	na	EPA, 2007		---	---	---	---	---	---
Chlorobenzene	4.90E-02	1.40E-02	na	na	EPA PPRV		---	---	---	---	---	---
Chloroethane	1.00E+00	2.90E+00	na	na	EPA, 2007		12/20/90	medium	developmental Inhalation study	mouse	Delayed fetal ossification	300
Chloroform	4.90E-02	1.40E-02	na	na	EPA PPRV[1]		---	---	---	---	---	---
1,1-Dichloroethane	4.90E-01	1.40E-01	na	5.00E+00	Heast Alt.	EPA, 1997	---	---	---	---	---	---
1,2-Dichlorobenzene	1.40E-01	4.00E-02	na	na	Heast Alt.		---	---	gavage	rats/mice	Several tumor types	---
1,1-Dichloroethene	2.00E-01	5.70E-02	na	na	EPA, 2007		6/7/02	medium	chronic inhalation study	Rat	Liver toxicity (fatty change)	30
1,2-Dichloroethane	2.45E+00	7.00E-01	nl	nl	ATSDR MRL (chronic)		---	---	---	---	---	---
cis-1,2-Dichloroethene	2.00E-01	5.71E-02	na	na	EPA, 2007		---	---	---	---	---	---
1,4-Dichlorobenzene	8.00E-01	2.29E-01	2.50E+00	7.14E-01	EPA, 2007	EPA, 1997	6/25/92	medium	Multigeneration Reproductive Study	rat	Increased liver weights in P1 males	100
Ethylbenzene	1.00E+00	2.90E-01	na	na	EPA, 2007		3/1/91	low	inhalation study	rat, rabbit	developmental toxicity	300
2-Hexanone	na	na	nl	nl	EPA, 2007		---	---	---	---	---	---
Isopropylbenzene	4.00E-01	1.10E-01	nl	nl	EPA, 2007		6/6/97	medium	inhalation study	rat	increased kidney weights	1000
4-Methyl-2-pentanone	3.00E+00	8.57E-01	na	na	EPA, 2007		4/2/03	Low-Medium	inhalation study	rat, mice	Reduced fetal body weight, skeletal variations, and increased fetal death in mice, and skeletal variations in rats	300
Methyl tert butyl ether	3.00E+00	8.57E-01	nl	nl	EPA, 2007		7/21/93	medium	inhalation study	rat	Increased liver and kidney weights and increased severity of spontaneous renal lesions (females), increased prostration (females), and swollen periocular tissue (males and females)	100
Methylcyclohexane	3.01E+00	8.60E-01	3.00E+00	8.57E-01	Heast Alt.	EPA, 1997	---	---	---	---	---	---
Methylene chloride	1.05E+00	3.00E-01	3.00E+00	8.57E-01	ATSDR MRL (chronic)	EPA, 1997	---	---	---	---	---	---
Tetrachloroethene	3.50E-02	1.00E-02	na	na	ATSDR MRL (chronic)		---	---	---	---	---	---
Toluene	5.00E+00	1.43E+00	na	na	EPA, 2007		8/26/05	high	Occupational Inhalation	human	Neurological effects	10

Table 5-3
Summary of Key Toxicological Properties for Chronic Noncarcinogenic Effects of Study Chemicals - Inhalation
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Study Chemical	INHALATION EXPOSURE PATHWAY											
	Inhalation Chronic Reference Concentration (RfC) (mg/m^3)	Inhalation Chronic Reference Dose (RfD_i) (mg/(kg/day))	Inhalation Subchronic Reference Concentration (RfC) (mg/m^3)	Inhalation Subchronic Reference Dose (RfD_i) (mg/(kg/day))	Source of Chronic Inhalation RfC	Source of Subchronic Inhalation RfC	Date Last Verified	Confidence in RfC	Study Type	Species Tested in Critical Study	Target Organ / Critical Effect	Uncertainty / Modifying Factors
1,1,1-Trichloroethane	5.00E+00	1.43E+00	na	na	EPA, 2007		9/28/07	medium	2 year inhalation study	rat	Liver histopathologic changes	100
1,1,2-Trichloroethane	na	na	na	na	EPA, 2007		---	---	---	---	---	---
Trichloroethene	3.50E-02	1.00E-02	nl	nl	NCEA (1)		---	---	---	---	---	---
Vinyl chloride	1.00E-01	2.86E-02	na	na	EPA, 2007		8/7/00	medium	oral feeding study	rat	liver cell polymorphism	30
Xylenes (Total)	1.00E-01	2.86E-02	na	na	EPA, 2007		1/30/03	medium	inhalation study	rat	Impaired motor coordination	300
SVOCs												
2-Chloropheno	na	na	na	na	EPA, 2007		---	---	---	---	---	---
Bis(2-ethylhexyl)phthalate	na	na	na	na	EPA, 2007		—	—	—	—	—	—
Naphthalene	3.00E-03	9.00E-04	na	na	EPA, 2007		7/1/98	low-med	inhalation study	mouse	Nasal effects	3000
Metals												
Arsenic	na	na	na	na	EPA, 2007		---	---	---	---	---	---
Iron	na	na	na	na	EPA, 2007		---	---	---	---	---	---
Manganese	5.0E-05	1.4E-05	na	na	EPA, 2007		9/23/93	medium	Occupational Inhalation	human	Impairment of neuro-behavioral function	1000
Thallium	na	na	nl	nl	EPA, 2007		---	---	---	---	---	---
Vanadium	na	na	na	na	EPA, 2007		---	---	---	---	---	---

Notes:
(1): Chronic oral RfD was used to calculate the oral RfC.
(2): Chronic oral RfC was used to calculate the oral RfD.
(na): The chemical is listed, value is not available.
(nl): The chemical is not listed.
EPA, 2007. Integrated Risk Information System (IRIS). Chemical-specific database.
NCEA: National Center for Environmental Assessment.
EPA PPRV - EPA Provisional Peer-Reviewed Value. EPA Region 3 RBC Table.
ATSDR MRL (chronic). EPA Region 3 RBC Table.

Table 5-4
Summary of Key Toxicological Properties for Carcinogenic Effects of Study Chemicals - Oral / Dermal
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Study Chemical	Weight-of-Evidence Classification	ORAL/DERMAL EXPOSURE PATHWAY					
		Oral Cancer Slope Factor (CSF) (mg/(kg/day))-1	Source	Date Last Verified	Study Type	Species Tested in Critical Study	Tumor Type in Critical Study
VOCs							
Acetophenone	D	na	EPA, 2007	---	---	---	---
Benzene	A	5.50E-02	EPA, 2007	9/30/98	inhalation occupational study	human	leukemia
Bromodichloromethane	B2	6.20E-02	EPA, 2007	4/2/92	gavage	mouse	Kidney (tubular cell adenoma and tubular cell adenocarcinoma)
Chlorobenzene	D	na	EPA, 2007	---	---	---	---
Chloroethane	ne	2.90E-03	NCEA	---	---	---	---
Chloroform	B2	1.00E-02	EPA, 2007	---	---	---	---
1,1-Dichloroethane	C	na	EPA, 2007	12/7/89	bioassay	female rat	mammary gland adenocarcinomas and hemangiosarcomas
1,2-Dichlorobenzene	D	na	EPA, 2007	12/6/89	---	---	---
1,1-Dichloroethene	C	na	EPA, 2007	---	---	---	---
1,2-Dichloroethane	B2	9.10E-02	EPA, 2007	12/5/86	gavage	rat/Osborne-Mendel, male	hemangiosarcomas
cis 1,2-Dichloroethene	D	na	EPA, 2007	9/7/89	---	---	---
1,4-Dichlorobenzene	ne	2.40E-02	Heast Alt.	---	---	---	---
Ethylbenzene	D	na	EPA, 2007	10/7/87	- - -	- - -	- - -
2-Hexanone	na	na	EPA, 2007	---	- - -	- - -	- - -
Isopropylbenzene	D	na	EPA, 2007	6/6/97	- - -	- - -	- - -
4-Methyl-2-pentanone	na	na	EPA, 2007	---	- - -	- - -	- - -
Methyl tert butyl ether	na	4.00E-03	Other	---	- - -	- - -	- - -
Methylcyclohexane	na	na	EPA, 2007	---	- - -	- - -	- - -
Methylene chloride	B2	7.50E-03	EPA, 2007	1/31/91	Drinking water	rats	hepatocellular carcinoma and neoplastic nodules
Tetrachloroethene	na	5.40E-01	Other	- - -	- - -	- - -	- - -
Toluene	na	ne	EPA, 2007	- - -	- - -	- - -	- - -

Table 5-4
Summary of Key Toxicological Properties for Carcinogenic Effects of Study Chemicals - Oral / Dermal
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Study Chemical	Weight-of-Evidence Classification	ORAL/DERMAL EXPOSURE PATHWAY					
		Oral Cancer Slope Factor (CSF) (mg/(kg/day))-1	Source	Date Last Verified	Study Type	Species Tested in Critical Study	Tumor Type in Critical Study
1,1,1-Trichloroethane	D	na	EPA, 2007	8/5/87	---	---	---
1,1,2-Trichloroethane	C	5.70E-02	EPA, 2007	7/23/86	gavage	Mouse/B6C3F1	hepatocellular carcinoma
Trichloroethene	na	4.00E-01	NCEA	---	---	---	---
Vinyl chloride	A	7.20E-01	EPA, 2007	8/6/96	occupational	human	angiosarcoma
Xylenes (Total)	ne	na	EPA, 2007	---	---	---	---
SVOCs							
2-Chlorophenol	na	ne	EPA, 2007	---	---	---	---
Bis(2-ethylhexyl)phthalate	B2	1.40E-02	EPA, 2007	10/7/87	diet	mouse	hepatocellular carcinoma and adenoma
Naphthalene	C	na	EPA, 2007	---	---	---	---
Metals							
Arsenic	A	1.50E+00	EPA, 2007	4/9/84	oral (drinking water)	human	skin cancer
Iron	na	na	EPA, 2007	---	---	---	---
Manganese	D	na	EPA, 2007		---	---	---
Thallium	na	na	EPA, 2007	---	---	---	---
Vanadium	ne	na	EPA, 2007	---	---	---	---

Notes:
(na): The chemical is listed, value is not available.
(ne): The compound has not been evaluated by EPA for evidence of human carcinogenicity.
(nl): The chemical is not listed by the reference source.
EPA, 2007. Integrated Risk Information System (IRIS). Chemical-specific database.
NCEA: National Center for Environmental Assessment.
EPA PPRV - EPA Provisional Peer-Reviewed Value. EPA Region 3 RBC Table.
ATSDR MRL (chronic). EPA Region 3 RBC Table.

Table 5-5
Summary of Key Toxicological Properties for Carcinogenic Effects of Study Chemicals - Inhalation
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Study Chemical	Weight-of-Evidence Classification	*INHALATION EXPOSURE PATHWAY*					
		Inhalation Unit Risk Factor (UR) $(ug/m3)^{-1}$	Cancer Slope Factor (CSF) $(mg/(kg/day))^{-1}$	Medium of Exposure Study	Species Tested in Critical Study	Type of Cancer in Critical Study	Inhalation Unit Risk Source
VOCs							
Acetophenone	D	na	na	---	---	---	EPA, 2007
Benzene	A	5.00E-06	2.70E-02	inhalation	human	leukemia	EPA, 2007
Bromodichloromethane	B2	na	na	---	---	---	EPA, 2007
Chlorobenzene	D	na	na	---	---	---	EPA, 2007
Chloroethane	ne	na	na	---	---	---	EPA, 2007
Chloroform	B2	2.30E-05	8.10E-02	Oral (gavage)	mouse	hepatocellular carcinoma	EPA, 2007
1,1-Dichloroethane	C	na	na	bioassay	female rat	adenocarcinomas and hemangiosarcomas	EPA, 2007
1,2-Dichlorobenzene	D	na	na	---	---	---	EPA, 2007
1,1-Dichloroethene	C	na	na	---	---	---	EPA, 2007
1,2-Dichloroethane	B2	2.60E-05	9.10E-02	gavage	male	hemangiosarcomas	EPA, 2007
cis-1,2-Dichloroethene	D	na	na	- - -	- - -	- - -	EPA, 2007
1,4-Dichlorobenzene	ne	6.29E-06	2.20E-02				NCEA
Ethylbenzene	D	na	na	- - -	- - -	- - -	EPA, 2007
2-Hexanone	na	na	na	- - -	- - -	- - -	EPA, 2007
Isopropylbenzene	D	na	na	- - -	- - -	- - -	EPA, 2007
4-Methyl-2-pentanone	na	na	na	- - -	- - -	- - -	EPA, 2007
Methyl tert butyl ether	na	na	na	- - -	- - -	- - -	EPA, 2007
Methylcyclohexane	na	na	na	- - -	- - -	- - -	EPA, 2007
Methylene chloride	B2	4.70E-07	1.65E-03	inhalation	mouse	carcinomas	EPA, 2007
Tetrachloroethene	na	6.00E-06	2.10E-02	---	- - -	- - -	Other
Toluene	na	ne	na	---	- - -	- - -	EPA, 2007
1,1,1-Trichloroethane	D	na	na	---	- - -	- - -	EPA, 2007
1,1,2-Trichloroethane	C	1.60E-05	5.60E-02	gavage	Mouse/B6C3F1	hepatocellular carcinoma	EPA, 2007
Trichloroethene	na	1.10E-04	3.85E-01	- - -	- - -	- - -	NCEA [1]
Vinyl chloride	A	4.40E-06	1.54E-02	inhalation	rats	liver angiosarcomas,	EPA, 2007
Xylenes (Total)	ne	na	na	---	---	---	EPA, 2007

Table 5-5

Summary of Key Toxicological Properties for Carcinogenic Effects of Study Chemicals - Inhalation

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Study Chemical	Weight-of-Evidence Classification	*INHALATION EXPOSURE PATHWAY*					
		Inhalation Unit Risk Factor (UR) $(ug/m3)^{-1}$	Cancer Slope Factor (CSF) $(mg/(kg/day))^{-1}$	Medium of Exposure Study	Species Tested in Critical Study	Type of Cancer in Critical Study	Inhalation Unit Risk Source
SVOCs							
2-Chlorophenol	na	ne	na	---	---	---	EPA, 2007
Bis(2-ethylhexyl)phthalate	B2	na	na	---	---	---	EPA, 2007
Naphthalene	C	na	na	---	---	---	EPA, 2007
Metals							
Arsenic	A	4.30E-03	1.51E+01	occupational inhalation	human, male	lung cancer	EPA, 2007
Iron	na	na	na	---	---	---	EPA, 2007
Manganese	D	na	na	---	---	---	EPA, 2007
Thallium	na	na	na	---	---	---	EPA, 2007
Vanadium	ne	na	na	---	---	---	EPA, 2007

Notes
(1). The Inhalation Unit Risk factor was extrapolated from the Cancer Slope Factor.
(2): The Cancer Slope Factor was extrapolated from the Inhalation Unit Risk factor.
(na) The chemical is listed, value is not available.
(nl): The chemical is not listed by the reference source.
EPA, 2007. Integrated Risk Information System (IRIS). Chemical-specific database.
NCEA: National Center for Environmental Assessment.
EPA PPRV - EPA Provisional Peer-Reviewed Value. EPA Region 3 RBC Table.
ATSDR MRL (chronic). EPA Region 3 RBC Table.

Table 5-6
Risk and Hazard Evaluation
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	Excess Lifetime Cancer Risk (1)	Percent Distribution of Risk by Pathway	Exceeds Acceptable Risk Range?	Hazard Index (2)	Percent Distribution of Risk by Pathway	Exceeds Noncancer HI Threshold?
CURRENT EXPOSURE TO CHEMICALS SURFACE SOIL (EXCLUDING HOT SPOTS AND BENEATH STRUCTURES) AND GROUNDWATER						
O&M Worker						
Ingestion of Surface Soil	5E-07	0%		3E-01	33%	
Dermal Contact with Surface Soil	2E-07	0%		2E-01	22%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	6E-10	0%		3E-03	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	NA	0%		NA	0%	
Dermal Contact with All Groundwater	NA	0%		NA	0%	
Inhalation of Indoor Air, Shallow Groundwater	9E-05	99%		3E-01	45%	
Total Risk =	**9E-05**		**No**	**0.8**		**No**
Trespasser						
Ingestion of Surface Soil	7E-07	67%		8E-01	57%	
Dermal Contact with Surface Soil	3E-07	32%		6E-01	43%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	7E-10	0%		1E-03	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	NA	0%		NA	0%	
Dermal Contact with All Groundwater	NA	0%		NA	0%	
Inhalation of Indoor Air, Shallow Groundwater	NA	0%		NA	0%	
Total Risk =	**1E-06**		**No**	**1**		**No**
CURRENT EXPOSURE TO CHEMICALS IN HOT SPOT 1 SURFACE SOIL AND GROUNDWATER						
O&M Worker						
Ingestion of Surface Soil	5E-07	0%		3 E-01	35%	
Dermal Contact with Surface Soil	2E-07	0%		2E-01	23%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	4E-10	0%		1E-02	2%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	NA	0%		NA	0%	
Dermal Contact with All Groundwater	NA	0%		NA	0%	
Inhalation of Indoor Air, Shallow Groundwater	9E-05	99%		3E-01	41%	
Total Risk =	**9E-05**		**No**	**0.8**		**No**
FUTURE EXPOSURE TO CHEMICALS IN HOT SPOT 1 SURFACE SOIL AND GROUNDWATER						
Industrial Worker						
Ingestion of Surface Soil	8E-07	0%		5E-01	1%	
Dermal Contact with Surface Soil	3E-07	0%		3E-01	1%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	6E-07	0%		2E-02	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	5E-03	49%		3E+01	49%	
Dermal Contact with All Groundwater	5E-03	49%		3E+01	49%	
Inhalation of Indoor Air, Shallow Groundwater	2E-04	2%		6E-01	1%	
Total Risk =	**9E-03**		**Yes**	**63**		**Yes**
Resident						
Ingestion of Surface Soil	7E-06	0%		1E+01	3%	
Dermal Contact with Surface Soil	7E-07	0%		2E+00	0%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	2E-06	0%		7E-02	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	2E-02	50%		2E+02	48%	
Dermal Contact with All Groundwater	2E-02	50%		2E+02	48%	
Inhalation of Indoor Air, Shallow Groundwater	3E-04	1%		8E-01	0%	
Total Risk =	**3E-02**		**Yes**	**409**		**Yes**

Table 5-6
Risk and Hazard Evaluation
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	Excess Lifetime Cancer Risk (1)	Percent Distribution of Risk by Pathway	Exceeds Acceptable Risk Range?	Hazard Index (2)	Percent Distribution of Risk by Pathway	Exceeds Noncancer HI Threshold?
CURRENT/FUTURE EXPOSURE TO CHEMICALS IN HOT SPOT 1 SURFACE SOIL AND GROUNDWATER						
Trespasser / Recreational						
Ingestion of Surface Soil	7E-07	62%		9E-01	57%	
Dermal Contact with Surface Soil	4E-07	32%		7E-01	43%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	7E-08	7%		5E-03	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	NA	0%		NA	0%	
Dermal Contact with All Groundwater	NA	0%		NA	0%	
Inhalation of Indoor Air, Shallow Groundwater	NA	0%		NA	0%	
Total Risk =	**1E-06**		**No**	**2**		**Yes**
CURRENT EXPOSURE TO CHEMICALS IN HOT SPOT 2 SURFACE SOIL AND GROUNDWATER						
O&M Worker						
Ingestion of Surface Soil	5E-08	0%		2 E-05	0%	
Dermal Contact with Surface Soil	2E-08	0%		1E-05	0%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	2E-13	0%		1E-03	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	NA	0%		NA	0%	
Dermal Contact with All Groundwater	NA	0%		NA	0%	
Inhalation of Indoor Air, Shallow Groundwater	9E-05	100%		3E-01	100%	
Total Risk =	**9E-05**		**No**	**0.3**		**No**
FUTURE EXPOSURE TO CHEMICALS IN HOT SPOT 2 SURFACE SOIL AND GROUNDWATER						
Industrial Worker						
Ingestion of Surface Soil	8E-08	0%		4E-05	0%	
Dermal Contact with Surface Soil	4E-08	0%		2E-05	0%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	2E-07	0%		2E-03	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	5E-03	49%		3E+01	50%	
Dermal Contact with All Groundwater	5E-03	49%		3E+01	50%	
Inhalation of Indoor Air, Shallow Groundwater	2E-04	2%		6E-01	1%	
Total Risk =	**9E-03**		**Yes**	**62**		**Yes**
Resident						
Ingestion of Surface Soil	7E-07	0%		1E-03	0%	
Dermal Contact with Surface Soil	8E-08	0%		1E-04	0%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	6E-07	0%		8E-03	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	2E-02	50%		2E+02	50%	
Dermal Contact with All Groundwater	2E-02	50%		2E+02	50%	
Inhalation of Indoor Air, Shallow Groundwater	3E-04	1%		8E-01	0%	
Total Risk =	**3E-02**		**Yes**	**395**		**Yes**
CURRENT/FUTURE EXPOSURE TO CHEMICALS IN HOT SPOT 2 SURFACE SOIL AND GROUNDWATER						
Trespasser / Recreational						
Ingestion of Surface Soil	7E-08	46%		8E-05	10%	
Dermal Contact with Surface Soil	6E-08	39%		4E-05	6%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	2E-08	15%		6E-04	84%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	NA	0%		NA	0%	
Dermal Contact with All Groundwater	NA	0%		NA	0%	
Inhalation of Indoor Air, Shallow Groundwater	NA	0%		NA	0%	
Total Risk =	**2E-07**		**No**	**0.0007**		**No**

Table 5-6
Risk and Hazard Evaluation
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	Excess Lifetime Cancer Risk (1)	Percent Distribution of Risk by Pathway	Exceeds Acceptable Risk Range?	Hazard Index (2)	Percent Distribution of Risk by Pathway	Exceeds Noncancer HI Threshold?
FUTURE EXPOSURE TO CHEMICALS IN HOT SPOT 3 SURFACE SOIL AND GROUNDWATER						
Trespasser / Recreational						
Ingestion of Surface Soil	7E-07	61%		2E+00	57%	
Dermal Contact with Surface Soil	3E-07	32%		2E+00	43%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	8E-08	7%		7E-03	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	NA	0%		NA	0%	
Dermal Contact with All Groundwater	NA	0%		NA	0%	
Inhalation of Indoor Air, Shallow Groundwater	NA	0%		NA	0%	
Total Risk =	**1E-06**		**No**	**4**		**Yes**
Industrial Worker						
Ingestion of Surface Soil	7E-07	0%		1E+00	2%	
Dermal Contact with Surface Soil	3E-07	0%		7E-01	1%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	6E-07	0%		3E-02	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	5E-03	49%		3E+01	48%	
Dermal Contact with All Groundwater	5E-03	49%		3E+01	48%	
Inhalation of Indoor Air, Shallow Groundwater	2E-04	2%		6E-01	1%	
Total Risk =	**9E-03**		**Yes**	**63**		**Yes**
Resident						
Ingestion of Surface Soil	7E-06	0%		2E+01	5%	
Dermal Contact with Surface Soil	7E-07	0%		3E+00	1%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	2E-06	0%		9E-02	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	2E-02	50%		2E+02	47%	
Dermal Contact with All Groundwater	2E-02	50%		2E+02	47%	
Inhalation of Indoor Air, Shallow Groundwater	3E-04	1%		8E-01	0%	
Total Risk =	**3E-02**		**Yes**	**419**		**Yes**
FUTURE EXPOSURE TO CHEMICALS IN SURFACE SOIL (EXCLUDING HOT SPOTS) AND GROUNDWATER						
Industrial Worker						
Ingestion of Surface Soil	7E-07	0%		4E-01	1%	
Dermal Contact with Surface Soil	3E-07	0%		3E-01	0%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	2E-07	0%		6E-03	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	5E-03	49%		3E+01	49%	
Dermal Contact with All Groundwater	5E-03	49%		3E+01	49%	
Inhalation of Indoor Air, Shallow Groundwater	2E-04	2%		6E-01	1%	
Total Risk =	**9E-03**		**Yes**	**62**		**Yes**
Trespasser / Recreational						
Ingestion of Surface Soil	7E-07	62%		8E-01	57%	
Dermal Contact with Surface Soil	3E-07	32%		6E-01	43%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	6E-08	6%		2E-03	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	NA	0%		NA	0%	
Dermal Contact with All Groundwater	NA	0%		NA	0%	
Inhalation of Indoor Air, Shallow Groundwater	NA	0%		NA	0%	
Total Risk =	**1E-06**		**No**	**1**		**No**
Resident						
Ingestion of Surface Soil	7E-06	0%		1E+01	3%	
Dermal Contact with Surface Soil	1E-06	0%		2E+00	0%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	2E-06	0%		2E-02	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	2E-02	50%		2E+02	48%	
Dermal Contact with All Groundwater	2E-02	50%		2E+02	48%	
Inhalation of Indoor Air, Shallow Groundwater	3E-04	1%		8E-01	0%	
Total Risk =	**3E-02**		**Yes**	**408**		**Yes**

Table 5-6
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	Excess Lifetime Cancer Risk (1)	Percent Distribution of Risk by Pathway	Exceeds Acceptable Risk Range?	Hazard Index (2)	Percent Distribution of Risk by Pathway	Exceeds Noncancer HI Threshold?
FUTURE EXPOSURE TO CHEMICALS IN SUBSURFACE SOIL (EXCLUDING HOT SPOTS) AND GROUNDWATER						
Excavation Worker						
Ingestion of Subsurface Soil	1E-07	45%		5E+00	90%	
Dermal Contact with Subsurface Soil	8E-09	3%		5E-01	9%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	3E-08	11%		1E-02	0%	
Inhalation of Ambient Air, Shallow Groundwater	1E-07	42%		4E-02	1%	
Ingestion of All Groundwater	NA	0%		NA	0%	
Dermal Contact with All Groundwater	NA	0%		NA	0%	
Inhalation of Indoor Air, Shallow Groundwater	NA	0%		NA	0%	
Total Risk =	**3E-07**		**No**	**5**		**Yes**
Industrial Worker						
Ingestion of Subsurface Soil	5E-07	0%		3E+00	5%	
Dermal Contact with Subsurface Soil	2E-07	0%		2E+00	3%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	7E-07	0%		1E-02	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	5E-03	49%		3E+01	46%	
Dermal Contact with All Groundwater	5E-03	49%		3E+01	46%	
Inhalation of Indoor Air, Shallow Groundwater	2E-04	2%		6E-01	1%	
Total Risk =	**9E-03**		**Yes**	**67**		**Yes**
Resident						
Ingestion of Subsurface Soil	4E-06	0%		8E+01	16%	
Dermal Contact with Subsurface Soil	1E-06	0%		1E+01	2%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	4E-06	0%		5E-02	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	2E-02	50%		2E+02	41%	
Dermal Contact with All Groundwater	2E-02	50%		2E+02	41%	
Inhalation of Indoor Air, Shallow Groundwater	3E-04	1%		8E-01	0%	
Total Risk =	**3E-02**		**Yes**	**486**		**Yes**
FUTURE EXPOSURE TO CHEMICALS IN HOT SPOT RIMW-6 SUBSURFACE SOIL AND GROUNDWATER						
Industrial Worker						
Ingestion of Subsurface Soil	6E-07	0%		7E-03	0%	
Dermal Contact with Subsurface Soil	3E-07	0%		3E-03	0%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	1E-05	0%		3E-02	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	5E-03	49%		3E+01	50%	
Dermal Contact with All Groundwater	5E-03	49%		3E+01	50%	
Inhalation of Indoor Air, Shallow Groundwater	2E-04	2%		6E-01	1%	
Total Risk =	**9E-03**		**Yes**	**62**		**Yes**
Excavation Worker						
Ingestion of Subsurface Soil	2E-07	22%		4E-02	33%	
Dermal Contact with Subsurface Soil	1E-08	2%		3E-03	2%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	5E-07	62%		3E-02	29%	
Inhalation of Ambient Air, Shallow Groundwater	1E-07	15%		4E-02	36%	
Ingestion of All Groundwater	NA	0%		NA	0%	
Dermal Contact with All Groundwater	NA	0%		NA	0%	
Inhalation of Indoor Air, Shallow Groundwater	NA	0%		NA	0%	
Total Risk =	**8E-07**		**No**	**0.1**		**No**
Resident						
Ingestion of Subsurface Soil	6E-06	0%		2E-01	0%	
Dermal Contact with Subsurface Soil	3E-06	0%		1E-02	0%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	8E-05	0%		1E-01	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	2E-02	49%		2E+02	50%	
Dermal Contact with All Groundwater	2E-02	49%		2E+02	50%	
Inhalation of Indoor Air, Shallow Groundwater	3E-04	1%		8E-01	0%	
Total Risk =	**3E-02**		**Yes**	**395**		**Yes**

Table 5-6
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	Excess Lifetime Cancer Risk (1)	Percent Distribution of Risk by Pathway	Exceeds Acceptable Risk Range?	Hazard Index (2)	Percent Distribution of Risk by Pathway	Exceeds Noncancer HI Threshold?
FUTURE EXPOSURE TO CHEMICALS IN HOT SPOT RISB-12 SUBSURFACE SOIL AND GROUNDWATER						
Industrial Worker						
Ingestion of Subsurface Soil	5E-07	0%		5E-01	1%	
Dermal Contact with Subsurface Soil	2E-07	0%		4E-01	1%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	2E-06	0%		3E-01	1%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	5E-03	49%		3E+01	49%	
Dermal Contact with All Groundwater	5E-03	49%		3E+01	49%	
Inhalation of Indoor Air, Shallow Groundwater	2E-04	2%		6E-01	1%	
Total Risk =	**9E-03**		**Yes**	**63**		**Yes**
Excavation Worker						
Ingestion of Subsurface Soil	1E-07	37%		3E+00	81%	
Dermal Contact with Subsurface Soil	7E-09	2%		3E-01	8%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	1E-07	28%		3E-01	10%	
Inhalation of Ambient Air, Shallow Groundwater	1E-07	33%		4E-02	1%	
Ingestion of All Groundwater	NA	0%		NA	0%	
Dermal Contact with All Groundwater	NA	0%		NA	0%	
Inhalation of Indoor Air, Shallow Groundwater	NA	0%		NA	0%	
Total Risk =	**3E-07**		**No**	**3**		**Yes**
Resident						
Ingestion of Subsurface Soil	4E-06	0%		1E+01	3%	
Dermal Contact with Subsurface Soil	4E-07	0%		2E+00	0%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	8E-06	0%		1E+00	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	2E-02	50%		2E+02	48%	
Dermal Contact with All Groundwater	2E-02	50%		2E+02	48%	
Inhalation of Indoor Air, Shallow Groundwater	3E-04	1%		8E-01	0%	
Total Risk =	**3E-02**		**Yes**	**412**		**Yes**
FUTURE EXPOSURE TO CHEMICALS IN HOT SPOT RISB-18 SUBSURFACE SOIL AND GROUNDWATER						
Industrial Worker						
Ingestion of Subsurface Soil	3E-07	0%		2E-01	0%	
Dermal Contact with Subsurface Soil	1E-07	0%		1E-01	0%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	5E-06	0%		8E-03	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	5E-03	49%		3E+01	49%	
Dermal Contact with All Groundwater	5E-03	49%		3E+01	49%	
Inhalation of Indoor Air, Shallow Groundwater	2E-04	2%		6E-01	1%	
Total Risk =	**9E-03**		**Yes**	**62**		**Yes**
Excavation Worker						
Ingestion of Subsurface Soil	1E-07	24%		1E+00	88%	
Dermal Contact with Subsurface Soil	5E-09	1%		1E-01	9%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	2E-07	47%		8E-03	1%	
Inhalation of Ambient Air, Shallow Groundwater	1E-07	28%		4E-02	3%	
Ingestion of All Groundwater	NA	0%		NA	0%	
Dermal Contact with All Groundwater	NA	0%		NA	0%	
Inhalation of Indoor Air, Shallow Groundwater	NA	0%		NA	0%	
Total Risk =	**4E-07**		**No**	**1**		**No**
Resident						
Ingestion of Subsurface Soil	6E-06	0%		6E+00	1%	
Dermal Contact with Subsurface Soil	8E-06	0%		8E-01	0%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	3E-05	0%		3E-02	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	2E-02	50%		2E+02	49%	
Dermal Contact with All Groundwater	2E-02	50%		2E+02	49%	
Inhalation of Indoor Air, Shallow Groundwater	3E-04	1%		8E-01	0%	
Total Risk =	**3E-02**		**Yes**	**401**		**Yes**

Table 5-6
Risk and Hazard Evaluation
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	Excess Lifetime Cancer Risk [1]	Percent Distribution of Risk by Pathway	Exceeds Acceptable Risk Range?	Hazard Index [2]	Percent Distribution of Risk by Pathway	Exceeds Noncancer HI Threshold?
FUTURE EXPOSURE TO CHEMICALS IN HOT SPOT RISB-25 SUBSURFACE SOIL AND GROUNDWATER						
Industrial Worker						
Ingestion of Subsurface Soil	8E-07	0%		2E-01	0%	
Dermal Contact with Subsurface Soil	3E-07	0%		2E-01	0%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	3E-05	0%		1E-02	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	5E-03	49%		3E+01	49%	
Dermal Contact with All Groundwater	5E-03	49%		3E+01	49%	
Inhalation of Indoor Air, Shallow Groundwater	2E-04	2%		6E-01	1%	
Total Risk =	**9E-03**		**Yes**	**62**		**Yes**
Excavation Worker						
Ingestion of Subsurface Soil	4E-07	22%		1E+00	88%	
Dermal Contact with Subsurface Soil	3E-08	2%		1E-01	9%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	1E-06	70%		1E-02	1%	
Inhalation of Ambient Air, Shallow Groundwater	1E-07	6%		4E-02	3%	
Ingestion of All Groundwater	NA	0%		NA	0%	
Dermal Contact with All Groundwater	NA	0%		NA	0%	
Inhalation of Indoor Air, Shallow Groundwater	NA	0%		NA	0%	
Total Risk =	**2E-06**		**No**	**2**		**Yes**
Resident						
Ingestion of Subsurface Soil	4E-05	0%		6E+00	2%	
Dermal Contact with Subsurface Soil	7E-05	0%		9E-01	0%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	2E-04	1%		3E-02	0%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	2E-02	49%		2E+02	49%	
Dermal Contact with All Groundwater	2E-02	49%		2E+02	49%	
Inhalation of Indoor Air, Shallow Groundwater	3E-04	1%		8E-01	0%	
Total Risk =	**3E-02**		**Yes**	**402**		**Yes**
FUTURE EXPOSURE TO CHEMICALS IN HOT SPOT RISB-64 SUBSURFACE SOIL AND GROUNDWATER						
Industrial Worker						
Ingestion of Subsurface Soil	2E-05	0%		3E-01	0%	
Dermal Contact with Subsurface Soil	9E-06	0%		1E-01	0%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	5E-04	5%		7E-01	1%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	5E-03	46%		3E+01	49%	
Dermal Contact with All Groundwater	5E-03	46%		3E+01	49%	
Inhalation of Indoor Air, Shallow Groundwater	2E-04	2%		6E-01	1%	
Total Risk =	**1E-02**		**Yes**	**63**		**Yes**
Excavation Worker						
Ingestion of Subsurface Soil	5E-06	18%		2E+00	66%	
Dermal Contact with Subsurface Soil	3E-07	1%		1E-01	5%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	2E-05	81%		7E-01	28%	
Inhalation of Ambient Air, Shallow Groundwater	1E-07	0%		4E-02	2%	
Ingestion of All Groundwater	NA	0%		NA	0%	
Dermal Contact with All Groundwater	NA	0%		NA	0%	
Inhalation of Indoor Air, Shallow Groundwater	NA	0%		NA	0%	
Total Risk =	**3E-05**		**No**	**2**		**Yes**
Resident						
Ingestion of Subsurface Soil	2E-04	0%		7E+00	2%	
Dermal Contact with Subsurface Soil	4E-05	0%		7E-01	0%	
Inhalation of Fugitive Dust and Vapors of Soil Origin	2E-03	5%		2E+00	1%	
Inhalation of Ambient Air, Shallow Groundwater	NA	0%		NA	0%	
Ingestion of All Groundwater	2E-02	47%		2E+02	49%	
Dermal Contact with All Groundwater	2E-02	47%		2E+02	49%	
Inhalation of Indoor Air, Shallow Groundwater	3E-04	1%		8E-01	0%	
Total Risk =	**4E-02**		**Yes**	**405**		**Yes**

1 EPA's target risk range is $1E^{-6}$ to $1E^{-4}$

2: EPA's noncancer threshold is 1.

CDM

Table 5-7
Final Chemicals of Concern (COCs)
Remedial Investigation Report
September 2008
PSC Site - Rock Hill, South Carolina

Soil COCs	Selection Rationale
Metals	
Chromium	Exceeds SSL
Iron	Exceeds Non-Cancer HI of 1.0
Manganese	Exceeds Non-Cancer HI of 1.0
Nickel	Exceeds SSL
Thallium	Exceeds Non-Cancer HI of 1.0
Vanadium	Exceeds Non-Cancer HI of 1.0
SVOCs	
N-Nitrosodiphenylamine	Exceeds SSL
VOCs	
1,1,1-Trichloroethane	Exceeds SSL
1,1,2-Trichloroethane	Exceeds SSL
1,1-Dichloroethene	Exceeds SSL
1,2,4-Trichlorobenzene	Exceeds SSL
1,2-Dichlorobenzene	Exceeds SSL
1,2-Dichloroethane	Exceeds Cancer Risk Range
1,4-Dichlorobenzene	Exceeds SSL
Acetone	Exceeds SSL
Benzene	Exceeds SSL
Chlorobenzene	Exceeds SSL
Chloroform	Exceeds SSL
cis-1,2-Dichloroethene	Exceeds SSL
Ethylbenzene	Exceeds SSL
Methylene chloride	Exceeds SSL
Tetrachloroethene	Exceeds Cancer Risk Range
Toluene	Exceeds SSL
Trichloroethene	Exceeds Cancer Risk Range
Vinyl chloride	Exceeds SSL
Xylenes (Total)	Exceeds SSL

Groundwater COCs	Selection Rationale
Metals	
Manganese	Exceeds Non-Cancer HI of 1.0
VOCs	
1,1,1-Trichloroethane	Exceeds MCL
1,1,2-Trichloroethane	Exceeds MCL
1,1-Dichloroethene	Exceeds MCL
1,2,4-Trichlorobenzene	Exceeds MCL
1,2-Dichlorobenzene	Exceeds MCL
1,2-Dichloroethane	Exceeds Cancer Risk Range
1,4-Dichlorobenzene	Exceeds Cancer Risk Range
Benzene	Exceeds Cancer Risk Range
Carbon Tetrachloride	Exceeds MCL
Chloroethane	Exceeds Non-Cancer HI of 1.0
cis-1,2-Dichloroethene	Exceeds Cancer Risk Range
Ethylbenzene	Exceeds Non-Cancer HI of 1.0
Isopropylbenzene	Exceeds Non-Cancer HI of 1.0
Methylene chloride	Exceeds Cancer Risk Range
Tetrachloroethene	Exceeds Cancer Risk Range
Toluene	Exceeds Non-Cancer HI of 1.0
Trichloroethene	Exceeds Cancer Risk Range
Vinyl chloride	Exceeds Cancer Risk Range
Xylenes (Total)	Exceeds Non-Cancer HI of 1.0

Notes:
HI - Hazard Index
MCL - EPA Maximum Contaminant Level
SSL - EPA Region 9 Soil Screening Level with a Dilution Attenuation Factor of 20
SVOCs - Semi-Volatile Organic Compounds
VOCs - Volatile Organic Compounds

Table 6-1
Summary of Groundwater Alternatives Evaluation
Feasibility Study Report
Former PSC Site - Rock Hill, SC

	Threshold Criteria		Balancing Criteria					
						Implementability		
Remedial Alternative	Overall Protection of Human Health and the Environment	Compliance with ARARs	Long-Term Effectiveness and Permanence	Reduction of M/T/V Through Treatment	Short-Term Effectiveness	Technical / Engineering Considerations	Estimated Time for Implementation after ROD (years)	Cost (Approximate Total Present Worth)
1 - No Action	There is no increased protection to human health and the environment under this alternative.	Chemical-specific ARARs will not be met. Action- and location-specific ARARs are not applicable.	This alternative has no long-term effectiveness as contaminants remain accessible at the site	No additional reduction of M/T/V is expected.	This alternative poses no short-term risks	None.	< 1	$420,000
2 - Institutional Controls	This alternative would be protective of human health and the environment because it reduces access to contaminants at the site, thus limiting potential exposures.	Chemical-specific ARARs will not be met Action- and location-specific ARARs are not applicable	This alternative will be effective as long as institutional controls are maintained and monitoring is conducted to ensure that additional risks do not arise	No additional reduction of M/T/V is expected	This alternative poses no short-term risks.	None.	1	$1,673,000
3 - Hydraulic Containment	This alternative would be protective of human health because it reduces mobilization of contaminants to other areas.	Contaminants above chemical-specific ARARs would still exist under this alternative, but migration would be limited Action- and location- specific ARARs are expected to be met.	RGs would not be met on site but the containment system would minimize the mobility of contaminants so that they cannot migrate off site Long-term extraction and groundwater treatment would be required.	Mobility would be limited but toxicity and volume reductions would be minimal and only occur through above ground treatment of extracted groundwater	Minimal short-term risks are expected under this alternative Groundwater extraction and treatment would continue for more than 30 years	None	1	$7,695,000
4 - In Situ Chemical Oxidation	This alternative would protect human health and the environment by treating contaminants to below RGs and minimizing mobilization of contaminated groundwater in bedrock.	Action- and location-specific ARARs are applicable and expected to be met. Chemical-specific ARARs would likely be met in regolith but the time frame is uncertain for contaminant concentration reduction through monitored natural attenuation (MNA) following chemical oxidation	Organic contaminants would be permanently destroyed with chem-ox but multiple injections may be required in high concentration areas. MNA may be effective following injections, but the time frame is not certain for contaminant destruction to meet RGs	The toxicity and volume of contaminants would be significantly reduced in the regolith zone The mobility of bedrock groundwater would be reduced and the toxicity and volume of bedrock contaminants would be expected to decline following chem ox in the regolith zone.	Workers would be exposed to moderate risk due to chemical handling Treatment will likely last 2-4 years, depending on the amount of injections required	Bench- and pilot-scale testing would be required Subsurface heterogeneities would make effective dispersion of oxidants difficult	4	$32,029,000
5 - In Situ Air Sparging	This alternative would protect human health and the environment by treating contaminants to below RGs and minimizing mobilization of contaminated groundwater in bedrock	Action- and location-specific ARARs are applicable and expected to be met Chemical-specific ARARs would likely be met in regolith but the time frame is uncertain for contaminant concentration reduction through MNA following air sparging	Organic contaminants would be not be destroyed, but would be mobilized into the vadose zone where they would be removed with soil vapor extraction (SVE) MNA may be effective following air sparging, but the timeframe is not certain for contaminant destruction to meet RGs.	The toxicity and volume of contaminants would be significantly reduced in the regolith zone. The mobility of bedrock groundwater would be reduced and the toxicity and volume of bedrock contaminants would be expected to decline following air sparging in the regolith zone	Workers would be exposed to low- to moderate-risk due to potential off gases with the SVE system Treatment will likely last 8-10 years because of the large treatment area	Bench- and pilot-scale testing would be required Subsurface heterogeneities may leave pockets of groundwater untreated	10	$16,713,000
6 - Permeable Reactive Barrier Wall	This alternative would protect human health and the environment by minimizing migration of contaminated groundwater to the adjacent creek Long term monitoring would be required to document potential future offsite contaminant migration	Action- and location-specific ARARs are applicable and expected to be met. Contaminants would persist above chemical-specific ARARs upgradient of the reactive wall beyond the 30-year evaluation period	Organic contaminants would be destroyed when passing through the reactive barrier wall, but contaminants upgradient of the wall would remain in groundwater. Migration of contaminants remaining in bedrock groundwater would be limited Long-term monitoring would be required	The M/T/V of contaminants migrating from the industrial portion of the site would be significantly reduced. However, reduction in the toxicity and volume of contaminants remaining on site would be minimal	Workers would be exposed to moderate risk during construction of the reactive barrier wall Construction would likely be completed within 6 months, with an additional 1-2 years required for design, procurement, and treatability testing	Bench- and pilot-scale testing would be required. Subsurface boulders may cause problems with wall installation near the alluvium	2	$16,893,000

Table 6-2
Summary of Soil Alternatives Evaluation
Feasibility Study Report
Former PSC Site - Rock Hill, SC

	Threshold Criteria		Balancing Criteria					
						Implementability		
Remedial Alternative	Overall Protection of Human Health and the Environment	Compliance with ARARs	Long-Term Effectiveness and Permanence	Reduction of M/T/V Through Treatment	Short-Term Effectiveness	Technical / Engineering Considerations	Estimated Time for Implementation after ROD (years)	Cost (Approximate Total Present Worth)
1 - No Action	There is no increased protection to human health and the environment under this alternative	Chemical-specific ARARs would not be met. Action- and location-specific ARARs are not applicable.	This alternative has no long-term effectiveness as contaminants remain accessible at the site.	No additional reduction of M/T/V is expected	This alternative poses no short-term risks	None.	< 1	$418,000
2 - Institutional Controls	This alternative would be protective of human health and the environment because it reduces access to contaminants at the site, thus limiting potential exposures.	Chemical-specific ARARs would not be met. Action- and location-specific ARARs are not applicable	This alternative will be effective as long as institutional controls are maintained and monitoring is conducted to ensure that additional threats do not arise.	No additional reduction of M/T/V is expected.	This alternative poses no short-term risks Building demolition may increase the risk of exposure.	None	1	$604,000
3 - Excavation and Offsite Disposal	This alternative eliminates exposure pathways and reduces the level of risk. It removes contamination and reduces migration to surface water and groundwater	Chemical-specific ARARs would be met through excavation and offsite disposal. Action- and location-specific ARARs are applicable and expected to be met	This alternative is effective because contaminants are removed from the site. With this alternative, there is a high level of assurance for complete source removal.	The M/T/V of contaminants in soil would be significantly reduced through removal. No treatment would occur Excavation may increase contaminant mobility in the short term	Excavation and grading may result in potential release of dust and noise nuisance from the use of heavy equipment. Building demolition may increase risk of exposure to asbestos	Leachability criteria would need to be met if material is disposed at a solid waste landfill. Excavation may require shoring to stabilize the excavation pits. Building demolition would be required prior to excavation	2	$32,308,000
4 - Source Containment	This alternative would be protective of human health because it reduces access to contaminants and minimizes future releases.	Contaminants above chemical-specific ARARs would still exist under this alternative, but they would be isolated under a cap. Action- and location-specific ARARs are applicable and expected to be met	This alternative will reduce long-term threats to human health and will be effective as long as cap integrity is not compromised and institutional controls are maintained	The toxicity and volume of contaminants are not reduced, but mobility would be minimized through installation of a cap.	Moderate short-term risks are expected under this alternative. They include potential dust generation, noise, and vehicular traffic throughout the duration of cap installation. Proper procedures would be implemented to reduce risks. Building demolition may increase risk of exposure	Building demolition would be required prior to capping	1	$4,936,000
5 - Source Removal, Ex Situ Treatment, and Onsite Reuse	This alternative eliminates exposure pathways and reduces the level of risk. It removes contamination and reduces migration to surface water and groundwater	Chemical-specific ARARs would be met through excavation and onsite treatment Action- and location-specific ARARs are applicable and expected to be met	This alternative is effective because contaminants are treated ex-situ before being replaced in the excavation pits	The M/T/V of contaminants in soil would be significantly reduced through onsite treatment. Excavation may increase contaminant mobility in the short term	This alternative is expected to have the highest short-term risk compared to other alternatives due to the number of onsite activities, required sequencing, and open excavation pits	Large space requirements needed for on site treatment. Excavation may require shoring to stabilize the excavation pits. Building demolition would be required prior to excavation	4	$24,459,000
6A - Soil Vapor Extraction (SVE)	This alternative would protect human health and the environment by treating contaminants to below RGs in soil.	Action- and location-specific ARARs are applicable and expected to be met. Chemical-specific ARARs would likely be met	Organic contaminants would not be destroyed, but would be mobilized into the vadose zone where they would be removed with SVE.	The M/T/V of contaminants in soil would be significantly reduced through SVE	Workers would be exposed to low- to moderate-risk due to potential off gases with the SVE system Treatment will likely last 8-10 years because of the large treatment area	Bench- and pilot-scale testing would be required. Subsurface heterogeneities may cause problems with uniform treatment.	10	$9,528,000
6B - In Situ Thermal Enhanced SVE	This alternative would protect human health and the environment by treating contaminants to below RGs in soil	Action- and location-specific ARARs are applicable and expected to be met Chemical-specific ARARs would likely be met	Some organic contaminants would be destroyed via thermal treatment while others would be mobilized into the vadose zone where they would be removed with SVE.	The M/T/V of contaminants in soil would be significantly reduced through SVE Thermal enhancement would offer additional assurance of removal.	Workers would be exposed to moderate risk due to potential off gases with the SVE system and the high voltage equipment required for thermal treatment Treatment will likely last 8-10 years because of the large treatment area	Bench- and pilot-scale testing would be required	5	$45,462,000

Table 6-3

Summary of Combination Groundwater and Soil Alternatives Evaluation

Feasibility Study Report
Former PSC Site - Rock Hill, SC

	Threshold Criteria		*Balancing Criteria*					
						Implementability		
Remedial Alternative	**Overall Protection of Human Health and the Environment**	**Compliance with ARARs**	**Long-Term Effectiveness and Permanence**	**Reduction of M/T/V Through Treatment**	**Short-Term Effectiveness**	**Technical / Engineering Considerations**	**Estimated Time for Implementation after ROD (years)**	**Cost (Approximate Total Present Worth)**
1 - Hydraulic Containment, Select Excavation, SVE, Thermal-Enhanced MPE, and Deep Soil Mixing	This alternative would protect human health and the environment by removing or treating contaminants in soil to below RGs. Groundwater treatment would be limited but mobility of contaminants in groundwater would be reduced through containment.	Action- and location-specific ARARs are applicable and expected to be met. Chemical-specific ARARs would likely be met in soil For groundwater, contaminants above RGs would still exist though migration would be limited	Organic contaminants in soil would be removed via excavation, destroyed via deep soil mixing with oxidant, or mobilized into the vadose zone and removed with SVE Contaminants would remain in regolith and bedrock groundwater but migration would be limited.	M/T/V of contaminants in soil would be significantly reduced Mobility would also be reduced in groundwater though limited toxicity or volume reductions would occur.	Workers would be exposed to moderate risk due to potential off-gases from the SVE system, exposure to oxidant, soils disturbance during excavation and well installation, and the length of time to implement this alternative	Bench- and pilot-scale testing would be required Subsurface heterogeneities may cause problems with uniform treatment	5	$43,242,000
2 - Hydraulic Containment, Select Excavation, SVE, Thermal-Enhanced MPE, and Air Sparging	This alternative would protect human health and the environment by treating contaminants to below RGs and minimizing mobilization of contaminated groundwater in bedrock.	Action- and location-specific ARARs are applicable and expected to be met. Chemical-specific ARARs would likely be met in soil and regolith regolith groundwater RGs would not be initially met for bedrock groundwater, but concentrations would be expected to decline significantly after source removal / treatment.	Organic contaminants in soil would be removed via excavation or mobilized into the vadose zone and removed with SVE. Organic contaminants in groundwater would be removed via air sparging and dual-phase extraction Some contaminants may remain in bedrock groundwater though migration would be limited	M/T/V of contaminants in soil and regolith groundwater would be significantly reduced. The mobility of bedrock groundwater would also be reduced and the toxicity and volume of contaminants would likely decline once the source material was treated or removed	Workers would be exposed to moderate risk due to potential off-gases from the SVE system, soils disturbance during excavation and well installation, and the length of time to implement this alternative	Bench- and pilot-scale testing would be required Subsurface heterogeneities may cause problems with uniform treatment	10	$28,960,000
3 - Hydraulic Containment, SVE, Thermal-Enhanced MPE, and In Situ Thermal Treatment	This alternative is expected to be the most protective of human health and the environment due to the destructive nature of thermal treatment	Action- and location-specific ARARs are applicable and expected to be met Chemical-specific ARARs would likely be met in soil and regolith regolith groundwater RGs would not be initially met for bedrock groundwater, but concentrations would be expected to decline significantly after source treatment	Organic contaminants in soil and groundwater would be destroyed through thermal treatment. Some contaminants may remain in bedrock groundwater though migration would be limited	M/T/V of contaminants in soil and regolith groundwater would be significantly reduced. The mobility of bedrock groundwater would also be reduced and the toxicity and volume of contaminants would likely decline once the source material was treated.	Workers would be exposed to moderate risk due to potential off-gases from the thermal treatment system, use of high voltage equipment, and the length of time to implement this alternative	The number of vendors is limited. Additional data collection would likely be required to accurately estimate costs as cost is very sensitive to the number of months of operation (e g , one additional month of operation is a significant add-on expense)	5	$35,854,000

Table 6-4
Comparative Analysis of Groundwater Alternatives
Feasibility Study Report
Former PSC Site - Rock Hill, SC

Remedial Alternative	*Criteria Rating*						Approximate Present Worth
	Overall Protection of Human Health and the Environment	Compliance with ARARs	Long-Term Effectiveness and Permanence	Reduction of M/T/V Through Treatment	Short-Term Effectiveness	Implementability	
1 - No Action	0	0	0	0	0	5	$420,000
2 - Institutional Controls	1.5	1	1.5	0	3	5	$1,673,000
3 - Hydraulic Containment	2.5	2	2	2	4	4	$7,695,000
4 - In Situ Chemical Oxidation	3.5	4	4	4	3	3	$32,029,000
5 - In Situ Air Sparging	3.5	4	4	4	3.5	3	$16,713,000
6 - In Situ Permeable Reactive Barrier Wall	3	2.5	2.5	2.5	3	2.5	$16,893,000
Combination Alternative 1, GW components: Hydraulic Containment, Thermal-Enhanced MPE, and Deep Soil Mixing	3	3.5	3	3	3	3	$43,242,000[1]
Combination Alternative 2, GW Components: Hydraulic Containment, Thermal-Enhanced MPE, and Air Sparging	3.5	4	4	4	3.5	3	$28,960,000[1]
Combination Alternative 3, GW Components: Hydraulic Containment, Thermal-Enhanced MPE, and In Situ Thermal Treatment	3.5	4	4.5	4	3.5	3.5	$35,854,000[1]

Notes:
A ranking of "0" indicates that the criterion is not met while a ranking of "5" indicates that the criterion is completely met.
Combination alternative rankings are based on the groundwater component only.
[1] Total cost including both soil and groundwater components.

Table 6-5

Comparative Analysis of Soil Alternatives

Feasibility Study Report

Former PSC Site - Rock Hill, SC

Remedial Alternative	Criteria Rating						Approximate Present Worth
	Overall Protection of Human Health and the Environment	Compliance with ARARs	Long-Term Effectiveness and Permanence	Reduction of M/T/V Through Treatment	Short-Term Effectiveness	Implementability	
1 - No Action	0	0	0	0	0	5	$418,000
2 - Institutional Controls	1.5	1	1.5	0	3	5	$604,000
3 - Excavation and Offsite Disposal	5	5	5	4.5	3	3.5	$32,308,000
4 - Source Containment	2.5	2	2.5	2	3.5	4	$4,936,000
5 - Source Removal, Ex Situ Treatment, and Onsite Reuse	5	5	5	4.5	1	2	$24,459,000
6A - Soil Vapor Extraction (SVE)	3.5	3.5	3.5	3.5	3	4	$9,528,000
6B - In Situ Thermal Enhanced SVE	4	4	4	4	3	3	$45,462,000
Combination Alternative 1, Soil Components: Select Excavation, SVE, and Deep Soil Mixing	4	4	4	4	3	3	$43,242,000[1]
Combination Alternative 2, Soil Components: Select Excavation and SVE	3.5	3.5	4	4	3	3	$28,960,000[1]
Combination Alternative 3, Soil Components: SVE and In Situ Thermal Treatment	4.5	4.5	4.5	5	3.5	4	$35,854,000[1]

Notes:

A ranking of "0" indicates that the criterion is not met while a ranking of "5" indicates that the criterion is completely met.

Combination alternative rankings are based on the soil component only.

[1] Total cost including both soil and groundwater components.

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Appendix A
Remedial Alternative Cost Estimates

Groundwater Remedial Alternative Cost Summary
Feasibility Study Report
Former PSC Site - Rock Hill, SC

Alternative	***Description***	***Construction Cost***	***Present Worth O&M Cost***	**Total Present Worth Cost**
1	No Action	$0	$420,000	**$420,000**
2	Institutional Controls	$0	$1,673,000	**$1,673,000**
3	Hydraulic Containment	$1,239,875	$6,455,000	**$7,695,000**
4	In Situ Treatment - Chemical Oxidation	$27,607,125	$4,422,000	**$32,029,000**
5	In Situ Treatment - Air Sparging	$9,030,125	$7,683,000	**$16,713,000**
6	In Situ Treatment - Reactive Barrier Wall	$12,917,938	$3,974,570	**$16,893,000**

Notes:
Total present worth costs are rounded to the nearest $1,000.

PRESENT WORTH COST GROUNDWATER ALTERNATIVE 1: NO ACTION FEASIBILITY STUDY PSC SITE				
ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL COST (DOLLARS)
NO CAPITAL COSTS RELATED TO THIS ALTERNATIVE				
TOTAL CONSTRUCTION COST				$0
PRESENT WORTH O&M COST				$420,000
TOTAL PRESENT WORTH COST (ROUNDED TO NEAREST THOUSAND)				**$420,000**

OPERATION AND MAINTENANCE COST
GROUNDWATER ALTERNATIVE 1: NO ACTION
FEASIBILITY STUDY
PSC SITE

Inflation Rate: 3.5% Real Discount Rate: 3 4%
Nominal Discount Rate 7%

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL ANNUAL COST (DOLLARS)	OPERATION TIME (YEARS)	PRESENT WORTH
ENV. MONITORING OF GROUNDWATER & SURFACE WATER						
Site Monitoring Plan & Reevaluation (every 5 years)	lump sum	1	$20,000	$4,000	30	$74,671
Environmental Sampling/Analysis (1 event every 5 yrs)	lump sum	1	$40,000	$8,000	30	$149,343
Report Preparation (every 5 years)	lump sum	1	$30,000	$6,000	30	$112,007
SITE INSPECTIONS & MAINTENANCE Cost is Included in Soil Alternatives						
Subtotal						$336,021
Contractor Fee (10% of O& M Cost)						$33,602
Legal Fees, Licenses & Permits (5% of O&M Cost)						$16,801
Contingency (10% of O&M Cost)						$33,602
TOTAL						$420,000

Assumptions
Environmental sampling assumes sampling and analyis of seventy-five monitoring wells along with five surface water locations.

PRESENT WORTH COST **GROUNDWATER ALTERNATIVE 2: INSTITUTIONAL CONTROLS** FEASIBILITY STUDY PSC SITE				
ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL COST (DOLLARS)
IMPLEMENT DEED RESTRICTIONS - Included in Soil Alternatives				
Subtotal - Capital Cost				$0
Contractor Fee (10% of Capital Cost)				$0
Legal Fees, Licenses & Permits (5% of Capital Cost)				$0
Engineering & Administrative (15% of Capital Cost)				$0
Subtotal				$0
Contingency (25% of Subtotal)				$0
TOTAL CONSTRUCTION COST				$0
PRESENT WORTH O&M COST				$1,673,000
TOTAL PRESENT WORTH COST (ROUNDED TO NEAREST THOUSAND)				**$1,673,000**

OPERATION AND MAINTENANCE COST **GROUNDWATER ALTERNATIVE 2: INSTITUTIONAL CONTROLS** FEASIBILITY STUDY PSC SITE Inflation Rate: 3 5% Real Discount Rate: 3.4% Nominal Discount Rate: 7%						
ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL ANNUAL COST (DOLLARS)	OPERATION TIME (YEARS)	PRESENT WORTH
ENV. MONITORING OF GROUNDWATER & SURFACE WATER						
Site Monitoring Plan & Reevaluation (every 5 years)	lump sum	1	$20,000	$4,000	30	$74,671
Environmental Sampling/Analysis/Assessment (yearly)	lump sum	1	$40,000	$40,000	30	$746,714
Report Preparation (yearly)	lump sum	1	$20,000	$20,000	30	$373,357
SITE INSPECTIONS & MAINTENANCE						
Deed Restriction Compliance Audit Included in Soil Alternatives						
Subtotal						$1,194,742
Contractor Fee (10% of O& M Cost)						$119,474
Legal Fees, Licenses & Permits (5% of O&M Cost)						$59,737
Contingency (25% of O&M Cost)						$298,685
TOTAL						$1,673,000

Assumptions:
Environmental sampling assumes sampling and analyis of seventy-five monitoring wells along with five surface water locations.

PRESENT WORTH COST GROUNDWATER ALTERNATIVE 3: HYDRAULIC CONTAINMENT FEASIBILITY STUDY PSC SITE				
ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL COST (DOLLARS)
MOBILIZATION	ls	1	$20,000	$20,000
CONTRACTOR GENERAL CONDITIONS	month	3	$10,000	$30,000
REGOLITH (SHALLOW) CONTAINMENT SYSTEM				
Extraction Wells (3-5 GPM per well)	each	6	$6,000	$36,000
Extraction System Expansion (controls, pumps, conduits, etc.)	each	6	$15,000	$90,000
BEDROCK CONTAINMENT SYSTEM				
Extraction Wells (3-5 GPM per well)	each	6	$12,000	$72,000
Extraction System Expansion (controls, pumps, conduits, etc.)	each	6	$15,000	$90,000
GROUNDWATER TREATMENT SYSTEM UPGRADES - 30 GPM Additional Capacity				
Tank Upgrades	ls	1	$250,000	$250,000
Pump Upgrades	ls	1	$75,000	$75,000
Carbon Adsorption Upgrades	ls	1	$100,000	$100,000
Subtotal - Capital Cost				$763,000
Contractor Fee (10% of Capital Cost)				$76,300
Legal Fees, Licenses & Permits (5% of Capital Cost)				$38,150
Engineering & Administrative (15% of Capital Cost)				$114,450
Subtotal				$991,900
Contingency (25% of Subtotal)				$247,975
TOTAL CONSTRUCTION COST				$1,239,875
PRESENT WORTH O&M COST				$6,455,000
TOTAL PRESENT WORTH COST (ROUNDED TO NEAREST THOUSAND)				**$7,695,000**

OPERATION AND MAINTENANCE COST GROUNDWATER ALTERNATIVE 3: HYDRAULIC CONTAINMENT FEASIBILITY STUDY PSC SITE						
Inflation Rate:	3.5%	Real Discount Rate:	3.4%			
Nominal Discount Rate:	7%					
ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL ANNUAL COST (DOLLARS)	OPERATION TIME (YEARS)	PRESENT WORTH
TREATMENT SYSTEM O&M						
Carbon replacement	events/yr	4	$15,000	$60,000	30	$1,120,070
Additional Power Requirements	kWH/yr	300,000	$0.09	$27,000	30	$504,032
Monthly O&M	events/yr	12	$8,000	$96,000	30	$1,792,113
ENV. MONITORING OF GROUNDWATER & SURFACE WATER						
Site Monitoring Plan & Reevaluation (every 5 years)	lump sum	1	$20,000	$4,000	30	$74,671
Environmental Sampling/Analysis/Assessment (yearly)	lump sum	1	$40,000	$40,000	30	$746,714
Report Preparation (yearly)	lump sum	1	$20,000	$20,000	30	$373,357
Subtotal						$4,610,956
Contractor Fee (10% of O&M Cost)						$461,096
Legal Fees, Licenses & Permits (5% of O&M Cost)						$230,548
Contingency (25% of O&M Cost)						$1,152,739
TOTAL						$6,455,000

PRESENT WORTH COST **GW ALTERNATIVE 4: IN SITU CHEMICAL OXIDATION** FEASIBILITY STUDY PSC SITE				
ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL COST (DOLLARS)
MOBILIZATION	ls	1	$20,000	$20,000
CONTRACTOR GENERAL CONDITIONS (CM, Superintendant, Trailer, Power, Telephone, Water, etc.)	month	18	$10,000	$180,000
REGOLITH (SHALLOW) IN SITU CHEM-OX SYSTEM				
Additional Site Characterization	ls	1	$20,000	$20,000
Bench-scale/Pilot testing	ls	1	$250,000	$250,000
Permitting	ls	1	$30,000	$30,000
Injection Wells (15-ft ROI, 2-20' screened wells/location)	each	1,120	$2,500	$2,800,000
Injection System Construction	ls	1	$1,000,000	$1,000,000
PERSULFATE INJECTION - 2 EVENTS				
3-man injection team - 100 injection rounds (10 wells/round)	event	2	$750,000	$1,500,000
Sodium Persulfate (1,125 lb/well)	tons	1,260	$2,600	$3,276,000
EDTA Activator (675 lb/well)	tons	756	$8,000	$6,048,000
Verification Monitoring - 12 wells	month	36	$18,000	$648,000
BEDROCK CONTAINMENT SYSTEM				
Extraction Wells (3-5 GPM per well)	each	6	$12,000	$72,000
Extraction System Expansion controls, pumps, conduits, etc.)	each	6	$15,000	$90,000
DUAL PHASE EXTRACTION - FUEL OIL AREA				
Dual Phase System Construction (25-ft depth)	sf	65,000	$15	$975,000
Additional Wells (25-ft spacing, 1 GPM per well)	each	40	$2,000	$80,000
Subtotal - Capital Cost				$16,989,000
Contractor Fee (10% of Capital Cost)				$1,698,900
Legal Fees, Licenses & Permits (5% of Capital Cost)				$849,450
Engineering & Administrative (15% of Capital Cost)				$2,548,350
Subtotal				$22,085,700
Contingency (25% of Subtotal)				$5,521,425
TOTAL CONSTRUCTION COST				$27,607,125
PRESENT WORTH O&M COST				$4,422,000
TOTAL PRESENT WORTH COST (ROUNDED TO NEAREST THOUSAND)				**$32,029,000**

OPERATION AND MAINTENANCE COST
GW ALTERNATIVE 4: IN SITU CHEMICAL OXIDATION
FEASIBILITY STUDY
PSC SITE

Inflation Rate: 3.5% Real Discount Rate: 3.4%
Nominal Discount Rate: 7%

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL ANNUAL COST (DOLLARS)	OPERATION TIME (YEARS)	PRESENT WORTH
TREATMENT SYSTEM O&M						
Carbon replacement	events/yr	4	$10,000	$40,000	30	$746,714
Additional Power Requirements	kWH/yr	100,000	$0.09	$9,000	30	$168,011
Monthly O&M	events/yr	12	$6,000	$72,000	30	$1,344,084
ENV MONITORING OF GROUNDWATER & SURFACE WATER						
Site Monitoring Plan & Reevaluation (every 5 years)	lump sum	1	$10,000	$2,000	30	$37,336
Regolith Environmental Sampling/Analysis/Assessment (yearly)	lump sum	1	$25,000	$25,000	10	$209,161
Bedrock Environmental Sampling/Analysis/Assessment (yearly)	lump sum	1	$15,000	$15,000	30	$280,018
Report Preparation (yearly)	lump sum	1	$20,000	$20,000	30	$373,357
Subtotal						$3,158,680
Contractor Fee (10% of O&M Cost)						$315,868
Legal Fees, Licenses & Permits (5% of O&M Cost)						$157,934
Contingency (25% of O&M Cost)						$789,670
TOTAL						$4,422,000

Assumptions:
Regolith environmental sampling assumes sampling and analyis of fifty regolith monitoring wells
Bedrock environmental sampling assumes sampling and analyis of twenty-five bedrock monitoring wells along with five surface water locations

PRESENT WORTH COST **GROUNDWATER ALTERNATIVE 5: AIR SPARGING** FEASIBILITY STUDY PSC SITE				
ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL COST (DOLLARS)
MOBILIZATION/DEMOBILIZATION	ls	1	$20,000	$20,000
CONTRACTOR GENERAL CONDITIONS (CM, Superintendant, Trailer, Power, Telephone, Water, etc)	month	24	$10,000	$240,000
IN-SITU TREATMENT - AIR SPARGING				
Air Sparging Pilot Study	ls	1	$100,000	$100,000
Air Sparging Injection Well Installation (15-ft ROI)	wells	560	$2,000	$1,120,000
SVE Well Installation (30-ft radius)	wells	140	$500	$70,000
Monitor Well Installation	wells	50	$2,000	$100,000
Air Sparging System Installation - 10 cfm/well	treat area	10	$150,000	$1,500,000
SVE System Installation	treat area	3	$250,000	$750,000
Geomembrane Soil Cover	sy	44,000	$10	$440,000
BEDROCK CONTAINMENT SYSTEM				
Extraction Wells (3-5 GPM per well)	each	6	$12,000	$72,000
Extraction System Expansion (controls, pumps, conduits, etc)	each	6	$15,000	$90,000
DUAL PHASE EXTRACTION - FUEL OIL AREA				
Dual Phase System Construction (25-ft depth)	sf	65,000	$15	$975,000
Additional Wells (20-ft spacing, 1 GPM per well)	each	40	$2,000	$80,000
Subtotal - Capital Cost				$5,557,000
Contractor Fee (10% of Capital Cost)				$555,700
Legal Fees, Licenses & Permits (5% of Capital Cost)				$277,850
Engineering & Administrative (15% of Capital Cost)				$833,550
Subtotal				$7,224,100
Contingency (25% of Subtotal)				$1,806,025
TOTAL CONSTRUCTION COST				$9,030,125
PRESENT WORTH O&M COST				$7,683,000
TOTAL PRESENT WORTH COST (ROUNDED TO NEAREST THOUSAND)				**$16,713,000**

OPERATION AND MAINTENANCE COST **GROUNDWATER ALTERNATIVE 5: AIR SPARGING** FEASIBILITY STUDY PSC SITE Inflation Rate 3 5% Real Discount Rate 3 4% Nominal Discount Rate 7%						
ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL ANNUAL COST (DOLLARS)	OPERATION TIME (YEARS)	PRESENT WORTH
ENV MONITORING OF AIR SPARGE SYSTEM						
Air Sampling and Analysis	events/yr	12	$2,000	$24,000	10	$200,795
Groundwater Sampling and Analysis	events/yr	12	$5,000	$60,000	10	$501,986
Air Sparging System O&M	yr	1	$100,000	$100,000	10	$836,644
20-hp Blower Power Requirements (0 75 kW/hp)	yr	1	$35,400	$35,400	10	$296,172
10-hp Compressor Power Requirements (0 75 kW/hp)	yr	1	$59,000	$59,000	10	$493,620
Off-Gas Treatment	Included in air sparging system installation costs					
TREATMENT SYSTEM O&M						
Carbon replacement	events/yr	4	$10,000	$40,000	30	$746,714
Additional Power Requirements	kWH/yr	100,000	$0 09	$9,000	30	$168,011
Monthly O&M	events/yr	12	$6,000	$72,000	30	$1,344,084
ENV MONITORING OF GROUNDWATER & SURFACE WATER						
Site Monitoring Plan & Reevaluation (every 5 years)	lump sum	1	$10,000	$2,000	30	$37,336
Regolith Environmental Sampling/Analysis/Assessment (yearly)	lump sum	1	$25,000	$25,000	10	$209,161
Bedrock Environmental Sampling/Analysis/Assessment (yearly)	lump sum	1	$15,000	$15,000	30	$280,018
Report Preparation (yearly)	lump sum	1	$20,000	$20,000	30	$373,357
Subtotal						$5,487,897
Contractor Fee (10% of O&M Cost)						$548,790
Legal Fees, Licenses & Permits (5% of O&M Cost)						$274,395
Contingency (25% of O&M Cost)						$1,371,974
TOTAL						$7,683,000

Assumptions

Regolith environmental sampling assumes sampling and analyis of fifty regolith monitoring wells

Bedrock environmental sampling assumes sampling and analyis of twenty-five bedrock monitoring wells along with five surface water locations

PRESENT WORTH COST
GROUNDWATER ALTERNATIVE 6: PERMEABLE REACTIVE BARRIER WALL
FEASIBILITY STUDY
PSC SITE

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL COST (DOLLARS)
MOBILIZATION/DEMOBILIZATION	ls	1	$20,000	$20,000
CONTRACTOR GENERAL CONDITIONS (CM, Superintendant, Trailer, Power, Telephone, Water, etc)	month	6	$20,000	$120,000
BEDROCK CONTAINMENT SYSTEM				
Extraction Wells (3-5 GPM per well)	each	6	$12,000	$72,000
Extraction System Expansion (controls, pumps, conduits, etc)	each	6	$15,000	$90,000
DUAL PHASE EXTRACTION - FUEL OIL AREA				
Dual Phase System Construction (25-ft depth)	sf	65,000	$15	$975,000
Additional Wells (25-ft spacing, 1 GPM per well)	each	40	$2,000	$80,000
PERMEABLE REACTIVE WALL				
Bench-Scale Study	ls	1	$150,000	$150,000
Additional Site Characterization	ls	1	$100,000	$100,000
3-foot Barrier Wall Installation (800 ft long, 60 ft deep)	cy	6,000	$1,000	$6,000,000
Air Sparging Injection Well Installation (15-ft spacing)	wells	55	$3,500	$192,500
Air Sparging System Installation - 10 cfm/well	ls	1	$150,000	$150,000
Subtotal - Capital Cost				$7,949,500
Contractor Fee (10% of Capital Cost)				$794,950
Legal Fees, Licenses & Permits (5% of Capital Cost)				$397,475
Engineering & Administrative (15% of Capital Cost)				$1,192,425
Subtotal				$10,334,350
Contingency (25% of Subtotal)				$2,583,588
TOTAL CONSTRUCTION COST				$12,917,938
PRESENT WORTH O&M COST				$3,974,570
TOTAL PRESENT WORTH COST (ROUNDED TO NEAREST THOUSAND)				**$16,893,000**

OPERATION AND MAINTENANCE COST
GROUNDWATER ALTERNATIVE 6: PERMEABLE REACTIVE BARRIER WALL
FEASIBILITY STUDY
PSC SITE

Inflation Rate 3.5% Real Discount Rate 3.4%
Nominal Discount Rate 7%

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL ANNUAL COST (DOLLARS)	OPERATION TIME (YEARS)	PRESENT WORTH
TREATMENT SYSTEM O&M						
Carbon replacement	events/yr	4	$10,000	$40,000	30	$746,714
Additional Power Requirements	kWH/yr	100,000	$0.09	$9,000	30	$168,011
Monthly O&M	events/yr	12	$6,000	$72,000	30	$1,344,084
ENV. MONITORING OF TREATMENT SYSTEM						
Groundwater Sampling and Analysis	events/yr	1	$10,000	$10,000	30	$186,678
Air Sparging System O&M	events/yr	12	$1,000	$12,000	30	$224,014
10-hp Compressor Power Requirements (0 75 kW/hp)	yr	1	$5,910	$5,910	30	$110,327
Off-Gas Treatment	Included in air sparging system installation costs					
ENV. MONITORING OF GROUNDWATER & SURFACE WATER						
Site Monitoring Plan & Reevaluation (every 5 years)	lump sum	1	$20,000	$4,000	30	$74,671
Environmental Sampling/Analysis/Assessment (yearly)	lump sum	1	$40,000	$40,000	30	$746,714
Report Preparation (yearly)	lump sum	1	$20,000	$20,000	30	$373,357
Subtotal						$3,974,570
Contractor Fee (10% of O&M Cost)						$397,457
Legal Fees, Licenses & Permits (5% of O&M Cost)						$198,728
Contingency (25% of O&M Cost)						$993,642
TOTAL						$5,564,000

Assumptions
Regolith environmental sampling assumes sampling and analyis of fifty regolith monitoring wells.
Bedrock environmental sampling assumes sampling and analyis of twenty-five bedrock monitoring wells along with five surface water locations

Soil Remedial Alternative Cost Summary
Feasibility Study Report
Former PSC Site - Rock Hill, SC

Alternative	***Description***	***Construction Cost***	***Present Worth O&M Cost***	**Total Present Worth Cost**
1	No Action	$0	$418,000	**$418,000**
2	Institutional Controls	$81,250	$523,000	**$604,000**
3	Soil Excavation and Offsite Disposal	$31,785,000	$523,000	**$32,308,000**
4	Source Containment	$4,021,063	$915,000	**$4,936,000**
5	Soil Excavation, Ex Situ Physical/Chemical Treatment, and Onsite Disposal	$23,936,250	$523,000	**$24,459,000**
6A	In Situ Soil Vapor Extraction (SVE)	$7,833,638	$1,694,000	**$9,528,000**
6B	In Situ Thermal Enhanced SVE	$19,142,500	$26,319,000	**$45,462,000**

Notes:
Total present worth costs are rounded to the nearest $1,000.

PRESENT WORTH COST
ALTERNATIVE 1: NO ACTION
FEASIBILITY STUDY
PSC SITE

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL COST (DOLLARS)
Subtotal - Capital Cost				$0
Contractor Fee (10% of Capital Cost)				$0
Legal Fees, Licenses & Permits (5% of Capital Cost)				$0
Engineering & Administrative (15% of Capital Cost)				$0
Subtotal				$0
Contingency (25% of Subtotal)				$0
TOTAL CONSTRUCTION COST				$0
PRESENT WORTH O&M COST				$418,000
TOTAL PRESENT WORTH COST (ROUNDED TO NEAREST THOUSAND)				**$418,000**

OPERATION AND MAINTENANCE COST
ALTERNATIVE 1: NO ACTION
FEASIBILITY STUDY
PSC SITE

Inflation Rate: 3.5% Real Discount Rate: 3.4%
Nominal Discount Rate: 7%

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL ANNUAL COST (DOLLARS)	OPERATION TIME (YEARS)	PRESENT WORTH
SITE INSPECTIONS & MAINTENANCE						
Mowing	events/yr	12	$500	$6,000	30	$112,007
Fence Maintenance	events/yr	1	$4,000	$4,000	30	$74,671
Report Preparation (every 5 years)	lump sum	1	$30,000	$6,000	30	$112,007
ENVIRONMENTAL SAMPLING - Included in Groundwater Remedial Options						
Subtotal						$298,685
Contractor Fee (10% of O& M Cost)						$29,869
Legal Fees, Licenses & Permits (5% of O&M Cost)						$14,934
Contingency (25% of O&M Cost)						$74,671
TOTAL						$418,000

PRESENT WORTH COST
ALTERNATIVE 2: INSTITUTIONAL CONTROLS
FEASIBILITY STUDY
PSC SITE

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL COST (DOLLARS)
IMPLEMENT DEED RESTRICTIONS (Excludes Property Purchase)	each	1	$50,000	$50,000
Subtotal - Capital Cost				$50,000
Contractor Fee (10% of Capital Cost)				$5,000
Legal Fees, Licenses & Permits (5% of Capital Cost)				$2,500
Engineering & Administrative (15% of Capital Cost)				$7,500
Subtotal				$65,000
Contingency (25% of Subtotal)				$16,250
TOTAL CONSTRUCTION COST				$81,250
PRESENT WORTH O&M COST				$523,000
TOTAL PRESENT WORTH COST (ROUNDED TO NEAREST THOUSAND)				**$604,000**

OPERATION AND MAINTENANCE COST
ALTERNATIVE 2: INSTITUTIONAL CONTROLS
FEASIBILITY STUDY
PSC SITE

Inflation Rate: 3.5% Real Discount Rate: 3.4%
Nominal Discount Rate 7%

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL ANNUAL COST (DOLLARS)	OPERATION TIME (YEARS)	PRESENT WORTH
SITE INSPECTIONS & MAINTENANCE						
Deed Restriction Compliance Audit	events/yr	1	$5,000	$5,000	30	$93,339
Property Inspection / Management	events/yr	1	$5,000	$5,000	30	$93,339
Mowing	events/yr	12	$500	$6,000	30	$112,007
Fence Maintenance	events/yr	1	$4,000	$4,000	30	$74,671
ENVIRONMENTAL SAMPLING - Included in Groundwater Remedial Options						
Subtotal						$373,357
Contractor Fee (10% of O& M Cost)						$37,336
Legal Fees, Licenses & Permits (5% of O&M Cost)						$18,668
Contingency (25% of O&M Cost)						$93,339
TOTAL						$523,000

PRESENT WORTH COST
ALTERNATIVE 3: SOIL EXCAVATION AND OFFSITE DISPOSAL
FEASIBILITY STUDY
PSC SITE

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL COST (DOLLARS)
MOBILIZATION	ls	1	$40,000	$40,000
CONTRACTOR GENERAL CONDITIONS (CM, Superintendant, Trailer, Power, Telephone, Water, etc.)	month	12	$20,000	$240,000
UTILITY RELOCATION (telephone, power, sewer, water)	ls	1	$200,000	$200,000
BUILDING DEMOLITION				
Warehouse Building Demo and Removal	sf	78,000	$2.5	$195,000
Scrap Steel Credit	tons	350	($300)	($105,000)
EXCAVATE METALS EXCEEDANCE AREAS				
Mobilization - Required when VOC excavation not included	ls	0	$5,000	$0
Soil Excavation and Loading/Hauling to Treatment Area	tons	56	$10	$556
Transport & Disposal of VOC-Hazardous Soil (0%)	tons	0	$350	$0
Transport & Disposal of Non-Hazardous Material (100%)	tons	56	$40	$2,222
Backfill with Imported Common Fill	tons	56	$10	$556
Topsoil / Seed	sy	111	$6	$667
EXCAVATE VOC EXCEEDANCE AREAS				
Excavation & Handling of Material	tons	210,000	$10	$2,100,000
Benching (1:1 slope) excavation	tons	82,500	$10	$825,000
Shoring (areas where benching is infeasible W of warehouse)	sf	4,800	$40	$192,000
Transport & Disposal of Non-Hazardous Material (95%)	tons	199,500	$40	$7,980,000
Transport & Disposal of Hazardous Material (5%)	tons	10,500	$350	$3,675,000
Backfill with Imported Common Fill	tons	210,000	$10	$2,100,000
Backfill with Clean/Treated Soil	tons	82,500	$6	$495,000
Cover meeting a dilution attenuation factor of 103.3	sf	78,000	$5.5	$429,000
Topsoil / Seed	sy	22,000	$6	$132,000
IMPLEMENT DEED RESTRICTIONS (Excludes Property Purchase)	each	1	$50,000	$50,000
ENVIRONMENTAL CONTROLS				
Sediment & Erosion Controls				
Silt fencing around perimeters and hay bales	ft	1,000	$5	$5,000
Stormwater Collection				
6" pump & hoses	month	1	$2,000	$2,000
Frac tank	month	12	$2,000	$24,000
Excavation Pit Confirmation Sampling	samples	200	$1,500	$300,000
Air Monitoring				
4 air monitoring stations with MiniRae 3000	month	12	$3,500	$42,000
Health & Safety Equipment - 10 person team				
Tyvek, gloves, PID, etc.	day/person	2,500	$20	$50,000
Waste Characterization (1 every 500 tons)	ea	585	$1,000	$585,000
Subtotal - Capital Cost				$19,560,000
Contractor Fee (10% of Capital Cost)				$1,956,000
Legal Fees, Licenses & Permits (5% of Capital Cost)				$978,000
Engineering & Administrative (15% of Capital Cost)				$2,934,000
Subtotal				$25,428,000
Contingency (25% of Subtotal)				$6,357,000
TOTAL CONSTRUCTION COST				$31,785,000
PRESENT WORTH O&M COST				$523,000
TOTAL PRESENT WORTH COST (ROUNDED TO NEAREST THOUSAND)				**$32,308,000**

OPERATION AND MAINTENANCE COST
ALTERNATIVE 3: SOIL EXCAVATION AND OFFSITE DISPOSAL
FEASIBILITY STUDY
PSC SITE

Inflation Rate 3.5% Real Discount Rate: 3 4%
Nominal Discount Rate 7%

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL ANNUAL COST (DOLLARS)	OPERATION TIME (YEARS)	PRESENT WORTH
SITE INSPECTIONS & MAINTENANCE						
Deed Restriction Compliance Audit	events/yr	1	$5,000	$5,000	30	$93,339
Property Inspection / Management	events/yr	1	$5,000	$5,000	30	$93,339
Mowing	events/yr	12	$500	$6,000	30	$112,007
Fence Maintenance	events/yr	1	$4,000	$4,000	30	$74,671
ENVIRONMENTAL SAMPLING - Included in Groundwater Remedial Options						
Subtotal						$373,357
Contractor Fee (10% of O&M Cost)						$37,336
Legal Fees, Licenses & Permits (5% of O&M Cost)						$18,668
Contingency (25% of O&M Cost)						$93,339
TOTAL						$523,000

PRESENT WORTH COST
ALTERNATIVE 4: SOURCE CONTAINMENT
FEASIBILITY STUDY
PSC SITE

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL COST (DOLLARS)
MOBILIZATION	ls	1	$25,000	$25,000
CONTRACTOR GENERAL CONDITIONS (CM, Superintendant, Trailer, Power, Telephone, Water, etc.)	month	18	$20,000	$360,000
BUILDING DEMOLITION				
Warehouse Building Demo and Removal	sf	100,000	$2.5	$250,000
Scrap Steel Credit	tons	500	($300)	($150,000)
EXCAVATE METALS EXCEEDANCE AREAS				
Mobilization - Required when VOC area excavation not included	ls	1	$5,000	$5,000
Soil Excavation and Loading/Hauling to Treatment Area	tons	56	$10	$556
Transport & Disposal of VOC-Hazardous Soil (0%)	tons	0	$350	$0
Transport & Disposal of Non-Hazardous Material (100%)	tons	56	$40	$2,222
Backfill with Imported Common Fill	tons	56	$10	$556
Topsoil / Seed	sy	111	$6	$667
Confirmatory Sampling and Waste Characterization	each	10	$250	$2,500
CAP VOC EXCEEDANCE AREAS (one cap)				
Regrade to 2% slope	tons	17,000	$15	$255,000
18-inch (min.) Soil Cover Layer	tons	25,500	$15	$382,500
60-mil HDPE Liner	sf	300,000	$0.75	$225,000
6-inch Sand Drainage Layer	tons	10,000	$15	$150,000
Filter Fabric	sy	34,000	$4	$136,000
18-inch Common Fill Layer	tons	25,500	$15	$382,500
6-inch Topsoil/Seed	sy	34,000	$6	$204,000
Perimeter Swale for Final Drainage	ls	1	$50,000	$50,000
IMPLEMENT DEED RESTRICTIONS (Excludes Property Purchase)	each	1	$50,000	$50,000
ENVIRONMENTAL CONTROLS				
Sediment & Erosion Controls (Silt Fence & Upgrade Swale)	lf	1,000	$5	$5,000
Air Monitoring				
4 air monitoring stations with MiniRae 3000	month	18	$3,500	$63,000
Health & Safety Equipment - 10 person team				
Tyvek, gloves, PID, etc.	day/person	3,750	$20	$75,000
Subtotal - Capital Cost				$2,474,500
Contractor Fee (10% of Capital Cost)				$247,450
Legal Fees, Licenses & Permits (5% of Capital Cost)				$123,725
Engineering & Administrative (15% of Capital Cost)				$371,175
Subtotal				$3,216,850
Contingency (25% of Subtotal)				$804,213
TOTAL CONSTRUCTION COST				$4,021,063
PRESENT WORTH O&M COST				$915,000
TOTAL PRESENT WORTH COST (ROUNDED TO NEAREST THOUSAND)				**$4,936,000**

OPERATION AND MAINTENANCE COST
ALTERNATIVE 4: SOURCE CONTAINMENT
FEASIBILITY STUDY
PSC SITE

Inflation Rate: 3.5% Real Discount Rate: 3.4%
Nominal Discount Rate: 7%

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL ANNUAL COST (DOLLARS)	OPERATION TIME (YEARS)	PRESENT WORTH
SITE INSPECTIONS & MAINTENANCE						
Stormwater Collection System Sampling and O&M	events/yr	4	$2,500	$10,000	30	$186,678
Cap Repairs	events/yr	1	$5,000	$5,000	30	$93,339
SITE INSPECTIONS & MAINTENANCE						
Deed Restriction Compliance Audit	events/yr	1	$5,000	$5,000	30	$93,339
Property Inspection / Management	events/yr	1	$5,000	$5,000	30	$93,339
Mowing	events/yr	12	$500	$6,000	30	$112,007
Fence Maintenance	events/yr	1	$4,000	$4,000	30	$74,671
ENVIRONMENTAL SAMPLING - Included in Groundwater Remedial Options						
Subtotal						$653,374
Contractor Fee (10% of O&M Cost)						$65,337
Legal Fees, Licenses & Permits (5% of O&M Cost)						$32,669
Contingency (25% of O&M Cost)						$163,344
TOTAL						$915,000

PRESENT WORTH COST
ALTERNATIVE 5: SOIL EXCAVATION, EX SITU TREATMENT, AND REUSE
FEASIBILITY STUDY
PSC SITE

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL COST (DOLLARS)
MOBILIZATION/DEMOBILIZATION	ls	1	$10,000	$10,000
CONTRACTOR GENERAL CONDITIONS (CM, Superintendant, Trailer, Power, Telephone, Water, etc.)	month	48	$10,000	$480,000
UTILITY RELOCATION (telephone, power, sewer, water)	ls	1	$200,000	$200,000
BUILDING DEMOLITION				
Warehouse Building Demo and Removal	sf	78,000	$2.5	$195,000
Scrap Steel Credit	tons	350	($300)	($105,000)
EXCAVATE METALS EXCEEDANCE AREAS				
Mobilization - Required when VOC excavation not included	ls	0	$5,000	$0
Soil Excavation and Loading/Hauling to Treatment Area	tons	56	$10	$556
Transport & Disposal of VOC-Hazardous Soil (0%)	tons	0	$350	$0
Transport & Disposal of Non-Hazardous Material (100%)	tons	56	$40	$2,222
Backfill with Imported Common Fill	tons	56	$10	$556
Topsoil / Seed	sy	111	$6	$667
EXCAVATE VOC EXCEEDANCE AREAS				
Soil Excavation and Loading/Hauling to Treatment Area	tons	210,000	$10	$2,100,000
Benching (1:1 slope) excavation	tons	85,000	$10	$850,000
Shoring (areas where benching is infeasible W of warehouse)	sf	4,800	$40	$192,000
TREAT VOC EXCEEDANCE SOIL*				
Treatment System - Physical/Chemical/Biological	cu yd	140,000	$40	$5,600,000
Treatability Study	ls	1	$300,000	$300,000
Backfill with Imported Common Fill	tons	0	$10	$0
Backfill with Clean/Treated Soil	tons	295,000	$6	$1,770,000
Cover meeting a dilution attenuation factor of 103.3	sf	78,000	$5.5	$429,000
Topsoil / Seed	sy	22,000	$6	$132,000
IMPLEMENT DEED RESTRICTIONS (Excludes Property Purchase)	each	1	$50,000	$50,000
ENV. MONITORING OF TREATMENT SYSTEM				
Soil Sampling - 5 per week	weeks	208	$7,500	$1,560,000
Operating & Maintenance Labor	month	48	$10,000	$480,000
ENVIRONMENTAL CONTROLS				
Sediment & Erosion Controls				
Silt fencing around perimeters and hay bales	ft	1,000	$5	$5,000
Excavation Pit Confirmation Sampling	samples	200	$1,500	$300,000
Excavation Pit stormwater Collection				
6" pump & hoses	ls	1	$2,000	$2,000
Frac tank	month	6	$2,000	$12,000
Soil Pile Leachate Collection System	ls	1	$30,000	$30,000
Air Monitoring				
4 air monitoring stations with MiniRae 3000	ls	4	$3,500	$14,000
Health & Safety Equipment - 10 person team				
Tyvek, gloves, PID, etc.	day/person	6,000	$20	$120,000
Subtotal - Capital Cost				$14,730,000
Contractor Fee (10% of Capital Cost)				$1,473,000
Legal Fees, Licenses & Permits (5% of Capital Cost)				$736,500
Engineering & Administrative (15% of Capital Cost)				$2,209,500
Subtotal				$19,149,000
Contingency (25% of Subtotal)				$4,787,250
TOTAL CONSTRUCTION COST				$23,936,250
PRESENT WORTH O&M COST				$523,000
TOTAL PRESENT WORTH COST (ROUNDED TO NEAREST THOUSAND)				**$24,459,000**

*Costs based on on soil piles

OPERATION AND MAINTENANCE COST
ALTERNATIVE 5: SOIL EXCAVATION, EX SITU TREATMENT, AND REUSE
FEASIBILITY STUDY
PSC SITE

Inflation Rate	3.5%	Real Discount Rate:	3.4%
Nominal Discount Rate:	7%		

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL ANNUAL COST (DOLLARS)	OPERATION TIME (YEARS)	PRESENT WORTH
SITE INSPECTIONS & MAINTENANCE						
Deed Restriction Compliance Audit	events/yr	1	$5,000	$5,000	30	$93,339
Property Inspection / Management	events/yr	1	$5,000	$5,000	30	$93,339
Mowing	events/yr	12	$500	$6,000	30	$112,007
Fence Maintenance	events/yr	1	$4,000	$4,000	30	$74,671
3						
Subtotal						$373,357
Contractor Fee (10% of O&M Cost)						$37,336
Legal Fees, Licenses & Permits (5% of O&M Cost)						$18,668
Contingency (25% of O&M Cost)						$93,339
TOTAL						$523,000

PRESENT WORTH COST
ALTERNATIVE 6A: IN SITU TREATMENT - SOIL VAPOR EXTRACTION (SVE)
FEASIBILITY STUDY
PSC SITE

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL COST (DOLLARS)
MOBILIZATION	ls	1	$50,000	$50,000
CONTRACTOR GENERAL CONDITIONS (CM, Superintendant, Trailer, Power, Telephone, Water, etc.)	month	120	$5,000	$600,000
EXCAVATE METALS EXCEEDANCE AREAS				
Mobilization - Required when VOC excavation not included	ls	1	$5,000	$5,000
Soil Excavation and Loading/Hauling to Treatment Area	tons	56	$10	$556
Transport & Disposal of VOC-Hazardous Soil (0%)	tons	0	$350	$0
Transport & Disposal of Non-Hazardous Material (100%)	tons	56	$40	$2,222
Backfill with Imported Common Fill	tons	56	$10	$556
Topsoil / Seed	sy	111	$6	$667
IN-SITU TREATMENT - SVE				
SVE Pilot Study	ls	1	$200,000	$200,000
SVE Well Installation (20-ft ROI)	wells	365	$500	$182,500
Monitor Well Installation	wells	50	$1,000	$50,000
Geomembrane Soil Cover	sy	44,000	$10	$440,000
SVE (Blower and Off-Gas Treatment) Installation - 20 cfm/well	ls	6	$250,000	$1,500,000
IMPLEMENT DEED RESTRICTIONS (Excludes Property Purchase)	each	1	$50,000	$50,000
ENVIRONMENTAL CONTROLS				
Soil Vapor Monitoring (1 event/week)	events	520	$1,500	$780,000
20-hp Blower Power Requirements	yr	10	$70,920	$709,200
Health & Safety Equipment - 10 person team				
Tyvek, gloves, PID, etc.(5 on site personnel)	day/person	12,500	$20	$250,000
Subtotal - Capital Cost				$4,820,700
Contractor Fee (10% of Capital Cost)				$482,070
Legal Fees, Licenses & Permits (5% of Capital Cost)				$241,035
Engineering & Administrative (15% of Capital Cost)				$723,105
Subtotal				$6,266,910
Contingency (25% of Subtotal)				$1,566,728
TOTAL CONSTRUCTION COST				$7,833,638
PRESENT WORTH O&M COST				$1,694,000
TOTAL PRESENT WORTH COST (ROUNDED TO NEAREST THOUSAND)				$9,528,000

OPERATION AND MAINTENANCE COST
ALTERNATIVE 6A: IN SITU TREATMENT - SOIL VAPOR EXTRACTION (SVE)
FEASIBILITY STUDY
PSC SITE

Inflation Rate: 3.5% Real Discount Rate: 3.4%
Nominal Discount Rate: 7%

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL ANNUAL COST (DOLLARS)	OPERATION TIME (YEARS)	PRESENT WORTH
SVE ANNUAL O&M	yr	1	$100,000	$100,000	10	$836,644
SITE INSPECTIONS & MAINTENANCE						
Deed Restriction Compliance Audit	events/yr	1	$5,000	$5,000	30	$93,339
Property Inspection / Management	events/yr	1	$5,000	$5,000	30	$93,339
Mowing	events/yr	12	$500	$6,000	30	$112,007
Fence Maintenance	events/yr	1	$4,000	$4,000	30	$74,671
ENVIRONMENTAL SAMPLING - Included in Groundwater Remedial Options						
Subtotal						$1,210,001
Contractor Fee (10% of O&M Cost)						$121,000
Legal Fees, Licenses & Permits (5% of O&M Cost)						$60,500
Contingency (25% of O&M Cost)						$302,500
TOTAL						$1,694,000

PRESENT WORTH COST
ALTERNATIVE 6B: IN SITU TREATMENT - Thermal Enhanced SVE
FEASIBILITY STUDY
PSC SITE

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL COST (DOLLARS)
MOBILIZATION	ls	1	$50,000	$50,000
CONTRACTOR GENERAL CONDITIONS (CM, Superintendant, Trailer, Power, Telephone, Water, etc.)	month	60	$5,000	$300,000
EXCAVATE METALS EXCEEDANCE AREAS				
Mobilization - Required when VOC excavation not included	ls	1	$5,000	$5,000
Soil Excavation and Loading/Hauling to Treatment Area	tons	56	$10	$556
Transport & Disposal of VOC-Hazardous Soil (0%)	tons	0	$350	$0
Transport & Disposal of Non-Hazardous Material (100%)	tons	56	$40	$2,222
Backfill with Imported Common Fill	tons	56	$10	$556
Topsoil / Seed	sy	111	$6	$667
IN SITU THERMAL TREATMENT				
Design, Permitting, Reporting	ls	1	$195,000	$195,000
Subsurface Installation	electrodes	1,600	$5,000	$8,000,000
Surface Installation, Start Up	ls	1	$3,000,000	$3,000,000
IMPLEMENT DEED RESTRICTIONS (Excludes Property Purchase)	each	1	$50,000	$50,000
ENVIRONMENTAL CONTROLS				
Env. controls for thermal treatment are included in the #'s above				
Air Monitoring	month	24	$3,000	$72,000
Health & Safety Equipment - 5 person team				
Tyvek, gloves, PID, etc. (5 on site personnel)	day/person	5,200	$20	$104,000
Subtotal - Capital Cost				$11,780,000
Contractor Fee (10% of Capital Cost)				$1,178,000
Legal Fees, Licenses & Permits (5% of Capital Cost)				$589,000
Engineering & Administrative (15% of Capital Cost)				$1,767,000
Subtotal				$15,314,000
Contingency (25% of Subtotal)				$3,828,500
TOTAL CONSTRUCTION COST				$19,142,500
PRESENT WORTH O&M COST				$26,319,000
TOTAL PRESENT WORTH COST (ROUNDED TO NEAREST THOUSAND)				**$45,462,000**

OPERATION AND MAINTENANCE COST
ALTERNATIVE 6B: IN SITU TREATMENT - Thermal Enhanced SVE
FEASIBILITY STUDY
PSC SITE

Inflation Rate: 3.5% Real Discount Rate: 3.4%
Nominal Discount Rate: 7%

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL ANNUAL COST (DOLLARS)	OPERATION TIME (YEARS)	PRESENT WORTH
IN SITU THERMAL TREATMENT						
Thermal and Post-Thermal Operation	months/yr	12	$750,000	$9,000,000	1.5	$12,951,036
SITE INSPECTIONS & MAINTENANCE						
Deed Restriction Compliance Audit	events/yr	1	$5,000	$5,000	30	$93,339
Property Inspection / Management	events/yr	1	$5,000	$5,000	30	$93,339
Mowing	events/yr	12	$500	$6,000	30	$112,007
Fence Maintenance	events/yr	1	$4,000	$4,000	30	$74,671
ENVIRONMENTAL SAMPLING - Included in Groundwater Remedial Options						
Subtotal						$13,324,393
Electrical Engergy	day	365	$21,000			$7,665,000
Contractor Fee (10% of O&M Cost)						$1,332,439
Legal Fees, Licenses & Permits (5% of O&M Cost)						$666,220
Contingency (25% of O&M Cost)						$3,331,098
TOTAL						$26,319,000

Combination Groundwater and Soil Remedial Alternative Cost Summary

Feasibility Study Report
Former PSC Site - Rock Hill, SC

Alternative	*Description*	*Construction Cost*	*Present Worth O&M Cost*	**Total Present Worth Cost**
1	Hydraulic Containment, Select Excavation, SVE, Thermal-Enhanced MPE, and Soil Mixing	$31,988,991	$11,253,000	**$43,242,000**
2	Hydraulic Containment, Select Excavation, SVE, Thermal-Enhanced MPE, and Air Sparging	$15,408,445	$13,552,000	**$28,960,000**
3	Hydraulic Containment, SVE, Thermal-Enhanced MPE, and In Situ Thermal Treatment	$14,604,444	$21,250,000	**$35,854,000**

Notes:
Total present worth costs are rounded to the nearest $1,000.

PRESENT WORTH COST
ALTERNATIVE 1: Hydraulic Containment (regolith and bedrock)**, Select Excavation** (PTSM and metals)**, SVE** (Burn Pit Area)**, Thermal-Enhanced MPE** (Fuel Oil Area)**, and Soil Mixing** (as mapped)
FEASIBILITY STUDY
PSC SITE

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL COST (DOLLARS)
MOBILIZATION	ls	1	$260,000	$260,000
CONTRACTOR GENERAL CONDITIONS (CM, Superintendant, Trailer, Power, Telephone, Water, etc.)	month	18	$30,000	$540,000
BUILDING DEMOLITION				
Warehouse Building Demo and Removal	sf	78,000	$2.5	$195,000
Scrap Steel Credit	tons	350	($300)	($105,000)
EXCAVATE METALS EXCEEDANCE AREAS				
Mobilization - Required when VOC area excavation not included	ls	0	$5,000	$0
Soil Excavation and Loading/Hauling	tons	56	$10	$556
Transport & Disposal of VOC-Hazardous Soil (0%)	tons	0	$350	$0
Transport & Disposal of Non-Hazardous Material (100%)	tons	56	$40	$2,222
Backfill with Imported Common Fill	tons	56	$10	$556
Topsoil / Seed	sy	111	$6	$667
Confirmatory Sampling and Waste Characterization	each	10	$250	$2,500
EXCAVATE PTSM AREAS				
Excavation & Handling of Material	tons	2,500	$10	$25,000
Benching (1:1 slope) excavation	tons	1,860	$10	$18,600
Shoring (areas where benching is infeasible W of warehouse)	sf	3,340	$40	$133,600
Transport & Disposal of Non-Hazardous Material (95%)	tons	4,140	$40	$165,600
Transport & Disposal of Hazardous Material (5%)	tons	220	$350	$77,000
Backfill with Imported Common Fill	tons	4,360	$10	$43,600
Backfill with Clean/Treated Soil	tons	0	$6	$0
Topsoil / Seed	sy	370	$6	$2,220
SVE IN BURN PIT AREA				
SVE Pilot Study	ls	1	$100,000	$100,000
SVE Well Installation (20-ft ROI)	wells	7	$500	$3,500
Monitor Well Installation	wells	5	$1,000	$5,000
Geomembrane Soil Cover	sy	1,000	$10	$10,000
SVE (Blower and Off-Gas Treatment) Installation - 20 cfm/well	ls	1	$125,000	$125,000
DEEP SOIL MIXING				
Pilot Test / Design	ls	1	$100,000	$100,000
Mixing / Construction	tons	250,000	$25	$6,250,000
Potassium Permanganate	tons	2,500	$3,000	$7,500,000
THERMAL-ENHANCED MPE				
Design, Permitting, Reporting	ls	1	$150,000	$150,000
Subsurface Installation	electrodes	200	$7,700	$1,540,000
Surface Installation, Start Up	ls	1	$1,300,000	$1,300,000
REGOLITH (SHALLOW) CONTAINMENT SYSTEM				
Extraction Wells (3-5 GPM per well)	each	6	$6,000	$36,000
Extraction System Expansion (controls, pumps, conduits, etc.)	each	6	$15,000	$90,000
BEDROCK CONTAINMENT SYSTEM				
Extraction Wells (3-5 GPM per well)	each	6	$12,000	$72,000
Extraction System Expansion (controls, pumps, conduits, etc.)	each	6	$15,000	$90,000
GROUNDWATER TREATMENT SYSTEM UPGRADES - 30 GPM Additional Capacity				
Tank Upgrades	ls	1	$250,000	$250,000
Pump Upgrades	ls	1	$75,000	$75,000
Carbon Adsorption Upgrades	ls	1	$100,000	$100,000
IMPLEMENT DEED RESTRICTIONS (Excludes Property Purchase)	each	1	$50,000	$50,000
ENVIRONMENTAL CONTROLS				
Soil Vapor Monitoring (1 event/week)	events	520	$500	$260,000
10-hp Blower Power Requirements (0.75 kW/hp)	hr/yr	8,760	$0.68	$5,913

PRESENT WORTH COST
ALTERNATIVE 1: Hydraulic Containment (regolith and bedrock)**, Select Excavation** (PTSM and metals)**, SVE** (Burn Pit Area)**, Thermal-Enhanced MPE** (Fuel Oil Area)**, and Soil Mixing** (as mapped)
FEASIBILITY STUDY
PSC SITE

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL COST (DOLLARS)
Sediment & Erosion Controls				
Silt fencing around perimeters and hay bales	ft	1,400	$5	$7,000
Stormwater Collection				
6" pump & hoses	month	1	$2,000	$2,000
Frac tank	month	12	$2,000	$24,000
PTSM Excavation Pit Confirmation Sampling	samples	20	$1,500	$30,000
Air Monitoring				
4 air monitoring stations with MiniRae 3000	month	18	$3,500	$63,000
Health & Safety Equipment - 10 person team				
Tyvek, gloves, PID, etc	day/person	3,750	$20	$75,000
Waste Characterization (1 every 500 tons)	ea	10	$1,000	$10,000
Subtotal - Capital Cost				$19,685,533
Contractor Fee (10% of Capital Cost)				$1,968,553
Legal Fees, Licenses & Permits (5% of Capital Cost)				$984,277
Engineering & Administrative (15% of Capital Cost)				$2,952,830
Subtotal				$25,591,193
Contingency (25% of Subtotal)				$6,397,798
TOTAL CONSTRUCTION COST				$31,988,991
PRESENT WORTH O&M COST				$11,253,000
TOTAL PRESENT WORTH COST (ROUNDED TO NEAREST THOUSAND)				**$43,242,000**

OPERATION AND MAINTENANCE COST
ALTERNATIVE 1: Hydraulic Containment (regolith and bedrock)**, Select Excavation** (PTSM and metals)**, SVE** (Burn Pit Area)**, Thermal-Enhanced MPE** (Fuel Oil Area)**, and Soil Mixing** (as mapped)
FEASIBILITY STUDY
PSC SITE

Inflation Rate. 3.5% Real Discount Rate: 3.4%
Nominal Discount Rate 7%

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL ANNUAL COST (DOLLARS)	OPERATION TIME (YEARS)	PRESENT WORTH
SVE ANNUAL O&M	yr	1	$35,000	$35,000	10	$292,825
THERMAL-ENHANCED MPE						
Thermal and Post-Thermal Operation	months/yr	12	$99,500	$1,194,000	1.5	$1,718,171
TREATMENT SYSTEM O&M						
Carbon replacement	events/yr	4	$15,000	$60,000	30	$1,120,070
Additional Power Requirements	kWH/yr	300,000	$0.09	$27,000	30	$504,032
Monthly O&M	events/yr	12	$8,000	$96,000	30	$1,792,113
ENV. MONITORING OF GROUNDWATER & SURFACE WATER						
Site Monitoring Plan & Reevaluation (every 5 years)	lump sum	1	$20,000	$4,000	30	$74,671
Environmental Sampling/Analysis/Assessment (yearly)	lump sum	1	$40,000	$40,000	30	$746,714
Report Preparation (yearly)	lump sum	1	$20,000	$20,000	30	$373,357
SITE INSPECTIONS & MAINTENANCE						
Deed Restriction Compliance Audit	events/yr	1	$5,000	$5,000	30	$93,339
Property Inspection / Management	events/yr	1	$5,000	$5,000	30	$93,339
Mowing	events/yr	12	$500	$6,000	30	$112,007
Fence Maintenance	events/yr	1	$4,000	$4,000	30	$74,671
Subtotal						$6,995,309
Electrical Energy	day	365	$4,000			$1,460,000
Contractor Fee (10% of O&M Cost)						$699,531
Legal Fees, Licenses & Permits (5% of O&M Cost)						$349,765
Contingency (25% of O&M Cost)						$1,748,827
TOTAL						$11,253,000

PRESENT WORTH COST
ALTERNATIVE 2: Hydraulic Containment (bedrock)**, Select Excavation** (PTSM and metals)**, SVE** (as mapped)**, Thermal-Enhanced MPE** (Fuel Oil Area)**, and Air Sparging** (as mapped)
FEASIBILITY STUDY
PSC SITE

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL COST (DOLLARS)
MOBILIZATION	ls	1	$25,000	$25,000
CONTRACTOR GENERAL CONDITIONS (CM, Superintendant, Trailer, Power, Telephone, Water, etc)	month	18	$20,000	$360,000
EXCAVATE METALS EXCEEDANCE AREAS				
Mobilization - Required when VOC area excavation not included	ls	0	$5,000	$0
Soil Excavation and Loading/Hauling	tons	56	$10	$556
Transport & Disposal of VOC-Hazardous Soil (0%)	tons	0	$350	$0
Transport & Disposal of Non-Hazardous Material (100%)	tons	56	$40	$2,222
Backfill with Imported Common Fill	tons	56	$10	$556
Topsoil / Seed	sy	111	$6	$667
Confirmatory Sampling and Waste Characterization	each	10	$250	$2,500
EXCAVATE PTSM AREAS				
Excavation & Handling of Material	tons	2,500	$10	$25,000
Benching (1:1 slope) excavation	tons	1,860	$10	$18,600
Shoring (areas where benching is infeasible W of warehouse)	sf	3,340	$40	$133,600
Transport & Disposal of Non-Hazardous Material (95%)	tons	4,140	$40	$165,600
Transport & Disposal of Hazardous Material (5%)	tons	220	$350	$77,000
Backfill with Imported Common Fill	tons	4,360	$10	$43,600
Backfill with Clean/Treated Soil	tons		$6	$0
Topsoil / Seed	sy	370	$6	$2,220
IN-SITU TREATMENT - SVE				
SVE Well Installation (30-ft radius)	wells	140	$500	$70,000
Monitor Well Installation	wells	50	$1,000	$50,000
Geomembrane Soil Cover	sy	44,000	$10	$440,000
SVE (Blower and Off-Gas Treatment) Installation - 20 cfm/well	ls	3	$250,000	$750,000
IN-SITU TREATMENT - AIR SPARGING				
Air Sparging Pilot Study	ls	1	$100,000	$100,000
Air Sparging Injection Well Installation (15-ft ROI)	wells	560	$2,000	$1,120,000
Air Sparging System Installation - 10 cfm/well	treat area	10	$150,000	$1,500,000
BEDROCK CONTAINMENT SYSTEM				
Extraction Wells (3-5 GPM per well)	each	6	$12,000	$72,000
Extraction System Expansion controls, pumps, conduits, etc)	each	6	$15,000	$90,000
THERMAL-ENHANCED MPE				
Design, Permitting, Reporting	ls	1	$150,000	$150,000
Subsurface Installation	electrodes	200	$7,700	$1,540,000
Surface Installation, Start Up	ls	1	$1,300,000	$1,300,000
IMPLEMENT DEED RESTRICTIONS (Excludes Property Purchase)	each	1	$50,000	$50,000
ENVIRONMENTAL CONTROLS				
Soil Vapor Monitoring (1 event/week)	events	520	$1,500	$780,000
10-hp Compressor Power Requirements (0.75 kW/hp)	yr	1	$59,000	$59,000
20-hp Blower Power Requirements	yr	10	$34,500	$345,000
Sediment & Erosion Controls				
Silt fencing around perimeters and hay bales	ft	1,000	$5	$5,000
Stormwater Collection				
6" pump & hoses	month	1	$2,000	$2,000
Frac tank	month	12	$2,000	$24,000
PTSM Excavation Pit Confirmation Sampling	samples	20	$1,500	$30,000
Air Monitoring				
4 air monitoring stations with MiniRae 3000	month	18	$3,500	$63,000

PRESENT WORTH COST **ALTERNATIVE 2: Hydraulic Containment** (bedrock), **Select Excavation** (PTSM and metals), **SVE** (as mapped), **Thermal-Enhanced MPE** (Fuel Oil Area), **and Air Sparging** (as mapped) FEASIBILITY STUDY PSC SITE				
ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL COST (DOLLARS)
Health & Safety Equipment - 10 person team				
Tyvek, gloves, PID, etc.	day/person	3,750	$20	$75,000
Waste Characterization (1 every 500 tons)	ea	10	$1,000	$10,000
Subtotal - Capital Cost				$9,482,120
Contractor Fee (10% of Capital Cost)				$948,212
Legal Fees, Licenses & Permits (5% of Capital Cost)				$474,106
Engineering & Administrative (15% of Capital Cost)				$1,422,318
Subtotal				$12,326,756
Contingency (25% of Subtotal)				$3,081,689
TOTAL CONSTRUCTION COST				$15,408,445
PRESENT WORTH O&M COST				$13,552,000
TOTAL PRESENT WORTH COST (ROUNDED TO NEAREST THOUSAND)				**$28,960,000**

OPERATION AND MAINTENANCE COST **ALTERNATIVE 2: Hydraulic Containment** (bedrock), **Select Excavation** (PTSM and metals), **SVE** (as mapped), **Thermal-Enhanced MPE** (Fuel Oil Area), **and Air Sparging** (as mapped) FEASIBILITY STUDY PSC SITE Inflation Rate: 3.5% Real Discount Rate. 3.4% Nominal Discount Rate 7%						
ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL ANNUAL COST (DOLLARS)	OPERATION TIME (YEARS)	PRESENT WORTH
ENV MONITORING OF SVE and AIR SPARGE SYSTEM						
Air Sampling and Analysis	events/yr	12	$2,000	$24,000	10	$200,795
Groundwater Sampling and Analysis	events/yr	12	$5,000	$60,000	10	$501,986
Air Sparging System O&M	yr	1	$100,000	$100,000	10	$836,644
20-hp Blower Power Requirements (0.75 kW/hp)	yr	1	$35,400	$35,400	10	$296,172
10-hp Compressor Power Requirements (0.75 kW/hp)	yr	1	$11,800	$11,800	10	$98,724
Off-Gas Treatment	Included in air sparging system installation costs					
THERMAL-ENHANCED MPE						
Thermal and Post-Thermal Operation	months/yr	12	$99,500	$1,194,000	1.5	$1,718,171
TREATMENT SYSTEM O&M						
Carbon replacement	events/yr	4	$15,000	$60,000	30	$1,120,070
Additional Power Requirements	kWH/yr	300,000	$0.09	$27,000	30	$504,032
Monthly O&M	events/yr	12	$8,000	$96,000	30	$1,792,113
ENV. MONITORING OF GROUNDWATER & SURFACE WATER						
Site Monitoring Plan & Reevaluation (every 5 years)	lump sum	1	$20,000	$4,000	30	$74,671
Environmental Sampling/Analysis/Assessment (yearly)	lump sum	1	$40,000	$40,000	30	$746,714
Report Preparation (yearly)	lump sum	1	$20,000	$20,000	30	$373,357
SITE INSPECTIONS & MAINTENANCE						
Deed Restriction Compliance Audit	events/yr	1	$5,000	$5,000	30	$93,339
Property Inspection / Management	events/yr	1	$5,000	$5,000	30	$93,339
Mowing	events/yr	12	$500	$6,000	30	$112,007
Fence Maintenance	events/yr	1	$4,000	$4,000	30	$74,671
Subtotal						$8,636,805
Electrical Energy	day	365	$4,000			$1,460,000
Contractor Fee (10% of O&M Cost)						$863,681
Legal Fees, Licenses & Permits (5% of O&M Cost)						$431,840
Contingency (25% of O&M Cost)						$2,159,201
TOTAL						$13,552,000

PRESENT WORTH COST

ALTERNATIVE 3: Hydraulic Containment (regolith and bedrock)**, SVE** (Burn Pit Area)**, Thermal-Enhanced MPE** (Fuel Oil Area)**, and In Situ Thermal Treatment** (as mapped)

FEASIBILITY STUDY

PSC SITE

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL COST (DOLLARS)
MOBILIZATION	ls	1	$25,000	$25,000
CONTRACTOR GENERAL CONDITIONS (CM, Superintendant, Trailer, Power, Telephone, Water, etc.)	month	18	$20,000	$360,000
EXCAVATE METALS EXCEEDANCE AREAS				
Mobilization - Required when VOC area excavation not included	ls	1	$5,000	$5,000
Soil Excavation and Loading/Hauling	tons	56	$10	$556
Transport & Disposal of VOC-Hazardous Soil (0%)	tons	0	$350	$0
Transport & Disposal of Non-Hazardous Material (100%)	tons	56	$40	$2,222
Backfill with Imported Common Fill	tons	56	$10	$556
Topsoil / Seed	sy	111	$6	$667
Confirmatory Sampling and Waste Characterization	each	10	$250	$2,500
SVE IN BURN PIT AREA				
SVE Pilot Study	ls	1	$100,000	$100,000
SVE Well Installation (20-ft ROI)	wells	7	$500	$3,500
Monitor Well Installation	wells	5	$1,000	$5,000
Geomembrane Soil Cover	sy	1,000	$10	$10,000
SVE (Blower and Off-Gas Treatment) Installation - 20 cfm/well	ls	1	$125,000	$125,000
THERMAL-ENHANCED MPE & IN SITU THERMAL				
Design, Permitting, Reporting	ls	1	$195,000	$195,000
Subsurface Installation	electrodes	755	$7,200	$5,436,000
Surface Installation, Start Up	ls	1	$1,532,250	$1,532,250
REGOLITH (SHALLOW) CONTAINMENT SYSTEM				
Extraction Wells (3-5 GPM per well)	each	4	$6,000	$24,000
Extraction System Expansion (controls, pumps, conduits, etc.)	each	4	$15,000	$60,000
BEDROCK CONTAINMENT SYSTEM				
Extraction Wells (3-5 GPM per well)	each	6	$12,000	$72,000
Extraction System Expansion controls, pumps, conduits, etc.)	each	6	$15,000	$90,000
GROUNDWATER TREATMENT SYSTEM UPGRADES - 30 GPM Additional Capacity				
Tank Upgrades	ls	1	$250,000	$250,000
Pump Upgrades	ls	1	$75,000	$75,000
Carbon Adsorption Upgrades	ls	1	$100,000	$100,000
IMPLEMENT DEED RESTRICTIONS (Excludes Property Purchase)	each	1	$50,000	$50,000
ENVIRONMENTAL CONTROLS				
Soil Vapor Monitoring (1 event/week)	events	520	$500	$260,000
10-hp Blower Power Requirements	yr	10	$5,910	$59,100
Sediment & Erosion Controls				
Silt fencing around perimeters and hay bales	ft	1,000	$5	$5,000
Air Monitoring				
4 air monitoring stations with MiniRae 3000	month	18	$3,500	$63,000
Health & Safety Equipment - 10 person team				
Tyvek, gloves, PID, etc.	day/person	3,750	$20	$75,000
Waste Characterization (1 every 500 tons)	ea	1	$1,000	$1,000
Subtotal - Capital Cost				$8,987,350
Contractor Fee (10% of Capital Cost)				$898,735
Legal Fees, Licenses & Permits (5% of Capital Cost)				$449,368
Engineering & Administrative (15% of Capital Cost)				$1,348,103
Subtotal				$11,683,555
Contingency (25% of Subtotal)				$2,920,889
TOTAL CONSTRUCTION COST				$14,604,444
PRESENT WORTH O&M COST				$21,250,000
TOTAL PRESENT WORTH COST (ROUNDED TO NEAREST THOUSAND)				**$35,854,000**

OPERATION AND MAINTENANCE COST
ALTERNATIVE 3: Hydraulic Containment (regolith and bedrock), **SVE** (Burn Pit Area), **Thermal-Enhanced MPE** (Fuel Oil Area), **and In Situ Thermal Treatment** (as mapped)
FEASIBILITY STUDY
PSC SITE

Inflation Rate: 3.5% Real Discount Rate: 3.4%
Nominal Discount Rate: 7%

ITEM DESCRIPTION	UNITS	QUANTITY	UNIT PRICE (DOLLARS)	TOTAL ANNUAL COST (DOLLARS)	OPERATION TIME (YEARS)	PRESENT WORTH
SVE ANNUAL O&M	yr	1	$35,000	$35,000	10	$292,825
THERMAL-ENHANCED MPE						
Thermal and Post-Thermal Operation	months/yr	12	$356,000	$4,272,000	1.5	$6,147,425
TREATMENT SYSTEM O&M						
Carbon replacement	events/yr	4	$15,000	$60,000	30	$1,120,070
Additional Power Requirements	kWH/yr	300,000	$0.09	$27,000	30	$504,032
Monthly O&M	events/yr	12	$8,000	$96,000	30	$1,792,113
ENV. MONITORING OF GROUNDWATER & SURFACE WATER						
Site Monitoring Plan & Reevaluation (every 5 years)	lump sum	1	$20,000	$4,000	30	$74,671
Environmental Sampling/Analysis/Assessment (yearly)	lump sum	1	$40,000	$40,000	30	$746,714
Report Preparation (yearly)	lump sum	1	$20,000	$20,000	30	$373,357
SITE INSPECTIONS & MAINTENANCE						
Deed Restriction Compliance Audit	events/yr	1	$5,000	$5,000	30	$93,339
Property Inspection / Management	events/yr	1	$5,000	$5,000	30	$93,339
Mowing	events/yr	12	$500	$6,000	30	$112,007
Fence Maintenance	events/yr	1	$4,000	$4,000	30	$74,671
Subtotal						$11,424,564
Electrical Energy	day	365	$14,400			$5,256,000
Contractor Fee (10% of O&M Cost)						$1,142,456
Legal Fees, Licenses & Permits (5% of O&M Cost)						$571,228
Contingency (25% of O&M Cost)						$2,856,141
TOTAL						$21,250,000

Appendix B : Transcript

State of South Carolina)
County of York)

In Re: Philip Services Corporation Site)

Transcript of DHEC Public Meeting

Date: Tuesday, August 26, 2014

Time: 6:42 p.m.

Location: South Point High School, 801 Neely Road, Rock Hill, South Carolina

Reported by
Susan Wyant

APPEARANCES

DHEC officials present:

Pat Vincent
Greg Harrington
Lucas Berresford
Gary Stewart
Steve Whisenant

Speakers from the public:

Annie Williams
Councilman Curwood Chappell
David Lynch
Ragan Craig
Melvin McCullough
Christi Cox
John Platt
Representative John R. King

PROCEEDINGS

MS. VINCENT: Hello, everyone. Can you hear us okay? All right. Good. This -- we're glad you're here today. We thank you for coming out. We're here to share some information about a site in your area. The name of the site is formerly known as ThermalKEM. We have several operators that have operated at that facility. It's located at 2324 Vernsdale Road in Rock Hill, and to give you a general idea of where that is, it's at the corner of Robertson Road, Vernsdale Road, and it's across the street from Nazareth Baptist. We're thankful that you're here today.

We have several DHEC representatives with us. I'm Pat Vincent, and I am with the Land & Waste Management Bureau. We have Lucas Berresford, who is our project manager for this site, and he will be presenting a presentation -- a PowerPoint presentation for you to help you to see what's going on and know what's going on in your community. Also, we have Gary Stewart, who is Lucas's supervisor and over -- he's the manager of the state remediation section. We have, also, some of our regional folks here today: Steve Whisenant and Gary Harrigan is here and -- excuse me -- Greg

Harrington is here. These folks work in your community every day, so we're thankful that they're here today.

We have a court reporter as well. She is sitting to my left, and her name is Susan Wyant. What she will be doing is recording the -- the meeting today and will be able to provide us, at a later date, a transcript of -- of this meeting. And so later on when we have a -- a comment period where we want you to participate by asking any questions that you might have, we don't have a -- a cordless mic. We ask that you have to come forward, if you don't mind, so that we can answer those questions and have it on the record.

We have a few things before Mr. Berresford gets started. We have a sign-in sheet. We ask that you sign in today, and that will help us to make sure that you're on our mailing list if you're not on it. And it is in the back, at the table. We also have an administrative record that we have placed at the Rock Hill library. It's York County Library that's on 138 East Black Street, and the administrative record is a compilation of many environmental reports that the department would've relied on in making technical decisions. Those are available to you and even -- we've got a history with this site, so we have some -- even some past documents that are still available from the last time we updated it.

Also, if you've gotten our -- can you hear me, sir? Also, if you received our postcard, you would've seen that we have a Web site, and several of those documents are available on our Web site. It has been a Web site that's been quirky. Sometimes it works, and sometimes it doesn't. And we apologize to you for that, but we do have some of those documents available online so that you can go online and look at it. I will tell you to check the pages before you hit your print key at home. Some of these documents are quite large and also have some maps that may be larger than, you know, your printer at home might be able to print, so just keep that in mind whenever you're looking at those things.

We have a comment period for -- for you guys -- for the public to provide us comments on this proposed plan that we have that we'll be presenting today, and that will end on September 26 at the -- so we -- any of your questions that you bring up today or comments that you have will be part of our record. And we'll try to respond to all those questions today. If we're not able to, we'll be sure to provide you those responses once we get back to our office. And that's -- let's see. Are -- is -- I reckon we'll go ahead and let Mr. Berresford get started. Lucas Berresford. Thanks.

MR. BERRESFORD: I'd like to thank everybody for coming out to our meeting tonight. As Pat mentioned, this site has had many names. It was known as "ThermalKEM" for the majority of its operation, but was also known as the "Philip Services Corporation" as the last owner/operator of the facility. I'm the project manager. I've been on this project since we -- it became a site, and we're here to talk about a few things tonight.

The -- we want to give you a brief site history of the things that have happened in the past, talk about the investigative work that we did and show you the results of the sampling, and then discuss the evaluation of remedial alternatives. And the main reason we're here is to talk about the proposed cleanup of the site. And with this meeting begins a public comment period where we welcome your questions and concerns, and we'll get answers to those, and it will become part of the decision document for this site.

This figure here shows the site back in 1979, and operations back then revolved around this area, right here. It was a distillation process. And I apologize for the figure, but it is an aerial from '79 and it's the best available. But this area, here, and back over in this area is drums of waste material that the company received.

The site began operation in 1966 as "Quality Drum." They stored waste material. They did some treatment. They did recycling. They basically ran spent solvents through a distillation process to recover them, and then they had a product and they also had a waste stream from that. Back in 1970 -- I mean, 1966, there were not a lot of regulations in place regulating companies who were doing this type of process. They came -- the regulations started coming into effect in the mid to late '70s and then on into the '80s.

In 1981, they changed the operations of the site from a distillation process to a hazardous waste incinerator, and this was regulated by DHEC through the RCRA program. And then there was a -- various different names that it operated under: Stablex, ThermalKEM, and then finally PSC. And then in 1998 the incinerator closed, and they continued to operate some operations at the site, but the actual incineration of waste material stopped.

Some of the questions are: Well, when they were operating, how did we get releases in the environment, and what are some of the things that happened? On two separate occasions, they had large fires that basically burned the plant -- the majority -- to the ground, and in that, it caused release of chemicals into the environment. And there were also some other operational things that caused some releases in the environment. And then you have the time period before regulations were in place that also contributed to it.

So what brought us in is, in June 2003, PSC files for bankruptcy protection. And out of that bankruptcy, there was a settlement that established a trustee for the site to manage the site and established an account for the assessment and cleanup of the facility, and that was approximately $4.3 million. Now, out of that, DHEC and EPA working together -- DHEC took on the role as the lead agency in the assessment and the cleanup of the site.

So since PSC operated and they shut down, the department's taken on a lot of actions at the site. There was an existing groundwater treatment system in place that was pumping contaminated groundwater, treating it, and then discharging it to the wastewater treatment -- the city wastewater treatment system. DHEC took over operations of that in 2003. In 2004, there was an ice storm that basically collapsed the incinerator building, so the department went in and removed the incinerator building. And in the 2000 time frame also we began our investigation of the site.

The groundwater treatment system at the site was quite outdated. It was requiring, basically, two people to work 40 hours a week in order to keep it operational, and there were a lot of problems with it. So one of the things that we did go in and do was we completely updated and renovated the system, got it working much more effectively. It went from having to have two people there every day, all day to having one person there about 30 hours a week, and the system has been running great ever since we got these upgrades in place.

In 2008, we completed our investigation. In 2011 -- you'll hear us refer to the "feasibility study." That's where we started looking at cleanup alternatives and evaluating the cleanup alternatives to try to determine: What is the best fit to clean up the contamination at the site? We completed that in 2011, and now we're here today, 2014, with the proposed cleanup alternative, seeking your input.

This is the site as it looks today. The former incinerator and the distillation system sat in approximately the same location, right through here. Our wastewater treatment system sits right here. There's a series of extraction wells that run kind of along the perimeter of the site and that pumps the groundwater into the treatment system to prevent it from migrating into the creek. And the creek runs right through here, and then there's another creek that runs and connects right down below here. But this just gives you the general look of the site. There was drum storage for -- back -- all through this building. Where you saw the -- the large group of drums, that was right through here on the earlier photograph from '79.

So what we did in our investigation was we looked at the groundwater, the surface water, the sediment, and the soil, and we assessed all these areas to determine what were the contaminants in the different areas and how -- how bad was it, basically. So we started looking at the different areas that could contribute to the contamination, and here's a list of what they all were. There was a Stablex materials area, and this was basically a large, open field that it was thought there may have been some disposal out in. We did a detailed investigation out there and did some sampling out there, and we actually didn't find a problem in that particular area -- didn't find any buried material or anything like that that would be causing a problem to the environment. There was a truck wash area, a storm water pond, drum repackaging area. This was also the area that burned a couple times during the life of this site. There was a drum management area. There was a contaminant ditch area that goes back a long way and is a major source of contamination at the site. And then there was the container storage, the incinerator sump, and the fuel area.

So this is kind of how they look on the map, and you can see how the kind of interrelate. This is the material -- Stablex materials area where we didn't really find a lot of concern. Here was the storm water pond. This was the fuel area. The fuel area is basically used to fuel the incinerator, and there were several releases in that area. The incinerator, right in here, the drum processing area, drum management area, and so -- and then a burn pit area over here that went way back to when they would just take drums over there and burn them.

So we started our investigation by looking at the 54 existing groundwater monitoring wells on the site, and we sampled those. And then, over the course of the investigation, we added an additional 30 groundwater monitoring wells so that we could further define where the contamination was, look in some areas that we didn't necessarily have a lot of information on, and get a better picture of what the conditions were. And what we saw was we had elevated concentrations of semi-volatile organic compounds and volatile organic compounds at the site in the groundwater. And I won't go into all of these, but this gives you the idea of the amount of chemicals that we're dealing with in the groundwater.

There's a lot of different things, but to simplify things, we break them down into three groups. We have the BTEX category, which is your benzenes, your toluenes, your ethylbenzenes, and your xylenes. And then we have the chlorinated ethenes and ethanes, which is all your solvents and things like that that they received and treated. And then chlorobenzenes. So when we ran analytical in the groundwater, we saw all of these different compounds, maybe not in the same well, but over the -- looking at the whole site, we saw all of these at levels that we needed to be addressed.

This figure shows the concentrations of BTEX compounds. It doesn't break it down by component, but it's a total concentration. And you can see the contaminant ditch area was right around in here, and that's a large source of it. And you have the fuel area through here that is also fueling that, but the orange is the higher concentrations. And granted, the scale is a little skewed because it's adding all of those compounds together for a total concentration. But if you look at, like, benzene as a contaminant, the groundwater standard for benzene is 5 parts per billion, and in the orange sections here and up in here, we're up around 50,000 parts per billion. So that kind of shows you the level of magnitude of the contamination.

This is looking at the chlorinated ethanes, and you can see it's a little more spread out than the BTEX chemicals. This is the higher spot there, and it's in the 50 range as well. And -- and all of these figures that we're looking at right now are showing the shallow groundwater concentrations.

And this figure shows the chlorobenzenes. The incinerator was right in this area here, and you can see that's where the most concentrated areas are for that.

So we have some basic trends on all of these. That contaminant ditch area, the incinerator area, the drum storage area, they were all primary sources of contamination at the site for pretty much all of the compounds in the shallow groundwater.

This is looking at the chlorinated ethanes in the bedrock groundwater, so this is the deeper groundwater at the site. And you can see it does it a little different than the shallow groundwater. It actually moves off in this direction a little bit, toward the creek, whereas the majority of the other contamination is moving in this direction in the shallow groundwater. But we have elevated levels in this area and this area at the higher concentrations. And basically, this was just to, kind of, understand where is the groundwater contamination, help us in evaluating our treatment system, make sure that we had things in the right spot and that we were getting the right capture to prevent it from getting to the creek.

So out of our investigation we basically came up with four areas of concern for groundwater -- four primary areas. One over here in the incinerator and the drum storage area, the contaminant ditch -- solvent ditch area over here, the fuel area, and then the burn pit area, back in this area. They seem to be the primary areas contributing to the groundwater contamination. So the -- these phases weren't separate. They were all, kind of, done together. We did groundwater and soil sampling kind of simultaneously, but for the purpose of this presentation, all these brown sampling points show where we did different soil locations. We got the ground -- initial groundwater data. We used that to show, "Okay. We've got high groundwater contamination here. We need to look at the soils and see if there's a source in contamination."

We did about 68 soil borings across the site. At each boring, we collected somewhere between two and five soil samples for screening, and what we basically found here was similar to the groundwater. We have four distinct areas of soil contamination: up in the drum staging area, contaminant ditch area, incinerator area, and this is kind of where the lagoon used to be over in this area.

Much like the groundwater, we saw the same types of contamination. We saw the BTEXes, the chlorinated ethenes and ethanes, and the chlorinated benzenes. The one thing that we did see in some of the soil sampling that we did not see in the groundwater is we saw some metals contamination. And it wasn't a large area that we saw this, but there was a small area that had some metals contamination above the screening levels.

As part of the investigation, we went down the two creeks and collected 23 samples from the Fishing Creek, 59 samples from Wildcat Creek. Wildcat Creek was the longer of the creeks. It kind of runs the length of the site and the groundwater migrates toward it. Based on the screening, we went back out and collected a series of groundwater samples and sediment samples at the same locations we collected the surface water samples.

In that -- in that investigation, we also looked at the background levels for that stream, and we didn't see anything in surface water and the sediment that was above the background concentrations. So it looks like the treatment system was doing what it was intended to do, which was prevent the groundwater from migrating into the stream.

So after we completed our investigation, we started looking at: What are the goals for our cleanup? What are we trying to accomplish? And one of the first goals was to minimize human contact with contamination in the soil. And then we were looking at how do we prevent further contamination from groundwater -- from soil to groundwater and groundwater to surface water, and how do we prevent people from being exposed to groundwater above remedial goals. "Maximum contaminant levels" is what the "MCLs" mean. But basically, the standards that are set for groundwater, how do we keep people from being exposed to those? And the ultimate goal is to then put a remedy in place that will allow groundwater to be restored to the MCLs, or the drinking water standards.

And then the other thing that we looked at is: As it stands right now, the building that's in place is an open warehouse. It's vented to the outside. There's not a lot of risk of vapors migrating up from soils into that area and collecting and causing a problem. But if there was another use and another building got put in there and could potentially do that -- could -- you put a building in place and potentially could have migration from groundwater soils into the indoor air in that building. We're wanting to make sure that we reduce the possibility of that.

So we had to go through an evaluation of what things would work for the cleanup of this site. And the, kind of, standard evaluation -- we looked at the remedial alternative for soil. We always look at no action as a baseline for comparison of all the other remedies. So would it be acceptable to do nothing at this site? We quickly decided the answer to that is no.

Then we look at institutional controls. Is there some kind of restriction that can be put on the property that would allow it to be safe? And by itself, the answer to that one was no.

So then we looked at other possibilities. We have containment, which is basically capping over the site -- putting a cover over it to prevent exposure. We could excavate the contaminated soils, treat them on-site. We could excavate the contaminated soil, send it off-site to a proper disposal facility. We could look at doing soil vapor extraction, which basically pulls the vapor and contaminated -- contamination out of the soil. And we could look at in situ thermal treatment, and this would basically bake the soil to the point the contamination left.

So kind of on the same lines, we looked at groundwater, and we looked at the same basic concept. We looked at no action. We looked at institutional controls, long-term monitoring. Those, by themselves, would not work for this site.

We looked at hydraulic containment, and that's basically a -- maybe do an expansion to the groundwater treatment system that we have in place, preventing the contamination from going further and limiting it to basically where it is now. Then we looked at more active treatments like adding an oxidant to the contaminated groundwater to chemically break down these different contaminants. And that's the in situ chemical oxidation. And then we looked, like, at sparging the water with air -- air sparging. And then we looked at putting a wall in the ground that would allow groundwater to pass through it and would treat it.

So once we looked at all these initially, we -- looking at the different areas, the big problem comes in that there's no real remedy by itself that will work for this site because we have all the different contaminants. Each contaminant works a little differently, and there wasn't any one of those for soil or one of those for groundwater that, by itself, would clean up the site. So we had to go back and develop some combinations of alternatives in order to truly have a good remedy that we could bring to y'all tonight and talk about.

So we looked at three different alternatives, and when we were looking at them, there are certain areas that just lend themselves best to certain technologies. So the things that are here are going to be the same on all three of the next alternatives that we talk about. We're going to have a thermal-enhanced, multi-phased extraction for the fuel area, and what that basically means is you're going to be heating up that area -- the groundwater and contaminated soil. You're going to pull off the vapor that it generates, and you're going to pull off the contaminated material as well. It's -- it's more of a thicker contamination area. You're going to pull it off, and that's how you're going to get it out of the ground and treat it.

And then we looked at the metals areas, and it's a very limited area that we're dealing with. A lot of the technologies that we're looking at really don't have an effect on metals, so it seems to make the most sense, with the limited area, to dig those areas up, send them off for proper disposal.

We looked in the burn pit area and we saw some rather intriguing things, and it seems like the -- what it lends itself best for is the soil vapor extraction system, but at the same time, we recognize that there needs to be a little more investigation into that area to make sure that that is really what needs to be done there. And all of these next remedies will have a monitoring component to it and some form of deed restrictions placed on the property at the end of the remediation.

So looking at the different alternatives we came up with, the first one has hydraulic containment, removal, soil vapor extraction, deep soil mixing as, kind of, the primary components of it. Alternative 2 has removal, soil vapor extraction, and air sparging as its primary components. And then Alternative 3 has hydraulic containment and in situ thermal treatment as the primary components of it.

So as we talk about Alternative 1, highly contaminated soils would be excavated out and sent off for disposal under this alternative. If the concentration of the material is over 1,000 times the screening value, it would be removed, sent off-site for disposal. What's left would be mixed with an oxidant that would cause the VOCs to break down. And -- and then we'd have hydraulic containment in place to continue to prevent contamination in the groundwater from getting to the creek. And that would be for both the shallow and the deep bedrock groundwater.

When we look at Alternative 2, it involves the same kind of excavation as the first alternative, but instead of the deep soil mixing with an oxidant, it looks at doing soil vapor extraction in the areas above the water table and then air sparging in the contaminated groundwater areas. It, too, had a groundwater containment part to it, but instead of looking at the shallow and the deep groundwater, the air sparging is cleaning the shallow, so it's only looking at the deep bedrock groundwater as part of the containment.

Alternative 3 was in situ thermal treatment, and it basically has two components. It's going to treat the contaminated soils in place, so they won't be dug up and trucked off. They'll be treated in place. And in doing that, it will also treat the shallow groundwater. And then there's a hydraulic containment for the -- and chemical treatment for the shallow and deeper groundwater before it reaches the creek to keep it from migrating to the creek.

So the question comes -- we've got these three alternatives. How do we evaluate them? How do we determine which one's the best possible alternative for cleanup at the site? And these are the criteria that we're looking at. And the first one's overall protection of human health and the environment. I think that's pretty self-explanatory. That's making sure that whatever use it has, it's going to be safe for that use. Compliance with state and federal standards. Each different remedy is going to have different requirements there on it, based on what they're doing. There'll be different permits -- different things that have to be looked at. If you're digging things up, you've got to meet disposal requirements for the landfill or wherever it's going. And ultimately, we're trying to get the groundwater back in line with the maximum contaminant levels, the drinking water standards, and we're trying to get the soil cleaned up to the point that it's no longer feeding contamination to the groundwater.

We look at reduction of contaminant toxicity, mobility, and volume through treatment. That's -- you're -- you're trying to make something less toxic, keep it from moving, and reduce the amount of it. Short-term effectiveness -- when we talk about that, that is a measurement of when they're actually doing the cleanup, what's the risk to the people who are actually performing the work? And then we look at long-term effectiveness. We look at: Okay. What's left in place after the cleanup. What risk is associated with that?

And then implementability is just a measure of how feasible is it to actually put this in the ground and actually make it work. And then cost. And then the purpose we're here tonight for is to discuss community acceptance. That is also a criteria that we're looking at, and that's part of this whole comment period, inviting all of y'all here tonight, is to get y'all's feedback on the -- the proposed remedies.

So when we look at protection of human health and the environment, all three of the combined alternatives will meet these criteria. When you get to comparison of them, Alternative 3 is a little better because it's significantly reducing the contamination in all the soil for the area that it treats, and it's also treating the shallow groundwater. There will also probably be part of it that actually has a positive impact on the bedrock groundwater as well.

When we look at reduction, they all three would reduce the mobility, toxicity, and volume by treatment, but there's a couple things that we need to look at here. When you're talking about Alternative 3, it treats everything where it sits. It treats it. It cleans it up. You're not digging something up here and moving it to a landfill or another location. You're actually treating it in place. The other two have a large component of removing soil from this spot and placing it in -- in another.

Short-term effectiveness. Once again, all of them are fairly effective and -- but Alternative 3 is going to be slightly better because when you talk about construction workers, you're talking about people working. Anytime you're digging up contaminated soil, there's a potential for exposure. When you're treating it where it stands, that potential is significantly reduced.

And then the long-term effectiveness, we have to evaluate how well these remedies will potentially work. All three have a great potential to work, but when you look at Areas 1 and 2, one of them relies on mixing soils in the deeper area and the groundwater with an oxidant. Well, if that oxidant gets to the contaminated area, it's going to treat it. But there's always some uncertainty when you talk about going into the subsurface with: Will it actually work like you have seen it work in the lab? And there's always a little discrepancy there, so there may be areas that don't get treated as well under Options 1 and 2. Alternative 3, when you're thermally treating the area basically down to the top of rock and you're heating it up to a certain concentration -- or a certain temperature and then you hold it at that temperature for a period of time, there's a certain certainty that you have that all the contamination within that area that you're heating up is actually being treated.

And implementability kind of overlaps with -- with the previous one. Subsurface conditions at this site are quite different. In some places you may hit bedrock at 20 or so feet. In other places before you get to the good rock, you're down 90 to 100-plus feet. So there's some variation in the subsurface that may cause difficulty with the extraction and the air sparging. That's not to say that Alternative 3 doesn't have a few issues as well because there would have to be a significant amount of data collection to understand.

We did a lot of data. We have a lot of data.

We understand the site fairly well, but there's even more information that we need to get in order to make sure we design the -- the system properly so we know exactly how long we need to treat the different areas and make sure that the right treatment is matched to the right area so that we do get thorough treatment.

And then the -- the other balancing criteria here is cost. And when you look at Alternative 1, it has a cost of a little over $43 million. We look at Alternative 2, and it's closer to $29 million. And we look at Alternative 3, and it's in the 35 to 36 million dollar ballpark.

So looking at this table and looking at the bottom three, which is the combination of alternatives, we basically applied a rank based on how effective it would be for the different criteria that we talked about. And pretty much across the board, Alternative 3 is slightly more favorable than the other alternatives, except when you get to cost, in which case Alternative 2 is a little more favorable from a cost standpoint. But looking at overall protection, compliance with regulations, long-term effectiveness, reduction of contamination through treatment, short-term effectiveness, and implementability, the edge on all of those goes slightly to Alternative 3.

So that leaves us at the point where we're presenting our preferred alternative to you tonight, and this is going to pull in all the different components. And it's going to have the excavation for the metals contamination. It's going to have hydraulic containment. It's going to potentially have the SVE for the burn pit area. It's going to have the thermal-enhanced, multi-phased extraction for the fuel area, and then it's going to have in situ thermal treatment for the areas where we see the solvents -- the VOCs in the soil and groundwater. And then we're going to have groundwater and surface water monitoring to assure that things are cleaning up the way that we anticipate they will. And at the end we'll determine what's left. Is there restrictions that we need to put on the property to limit certain usage? And that will be done in the form of institutional controls.

We have established administrative record, as Pat had stated earlier. It is at the York County Library main branch on 138 East Black Street in Rock Hill. That has the information that we generate as part of our investigation and evaluation. I've given you a brief overview. If you want to know a lot more specifics on what are the exact concentrations, how high are they, and things like that, that information's going to be there. We've also got the majority of it on the Web site. It's just a little more detail available at the library. Some of them are quite large in nature.

And today's public -- begins the public comment period with this meeting, and that -- over the next 30 days, we welcome -- we welcome your questions tonight. We'll also welcome over the -- over the next 30 days; we'll respond to them if they need a response. We'll try our best to answer your questions, and we want to judge your feeling on the proposed alternatives.

So, where do we go from here? Upon completion of the public comment period, we'll make a decision. We'll determine is Alternative 3 the remedy that we're going with. Is there a reason for us to reevaluate it based on the public comment? We'll make that determination, and then we'll document all of the comments, all of the questions here tonight in the record of decision, which will summarize how things were evaluated and what ultimately will be chosen for the cleanup alternative.

And then after that, we'll go through the design of the actual remedy, and that may involve additional sampling or -- I should say that will involve additional sampling to look at different areas to determine volumes that are going to need to be treated and get a good conceptual idea of where the -- we're going to put the treatment areas, what time frames they need to run, and how to pull the conceptual idea that we have now into a final remedy that we put in the ground.

And then that brings us to the implementation of the remedy, and I -- I'm sure the question comes up, when we talk about remedies that are in the $30 million and we have a trust of a little over $4 million, how is that going to be funded? And we're in the process now of negotiating with the parties that have sent materials to that facility for treatment. The hopes are that we get an agreement in place with the parties, that they will ultimately fund the cleanup of this site.

And at this point, I'd like to open up to any questions you might have. As Ms. Vincent has said, we have a limited reach on the microphone, and we are trying to get this information recorded for the record, so if you would mind coming up and asking your questions, we would be happy to answer them.

MS. VINCENT: We ask, also, that you state your name before you ask your question, so the transcriber can take that.

MS. WILLIAMS: Okay. My name is Annie Williams. 761 East Rambo Road, Rock Hill, South Carolina 29730.

And I have several comments. First of all, I appreciate DHEC. It's only been over 30/35 years since this issue has existed here in our city with the contaminants on ThermalKEM that you have taken an opportunity to look at this.

Secondly, my concern is that your notice for public notification that this project would happen was in December 2012, of which the information was incorrect and had to be republished. And I appreciate you taking a year and a half to discuss and look at this issue for us; however, I feel very slighted from the fact that we are only given 30 days to make our comments and to review the situation.

In reviewing the information that you put up there, I was concerned with the fact that the contaminant reports showed dates of January of 2007, which tells me that they are not accurate information on the chemicals that you did on samplings, and that is a concern of mine. On the sheet -- the last sheet that you showed, you had a criteria at the end that showed what ranking you gave it in terms of implementation, and a five was on that of "Do nothing," and I don't know what a five means compared to the others.

MR. BERRESFORD: Can I try to answer a couple of your questions, and your -- your -- as far as the implementability of "Do nothing," when you look at all the other criteria, it's not something we're going to choose, but when you're evaluating it, if you don't go out there and do an action and you let everything sit the way it is, you're not physically doing anything. So where the others have active components to it, that you have to actually go out there and implement and conduct, it -- it scores high for implementability alone. All the other ones it scores really low on because it's not doing any of the things that it needs to do. It's only there for comparison to the other alternatives. It's not there as we -- we quickly said, "That's not an alternative that we're going to look at here for the -- this site."

MS. WILLIAMS: Again, it's only been 35 years.

MR. BERRESFORD: As far as the time frame and the contaminants, the concentrations are going to be very similar. The -- when we -- we were taking a look at this in the 2007 time frame, I mean, it'd already been out there since -- a lot of it since the '60s and '70s. It's been out there a long time. And over the course of looking at the groundwater reports and looking at what we did, we did find some more information out, but the concentrations haven't changed a whole lot, and that's what brings us here to look at a more -- the pump-and-treat system, it had its time and place by itself to prevent the contamination from going further, but it's not going to ultimately fix everything that we have to deal with out there. So when we're going through the evaluation process, we're looking at these remedies and we're looking at combination of remedies and we're trying to make sure that we match the best possible solutions now to the conditions that we have.

Now, we will be going out before we implement any type of remedy and doing some additional sampling, making sure that the concentrations are

-- confirming that they're similar to what they were in the previous sampling results, and doing some additional samplings because whereas, you know, 68 different boring locations sounds like a whole lot where we've identified problems, we want to go back in and look closer and make sure we're truly looking at the worst part of that area. If not, we want to know what that is, so that when we design, we can make sure we design to treat it properly.

MS. WILLIAMS: All right. To continue, I'm -- especially, that's an important component of mine is a request for who the parties you're dealing with to help fund the cost of this project. And, in turn, you mentioned the word -- "If a landfill were placed here" is what I heard you say.

MR. BERRESFORD: No. I said, "If" -- when we were talking about Alternatives 1 and 2, you're digging up the material from this spot, and you're sending it off the facility to a landfill that can take that material. There's not many landfills that can take this material. It's -- the only one that jumps to mind to me is in Mobile, Alabama. So you're basically digging something up here and sending it somewhere else.

MS. WILLIAMS: Okay. As respect to the parties you're negotiating with?

MR. BERRESFORD: There are thousands of parties that have shipped waste to the site. The list has varied as we've gone through the parties and started seeing which ones are actually still in business, which ones are still viable, which ones are related to other parties; it's gone from like 7,000 to the ballpark of 4,000 different parties that we're negotiating with.

MS. WILLIAMS: I'm assuming there's a proposed use for the property after you clean it up.

MR. BERRESFORD: At this time, we don't have a -- like, a final use. We have a whole part of our agency that takes sites like this and when it's -- you know, the remediation has gone on and looks at what's an appropriate reuse for the property. Right now, looking at end use it's, probably -- maybe commercial/industrial/recreational. Some purpose like -- like that is ultimately, when we've completed the cleanup, something that might be possible for this site. As it stands now, not many people want to take it right now with the amount of contamination that's present.

MS. WILLIAMS: Does a cleanup of this particular property have anything to do with any of the adjacent properties and potential uses?

MR. BERRESFORD: No. This is the -- the -- this is focused specifically on this property, the contamination that is coming from this property, and everything associated with it. So our process takes a long time to go through it. We try to be very thorough, and we want to make sure that we don't make the wrong decision by choosing something in haste and then finding out when we get out there, "This alternative's not going to work because of these conditions," so we did a lot of research. We looked at a lot of different things. We looked at -- we had our consultants evaluating all the different possibilities to come up with what's the best way to clean this site up.

MS. WILLIAMS: Okay. The last thing: I would like to reiterate the fact that you've taken a year and a half to look at this, and you're giving us 30 days to go to the library. Lots of material, and I don't think that's a long time for us. We've lived here all our lives, and this is important.

MS. VINCENT: Does anyone else have a question?

DR. CHAPPELL: I don't know that I have a question or not. I'm a York County Council member, and I've got some statements I want to make if you want to mix it up, and I appreciate you calling them "questions" because they're both. Is that all right, sir?

MR. BERRESFORD: Yes, sir.

DR. CHAPPELL: Well, you know all the time I've met with you wonderful people I thought it was a waste of my time, and -- but I appreciate you coming to York County; welcome up here. I will build you house right next to this place anytime freely. A nice home if you will move up here and live right down next to this place.

We fought this thing, as you know, for years and years and years. We fought it without any help from you folks, and the public had to get together. Couldn't get the feds interested, couldn't get the state interested, couldn't get the county government interested, and I was serving on it. They wouldn't listen because all the takers were saying, "All the jobs." The radio was saying, "Golly, don't destroy the jobs," and they were killing the people.

And I practiced vet medicine in that area for a long time, and I treated the coughing cats and dogs and mules and horses, and nobody knew where it's coming from until we hired a -- the public -- the -- the citizens hired a water and land expert, and we could shut this thing down after so-and-so hearing before you folks in Columbia -- before -- before an honorable hearing officer -- service officer. And -- but no help from any government agency whatsoever. It's out there because the people that put it there wouldn't stop it, and then you didn't monitor -- monitor it. You didn't know what they were doing when we told you over and over that everybody was coughing. And we hired the water and land expert, and he finally said, "It's that smokestack. They're taking the scrubbers off at night, and they're throwing toxic chemicals -- cancer-causing chemicals from here as far as Greenville, North Carolina." And we still didn't get you folks to stop it. We had to go to court after a long fight.

After three of my black friends died inside the plant furnishing that furnace with toxic chemicals brought from all over America, they died with double-lung cancer. When the third one died, a great American gone, a gentleman, we took the report to the judge in Columbia. Having a hearing that morning, and you volunteered -- they did. You didn't stop them. They volunteered to -- to cease operations, and they left you with this. When we citizens in this community begged you in Columbia to do something and we got no help from no one, we got our help out here and here and back here. That's where we got the help to stop them, and now you tell us we've got all this mess out there. We've been knowing it a long time. You've told us this before. No -- no cleanup yet, nor how to do it.

I don't mean to be any animosity, Young Lady, to you or Sir, but you have messed up our county box. I don't know how you did it. I've been here with you for 22 years, and I never took a Coca-Cola or cup of coffee or dime from no man. I'm not accusing anybody of anything, but you know the trust folks just put a million dollars into the pocketbook of your South Carolina House members, and they put all but about 500,000 in the pocketbook of your South Carolina Senators, indirectly, and they took the money. All but about 20 of them: ten in the House and -- eight or ten in the House refused to take it, and that's what we're fighting here. And you didn't come up here to hear this. But I want to beg you, as a councilmember of 22 years, try to be honest and try to be over and aboveboard, but you have allowed us -- DHEC -- the ones supposed to protect us allowed this to happen in York County. And we screamed for five years with no action from DHEC. We did it ourselves. We stopped them in -- in a -- a court of law.

And now on top of this, you tell us tonight -- on top of this, on the same road called "Vernsdale" they're going to let thousands and millions of tons of out-of-state garbage come and be dumped right over here. 140 foot high, a mile long 30-some times, and you don't know what in it, just like you didn't know what they were doing here. I hoping to say that with respect to you, but that's what you're doing to us. Now, I didn't -- I'm not giving you "H" about this so much; this is already in the past. I can't do anything about it but vote in any way I can to help clean it up as my term comes to an end on this council.

But I'm begging you folks tonight -- and you going to have some pressure from the House and the Senate, even though they've been bought out by the trash companies -- I openly accuse them of that. Let them sue me. I've got the record from the --

from the -- from the Columbia office of every dime they took. And I don't make apologies. Here's what I'm saying: "We've got it." And they put the money in their pocket, and that -- not only this, but more of this to come into this state.

And they say they didn't know what they're doing. I said, "Oh, that doesn't bother me. But why didn't you run for office and tell the people, 'I'm not going to watch out for your interest. I'm not going to care what people do. I'm going to just put the money in my pocket and go home.'" Thousands and thousands of dollars." And I'm tired of that, and I fought for this country. I stood up for moral principle and character, and you've got this here tonight and you've heard all of this before. It's lacking here. They took advantage of the people in York County.

These folks are not responsible. Not this crowd, but the old crowd that's responsible for this, they're gone from DHEC, and they left you with this. Just, please, do what you can do to help clean it up.

I don't know how you clean that up. I'm a -- I'm a country veterinarian, and I doctored those coughing dogs and cats and dogs. We didn't know what it was. All we knew it was some kind of contaminant, but we didn't know where it was coming from until we hired the world renowned expert, and he said, "That smoke stack. They're taking the scrubbers off at night, and they're sending the most toxic chemicals out there, unburned, cancer-causing chemicals, and we had them inside the plant and outside the plant.

I had an uncle that walked from the second day of D-Day to Berlin to come here and walked in the country (indiscernible) for eleven years of that plant over there, he come down and died with double-lung cancer. And he exercised morning and night, like an old soldier. We don't know that that's where it come from, but they -- we buried ten or twelve that I went to their funerals. They come down with lung cancer. And you know what it'll do to you. You have certain areas that get contaminated, like building houses on top of old landfills, and the kids are all born, after that, with all kind of missing arm or missing two ears or missing part of their head, and that's what the chemicals will do to us. They serve a purpose, but they get out of place so darn easy.

Now, you folks got something you can do for me and us. You already messed up Vernsdale Road on yonder end, and now on this end your outfit approved to let them bring all they want to of garbage from everywhere from Maine to Miami, and dump it on that same road, almost on top of this. And you don't know what's in it. They say, "Oh, it's just a bunch of trees and pasteboard boxes." Well, a seagull don't fly from Myrtle Beach up here to eat pasteboard boxes.

Go down to Barnwell and see -- I think it's Barnwell and see. I flew down there. You can see it for 40 miles before you get to it. The highest peak in Barnwell County and the highest peak in York County. The highest structure will be the site that y'all approved to come down here and dump in this county, right on this same road.

I'm asking you to, please, for God's sakes -- because I'm going to put some pressure, with the help from you folks, on the House and the Senate to go down in there and say, "Don't do this to us. You can reverse this wrong." I'm begging you to go back home and say to your superiors, "You are not doing right on -- to the people of York County on Vernsdale Road." You done messed it up one time and here you come again. Had you not approved this, you wouldn't be standing here tonight, and you did us an injustice. I'm begging you to go back home and tell your superiors that, "We need to look at Vernsdale Road again," because you have already screwed it from Hell to breakfast, and now you're going to do it again.

And you're talking to people that walked -- like I told you, from D-Day to Berlin and Korea and Vietnam here. And come back home and you -- and you -- and you made it over there, and you come back home and you get killed in your own back and front yard from the air you breathe. I thank you very much.

AUDIENCE MEMBER: (Indiscernible)

MS. VINCENT: I'm sorry. Did you have a comment, sir? I couldn't -- it came from this direction. If you'll state your name, sir.

MR. LYNCH: Yeah. David Lynch, and I live on Rackwell Circle.

Do you have to get the funding before you start this procedure?

MR. STEWART: One thing Lucas mentioned very early in the presentation was that, as a result of the bankruptcy, there was a settlement that was approximately worth $4.3 million; nowhere close to what we need to take care of this. Most of that $4.3 million has been spent. There's very little left in that account.

Right now, we are working -- the state is working with a group of responsible parties -- or potentially responsible parties. These are parties that brought waste to the facility. Everybody and their brother that sent waste there is potentially liable for every dollar that is spent to clean it up. We've been working since shortly after the bankruptcy, negotiating with parties, finding out who they are, going through old records. We believe we have a complete list -- or I'm sure it's not a hundred percent complete, but we have a good list of who brought waste to the site. We've been negotiating with a -- a group of parties. They are represented by counsel, and we believe we will reach a settlement with them to fund the cleanup at the site. They are -- we and the group are trying to get additional parties into the group, and they will fund the cleanup and DHEC will provide the oversight of that. I can't tell you that we will have that settlement three months from now or six months from now, but we are working diligently to get through that process.

The planning part of this, it -- it's going to take a while, and hopefully not as Ms. Williams said, "It's been 35 years." It -- it will not be that long. We are -- like I say, we're working diligently with this group to get a settlement negotiated where those parties will take over and fund the remaining cleanup.

MR. LYNCH: No. The question I asked: Do you need to get the funding before you start the project --

MR. STEWART: Yes, sir.

MR. LYNCH: -- the cleanup?

MR. STEWART: The -- the -- the settlement needs to be in place so those parties will be paying for the cleanup, yes, sir.

MR. LYNCH: Okay. So you got to wait till you have the funding?

MR. STEWART: Yes.

MR. LYNCH: Thank you. And how many decades will this take? Hey. I -- I'm looking for --

MR. STEWART: Do you mean to start implementing the cleanup or for it to reach pristine conditions?

MR. LYNCH: Before you can -- before you can -- well, for the cleanup or so. I mean, how --

MR. STEWART: We would --

MR. LYNCH: You're not going to go in there and get this done overnight. My son works construction. I know how that's going to work.

MR. STEWART: (To Mr. Berresford) Go ahead.

MR. BERRESFORD: Once we actually start the process and once we actually start the treatment -- the thermal treatment -- we're looking at five years of thermal treatment. We can't treat it all at one time. We can't treat the whole area. You're using a lot of electricity; you're generating a good bit of heat. You don't want to try to do that. You have more problems if you try to do that, so we're breaking it down into areas that's part of some additional investigation we're going to do to understand these areas a little better, understand how long they need to be treated, what temperatures they need to get to, all of that information up front. We'll design it, and once we start the thermal treatment it will go for approximately five years.

MR. LYNCH: Okay.

MR. BERRESFORD: And at the end of that five years, the active thermal treatment will be done, and we'll go back in and assess how well it's cleaned up, what the conditions are, and determine, "Okay. The conditions have significantly changed now. What can be done with this property in the future"?

MR. LYNCH: All right. When it rains, does this contaminate the -- you -- you've listed "surface water, groundwater, drinking water." What's the difference of groundwater and drinking water?

MR. BERRESFORD: When we're referring to drinking water, the state classifies all groundwater in the state as drinking water. When we're talking about drinking water, we're talking about someone has a well in, and they're drinking the water.

We've assessed where the contamination is, there's a large buffer zone that was purchased by PSC years ago that never had active treatment. I -- it's just a wooded area. We went into that wooden area. We took samples. We didn't find contamination. We put monitoring wells over there. We're not seeing the contamination over there. So we've got a -- the contamination's mostly located on the plant facility.

Surface water is the streams that run through.

MR. LYNCH: Okay.

MR. BERRESFORD: So that's where, you know, the recreational use -- people fishing, people using the waterways -- that's the most important thing for us to be protective of. We don't want the contamination getting into the waterways there. We don't want to pollute the streams. We want to keep it as clean as we possibly can by preventing the contamination from getting there. And through this process, we'll treat the soil that's contributing to the groundwater, that is then contributing to the fact that we have to have the groundwater containment system -- the groundwater pumped out of the ground, treated, and then discharged to the sewer.

Hopefully, we're able to clean things up well enough that we no longer have that contamination going from soil to groundwater, and, in the long term, we won't need the extraction part because it'll have cleaned up to the point that it's not a risk to the surface water.

MR. LYNCH: All right. And you said something about you have a -- a filtration system or a water cleanup system over there?

MR. BERRESFORD: Yes, sir.

MR. LYNCH: What are you cleaning?

MR. BERRESFORD: All the contaminants that we were --

MR. LYNCH: Yeah. But --

MR. BERRESFORD: -- back up there.

MR. LYNCH: Are you pumping water into the ground and

extracting the water? I -- how's it working?
MR. BERRESFORD: We pull the groundwater up out of the ground; it goes into, like, a settling basin. That's where they take some of the contaminants off: the thicker ones that float to the top. Then the water is pumped over into a filtration system. It runs through three chambers of carbon, and the carbon pulls out the volatile organic compounds so that, when it discharged to go to the sewer, those contaminants have been pulled out of the water and it's -- and we're not reinjecting it into the ground. We're sending it to the wastewater treatment plant.
MR. LYNCH: Thank you.
MS. VINCENT: Thank you. Any more questions about the proposed plan or the alternatives themselves?
Thank you. State your name, please.
MR. CRAIG: It's Ragan Craig; 1804 Craig Road, Rock Hill, South Carolina.
In the administrative record that you say is at the library -- and remember the community has no trust of DHEC. The Clean Water Act was passed in '72; y'all didn't do anything till '79. Well, as a guy that grew up in the area, where the parking lot is across the road from the church they had drums

and drums and drums all the way up to the road. They took a backhoe and buried them right there under that building and under the parking lot, and of what you presented tonight, did anybody take a metal detector and do the parking lot?

I want to -- but I know -- I'm going to ask you a bunch of questions, but you don't have to answer me tonight. I just want to know: Will that information be in the -- what's at the library for -- because another point is: You've -- you've put monitoring wells -- it sounds like 68 monitoring wells around the site. Have you put any monitoring wells across the street at the church? up on the Dee's property where I used to run cattle on the other side of the creek? on the other side of the road you see at the chlorobenzenes and the benzenes have migrated in the surface -- the surface groundwater beyond the site? And is that in the library or was it not done?

MR. BERRESFORD: When you -- the first question about the electromagnetic survey looking for drums --

MR. CRAIG: Yeah.

MR. BERRESFORD: -- that was a -- we had two former operators who were operating the wastewater treatment plant. Once the plant shut --

shut down --

MR. CRAIG: Right.

MR. BERRESFORD: -- we wanted to keep them on board while we did the upgrades. We still have one --

MR. CRAIG: Uh-huh.

MR. BERRESFORD: -- who is working for us through our consultant running the wastewater treatment plant to this day. We talked to him. We used his informational knowledge. He'd been there a long time, and then we went out with a magnetometer that basically looks for buried drums.

MR. CRAIG: Yeah.

MR. BERRESFORD: And we went over the whole back area. We went back behind the fence, back over --

MR. CRAIG: Did you go --

MR. BERRESFORD: -- where --

MR. CRAIG: -- toward the church?

MR. BERRESFORD: -- it runs off. We went out in the parking lots. We went all --

MR. CRAIG: How did you miss --

MR. BERRESFORD: -- around that place.

MR. CRAIG: In the '70s -- the late '70s -- and this what puzzles us -- it puzzles people from the area -- the people that owned it prior to '79: '75, '76, seventy -- all that period, when they sold it to Stablex, they took a backhoe in there and they did -- there was nothing but solid drums all the way up to the church. And they took a backhoe in there, and they buried the drums.

Now, will -- will your technology tell me at the library whether or not it would find the drums? I'm an engineer and I can go look at this stuff and tell, and my question is -- is: If you weren't -- didn't know it was there, because you got to remember DHEC has never involved the community around that site. They fought the community the whole time. So they never got any information from the community. If they -- they might've buried some across the road and down there at Redwood. They may have put some down the other side of the -- what became the Clariant Plant, okay, back in the '60s, '70s, and whatnot. What I'm asking you is: What's in the library going to tell me yes or no? Is it going give me locations of the monitoring wells and where you went and did your testing or not?

MR. BERRESFORD: When you look at the report, it's going to show you where the monitoring wells went in. It's going to show you the concentrations of the monitoring wells. You're going to be able to see

where we sampled; you're going to be able to see
where the contamination's located for each of
the --
MR. CRAIG: Right.
MR. BERRESFORD: -- components we're looking at. You'll
be able to see that we did go across the creek to
sample on the --
MR. CRAIG: Okay.
MR. BERRESFORD: -- wooded area over there.
MR. CRAIG: Right.
MR. BERRESFORD: We went back in the wooded area and
collected samples. We --
MR. CRAIG: But you're on the ThermalKEM site. I'm
saying: Did you cross onto other property or not?
Will the report tell me? That's what I'm asking.
MR. BERRESFORD: Yeah. The --
MR. CRAIG: Will it show me --
MR. BERRESFORD: -- report will tell you, but the --
MR. CRAIG: -- where the wells were?
MR. BERRESFORD: But the answer to that was: We're
-- we really followed the contamination. Once we
found clean areas of contamination --
MR. CRAIG: Well, you -- you had one site on the
chlorobenzenes where you crossed the creek, and
that's off that site, and it -- maybe the

contamination wasn't at 50,000 PPM, maybe it was ten or whatever that yellow -- I couldn't see the scale, but did -- if you didn't test any further -- here's something you got to remember: That one road -- Vernsdale Road's on city water. Everybody else around there's on wells. The City ran a finger of city limits out that road, and like the people on the right-hand side, prior to going up through there, they're on wells, drinking well water and have been. So that's not all city water through there. That's a -- an upstream pump station from the City of Rock Hill. It pumps back to town. So there's no -- you see what I'm saying? The only reason the City annexed -- did that was to get the -- the bills, which brings up another question. So that's what I'm asking you: Is it in the research?

MS. VINCENT: And the report that you're referring to, Lucas, if you can identify that?

MR. BERRESFORD: I think you're going to find the sampling results that we did, the conclusions from those in the "Remedial Investigation Report." There's a lot of other reports -- the "Remedial Investigation Report," you know, we said we started an investigation. It wasn't go out and take one

set of samples.
MR. CRAIG: Right.
MR. BERRESFORD: We went out and we did a round of samples. We got the results back. We looked at them and said, "Okay. We've got a problem in these areas. We need to look further, and we need to keep expanding out until we understand where the contamination from the site is."
Now, I will say that, when we looked at the electromagnetic surveys, we looked in that back --
MR. CRAIG: You didn't look --
MR. BERRESFORD: -- 40 acres --
MR. CRAIG: -- up front, did you?
MR. BERRESFORD: -- were the Stablex was. We looked all where the parking lots were. We looked up in the --
MR. CRAIG: -- under the buildings --
MR. BERRESFORD: -- where the little --
MR. CRAIG: -- where they were --
MR. BERRESFORD: -- building used --
MR. CRAIG: -- storing the drums?
MR. BERRESFORD: -- to be up there.
MR. CRAIG: Yep.
MR. BERRESFORD: We looked up in that area.
MR. CRAIG: Did you look under the floor? Can -- can

yours read through the floor where they storaged them under the storage?

MR. BERRESFORD: Under the storage, that's where we have a problem because when they built -- you're going to get anomalies --

MR. CRAIG: You're going to find --

MR. BERRESFORD: -- when you run it.

MR. CRAIG: -- drums under there is what I'm telling you. You should.

MR. BERRESFORD: You're -- you're going to see anomalies because of the rebar that's in the floor. It's not going to give you a good --

MR. CRAIG: I know. But -- but if you --

MR. BERRESFORD: -- picture --

MR. CRAIG: -- if you --

MR. BERRESFORD: -- because --

MR. CRAIG: -- check --

MR. BERRESFORD: -- of all that.

MR. CRAIG: -- with the community, y'all, do a little digging during this 30-day period and find out what the mills were doing prior to Stablex and everything else, you might learn some things.

And I can't believe that you wouldn't go across to Nazareth Church and punch a -- a well beyond it, you know, and make sure is it -- is it gone off-site in the groundwater, because it looked like it was drifting in that direction.

One more question. On your thermal -- I'm trying to speed up so that other people can come up. If -- in your thermal where you're -- I know you're going to bore the VOCs. I'm familiar --

MR. BERRESFORD: Uh-huh.

MR. CRAIG: -- with all of that. What is -- let's say it costs 10 million bucks to do it and you're saying maybe five years or whatever. Let's say 10 million bucks to do the -- the thermal cooking of the dirt without digging it up.

MR. BERRESFORD: Uh-huh.

MR. CRAIG: How much of that's going to be the power bill? Seventy percent? Fifty percent?

MR. BERRESFORD: A very large portion of it's --

MR. CRAIG: So 75 --

MR. BERRESFORD: -- going to be the electric.

MR. CRAIG: -- or 80 percent will be a good number?

MR. BERRESFORD: It's probably in the 60 to 70 percent, I would think.

MR. CRAIG: Okay.

MR. BERRESFORD: I'm not certain. We'll find out a lot more when we get to a design of it; you'll understand how much electricity is going to be required to power it.

MR. CRAIG: But it is a big chunk --

MR. BERRESFORD: But it's going --

MR. CRAIG: -- of it?

MR. BERRESFORD: -- to be a large chunk of the remediation cost.

MR. CRAIG: And you could always haul this dirt to Pinewood. Oh, no. That place went kaput, too, didn't it? Oops. I like that.

The thing Dr. Chappell's talking about is, the other thing that concerns everyone is, there -- we've been fighting a landfill right down the road at Clariant. What is that disturbance going to do to loosen this up and put it on in the groundwater? That is black jack land. There's bull tallow down, just -- if you've been out there doing core samples, you've seen it. It's rock high. The bedrock's what's holding that stuff up, okay? And we know that. What happens when that disturbance happens down there on that Griffin Brothers landfill they want -- that North Carolina landfill they want to put right down the road. You know, all this is right through here, you know? It's a spitting distance from the --

MR. BERRESFORD: Yeah.

MR. CRAIG: -- school, so, you know, it's got some -- some issues --
MR. BERRESFORD: We --
MR. CRAIG: -- but we're -- we're concerned that what does that impact -- did DHEC even look at the impact of that versus this site? I bet not. Because the thing that puzzles me is y'all are the landfill guys, right?
MR. BERRESFORD: No.
MR. CRAIG: Where's Montebello and the water quality guys? Oh, it -- it's groundwater. Where are they?
MR. BERRESFORD: Well, what we deal with and --
MR. CRAIG: You're remediation.
MR. BERRESFORD: We're remediation. We come in when a plant's no longer operating. When it's operating, it's operating under --
MR. CRAIG: So y'all got --
MR. BERRESFORD: -- RCRA.
MR. CRAIG: -- water-quality guys and the whole shebang?
MR. BERRESFORD: It -- we deal with all of it. We come when a company declares bankruptcy/is no longer active. When somebody reports something that needs to be investigated, we'll go in and we'll investigate and determine --
MR. CRAIG: My biggest customer's Savannah River

Remediation. I know what you guys -- I was just curious how DHEC had it structured because y'all are all land-management people by your --

MR. BERRESFORD: Yes.

MR. CRAIG: -- designation.

MR. BERRESFORD: We're land and waste management, but we -- we deal with the --

MR. CRAIG: -- all of it?

MR. BERRESFORD: -- environmental cleanup of water, soil, all of that after the --

MR. CRAIG: But all the drawings --

MR. BERRESFORD: -- fact.

MR. CRAIG: -- for the monitoring wells and -- and all this stuff, it's at the library where I can go look at it?

MR. BERRESFORD: The monitoring wells schematics. There's a cross-sections that show where the groundwater contamination's located, concentrations. All that's in there. There's so much information in -- in --

MR. CRAIG: I know.

MR. BERRESFORD: --that report. It's very hard to --

MR. CRAIG: Yeah.

MR. BERRESFORD: -- keep a timely --

MR. CRAIG: I know, yeah. Yeah.

MR. BERRESFORD: -- presentation and present it but --
MR. CRAIG: I understand.
MR. BERRESFORD: We did make some modifications to the plans that were online, so we had talked to several people who were having trouble. We found some problems with the way a couple of the reports were represented. The RI report that's online did not have some of the information that needed to be in it. We fixed that today. There is another plan that talks about some additional assessment to do prior to any remedy going into place. We -- we have that up on the Web site as well. So --
MR. CRAIG: Give you one more --
MR. BERRESFORD: You -- you can --
MR. CRAIG: -- piece of advice, if you just listen to any over here. Thirty-five years you've uninvolved and fought the community. Your past history's incomplete. In your little 30-day period here, maybe you ought to consider talking to some people in the area about what was done from 1966 to '69. He was here. I was little, little in '66, but I was in here in the '70s and all that. And if y'all would get you some information, you might get a little more clues about where everything --
MR. BERRESFORD: All right.

MR. CRAIG: -- where the -- where the bodies are buried,
so to speak. You know what I mean?
MR. BERRESFORD: And part of -- this is our second
public meeting we've had on this site.
MR. CRAIG: Okay.
MR. BERRESFORD: When we started the investigation,
before we ever took Sample 1, we'd come up with a
work plan for how we were going to start it. We
came and we had a meeting, and we talked to -- at
that time, the pastor of the church who came --
MR. CRAIG: Right.
MR. BERRESFORD: -- out here, and he was telling us
about past history. Some people who worked there
were telling us about things that were going on,
and we took that information in and what people
were saying, and when we started investigating it,
there was some factual information --
MR. CRAIG: Right.
MR. BERRESFORD: -- and then there was some, like the
whole Stablex materials area. I walked that whole
field with an electromagnetic survey. We
identified anomalies. We went out there with
backhoes and dug trenches, and we --
MR. CRAIG: Because, see -- see, I had cows on the back
of the place, and I sold every pump they had in

that plant to the plant, okay? You know, so I'm familiar how the incinerator operates --

MR. BERRESFORD: Uh-huh.

MR. CRAIG: -- and all that, and I know because I used to go over there and yell at them. They were opening the bypass valve from the scrubber every other day.

MR. BERRESFORD: Uh-huh.

MR. CRAIG: Okay. So they're -- because you could smell toluene, okay? And the -- the -- that's what went on for a long, long time, and that's what I'm saying: If you check the people in the area, not the City. The City will lie about it. They lie about everything. They want that landfill down here, too. But, if you check with the county and you check with the community -- I encourage you. I'll talk to you; Dr. Chappell will talk to you. Other people will tell you things to go look for, because we don't feel comfortable that you found everything.

MR. BERRESFORD: And one of the --

MR. CRAIG: They were cheating, man.

MR. BERRESFORD: One of the --

MR. CRAIG: I don't know what else to tell you. I -- you know.

MR. BERRESFORD: We -- as I said, we employ, through our contractor, a couple of the former employees who were running the wastewater treatment plant, and they had also worked in various parts of the plant over time. And our current wastewater treatment operator was a very good source of information.

MR. CRAIG: Yeah. Sure.

MR. BERRESFORD : And a large majority of what we found out from him greatly added in where we were targeting because he would say, "Well, did you know about this over here?" And we'd go and we'd take some samples over there where it hadn't really been sampled before --

MR. CRAIG: Yeah.

MR. BERRESFORD: -- and suddenly you have the contaminant ditch area that's smoking hot.

MR. CRAIG: A backhoe can do wonders on a site that big.

MR. BERRESFORD: And so --

MR. CRAIG: Hide all kinds of stuff.

MR. BERRESFORD: -- we did do a lot of electromagnetic work. We identified anomalies. We looked behind the fence, going back toward the creek in the little cleared area back in there, dug some trenches. We went up to the wooded area that they own, thinking maybe they -- there were some paths

back there; maybe they put something in there.
MR. CRAIG: Well, all the storage buildings that are there now -- the empty ones starting from behind the parking lot forward --
MR. BERRESFORD: Uh-huh.
MR. CRAIG: -- that was the main drum storage area in the '70s. It came all the way up to the fence on Vernsdale Road. It was nothing but drums in there, a solid block, all the way to what's now the parking lot. And then, when Stablex bought it, you know, when they started coming in buying it, they buried all that stuff. And then -- and then they came in. So, you know, I know -- like I say, if it's under the concrete, I know the cost to go -- go through the concrete, and y'all won't, but, you're right. That's why I was asking if you were out there taking readings. You're going to pick up --
MR. BERRESFORD: We ---
MR. CRAIG: -- rebar, and you're not going to pick up -- there's a drum under there, too.
MR. BERRESFORD: But when you look at the sample locations we took --
MR. CRAIG: Did y'all drill in the floor in there?
MR. BERRESFORD: -- we drilled through the floor of the

building.

MR. CRAIG: Okay.

MR. BERRESFORD: We took samples underneath, and that's why, when you look at some of the figures, you'll see, "Oh, yeah. There's high concentrations under the building."

MR. CRAIG: Did you find metal there?

MR. BERRESFORD: We didn't really find metal. We found --

MR. CRAIG: Okay.

MR. BERRESFORD: -- lots of volatile organic compounds under the building, and that's one of the areas that will be targeted for --

MR. CRAIG: I'd have thought you'd have hit a --

MR. BERRESFORD: -- treatment, so.

MR. CRAIG: -- barrel or two.

MR. BERRESFORD: That's not --

MR. CRAIG: But they're already rotted probably.

MR. BERRESFORD: That's not something we came across. Now, there was an area that was dealt with prior to us getting involved. It was the burn pit where they basically burned drums over there and --

MR. CRAIG: We had a big fire and it all --

MR. BERRESFORD: Then they did a --

MR. CRAIG: -- burned up at the end.

MR. BERRESFORD: Then they did excavation, and so that's where we need a little more data. Because we've took some samples, we understand a little bit about it. We need to understand a little more before we try to clean that up, but --

MR. CRAIG: Okay.

MR. BERRESFORD: -- I think we -- we have brought in some people who know a good bit about this site.

MR. CRAIG: Okay.

MR. BERRESFORD : We've listened to what they've had to say, and we've used it to help our investigation tremendously. It was -- it was very helpful to have --

MR. CRAIG: Okay.

MR. BERRESFORD: -- former --

MR. CRAIG: But --

MR. BERRESFORD: -- employees --

MR. CRAIG: But everything I want to --

MR. BERRESFORD: -- talk about it.

MR. CRAIG: -- see, I'm going have -- it's going to be at the library, right?

MR. BERRESFORD: Yes. It's in the --

MR. CRAIG: Because like I say, it's --

MR. BERRESFORD: -- library, and then --

MR. CRAIG: -- like Annie said, we don't have much time

to go look.
MR. BERRESFORD: And if you -- and if you look online you can see the majority of it, but the RI report is --
MR. CRAIG: I'm --
MR. BERRESFORD: -- about this long.
MR. CRAIG: I'm going to the library. I know, yeah.
MR. BERRESFORD: And it --
MR. CRAIG: But all I want to do is -- you know, one of my comments is going to be to -- after I look at those drawings is -- I'm going to be honest with you, is that I think as part of this you should do some monitoring off-site around this dang thing because you don't know.
And, see, what everybody doesn't know, you think it's in the city, but the -- the City of Rock Hill annexed that like a finger. I mean, it looks like it's just going down Vernsdale Road because the former mayor put in some apartment complexes on the end of that road. That's just the way it is. That's what really went on. You've got this long annex of the city and that little industrial quarter. The people on the left and the right -- there -- they are places -- if you look at the city limits map, you'll see, "Wait a minute. Well,

everyone that's not in that city limits has got a well." Now, do they have a 60-foot well, or do they have 180-foot well? Be kind of important if you're next to that mess. Think if you got a little 2-inch punch well, you know, it isn't going to be but 60-feet deep, so which water table is that coming out of? The bad one, right?

MR. BERRESFORD: Well, once again, you have to look at where the contamination is. Yes. You have high levels of contamination. If you have a well right where the incinerator --

MR. CRAIG: Oh, you're in trouble.

MR. BERRESFORD: -- used to be --

MR. CRAIG: Yeah.

MR. BERRESFORD: -- you -- you don't want that. As you move away from the site -- as you get toward the road, as -- as you get toward the creek, there's been a lot of remediation that has gone on to prevent it from going further. It's been kind of stagnant in expanding based on what's been done historically. And then, when you look at what's around there, we looked at, "Well, where is there wells around here?" and you look at where groundwater's flowing --

MR. CRAIG: Right.

MR. BERRESFORD: -- and they're not in that path.
MR. CRAIG: Well --
MR. BERRESFORD: I mean --
MR. CRAIG: -- I'm glad to hear that. That's just -- I just want to --
MR. BERRESFORD: And --
MR. CRAIG: -- just wanted to see the --
MR. BERRESFORD: -- you'll see all that in the RI. You'll see the groundwater flow direction. You'll see which way it's going. You'll see where it's going.
MR. CRAIG: Okay.
MR. BERRESFORD: If you have comment, we welcome comments and we'll --
MR. CRAIG: Get back to us.
MR. BERRESFORD: -- get -- get you a response.
MR. CRAIG: Okay. Thank you.
MS. VINCENT: Can you possibly e-mail Mr. Berresford, and that way he can tell you what part of the report has the electromagnetic information so that you can zero in on that?
MR. BERRESFORD: It talks --
MS. VINCENT: And --
MR. BERRESFORD: It talks about it. It talks about the areas that it was conducted in.

MR. CRAIG: How many pages are in the file in the library?

MR. BERRESFORD: It's all electronic.

MR. CRAIG: Oh, it's all electronic, okay.

MR. BERRESFORD: And -- but I want to say that the RI report's, like, close to 1500 pages long.

MS. VINCENT: It's --

MR. BERRESFORD: Sixteen hundred --

MS. VINCENT: -- over 1600 pages.

MR. BERRESFORD: -- pages long.

MR. CRAIG: Remember I go to Savannah River Site, so --

MR. BERRESFORD: That's --

MR. CRAIG: -- that's not a problem. I'll find it.

MS. VINCENT: How are you, sir?

MR. MCCULLOUGH: Fine.

MS. VINCENT: State your --

MR. MCCULLOUGH: My name's Melvin McCullough; I live at 1574 Crawford Road, Rock Hill, South Carolina, and I'm a lifelong member of the Nazareth Baptist Church. I started going to church there when I was two years old. Come September the 16th, I'll be 68 years old.

And it's a question I want to ask you about benzene. What type of stain does that water put on a stainless steel water fountain? Does it put a

green stain on it?
MR. STEWART: I -- I can't tell you with certainty what would cause a green stain.
MR. MCCULLOUGH: Uh-huh.
MR. STEWART: The benzenes, things of that nature, volatile organics, they're generally not going to leave a stain on a -- on a pipe or something. I -- I -- I couldn't tell you what might be causing that, but I'm pretty sure it would not be benzene.
MR. MCCULLOUGH: Well, the reason why I ask, there was -- DHEC was telling us the water was good in that area, and they invited us over to ThermalKEM. We went over to ThermalKEM. They weren't drinking well water, and we was still on a well, so we got off the well water on the city water when the city came through.
Now, nobody came over and tested our well water, and I don't know, have you tested the wells around this area lately, like Ogden Road and all? Peoples out here, a lot of them still have well water, and DHEC was telling us all the time that the wells wasn't on the same water table that ThermalKEM was on so . . .
MR. STEWART: We as -- as -- this group at DHEC has not tested any of those wells in any time in our

memory. We will go back to the office, and we will see if we can find out if they've been sampled by one of our other program areas.

MR. MCCULLOUGH: Okay.

MR. STEWART: All right. But, to our knowledge, they have not been sampled any time recently.

MR. BERRESFORD: Is there still a well over at the church that --

MR. MCCULLOUGH: Yeah. It's --

MR. BERRESFORD: -- that's not being used?

MR. MCCULLOUGH: -- a still a well over at the church. It's still there.

MR. STEWART: We -- we'd be happy to pull a sample from that well --

MR. BERRESFORD: -- and see what --

MR. MCCULLOUGH: Well, whenever --

MR. STEWART: -- the conservation --

MR. MCCULLOUGH: -- you want to come over, I'll show you exactly where it's at.

MR. BERRESFORD: I'll make sure you have my information. If you give me a call after this meeting, we'll coordinate to come over and pull the samples and get them run.

MR. MCCULLOUGH: Okay.

MR. BERRESFORD: And we'll --

MR. MCCULLOUGH: And --
MR. BERRESFORD: -- provide you the results when we're done, and we'll --
MR. MCCULLOUGH: All right. Another thing I here to say that -- that if you was hitting these people for money that had chemicals burned there, when we was fighting ThermalKEM, DHEC was telling us all the time that they had plenty superfund money already. They say they had it. If they move away, they say they didn't need any money or anything, that ThermalKEM had put the money there for them, and now you're saying that you don't have it.
MR. STEWART: I -- I -- I -- I wasn't there when that statement was made at some time in the past, but I can tell you with certainty today that our state superfund --
MR. MCCULLOUGH: Okay.
MR. STEWART: -- does not have enough money to pay to clean up the site.
MR. MCCULLOUGH: Okay.
MR. STEWART: I can tell you that with a hundred percent guarantee, and we are -- we are working with the parties who have liability under the law that we work with, and those are the parties we are expecting to pay for the cleanup.

MR. MCCULLOUGH: Well, I see -- now, that's what -- you know, it kind of give you kind of a suspicious feeling say, "Well, is this group like the other group?" you know. "They going come in and tell us the truth, or are they just coming up to tell us something to pass us, to get us out of the way?"
MR. STEWART: We're -- we're telling you what we're about to do.
MR. MCCULLOUGH: Right.
MR. STEWART: We are -- we are selecting a cleanup remedy, and we want the public's input on that, and as soon as we get through our comment period, we'll -- we'll start putting together the document that formalizes that, and we're -- we're not waiting on that to work with these other parties who have some potential liability. We're already working on that aspect. And as I said earlier, I can't tell you that we'll have a settlement in three months. When you're talking $35 million, you don't get a settlement overnight.
MR. MCCULLOUGH: Right.
MR. STEWART: But we have made lots of progress over the last six to twelve months.
MR. MCCULLOUGH: Uh-huh.
MR. STEWART: And I don't see that slowing down. We

sent out -- on August 5th of this year, DHEC sent almost 1700 letters to parties who have some potential liability. We had already sent out some previous letters to other parties in the past. We are working to get parties to the table to pay up, and -- and we're not going away until that happens.

MR. MCCULLOUGH: Okay. And one final thing, I seen that shot where you had the contaminant water on it. From the parking lot -- you know where the office at on-site? All -- from that parking lot, all the way the up to Vernsdale Road, there was drums out there, and they just paved over the top of that. They just moved them out the way and paves over top of it. Now, have you tested -- have you drilled out there to see if there any contaminants out there in the parking lot?

MR. BERRESFORD: Are -- you're talking where the old office building used to be?

MR. MCCULLOUGH: Where the office building's at.

MR. BERRESFORD: There were some samples that were collected in that parking lot to see -- because that was another thing that came up. I mean, we looked at old photographs. We had people who had worked there saying, "Yeah. Drums used to be here, here, here, and here." And we wanted to make sure that we looked at those areas, so we -- we put in a couple wells in that general area. We also did some soil sampling at a couple points over in that area to see if there was a problem over there.

MR. MCCULLOUGH: And you found nothing in there?

MR. BERRESFORD: "Nothing's" a relative term. There wasn't a whole lot there. There wasn't, like -- when you look at the areas that we were discussing, those are clear-cut, "Yes. There was something that happened here that definitely needs to be addressed." You may have a concentration that would show up that was below any screening number that would require us to do something. There wasn't a big source there that we could find.

Now, honestly, it wasn't as extensive in that area as some of the others because, after the initial look, we didn't see a whole lot there, so we focused our additional work in the areas where we had contamination, trying to figure out exactly how widespread it was.

MR. MCCULLOUGH: Okay. Well, it's very important to have those wells tested because I got relatives stay out that way, and they're on -- they're on well water now, and I don't see how the water table just shuts off right under that project site --

MR. BERRESFORD: Well, in --
MR. MCCULLOUGH: -- if that's contaminant.
MR. BERRESFORD: -- in general, the groundwater does flow toward the creek -- where the creek is, so it's flowing, basically, in this direction from the site. If you -- this -- I'm not sure -- I think -- I think the site's this way, walking out the door. You go to the -- the road, it's flowing kind of in this general direction toward the creek. And we don't see -- see it on the other side of the creek, and we haven't seen a lot in the creek. So we've got the extraction system pumping the ground; we're out and treating it. That seems to be having a beneficial, I would say, "Band-Aid effect" to the problem. It's not going to fix the problem by any stretch to the imagination, but it can temporarily keep it from getting worse until we can really get in there and address the problem like we're planning on doing.
MR. MCCULLOUGH: Okay. Thank you.
MS. VINCENT: (To Mr. Berresford) And would you identify the creek that you're referring to --
MR. BERRESFORD: Wildcat Creek.
MS. VINCENT: -- because there's two. Okay.
MR. BERRESFORD: And I believe it was Wildcat Creek.

MR. STEWART: Before you take the next question, we have within our discretion the ability to extend the public comment period just by request. And Ms. Williams, you didn't formally say, "I need another 30 days," but we're going to go ahead and say tonight, the public comment period will be extended an additional 30 days, okay? So for now, I don't know what day of the week October 28th falls on -- or October 26th, excuse me, but if that falls on the weekend, the comment period will end the following Monday, so . . .

MS. VINCENT: Hi.

MS. COX: Hi. My name's Christi Cox; I live at 755 East Rambo Road. I was born and raised in this area. I care about the people of this community, and I'm real concerned. I appreciate the extra time. I was going to ask for it -- for -- for folks to have the opportunity to look at this information.

My question, though, is it sounded, previously, Lucas, and we talked a little bit about this -- it sounds to me like there's very little that the public's going to say that's going to influence anything. It sounds like you guys have got your mind set on something, and, you know, I'm curious to know what are the things that would

impact you or that concern you that would change
your mind about any of this?
MR. STEWART: I'll -- I'll take -- I'll take a stab at it. The reason we're here tonight is to -- to hear what the public thinks. We've had several people who have given us additional information, other areas we need to look at. We'll go back to the office; we'll make sure that those areas have been thoroughly looked at. The comments -- if -- if there's an area that -- that's talked about here tonight by the general public and we haven't considered that area, we may say we need to go back and collect a few -- few additional samples. That could change -- it's probably not going to change the overall remedy, but it may add another component to it. It -- it doesn't seem like relative to $35 million that it would be a major component, but any comments we get tonight or during the -- the remainder of the comment period, we're going to look at those individual comments and we're going to make sure that the -- the issues have been addressed. If there are potential areas of contamination that we have not looked at, we'll do what we need to do to make sure those are considered. Now, if the public comes in the -- the

technologies that we're looking at, if they make comments that demonstrate that those are not going to be effective, then we take that into consideration and maybe select a different remedy.

MS. COX: Uh-huh.

MR. STEWART: This is just what we think is the best remedy for the site based on the information we've got at this time. The public may feel different, but we want to know what those comments are, and I can't tell you that there's some special buzz word that'll make us change our remedy. I -- I don't think there is one, but we seriously consider every comment, and there could be something that changes the overall direction or component of the remedy, but I -- I can't -- can't really tell you what that is, but we will seriously consider every comment.

MS. COX: Okay. Has the PRP group -- how long have they and their attorneys had an opportunity to look at this proposal?

MR. STEWART: We've tried to involve the -- the group -- tried to involve them, basically, from the beginning of the process. We started notifying parties, I believe, in 2004, shortly after the bankruptcy. We started notifying the parties of their potential liabilities. And first of all, we tried to identify who are the big parties: the ones who sent the most waste there. And after a couple of meetings and a bunch of letters, a group started forming, and we've been in negotiations with them and discussions with them throughout the life of this project. Since, basically, 2004.

Those parties have had the opportunity to review documents. The same documents that are in the library, they've had access to those. We've had discussions throughout time that they -- they kind of know where we're headed with the -- with the proposed remedy. So they -- they've had -- they've had opportunities to see where we're headed with it.

MS. COX: I -- I noticed that there was a report that I could not download that I contacted DHEC about yesterday or Monday that was a PRP Proposal -- something that had been out there for a while, but I could not --

MR. STEWART: Was it --

MS. COX: -- look at it.

MR. STEWART: -- a --

MS. VINCENT: It's available --

MR. STEWART: -- pre-design --

MS. VINCENT: -- now.

MS. COX: Okay. I understand --
MR. STEWART: -- pre-design --
MS. COX: -- it's available.
MR. STEWART: -- investigation? A "PDI"?
MS. COX: Yes.
MR. STEWART: Okay.
MS. COX: There was another document, too.
MR. BERRESFORD: There --
MS. COX: I mean, those were not available, but it's -- what I understand is those are actually documents that were prepared by PRP that comment or directly deal with whatever their engineers -- or what their comments are about the proposal.
MR. STEWART: The -- the PRP group -- I -- I -- I don't want to speak for them, but I believe they are in the mode of thinking, "We're going to be implementing a remedy at this site."
MS. COX: Uh-huh.
MR. STEWART: When we have a $35 million estimate up there, we don't know, truthfully, whether it's going to cost 35 or whether it's going to cost 25 or 45. It -- we -- we can't be that precise with an estimate of this.
The group wants to do some additional investigation to help refine some of the

boundaries. We may think we have this area here; some additional sampling may show that it's really this area or it's this area. It won't really change the technology that's implemented, but it might change the extent of where it's implemented.

MS. COX: You're saying PRP --

MR. STEWART: P --

MS. COX: -- is going to do their own study, or they're asking you to do it?

MR. STEWART: They will do a study. They are proposing to do a study with our oversight that would help refine the -- the boundaries of where some of the treatment takes place, and --

MS. COX: And --

MR. STEWART: -- that's the two -- I -- I think that's the two documents you weren't able to download.

MS. COX: Okay. And when -- when were those completed?

MR. BERRESFORD: (To Ms. Cox) None of that work's been conducted right now.

MS. COX: No. I'm just talking about the proposal -- the document.

MS. VINCENT: (To Ms. Cox) It's on the Web site.

MS. COX: Well, I asked --

MS. VINCENT: Well, the -- the dates.

MS. COX: -- for the dates.

MS. VINCENT: I don't know the dates --
MR. BERRESFORD: The --
MS. VINCENT: -- but it's on the Web site.
MR. BERRESFORD: We started talking about this --
MR. STEWART: (To Mr. Berresford) It was approved.
MR. BERRESFORD: -- and it was approved in --
(To Mr. Stewart) What was the date?
MR. STEWART: It was earlier this year that the -- what's called the "Quality Assurance Project Plan" -- that's basically the quality assurance part of that proposal -- was approved within the last two to three months. And the work plan --
MR. BERRESFORD: I believe it was July of this year that the quality assurance plan got approved.
Part of the concerns about the work -- work plan that came in was not where samples were be -- being collected or how they were refining the -- looking to refine the area and collect additional data. It was the process that you went through to collect the data: how it was collected, how it was analyzed, all of that.
And we have a very rigorous quality assurance program. So, in order for that work plan -- where they actually go out and get the data that we need to evaluate, they had to do a separate plan was --

which was the quality assurance plan that said exactly how they were going to do that. And it provided to make sure that any laboratories that were done were certified for the analysis that they were running and just kind of a quality check to make sure that this data that they're collecting was done in the same accord -- in the same manner that we collected all the previous data.

MS. COX: Okay. So the reports are now available at the library?

MR. BERRESFORD: We --

MS. COX: We can look at those now?

MR. BERRESFORD: They're available at the library, and I believe we got them --

MS. COX: Uh-huh.

MR. BERRESFORD: -- working online today, as well.

MS. COX: And we can have knowledge of who the PRP Group consists of?

MR. STEWART: I -- I do not believe that the -- the members of the group is public. There are things that are in settlements that are being discussed. There are certain things that are -- I don't know the formal legal term. I'm not an attorney, but there are certain discussions that are settlement-privileged. And the parties that are involved in those discussions at this point in time are not public. Now --

MS. COX: But wait. So that's different than what I heard before. You're saying we cannot know who these PRP people are?

MR. STEWART: There is a list of parties, but you can't -- we can't tell you who is a member of that PRP Group. There's a -- the whole list of parties who may have sent waste to the site, but then there's just a subset of that who is participating in the group. And we -- that is not public information.

Now, at the point that we reach a conceptual settlement, that proposed settlement will go on public notice for 30 days, and all the parties who are a part of that proposed settlement will be listed in that. So, at that point in time, there would be knowledge of who those parties are that are participating.

MS. COX: You know -- you know, I -- I am a lawyer, and I know what Rule 408 is. And I don't understand how the parties claim that they are not required to be disclosed in a public matter that has affected the people in this community the way it has. So it troubles me that we're not going to even know who those potential parties are before we're being asked to close our commentary on that. And I'll just leave it at that, but, at this point, you know -- I mean, don't get me wrong.

The people of this community deserve to have their community cleaned up. We want it cleaned up. The problem is it's a little bit hard to trust this situation, when the government that was in place, the DHEC rules that were in place failed us. They failed us. And not only did they fail us then and it took forever to get it shut down and folks were exposed to toxic chemicals and repeatedly exposed to this -- the ash that was blown out, DHEC is saying that, "Here is the proposal. We want you to do this. We want you to approve this. We want to have some comment from the public, but, at the exact same time, we're going to dump on you right beside of it. And we're not going to do any study to determine whether or not that impacts this facility." It's like we're laser-beam focused on this one area, and we don't even know what the right hand and the left hand are doing together.

So, you know, I'm very -- I -- I have to tell you I'm real concerned about that, but I do want to see it get cleaned up. And -- and I think there's got to be some -- there's got to be some repair of that trust. And I'm real concerned about that with what's going on with the landfill that's supposedly going to be right next door, 90-foot high. How that affects the water table and how that's going to affect -- and digging up around that, how that's going to affect it. That's a problem.

I do want to make a few more comments since this is public record. The notice -- I know I was previously on the notice for the first hearing. I wasn't given public notice this time, so I -- I assume, since I put my name on the list, that I will be on there --

MS. VINCENT: Uh-huh.

MS. COX: -- going forward.

MS. VINCENT: You will.

MS. COX: It does seem like the public's being asked to take a drink of water out of a fire hydrant because all of this information with such a very short fuse, it doesn't seem like we have an opportunity to really digest it and to take a look at it. It doesn't seem like there's the openness. It seems like, "Here's this plan. You can take a look at it, but, you know, you're really not going to be very effective trying to -- to look at it."

As I understand it, the concentrations of contamination have not reduced at all. We'll never be able to use that property or the groundwater on that property at all. The technology -- the in situ thermal that's proposed to be used on the property has never been used at any length here in South Carolina. That's problematic.

What is the truck traffic going to be? How much are we talking about, taking stuff off-site? I -- you know, I can't tell from the report what that includes. I'm concerned that Wildcat Creek and Fishing Creek, they've only been tested once in the whole history.

MR. BERRESFORD: They actually have been sampled prior. When it was under the RCRA Program, they had some sampling done prior. We have sampled it one time since we've started the investigation. When we do our sampling of the groundwater, we're going to sample it again as part of this pre-design investigation to assure that, yes, everything's staying the way that we think it is in that creek.

MS. COX: Okay. Well -- well, DHEC's only tested those creeks one time. There has been no testing of any of the private wells. We've done absolutely nothing to try and determine whether or not this landfill that's not needed that's going to be 90-

foot high is going to affect this at all.

We're not allowed to know who the parties that are potentially responsible for putting the stuff there -- we aren't even allowed to know who they are, but they've been in settlement -- settlement negotiations for a long time.

MS. VINCENT: (To Ms. Cox) We have --

MS. COX: The things --

MS. VINCENT: -- told you we will be providing that to you --

MR. BERRESFORD: We --

MS. VINCENT: -- with a Freedom of Information request, and I think you have already shared with me that you have sent me an e-mail. So --

MR. BERRESFORD: We --

MS. VINCENT: -- those parties --

MR. BERRESFORD: (To Ms. Cox) We can provide all the parties that sent waste to the --

MS. COX: We'll -- we will --

MR. BERRESFORD: -- facility.

MS. COX: -- get the thousand list, not the PRP List; is that what --

MR. BERRESFORD: No.

MS. COX: -- you're saying?

MR. BERRESFORD: That is the PRP list. The thousand

list is all the potential -- potential --
MS. COX: So we will --
MR. BERRESFORD: -- responsible --
MS. COX: -- get it?
MR. BERRESFORD: -- parties --
MS. COX: We will --
MR. BERRESFORD: -- that have sent --
MS. COX: -- get their --
MR. BERRESFORD: -- waste --
MS. COX: -- names?
MR. BERRESFORD: -- there.
MS. VINCENT: (To Ms. Cox) Yes.
MS. COX: That's it?
MR. BERRESFORD: What we're --
MS. VINCENT: Yes.
MR. BERRESFORD: -- saying is there's a group, and, under that negotiation, there's privileged information.
MS. COX: These are the things that I'd like, and -- and, you know, I was going to ask for 90 days for -- for the people to be able to take a look at this. I guess we'll take what we can get. I appreciate that.
I -- I'd like a specific study done on this landfill. I'd like to determine why in the world

we're doing that, and, at the same time, trying to clean this other property up. What -- what is the purpose of that? The end use: I think it's important for the folks to be able to know what are we proposing that, at the end of the day, is going to be here. I would like special -- I would like the private wells tested at least for some period of time within a 5-mile radius, something. Let's take a look at that. The majority of the people south of this are -- which is how it slopes down -- are on wells.

I mean, don't get me wrong. I -- we want to get it cleaned up. I hope you understand the internal struggle that I'm -- I'm having and that I know the other folks in this community are having about this situation. We're talking about the exact same property -- a dirt road, and how are we going to maneuver both of those things? How are we going to trust and want to see this cleaned up, at the same time, being dumped on right next door?

So I hope you'll take those comments and -- and I'm sure we'll all be following up. Thank you.

MS. VINCENT: (To Ms. Cox) Thank you.

MS. COX: Thank you.

MR. STEWART: One -- one point I want to address:

You're not the first person that has mentioned, "What is the future use of the property?" We don't know.

We -- DHEC does not own the property. As part of the bankruptcy, a trust was set up -- a trustee, and that property is ultimately under the -- the control of the trustee. DHEC is there to oversee the cleanup, but once it's cleaned up, the trustee will -- will really have options for what to do with it. It could be sold; it could be leased. There -- there's a lot of options that -- that -- but the trustee will have the ultimate decision on -- on the outcome of the future use of the property.

The -- there will be restrictions on the property. In our lifetimes, you will not be able to drink the groundwater on that property. You just -- there's no technology, no amount of money that you can throw at it that'll clean the groundwater up to where you can drink it in our lifetimes. That's just -- that's reality, so there will be some restrictions on the property. But we see all across the state, there are properties like this, blighted industrial properties, that are redeveloped. If you go to Charleston, they're everywhere. I mean, Charleston's a hotbed of redevelopment on contaminated property. If you've got good public water available, you can generally find a way to redevelop it.

So I can't tell you that three years from now or thirteen years from now that this will be redeveloped somehow, but, certainly, it -- it will be available for some type of reuse in the future. And that will be -- you know, a trustee will -- will have some input in that -- in how the property is -- is managed in the future.

MR. LYNCH: Y'all do know the City of Rock Hill, that lift station you're pumping it to has had two big fish kills in the last few years. You might want to look into that, too.

MS. VINCENT: Could you repeat that? I'm sorry.

MR. LYNCH: You might want to check. The -- the City of Rock Hill lift station that you mentioned earlier -- I didn't know you were pumping over there -- they've had two big fish kills in the last five years because I have a mill pond downstream, and they killed them all. And -- but you might want to look into that and just see if you -- I -- there's some ponds downstream that it would collect in, depending on the gravity of the pollutant. It would be trapped in some of these pond areas. If you want to check downstream, we can arrange that for you, too.

You might -- there's two mill ponds south of that site; they've been there since the 1700s. They're impoundments.

MR. STEWART: Okay. Thank you.

MR. LYNCH: Uh-huh.

MS. VINCENT: Thank you.

MS. COX: On that -- just to --

MS. VINCENT: (To Ms. Cox) I think he was --

MS. COX: -- finish up --

MS. VINCENT: -- next.

MS. COX: -- that comment. Well, he's my cousin.

Can you just -- can you test the -- can you do some testing on that landfill property just to see what's going on there? I mean, I throw that out there.

MR. STEWART: The landfill property -- I don't want to pass the buck, okay? But we do -- we have a group within DHEC, our solid waste division. They're in the same bureau we're in. We work, you know, down the hall, around the corner from them, so we speak to them. They -- they are managing that project. They are the ones responsible for permitting it and determining what can and can't go there. We will certainly go back and pass these concerns along to them. I -- I can't take our program out to that property and start collecting samples, but we will -- we will contact them tomorrow. We'll follow up with them tomorrow and -- and bring these issues to them. I'm -- I -- I -- I'm sorry, but that's not our area of expertise and -- and knowledge, and we'll do what we can to relay those concerns to them.

MR. PLATT: My name is John Platt, and I'm a resident off Rambo Road. And my concern is -- is: Why now? Why -- why is -- is all this action transpiring? Because, you know, just getting it maybe back to par or back to safe is -- is not a big win for everybody here. That -- you know, getting it back to where you're not going to die from it or it's not going to, you know, make you ill, that's the way it should've been the whole time. So we really don't have anything to gain to get back to just there and -- and to the way it should've been when your job and the job of the government should've been done correctly.

However, all the sudden, there's this hotbed of activity, which there's usually money behind that. Usually, it means somebody has something to gain, something to profit from; otherwise, activity like this doesn't happen if somebody's not, you know, paying people to get up and show up at this time of day and do these -- these certain things, so, you know, that's my concern there.

Since we don't have a lot to gain from it, the way I see it, if the filtration system is working properly right now and is stopping the contaminants from going into the river, going into the groundwater, or transferring any further -- and I know you said that's a Band-Aid, but if it's a Band-Aid that works right now and it's cost effective -- it doesn't require us to borrow money from anybody who later on might say we owe them something, doesn't require a ton of electricity, doesn't require a lot of work -- I don't understand why that's not still an effective solution.

And at some point, during your presentation, I heard you mention something about -- I heard you mention something about a filter wall or wall that could be built around it. That in time, if leakage did happen, it would -- it would basically -- that would solve the problem as the leak went, you know, outward, it would hit the wall that was made of a certain material that was like a filter, and then during that progression, that would provide the cleansing over a long period of time. That combined with -- you know, a filter-wall combined with the existing Band-Aid-filter system seems extremely cost effective. And from what you're telling us, we're not in danger, and -- and that's fine. And -- and that would -- that would resolve, you know, the most of these problems.

But -- but yet we're trying to take a $35 million jump here and a five-year project on something that's 35 years old. And we're being told we -- we can't be -- we can't know who's spending the money behind it, you know, what their intentions are, if we owe them something after it's done. We don't know if the trustee is the old company or the old CEO or the old owner. We don't who the -- the receiver is, the person who is able to make the decisions for this bankrupt company.

And I don't know if you guys can answer this, but if it -- if it becomes usable as a landfill -- it's not great -- you know, in Chattanooga, they do great things with old landfills. They turn them into parks, and they turn them into, you know, wonderful community centers. But if -- if this is so bad, you can't ever use the water, and -- and after all this effort, it gets -- it gets cleaned up enough where it's only good enough to be a dump, you know, that's -- that puts us right back in the same boat. None of us want to get it back to par to just dirty it up again.

And, you know, I don't understand why all this activity is happening with all this money behind it with all these secrets. There's -- there's no disclosure. We pay the salary of all the government employees. There's no disclosure here of how you -- what action you guys -- you -- y'all are taking and how this is all being resolved. And I -- I think that that's, you know, a huge injustice. And I -- you know, so once again, I -- I don't understand why the money's being spent to this point. I don't understand why the efforts are being made, and I certainly don't want the effort to be made just to turn it into a dump.

So is there a place where we can locate the people who -- the people or person and the trustee who can make the decision on, once this property is clean, how it can be used, and if it's sold, who receives the proceeds? Can you answer either of those questions? Who the person is that makes the decision within the trustee, or, if it's sold, where or how the proceeds are used?

MR. STEWART: Okay. The -- the custodial -- it's a called -- I believe the correct term is a "custodial trust" or "trustee." And that was established by the bankruptcy court. It is a -- the name of it is "Restoration and Redevelopment, LLC." The trust was really established -- was established for the benefit of the state, of -- of DHEC, and EPA. There was not enough money to clean up the site based on the bankruptcy proceeds. So the trust is to manage this small account. It's been managed, I think, very well. We've gotten a lot of work done over the last 11 years.

As far as the timing, we've -- we've reached the progression of completing the investigation and evaluating alternatives. It's time now to select a remedy. And that's normally when we have the big rush of getting parties to the table to participate, to help fund it.

When -- when all is said and done at the end of the day, the community, DHEC, no one owes these parties anything. They're -- they're signing on -- they will be signing on, we hope, to pay for a cleanup. On the tail end, they get nothing other than protections through a settlement agreement that keep the -- the government from going back and suing them to clean it up because they've -- they've got protections.

The trustee -- I would think that input to the trustee on the long-term management of the project would be appropriate -- not project, but the facility. Once it's cleaned up, ultimately, we want to see this site where it's clean, where it can be reused for anything. As I said earlier, we don't believe the groundwater can ever be used in our lifetimes. But, as far as how the property is redeveloped in the future, it will not be a landfill. It -- we -- we have no intention of that. We want it to be able to be used for something productive. I -- I can't tell you what that is right now, but it will -- it will be cleaned up for some appropriate use in the future.

MR. PLATT: And so where -- where would the proceeds go if the land is sold?

MR. STEWART: Right now, the state is out -- out of our hazardous waste contingency fund, we've expended in excess of a million dollars that we have not been reimbursed. There is not enough money in the trust to reimburse our costs. At the end of the day, when all the assets of the company of the property are dissolved, if there's no longer the trust needing to manage paying taxes and other things like that on the property, somebody comes in and purchases it, if -- if DHEC is out half a million dollars of -- of unreimbursed cost and there's a half million dollars left in the trust, I think the way it works is that half a million dollars will be transferred to us to make DHEC whole, to make the state whole, and that would be it. If there's excess money in that account, which I can't imagine there would be, but if there is, I'm not sure how that works. I -- I'm not the brain trust of the -- of the custodial account.

MR. PLATT: So if that land was sold for $20 million, you don't who would get that $20 million?

MR. STEWART: I do not know the answer to that.

MR. PLATT: Because like I said, we're just trying to get back to even, so if there was any money to come back in after bringing us even, you know, it should definitely go to, you know, a healthy and productive community project or to the citizens of the community. There's no way whatsoever it should go to, you know, one of these industrial businesses or, you know, something outside of this community.

MR. STEWART: Right.

MR. PLATT: Is there any way for --

MR. STEWART: One -- one thing that I wanted to address that you mentioned a few minutes ago was you didn't want former operators -- these guys that ran the business -- you didn't want them being some beneficiary of this. They are not. They are in no way, shape, or form connected to the custodial trust, not -- not one bit.

MR. PLATT: All right. Also, I was wondering, do you know if any chemical -- if this chemical contamination has negatively affected any humans or animals that reside in approximately a ten-mile radius of this site? And if you do not, who -- who or which government department would be able to advise that?

MR. STEWART: Okay. I'm going -- I'm going to address that in a couple of different ways. The facility is no longer operating. We do not believe there is any contamination, at this point in time, that is leaving -- continuing to leave the property boundary. So that we do not believe anyone is currently being exposed.

Now, when the facility operated and the incinerator was running, we don't know what may or may not have happened -- what may have gotten beyond the property boundaries through the air. We do not know. We will never know. If some --

MR. PLATT: So there was -- so there -- so before your time, your department doesn't have any records or acknowledgments or testing or conclusive studies that show whether or not humans or animals were affected by this place as long as your department has been around?

MR. STEWART: I -- I am not aware of any.

MR. PLATT: And -- and --

MR. STEWART: But I -- my involvement with this project started 2000 -- December 2003. I do not know about anything before that.

MR. PLATT: Do you -- do you know -- do you know where in your department we would contact -- an archive or a -- a history person within your division that we would contact to ask that question who would be able to say, you know, yes or no to that question? "Yes. We have it on file. Yes. I can get it to you. No. We do not. It doesn't exist," you know.

MR. STEWART: We -- we would start -- we will start with our -- what's called our "RCRA permitting program." That's -- that's the group within our agency that -- that oversaw the operation of the facility.

That's where we would start.
MS. VINCENT: Define "RCRA."
MR. STEWART: When I said "RCRA" -- I'm -- I'm sorry that -- that stands for the "Resource Conservation and Recovery Act." That's a federal law that has to do with the management of hazardous wastes, from the time they're generated until they're disposed, destroyed, whatever happens to them. And -- and we have a group within DHEC that oversees that part of --
MR. PLATT: How could --
MR. STEWART: -- items --
MR. PLATT: -- I contact them? Do you have a consumer representative that only handles stuff like -- I -- I could call them and I could say, you know, "I have this question" or "I have this request" instead of what you do on daily basis, and they have access to answer those questions knowledgeably or provide me with that information if I -- if I were to contact them?
MR. STEWART: If I can get your contact information afterwards, I will get you some names.
MR. PLATT: Okay.
MR. BERRESFORD: I want to speak to something that you said earlier. You talked about the -- if the pump-

and-treat is keeping it from getting to the creek, why don't we just keep doing that? There is a cost involved with pump-and-treat, and it is not a extremely cheap cost. We're spending over $200,000 a year to continue to operate that. Our concerns is that, if we don't do anything else, we're going to continue to run that for a lot longer than we're going to be here. And over time, you're going to spend all of this money -- it may be a lot longer time frame, but you're going to spend a lot of money, and you're not actually have cleaned up the problem. You're -- you're -- you've got that Band-Aid effect. You're keeping it from getting to the creek. That's the purpose of the pump-and-treat, but you're not addressing any of these other areas.

MR. PLATT: Once, again, I'm concerned about -- about the health of the people in community, so I'm not concerned about me personally moving in on that property and living there, you know, ever. So, if that Band-Aid kept it from going to everyone else -- I mean, if you got $40 million from these PRP -- PLP, whatever -- these -- these groups of people who feel like they have, you know, some responsibility and they're trying to contribute some -- graciously trying to give us some money to fix this problem. I mean, if you got $40 million from them, you could run 200,000 bucks all year, you know, every year running that Band-Aid, and you could build a wall around it and you could send us all some money.

MR. BERRESFORD: Well --

MR. PLATT: Not -- not saying I --

MR. BERRESFORD: There's -- there's also --

MR. PLATT: -- I'm just saying when you put it that perspective -- when you're saying is 200,000, yeah, that's a lot of money if you don't have this settlement coming up. The settlement coming up, you guys are trying to, you know, utilize -- and it's also kind of a Band-Aid because it -- it will not make the drinking water ever drinkable in our lifetime, so, I mean, it is also not a -- a complete resolution within our lifetime either.

MR. BERRESFORD: And we --

MR. PLATT: But it is very expensive.

MR. BERRESFORD: One of the things we talked about, too, is there's several different types of contaminants. We've got your chlorobenzenes. You got your chlorinated solvents. You've got BTEX compounds. When you talk about building a wall, it's very difficult to build a wall that's all-inclusive of all those compounds. So to treat everything with a permeable reactive wall, that becomes very difficult. That's why when we had to break things down as different parts and pieces and say, "We can do this here and it'll work. We can do this here and it'll work. We can do this here and it will work." The reason that one wasn't pursued further is, once again, it -- it's like putting this art back there. It'll treat some things; it won't treat other things. Things may get through it. And then you're still having to pump and treat, so you're left, kind of, back where you were without actively treating the problem, which is the contaminated soils that are continuing to contaminate the groundwater.

MR. PLATT: We would also -- I mean, like I said, I don't think either -- either one of them is -- is -- either one of them is a definitive solution, I don't think. And -- and earlier when she -- when Christi said if -- if any of us had any input that was relevant in this -- you know, do we? And if we did, how would it make this decision different? And, you know, both of you, kind of posed the idea that if -- if we could prove that one of those solutions that you're trying to use isn't proper or isn't effective or doesn't work, that would be one way that we could, or if we could propose a way that did work, that would be another to say, "Hey. That's Option Number 4 that we hadn't considered." So I'm simply working with you guys together here. You know, I've know you've already done a lot of work, and nobody would want to start from zero. But, you know, in that concept of -- of -- of sharing, "Hey, here's another idea that might be viable and that might work and -- and, you know, with all that money, you know, it may have the longevity to work," because on top of the wall and the -- and continuing the filtration system, with that much money, you could still have people to go and check it quarterly or weekly or monthly or annually, you know, to make sure that a leak didn't happen, and if it did, you know -- so, you know, simply offering that as a -- as a viable solution because that seems like the only way that our input would make a difference here.

And I hope you guys do take that seriously because I do think it really is an option. I'm not saying, you know, change everything and make a decision right now. I'm saying, under that context, that's a viable option I believe exists.

And, if you hadn't thought of it, you hadn't considered it or a hybrid version of it, you know, it seems pretty cost effective to me and -- and easy to -- and easy -- not a five-year thing, not a big electricity thing, and an easy thing to -- to handle.

The -- the last question that I had was regarding the chemicals. There was -- there was nothing I saw in the PowerPoint and nothing I saw in here, specifically, that described or explained how each of these chemicals would affect a person. And I don't know any of them by their -- you know, by the names that you list up there. And so I'm also wondering, in that report or somewhere, is there a place where I can locate each of the chemicals that you found and, you know, how detrimental they are to -- to humans and animals and -- and what those symptoms might be so that I could, you know, be aware of that. Because -- because right now just saying that they exist and they're there and putting them on the screen, I don't know what that means, and I don't know what they would do, and I would like to. So is there a place I -- is there a place I could find that?

MR. BERRESFORD: What -- what we basically did is, once we got this data -- and this is in the RI report -- we looked at --

MS. VINCENT: Remedial Investigation.

MR. BERRESFORD: -- Remedial Investigation Report, we looked at risk. What's the risk to people who, in its current state, would come in contact with it? What's the risk if it was residential? What's the risk if it was an industrial worker? What's the risk for a trespasser coming across it?

But that's not telling you necessarily the specific risk for a compound. It's taking the thing as a whole. It does have some discussions of the compounds and how they contribute to the risk, and then it gives you a risk number for the site. And based on that risk range that we fell into, that's what prompted to us, "Okay. Based on this risk, we need to do something to clean this up." There are no operations going on here at the current time, so you don't have people actually being exposed to them. But if there was an operation to come in, the conditions would have to change for that to happen. And so we started evaluating it.

There's a lot of information on risk in there. Whether it's exactly what you're looking for, I'm not certain. If you want to take a look at it and get back with me, we can put you in contact with our toxicologist, who's not here tonight. But she might be able to answer some of those questions better as to what the effects of these chemicals, looking at the concentrations we have, kind of -- kind of the questions you're asking.

MR. PLATT: Yeah. Well, I mean, I -- I would think that the department that you -- you are in -- my understanding of it is that you're concerned about the health and wellbeing of our community. So that being said, I would think it would be a priority to know each and every one of these chemicals and their possible effect. I mean, I would think that that be a priority y'all would have and that you would -- you would want to try and get it to my hands without me having to try and call somebody, find something -- it seems like something that should've been mailed to us already. "Hey, these are the chemicals that were here. Here -- here's the way they could affect you." You know, this is one of those particular things -- you know, some of these other ones, maybe, I'm digging a little bit. I -- I -- you know, did you guys ever know if -- that it could be harmful, and, you know, who -- you know, what's the trustee going to do, and, you know, who -- who are the people in the -- in the -- in the settlements? This is a -- a simple health question that I think I shouldn't have dig for. I mean, I think -- is there any way that you -- you guys could put together a -- you know, some kind of -- some kind of form with -- with the chemicals that have been -- that are on the property that have -- have leaked, and what the possible exposure or consequences could be and -- and distribute it to everybody in this community so that we are aware what has been contained but what -- what has been contained since you've been working there, what may not have been contained before, and what currently exists there.

MR. STEWART: I think what we can --

MR. LYNCH: You could put the MSDS sheets on the site next to the chemicals, and it could answer everything you need.

MR. STEWART: We can -- we can put together a list of -- of chemicals by their classifications that EPA uses, whether they're carcinogens or whether they're not carcinogens. But we can't -- we don't have that expertise to say, if there's 78 chemicals, that this one causes kidney problems, this one causes liver problems, this one causes respiration problems. We don't have that expertise. We do have, as Lucas said, a toxicologist that -- as a resource that can help us provide that type of information. But we -- we don't have that expertise, and we can't develop that expertise. And so we -- we can get a list of the different chemicals that were in those groups of -- groups of BTEX and the other categories, and we can break them down by which ones fall into the carcinogens and the ones that are not carcinogens.

One thing I want to emphasize is that, unless you're exposed, these chemicals are not creating any problems. So you've either got to be inhaling them, ingesting them, or coming into physical contact -- dermal -- with your skin. So, as I said earlier, we don't think there's anyone currently in that category. And --

MR. PLATT: So I guess the long and short of it is, basically you said that a lot of cleaning up would have to do before anyone could even work on there, and that, if someone went out there and played in the dirt, they would probably die, so --

MR. STEWART: No, sir. I -- I --

MR. PLATT -- the long story short is that --

MR. STEWART: I am not saying that.

MR. PLATT: Well, that's what -- that --

MR. STEWART: I am not saying that.

MR. PLATT: That's what -- that's what y'all said earlier.

MR. STEWART: No, sir. Lucas said we have we a risk assessment that evaluates different scenarios.

MR. PLATT: Right. And you said -- and you said you evaluated it where it was so bad that it --

MR. STEWART: But those are -- those are based on long-term exposures. I want to stress that.

MR. PLATT: Correct.

MR. STEWART: They're not based on coming into contact with --

MR. PLATT: Absolutely.

MR. STEWART: -- something one time --

MR. PLATT: Correct.

MR. STEWART: -- and having issues.

MR. PLATT: And that's -- and that --

MR. STEWART: They're based on long-term effects.

MR. PLATT: Right. But that -- that's why I said the only thing I -- I seem to be getting from you is just the fact that, if you went in there and got long-term exposure, these particular chemicals are not the ones that make you itch and scratch.

They're the ones that kill you. I mean, I'm --

MR. STEWART: There are -- there are chemicals out there that, if you have long-term exposures, you could potentially get different types of cancers. There are some that could cause kidney problems, liver problems, and a host of other problems.

MR. PLATT: Gotcha. That's exactly what I -- you know --

MR. STEWART: Okay.

MR. PLATT: Okay. Thank you. Thank you for your time.

MR. LYNCH: Y'all can cure that. There are ESHA (as spoken) records on that site, and all you'd have to do is post the material safety data sheets on all those mixtures. Get your toxicologist to put them on your site, you know, that you have to give the employee when they handle benzene or any of that. You know what I'm talking about? It answers every question, concentration, irritants, the whole nine yards, and you can Google it. It's sitting there. But there should be ESHA (as spoken) records left over from ThermalKEM of everything that ever came on that site -- well, kept by DHEC.

MR. STEWART: Well, what we -- what makes sense is what's been shown in the sampling results. Those are the things that we know are there now.

MR. LYNCH: Don't you think you ought to have a list of what was there, and if you ain't finding it, where is it? Huh?

MR. STEWART: I -- I don't know that we will ever know exactly everything that was there.

MR. LYNCH: Every chemical that ever came on that site, you and I, well know about ESHA (as spoken) standards has to be reported, what it is, and the ESHA (as spoken) person on site, who has to be there, maintains the -- every chemical plant you ever go in, they have to maintain those records and when an employee says, "Hey, what's out in that area?"

"You got chlorobenzene and you dichlorobenzene out there. Here are the MSDS sheets. Here's how you handle it, and what concentrations, all the irritant symptoms, ingestions, inhalant, all the cautions. Oh, there some sodium dioxide out there? Here's that MSDS." Every single chemical plant in -- in the state of South Carolina has that. And it's all reported through ESHA (as spoken), health and safety. I know you guys have heard that.

MR. STEWART: Yes. We've heard of that.

MR. LYNCH: Okay.

MR. BERRESFORD: OSHA.

AUDIENCE MEMBER: Not -- not just chemical plants, but
we have to keep it --
MR. LYNCH: They have to have it.
AUDIENCE MEMBER: -- just for our --
MR. LYNCH: Why don't y'all put that on the --
AUDIENCE MEMBER: -- cleaning materials.
MS. VINCENT: Let's have one at a time, please.
MR. LYNCH: You have the ThermalKEM records. Why don't
you put it on the file?
MR. STEWART: I do not know if we have those records or
not. I -- I do not know.
MR. LYNCH: The toxicologist should have them.
MR. STEWART: They may. I -- I do not know.
MS. VINCENT: Okay. We need to have the mic on you, or
we won't have this in the transcript.
REPRESENTATIVE KING: Hello, I'm Representative King.
And first of all, I want to apologize to my
constituents for how I look. Secondarily, I am
really upset that this meeting is happening, and I
know that DHEC has not contacted me. They've come
into my district, and I don't want my constituents
to think that I do not care about what they care
about. This has been an issue for quite a while.
We need answers. We need to know what's going to
be done to the site. And I would like to have this

presentation done personally and at -- from this
point on, I would like to be notified of anything
that's going on in that site, as well as anything
that happens in this district that DHEC comes in
and talks to my constituents; I want to know about
it. I didn't receive a mail-out, an e-mail, or
anything. Totally disrespectful.

MS. VINCENT: I believe you were on the mailing list.

MR. KING: I did not receive anything.

MR. STEWART: Okay. Well, we did --

MR. KING: And -- and -- and -- and to clarify that, I
want it certified so that my constituents will know
that I signed for it because I don't want my
constituents to think that I will allow something
like this to happen and I'm not here. From this
point on, I want it certified to me.

MR. STEWART: Is there -- are there any other comments
on the proposed remedy?

DR. CHAPPELL: I don't want to take up any space of
anyone, but thank everyone for coming. It ought to
be packed full. And Dr. Martin Luther King showed
me, you don't get any results because usually
people are scared of a large crowd of people. This
ain't big enough. This is something everybody in
this community ought to have an interest in, so get

your neighbors to come at any next hearing you may have. Thank you guys and gals for coming. You have my admiration and sympathy, even sometimes I'd like to shoot you, but I love you, and I look for you to do the right thing. And I don't know how you're going to do it. You're the same one I -- I -- (indiscernible) allowed the mess to happen, doesn't have the IQ to correct the mess. And I say that with all respect for you coming in to our county tonight. I served my people for 23 years. Ms. Christi Cox is going is going to take my -- the seat that the people honored me to let me sit in. Mr. King here is a State House representative, and I hope you go down there and do something to your black caucus. This is a black section here. They've dumped on us and the working people long enough. They wouldn't put it uptown on Main Street. You wouldn't put it up Rock Hill at the -- out there at the Winthrop Coliseum, all that open acreage. You put out there in the working people's position and here you come again, I'm going to repeat it, with another dump right on top of this one. And -- and this -- I don't think anybody dreamed all the chemicals and the different substance you found here. And I don't want to drink it. My water, soil -- the state little lab I used said it's okay. I've tested four wells in my vicinity. But I'm not too far from it. So thank you for coming as far as I'm concerned. I take no -- I'm not trying to cut -- cut the debate off, but I thank you for coming, but I'm 85 years old and I'm going to bed.

MR. STEWART: Well, thank you, sir. And we thank everyone for coming. And I want to reiterate: We value your comments. We -- we want your comments. We appreciate you being here. Again, the comment period has been extended 30 days. Please submit written comments to Lucas.

MS. VINCENT: Yes. So we're going to adjourn. And thank you, again, for coming.

(Whereupon, at 9:09 p.m., the public meeting of the above-entitled matter was adjourned.)

(*This transcript may contain quoted material. Such material is reproduced as read or quoted by the speaker.)

(**Certificate accompanies sealed original only.)

ERRATA

In Re: Philip Services Corporation Site
Public Meeting, Date: 08/26/2014
Reporter: Susan Wyant

Susan,
Please re-listen to the recording to see if any of these suggested changes and/or modifications are appropriate.

Page#	Line#	TARGETED TEXT TO BE CORRECTED:	CHANGE TO:	Office Use Only (Audio Review)
2		Curwood Chappell	Add Councilman before Chappell's name	Reporter Error
4	21	It's York County …	It's at the York County …	Transcribed correctly
5	6	… our post card …	… our postcard …	Reporter Error
9	2	Department's taken …	Department has taken …	Transcribed Correctly
9	17-18	… that we did go in and do was we completely …	…that we did go in and do was we completely …	Transcribed correctly
11	16	…the area the	… the area that	Reporter error
19	14	this would basically bait the soil …	this would basically bake the soil …	Reporter error
29	21	We have established administrative record, as	We have established an administrative record, as	Transcribed correctly
32	2	… so if you would mind …	… so if you wouldn't mind	Transcribed correctly
34	5	look at the this in …	look at this in …	Reporter error
43	8-9	… uncle that walked from the …	… uncle that worked from the …	Transcribed correctly
49	1	… you've listed "service water	… you've listed surface water	Reporter error

51	8	that, when it discharged …	that, when it is dicharged …	Transcribed correctly.
55	25	… at 50,000 BPM, maybe …	*… at 50,000 PPM, maybe …*	Reporter error
65	25	… we employee, through …	*… we employ, through …*	Reporter error
84	24	… pre-designed …	*… pre-design …*	could be either
85	2	… pre-designed …	*… pre-design …*	could be either
86	24	Well, the – the dates.	*[should "the dates" follow line 25? I believe Cox questioned the dates prior to me making the follow-up statement]*	Transcribed correctly.
92	18	… of this pre-designed	… of this pre-design	could be either
111	8	… putting this art	… putting this part	Transcribed correctly
119	11	… are ESHA records	… are OSHA records	Transcribed correctly. As spoken
119	20	… be ESHA records	… be OSHA records	Transcribed correctly. As spoken
120	7	… know about ESHA standards …	… know about OSHA standards …	Transcribed correctly. As spoken
120	8	… and the ESHA person …	… and the OSHA person …	Transcribed correctly. As spoken.
120	20	… through ESHA, health …	… through OSHA, health …	Transcribed correctly. As spoken.
124	10	… you being there …	… you being here …	Reporter error.

Your signature: *[signature]* **Today's date:** 9/11/14

Returned errata received by an agent of Southern Reporting, Inc.:

[signature] on 9/11/14.

Errata reviewed: Susan Wyant.

Job No.: 11442

Appendix C : Responsiveness Summary

51316

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

September 19, 2014

Ms. Annie C. Williams
761 E. Rambo Rd.
Rock Hill, SC 29730

RE: ThermalKEM Property
Request for Additional Information

Dear Ms. Williams,

The Department appreciates your attendance at the recent public meeting and your overall interest in the environmental cleanup of the Philip Services Corporation Site. We are trying to respond to all your comments in a timely manner. Below are the questions you submitted to the Department and our responses.

1. *"I would like a copies of the affidavits from the Herald and any other papers on the ads published to announce the commencement of DHEC's study (Note there should be two as the first one had wrong information) and the ad published to announce the August 26, 2014 public hearing."*

   Attached is a copy of the affidavit of publication for the August 26, 2014 public meeting as well as a copy of the invoice and the publication from the May 25, 2006 public meeting.

2. *"I would like a list of all those sent the postcard announcing the public hearing, including date mailed."*

   Attached is the postcard mailing list for the proposed plan public meeting. These notices were mailed on August 12, 2014.

3. *"I would like a copy of the sign in sheets from the public hearing."*

   Attached is a copy of the sign-in sheets for the August 26, 2014 public meeting. The email addresses and street addresses have been redacted as required by the SC Family Privacy Act.

4. *I would like a copy of the transcript of the meeting on August 26, 2014, considerably before the 60 day comment period is over.*

   Attached is the final transcript from the public meeting.

5. *"Since the ground does not have walls and ground water seeps to adjacent properties I trust DHEC will do proper diligence and take ground samples of adjacent properties. I would like to have a map showing where you take these samples and the results."*

6. *"Again I believe DHEC is responsible to test the well water of those living within at minimum a half mile of the area and I would like the map of those tested and the results of that too."*

   To date, DHEC has sampled over 80 groundwater monitoring wells and over 100 surface water samples to assess the groundwater migration pathway. Sampling results indicate groundwater contamination is contained on the former ThermalKEM property. However, because this was a concern raised by numerous citizens at the public meeting, DHEC will conduct additional investigations to assess private wells in the area.

   DHEC will conduct a well survey for a half mile radius from the site to identify any drinking water wells in this area. The wells closest to the site will be sampled, provided permission is granted by the property owners. Once sampling results are obtained a map with locations and concentrations will be completed.

7. *"I am still concerned that DHEC has been working on this property for a year and a half however the contaminant reports presented at the public hear were dated January 2007."*

   Since 2007, DHEC has conducted many activities associated with the Site. These activities include operating the groundwater pump and treat system to prevent migration of contaminants to Wildcat Creek; performing an extensive evaluation of cleanup alternatives; and reviewing and approving a work plan and quality assurance project plan for a pre-design investigation to update data prior to the design of the final plan. Also, DHEC has continued to identify potentially responsible parties and has made substantial progress in reaching a settlement with a large group of parties to fund and conduct the cleanup of the Site.

8. *"I would like the list of the PRPs"*

   A copy of the PRP list is attached.

9. *"I want copies of written communication between your division and the DHEC division regarding the proposed landfill and soil tests."*

There is no written communication between the Division of Site Assessment, Remediation, and Revitalization (responsible for the PSC/ThermalKEM Site) and the Division of Mining and Solid Waste Management regarding the nearby proposed C & D Landfill and soil tests.

10. *Finally I want to know the impetus behind this clean up. DHEC does not act out of the goodness of their heart. Someone politically and privately is driving this issue.*

    As we discussed at the public meeting, DHEC, pursuant to a bankruptcy settlement and an agreement with the United States Environmental Protection Agency, assumed control of environmental matters at the Site. Following our statutory and regulatory processes, DHEC has directed an extensive investigation of contamination and evaluated potential cleanup alternatives and has now reached the point of deciding on a final cleanup alternative.

    As to our motivation, I assure you that this process is consistent with the way we assess and remediate contaminated sites across the state. This cleanup is based on state environmental law and is not driven by political or private interests.

11. *Again it was kind of you to give us an extra 30 days for comment however I think it should be extended at least another 30 days for a total of 90 days. There are over 1500 pages you said in the report and you took a year and half to prepare, the public should be given adequate and appropriate time to digest.*

    DHEC has extended the public comment period to 90 days. The comment period will now end on November 26, 2014.

12. *To say at the public hearing that our comments mean nothing, you are going to do what you want is a blatant abuse of the public input process.*

    We respectively disagree with your statement that we stated that public comments mean nothing. Public comments are a very important part of our cleanup process. DHEC will fully evaluate all comments submitted during the public comment period. As stated in the public meeting, we are seeking comments on all of the alternatives considered, not just the preferred alternative for the clean-up of the PSC/ThermalKEM Site. We will not select a final remedy until the public comment period has ended and we have fully evaluated all comments received.

DHEC appreciates your interest in the cleanup of the PSC/ThermalKEM Site and your attendance at the public meeting. I hope this response has answered your questions and provided you with additional information to evaluate during the public comment period.

We recognize that this Site has a long history within the community, and we hope to continue to work with the community to achieve the best cleanup possible. The public clearly had many other concerns voiced at the public meeting that were not related to the PSC / ThermalKem Site. While our responses to comments here are specific to the PSC Site we will relay the additional concerns of the public to the appropriate representatives within DHEC. If you have any additional comments or concerns please contact me at (803)898-0747 or at berresjl@dhec.sc.gov.

Sincerely,

Lucas Berresford, Project Manager
State Remediation Section
Bureau of Land and Waste Management

CC: File 51316
Gary Stewart
Harry Mathis

Attachment 1
Public Notice

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05/01/06	05/28/06	15TH OF MONTH	1

ADVERTISER / CLIENT NAME	BILLED ACCOUNT NUMBER
SC DHEC-BL & WM	31393500

ACCOUNT EXECUTIVE
MAUREEN FUNDERBURK

AGING OF ACCOUNT

CURRENT NET AMOUNT DUE	30 DAYS	60 DAYS	OVER 90 DAYS	UNAPPLIED AMOUNT	TOTAL AMOUNT DUE
$579.60	$0.00	$0.00	$0.00	$0.00	$579.60

DATE	REFERENCE NUMBER	DESCRIPTION	TIMES RUN	TOTAL SIZE	RATE	AMOUNT
		BALANCE FORWARD				.00
05/07	97199101	FORMER SEQUA		11.00IN	5054	277.20
05/25	97331501	NOTICE OF PUBLIC MEE		12.00IN	4847	302.40
				TOTAL DUE		$579.60

PREVIOUS AMOUNT OWED:	.00
NEW CHARGES THIS PERIOD:	579.60
CASH THIS PERIOD:	.00
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CURRENT	30 DAYS	60 DAYS	OVER 90 DAYS	TOTAL AMOUNT DUE
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BILLED ACCOUNT NUMBER	BILLING DATE	AMOUNT ENCLOSED
31393500	05/28/06	

The Herald

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SIGNATURE OF CREDIT CARD HOLDER ______________________

SC DHEC-BL & WM
2600 BULL STREET
ATTN PAT VINCENT
COLUMBIA SC 29201-1708

021031393500 000057960

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

Philip Services Corporation Site

Announcement of Public Meeting and Availability of Administrative Record

The South Carolina Department of Health and Environmental Control (DHEC) is investigating the release of hazardous substances at the Philip Services Corporation Site (the "Site") located at 2324 Vernsdale Road, Rock Hill, SC. DHEC will hold a public meeting on **Thursday, May 25, 2006, at 7:00** pm at **The South Point High School Auditorium** at 128 Robertson Road, Rock Hill, SC.

During the public meeting, DHEC will provide information regarding: 1) the contamination at the Site, 2) DHEC's cleanup activities at the Site, and 3) future planned activities. DHEC will provide an opportunity for questions and comments. DHEC will also seek information as to how the public would like to be informed in the future of DHEC's cleanup activities at the Site. The public is encouraged to attend the public meeting.

DHEC further announces the Administrative Record for the Site will be available at the York County Main Library at 138 East Black Street, Rock Hill, SC, on May 25, 2006. The Administrative Record includes documents that form the basis for the selection of the cleanup/response actions. The Administrative Record is also housed at DHEC's Bureau of Land & Waste Management Office at 8911 Farrow Road in Columbia, SC.

ENQUIRER HERALD

On (date) September 04, 2014

STATE OF SOUTH CAROLINA
County of York

I, Sonya VanSickle
of The Herald, a newspaper published in York County, South Carolina, being duly sworn, certify that the attached advertisement of:
LEGAL NOTICE
was duly published in the afore said newspaper on these dates 08/24/2014

(Signed) [signature] of The Herald
Sworn to and subscribed before me this 4th
day of September 20 14
[signature]
Notary Public for South Carolina

My commision expires April 12, 2016

DHEC
PROMOTE PROTECT PROSPER
South Carolina Department of Health and Environmental Control

Notice of Public Meeting & Comment Period

Re: Former Philip Services (ThermalKEM) Site2324 Vernsdale Rd, Rock Hill, SC
When: Tuesday, August 26, at 6:30pm
Where: South Point High School's Auditorium
801 Neely Rd, Rock Hill, SC
Purpose: Present DHEC's Proposed Plan for Cleanup

The SC Department of Health and Environmental Control (DHEC) will hold a public meeting to discuss the former Philip Services Corporation (ThermalKEM) facility. DHEC will provide information about contamination at the site and the alternatives considered for cleanup, including DHEC's preferred cleanup method. DHEC's Proposed Plan for the cleanup and many other documents are available at the webpage below.

Written comments will be accepted through September 26, 2014, and may be submitted to Lucas Berresford at DHEC-BLWM, 2600 Bull Street, Columbia, SC 29201, or at berresjl@dhec.sc.gov. On August 26, 2014, DHEC's Administrative Record (which contains environmental reports) for the site will be available for review at the York County Library located at 138 East Black Street, Rock Hill.

DHEC will select a final cleanup alternative after review and consideration of all comments received. DHEC may modify its preferred alternative or select a different alternative based on new information or public comments. Comments on any or all of the cleanup alternatives are encouraged.

For more information:
http://www.scdhec.gov/HomeAndEnvironment/Pollution/CleanUpPrograms/Superfund/Projects

CERTIFICATION
UBLICATION OF LEGAL NOTICE IN

HE HERALD, FORT MILL
MES, LAKE WYLIE PILOT,
HE ENQUIRER HERALD

ll, York Co., S.C. for 1
, beginning August 24, 2014

vs.

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EXTRA CHARGE FOR LOST OR DUPLICATE AFFIDAVITS

THIS IS AN IMPORTANT LEGAL DOCUMENT.
AL DOCUMENT PLEASE DO NOT

Attachment 2
August 26, 2014
Public Meeting
Sign In Sheets

SC Department of Health & Environmental Control FORMER PHILIP SERVICES (THERMALKEM) SITE

August 26, 2014 Public Meeting Sign-In Sheet

First Name	Last Name	Address	City	St	Zip Code	Email
Carol	VanBuren					
Mike	Gulledge					
Cathy	Warner					
Tom	Adams					
Roger	Craig					
Sara	Jenkins					
Richard	[illegible]					
Kathryn	Higbee					
Melvin	McCullough					
Jamie	VanBuskirk					
John	Platt					
Christi	Cox					
Annie	Williams					
Timothy	Garvey					
Ray	Hopkins					
Robbie	Boyd					
Robert	Kerr					
Katie Jo	Wheeler					
CHARLES	WILLIAMS					

SC Department of Health & Environmental Control FORMER PHILIP SERVICES (THERMALKEM) SITE

August 26, 2014 Public Meeting Sign-In Sheet

First Name	Last Name	Address	City	St	Zip Code	Email
√ Cindy	Canbron					
√ David	[illegible]					
√ John	Callas					
√ Seann	Tzouvelekas					
√ Curwood	Chappell					
√ Claudette	Shue					
Stephen	Whisnant					
√ Greg	Harrington					
√ RANDY	SMITH					
√ [illegible]	Williams					
√ Childs	Thrasher					
√ Tommy	Williams					
√ Michael	Cox					
√ Jerry	McCulloug					
Pat	vincent					
√ Gary	Stewart					
Lucas	Berresford					

Attachment 3
Mailing List

Randle & Bobbie J. Moxley
679 Cypress Tree Dr
Rock Hill SC 29730

James D. & Teresa W. Clanton
1725 Deer Run Rd
Catawba SC 29704

Thomas M. & Frieda W. Murphy
4476 Deer Run Rd
Rock Hill SC 29730

Resident
245 Redwood Rd
Duluth GA 30097

Walter D. Neal, Jr.
1555 Milling Rd
Rock Hill SC 29730

Julian P. & Susan R. Rogers, III
4183 Mockingbird Ln
Rock Hill SC 29730

Rock Hill Industries, LLC
62 N. Broad St
Pens Grove NJ

Resident
588 Neely Rd
Rock Hill SC 29730

Resident
596 Neely Rd
Rock Hill SC 29730

Resident
609 Neely Rd
Rock Hill SC 29730

Resident
614 Neely Rd
Rock Hill SC 29730

Resident
615 Neely Rd
Rock Hill SC 29730

Resident
625 Neely Rd
Rock Hill SC 29730

Resident
668 Neely Rd
Rock Hill SC 29730

Resident
677 Neely Rd
Rock Hill SC 29730

Resident
677 Neely Rd
Rock Hill SC 29730

Resident
800 Neely Rd
Rock Hill SC 29730

Resident
801 Neely Rd
Rock Hill SC 29730

Resident
820 Neely Rd
Rock Hill SC 29730

Richard L. & Philsonia L. Burris
208 Orr Dr
Rock Hill SC 29730

Tommy H. & Connie P. Elkins
3583 Penhurst Rd
Rock Hill SC 29730

Rock Hill School District 3
PO Box 10072
Rock Hill SC 29730

Dorothy Mae Craig Friscia
PO Box 10384
Rock Hill SC 29730

Resident
401 Rockwell Circle
Rock Hill SC 29730

City of Rock Hill
PO Box 11706
Rock Hill SC 29730

Robert A. Kerr, Esq.
Restoration & Redevelopment
78 Wentworth St
Charleston SC 29401

Dan Moser Company, Inc.
PO Box 350
Rock Hill SC 29730

Harvey H. Morgan, Jr.
PO Box 4544
Rock Hill SC 29730

Jimmy E. Gullege
PO Box 86
Rock Hill SC 29730

Rambo Associates
PO Drawer 12190
Rock Hill SC 29730

Resident
152 Rambo Rd W
Rock Hill SC 29730

Resident
155 Rambo Rd W
Rock Hill SC 29730

Resident
156 Rambo Rd W
Rock Hill SC 29730

Resident
194 Rambo Rd W
Rock Hill SC 29730

Resident
218 Rambo Rd W
Rock Hill SC 29730

Resident
228 Rambo Rd W
Rock Hill SC 29730

Resident
250 Rambo Rd W
Rock Hill SC 29730

Resident
262 Redwood Rd
Rock Hill SC 29730

Resident
262 Redwood Rd
Rock Hill SC 29730

Resident
318 Redwood Rd
Rock Hill SC 29730

Resident
103 Robertson Rd
Rock Hill SC 29730

Resident
128 Robertson Rd
Rock Hill SC 29730

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258 Robertson Rd
Rock Hill SC 29730

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258 Robertson Rd
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610 Robertson Rd
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630 Robertson Rd
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665 Robertson Rd
Rock Hill SC 29730

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491 Robertson Rd E
Rock Hill SC 29730

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520 Robertson Rd E
Rock Hill SC 29730

Resident
668 Robertson Rd E
Rock Hill SC 29730

Resident
258 Robertson Rd W
Rock Hill SC 29730

Resident
552 Robertson Rd. E
Rock Hill SC 29730

Resident
660 Robertson Rd. E
Rock Hill SC 29730

Resident
2 Rockwell Circle
Rock Hill SC 29730

Resident
400 Rockwell Circle
Rock Hill SC 29730

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420 Rockwell Circle
Rock Hill SC 29730

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431 Rockwell Circle
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465 Rockwell Circle
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476 Rockwell Circle
Rock Hill SC 29730

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501 Rockwell Circle
Rock Hill SC 29730

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513 Rockwell Circle
Rock Hill SC 29730

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539 Rockwell Circle
Rock Hill SC 29730

Resident
553 Rockwell Circle
Rock Hill SC 29730

Resident
560 Rockwell Circle
Rock Hill SC 29730

Resident
569 Rockwell Circle
Rock Hill SC 29730

Resident
620 Rockwell Circle
Rock Hill SC 29730

Resident
645 Rockwell Circle
Rock Hill SC 29730

Resident
652 Rockwell Circle
Rock Hill SC 29730

Resident
3730 Rockwell Circle
Rock Hill SC 29730

Resident
2550 Vernsdale Rd
Rock Hill SC 29730

Resident
2550 Vernsdale Rd
Rock Hill SC 29730

Resident
2550 Vernsdale Rd
Rock Hill SC 29730

Resident
530 Rockwell Circle
Rock Hill SC 29730

The Honorable Bessie A. Moody-Lawrence
219 Bowser Street
Rock Hill SC 29730

The Honorable Linda H. Short
512 Gressette Building
Columbia SC 29202

The Honorable James DeMint
1901 Main Street, Suite 1475
Columbia SC 29201

The Honorable Lindsey O. Graham
503 Hampton St, Suite 202
Columbia SC 29201

The Honorable John Spratt
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Rock Hill SC 29730

The Honorable Michael Johnson
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Fort Mill SC 29708

The Honorable Britt Blackwell
2020 Cavendale Dr
Rock Hill SC 29732

The Honorable Chad Williams
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Rock Hill SC 29732

The Honorable Kathy Pender
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Rock Hill SC 29732

Curwood Chappell
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Rock Hill SC 29730

The Honorable John Blackmon
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Rock Hill SC 29730

The Honorable Ann Williamson
352 Hampton St.
Rock Hill SC 29730

The Honorable Bruce Henderson
204 Memorial Dr.
Clover SC 29710

The Honorable Jim Reno
611 Oakwood Ln
Rock Hill SC 29730

The Honorable Doug Echols
PO Box 11706
Rock Hill SC 29731

The Honorable Kevin Sutton
PO Box 3163
Rock Hill SC 29732

The Honorable William Roddey
PO Box 66
York SC 29745

The Honorable Joe Cox
PO Box 315
Sharon SC 29742

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120 East Black St.
Rock Hill SC 29730

Fire Chief MikeBlackmon
214 Elizabeth Ln
Rock Hill SC 29730

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ToddBernard
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Rock Hill SC 29730

Hazel Reed
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Rock Hill SC 29730

Melvin McCullough
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Rock Hill SC 29730

Annie Williams
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Rock Hill SC 29730

Al Leonard, Principal
South Point High School
801 Neely Rd
Rock Hill SC 29730

Robert Kerr, Esq.
Restoration & Redevelopment
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Charlotte NC 28211

Gary Cavanaugh
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Rock Hill SC 29730

Wayne & Erlene Garrison
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Rock Hill SC 29730

Thomas L Williams
3200 Saluda Rd
Rock Hill SC 29730

William Daddono
Shaw Environmental & Infrastructure Group
200 Horizon Center Blvd
Trenton NJ 8691

David Clark Gloves, Inc.
1950 Collins Blvd
Austell GA 30106

The Honorable John Richard C. King
309D Blatt Bldg
Columbia SC 29201

The Honorable Lindsey O.Graham
235 East Main St., Ste 100
Rock Hill SC 29730

The Honorable Mick Mulvaney
1456 Ebenezer Rd
Rock Hill SC 29732

The Honorable Tim Scott
1301 Gervais St., Ste 825
Columbia SC 29201

The Honorable Creighton B. Coleman
508 Gressette Building
Columbia SC 29201

Name	Firm	Address	City State Zip
Paul Cirino, Esq.	US Dept of Justice	PO Box 23986	Washington, DC 20026-3986
Greg R. Siedor, Esq.	Onyx Environmental Services, LLC	700 E Butterfield Rd, Ste 201	Lombard, IL 60148
Robert Landmesser	Advanced Environmental Technology C	640 Fern St	West Palm Beach, FL 33401
Jeffrey Miller, Esq.	Johnson & Colaluca, LLC	1700 N Point Tower, 1001 Lake	Cleveland, OH 44114
Mike Persico	Cycle Chem, Inc.	217 S First St	Elizabeth, NJ 07206
Robert King	EcoFlo, Inc.	230 N Elm St., 17th Fl	Greensboro, NC 27401
	Rhone-Polenc AG	PO Box 2831	Charleston, WV 25330
	Safety-Kleen Corporation	208 Watlington Industrial Dr	Reidsville, NC 27320
Joe Ledvina	Sasol North America, Inc.	900 Threadneedle, Ste 100	Houston, TX 77079-2290
Mitch Covington	Terra First, Inc.	PO Box 1259	Vernon, AL 35592
Sam V. Raman	Textek	4719 Hugh Howell Rd	Tucker, GA 30084

270

Attachment 4

PRP List

122 Paint and Body
4 S Sign & Supply Inc.
A & A Printers & Lithographers
A & E Frame & Body
A and B Industrial Services, Inc.
A and I Warehouse Inc.
A H Robbins Company
A H Robbins Research Div
A H Robins Company Inc.
A O Smith Automotive
A One Dry Cleaners
AAA Cooper Transportation
AAA Paint and Body
AAI Corporation
AAR Brooks and Parkins
AAR Brooks and Parkins
AASI Aircraft
AB Murray Inc
ABB Pinetops
ABB Power T and D Company
ABB Power T and D Company Inc
ABB Power T and D Company Inc
ABB Power T and D Company Incorporation
ABB Sprout Bauer
Abbott Chemical, Inc
Abbott Farms
Abbott Labs
ABC Engravers Inc.
Abco Industries Inc
Abex Friction Products
ABF Carrier Corp (for Carolina Freight Carriers Corp)
ABF Terminal Freight
Abilene Metal Warehouse
Abington School District
Abli Business Marketers Inc.
AC Corporation
AC Painting Contractors
AC Rochester Flint West GMC
AC Spark Plug Div of Gmc
Accuforms
Accurate Graphics
Accurate Metal Fabricators
Ace Paint & Body Shop
ACM Medical Laboratory Inc.
ACME Metal Slide Inc.
ACME Name Plates
ACME Nameplate and Mfg Co Inc
ACME Wood Preserving
Acquired Technology Inc.
ACTA Labs
Active Mobile Service Inc Laidlaw Env Services LTD
Active Mobile Services Inc
Active Mobile Services Inc
Acurex Corporation

Acutek
ADC Finishing Inc.
Addison Jr. Sr. High School
Additive Circuits–Amp AKZO Div.
Adelphi Lab Center
Adkins Truck Equipment Company
Adler Office Associates (for MICC Venture)
Advanced Auto Parts (f/k/a City Auto Parts)
Advanced Bionics
Advanced Design
Advanced Environmental Services Inc.
Advanced Environmental Services of Illinois Inc.
Advanced Environmental Technology Corp.
Advanced Environmental Technology Corp.
Advanced Environmental Technology Corporation
Advanced Environmental Technology Corporation
Advanced Environmental Technology Corporation
Advanced Environmental Technology Corporation
Advanced Environmental Technology Corporation
Advanced Environmental Technology Corporation
Advanced Environmental Technology Corporation
Advanced Environmental Technology Corporation
Advanced Environmental Technology Corporation
Advanced Environmental Technology Corporation
Advanced Environmental Technology Corporation
Advanced Metal Products
Advanced Painting Contractors
Advanced Photovoltaic Systems, Inc.
Advanced Sandblasting
Advanced Technology Division
Advanced Technology Labs
AEP Industries Inc.
AEP John Vaughn Center
AEP North Charleston Service Center
Aero Mod Service
Aero Mod Services
Aerolink International
Aeroquip Corp.
Aeroquip Corporation
Aeroquip Corporation
Aerotron
AETC - ILG
Aetna Insulated Wire Company
AFG Industries
AGFA Division of Miles Inc
AGFA Geveart (Metcomet)
AGRI Business Marketers, Inc.
AH Plating
Air Cruisers Co
Air Cruisers Service Center
Air Cruisers Service Center
Air Filters & Equipment
Air Group Inc.
Air Products and Chemicals Valchem Polymers
Air Products and Chemicals, Inc.

Air Products and Chemicals, Inc.
Air Products Incorporated
Aircap Industries Inc.
Airco Industrial Gases
Aircraft Engineering Corp
Aire Mate
Airey Thompson Co.
Airport Field Maintenance
Airtron
Ajax Acorn Manufacturing Inc.
Ajinomoto USA Inc.
Akzo Chemical
Akzo Chemie
Akzo Coatings America Inc.
Akzo Coatings Inc
Akzo Electronic Materials Company
Akzo Nobel Inks Corp
Akzo Salt
Al Decker Co Becton Dickinson Advanced Diagnostics
Al Tech Specialty Steel Corporation
Al Tech Specialty Steel Corporation
Alamance Burlington School System
Alamance County Hospital
Albany International
Albany International
Albany Intl Press Fabric Division
Albermarle Corporation
Albermarle Corporation
Albright and Wilson AM
Albright and Wilson Inc
Albright College
Alcatel Network Systems
Alcatel Telecommunications
Alcatel-Lucent Technologies
Alco Chemical
Alco Gravure
Alco Industries, Inc. (for Synthane Taylor Corp.)
Alcoa (Cellwood Products)
Alcoa South Plant
Alcon Puerto Rico
Aldrich Chemical Company Inc.
Alesis Corp.
Alexander Central High School
Alexandria City Public Schools
Alfred's Picture Frames
AliedSignal Oak Mitsui
Alkay Analytical Laboratories, Inc.
All Grind Plastics Inc.
All Worth, Inc.
Allen Brothers Collision Center Inc.
Allen University
Allens Transfer
Allentown High School
Allentown School District
Alliance Precision Plastics

Alliant Techsystems Inc.
Allied Amphenol Products BCO
Allied Bendix H V S
Allied Bendix H V S
Allied Corporation
Allied Corporation
Allied Corporation
Allied Corporation
Allied Corporation
Allied Die Casting
Allied Enterprises Inc.
Allied Fiberglass
Allied Fibers
Allied Fibers and Plastics Company
Allied Signal
Allied Signal Aerospace Company Electric Power Div
Allied Signal Auto
Allied Signal Autolite Division
Allied Signal Controls & Accessories
Allied Signal Inc
Allied Signal Inc
Allied Signal Incorporated
Allied Signal Laminate Systems
Allied Technologies Company
Allied Terminal Inc.
Allied Tool and Machine Co.
Allison Ervin Company
Alloway Environmental Testing Services
Allstar Products Group
Allsteel Inc.
Alltrista Metal Services
Allwaste Angleton
Allwaste Baltimore
Allwaste Baton Rouge
Allwaste Charleston
Allwaste Charlotte
Allwaste Chicago
Allwaste Chicago
Allwaste Chicago
Allwaste Chicago
Allwaste Cincinnati
Allwaste Cleveland
Allwaste Columbus
Allwaste Columbus GA
Allwaste Conley
Allwaste Coraopolis
Allwaste Detroit
Allwaste Environmental Services of Atlanta
Allwaste Granit City
Allwaste Granit City
Allwaste Jersey City
Allwaste Joliet
Allwaste Laporte
Allwaste Louisville
Allwaste Niagara Falls

Allwaste Ontario
Allwaste Parker
Allwaste Pittsburgh
Allwaste Tank Cleaning
Allwaste Toledo
Allworth Inc
Alma Desk Company
Almay Hypoallergenic Inc
Almay Incorporated
Alonzo Printing
Alpha Metals Inc.
Alphagaz
Alpharetta Fire Department
Alpine Engineered Products
Alpo Pet Foods Inc.
Alsimag Technical Ceramics Inc
Altavista Printing Company
Alternate Energy Resources, Inc.
Altus Environmental Management
Alumax
Alumax Mill Products Inc.
Aluminum Company of America
Ambridge Township
AMCO Tech
Amerada Hess Corp.
Amerada Hess Corp.
Amerada Hess Corporation
Amerada Hess Corporation
Amerchol
America West Airlines
America West Airlines Ground Support Facility
American Can Company
American Cast Iron Pipe Co.
American Cleaners
American Coating (Lois Ethridge)
American Coating (Louis Smith)
American Cyanamid Co
American Cyanamid Co
American Cyanamid Company
American Cyanamid Company
American Cyanamid Company (f/k/a American Home Products, Inc.)
American Cynamid
American Cynamid
American Cynamid
American Cynamid
American Cynamid
American Cynamid
American Cynamid
American Electric
American Electric Power Co.
American Enka Company
American Enka Company
American Fiber and Finishing SC Inc
American Filtrona
American GFM Corp

American Hoechst Corp.
American Hoechst Corporation
American Hofmann
American Home Foods Inc
American Home Foods Inc
American Metal Process
American Packaging Corp.
American Paint & Chemical
American Philosophical Society
American Red Cross
American Red Cross/Holland Laboratory (Ms Rhoda Binley)
American Roller Bearing and Manufacturing Inc.
American Telephone and Telegraph Co.
American Thread Co.
American Type Culture Collection
American University
American Vamag
American Whirlpool Products
American Whirlpool Products
American Woodmark Corporation
Ameron Fiberglass Pipe Division
Ametec Special Filaments Div.
AMF Bakery
Amko Graphic & Printing Inc.
AMO Pollution Services Inc.
Amoco Chemical Co.
Amoco Chemicals ALS PBG
Amoco Chemicals Cooper River Div.
Amoco Fabrics and Fibers Company
Amoco Fabrics Fibers Corp
Amoco Oil Company
Amoco Oil Company
Amoco Oil Company
Amoco Oil Company
Amoco Oil Company
Amoco Oil Company (Citgo)
Amoco Oil Yorktown Refinery
Amoco Perform ance Product Inc
Amoco Performance Products Inc
Amoco Performance Products Inc
Amoco Performance Products Inc
Amoco Performance Products Inc
Amoco Polymers BG
Amoco Polymers Inc
Amp
Amp & Akzo
Ampco-Pittsburgh Corp. (for Pittsburgh Forgings Company)
Ampex Corp
Amphenol Corporation
Amphenol Corporation BCO
Amphenol Products
Amplate and Co.
AMR Combs
AMR Services
AMREP Incorporated

AMSA 20 Sub Shop
AMSCO Medical Products
Amtrack (for National Railroad Passenger Corporation
AMVAC Chemical Corporation
Anaheim Hilton
Analytics Laboratories
Analytikem
Analytikem Inc
Analytikem Laboratory
Anaplex
Anchor Continental Inc.
Anderson Co. School Dist. 5
Anderson Lithograph Co. Inc.
Anderson Regional Joint Water (Anderson Filter Plant)
Anderson Skin and Cancer Clinic
Anderson Skin and Cancer Clinic
Andersons (The)
Anheuser Busch Co.
Anitec Image Corp.
Ann Arbor Grovits
Anne Arundel Community College
Anne Arundel County GSX
Anodyne
Antenna Corp. of America
Anvil Knitwear
Apac Georgia Inc
Aplix, Inc.
Apollo Metals LTD
Appalachian Power
Appalachian Power Co
Appalachian Power Co.
Appalachian Power Co.
Appalachian Power Co.
Appalachian Power Company
Apple Plastics
Applied Color Systems
Appomattox Ford Mercury
Aqua Tech Inc
Aqua Tech Laidlaw Environmental Services
AR Lithographers
ARB Incorporated
Archie Schwartz Co Realty
Arco Chemical Co
Arco Chemical Company
Arco Chemical Company Beaver Valley Plant
Argus Research Laboratories
Argyl Manufacturing Co.
Aristech Chemical Co.
Aristech Chemical Company
Ark Les Special Products
Arkansas Eastman Chemical
Arkema, Inc. (for M&T Chemicals, Inc.)
Arlington County Water Pollution Control Division
Armbridge Township
Armor Environmental Services Inc.

Armstrong World Industries
Armstrong World Industries
Amett Buick
Arrow Automotive
Arrowhead Plastics
ARS Manufacturing
Arthur D Little Inc.
Arts and Crafts
ASAP Print & Copy
Asea Brown Boveri Power T and D Co
Asea Brown Boveri Power T and D Co Inc
Asea Brown Boyers Power I & D Co.
Ashe County Environmental Services
Asheville City Schools
Ashland (Welchem)
Ashland Chemical Co
Ashland Chemical Company
Ashland Chemical Company
Ashland Chemical Company
Ashland Chemical Inc
Ashland Chemical Inc
Ashland Chemical Inc
Ashland Chemical Inc
Ashland Chemical Inc
Asplundh Manufacturing Div
Asplundh Mfg
Asplundh Tree Expert Co.
Associated Engineering Co
Associated Painters
Astrochem Corp
AT and T
AT and T
AT and T
AT and T
AT and T Technologies
AT and T Technologies
AT and T Technologies
AT and T Technologies Corp.
AT and T Technologies Inc
AT and T Technologies Inc Network Systems
Atec Aluminum
Athena Industries
Atkinson Truck Sales
Atlanta City River Intake
Atlanta City River Intake
Atlanta Journal Constitution
Atlanta Toyota
Atlanta University
Atlantic Aerospace Textron
Atlantic Community College
Atlas Associates
Atochem North America
Atochem North America
Attwood Corp.
Audel Inc.

Augat Wiring Systems
Augusta Medical Center
Austin Marble Company
Autecs
Auto Body Fitness
Auto Body Plus, Inc
Auto Clinic
Auto Crafters Frame & Body
Auto Machine Shop
Auto Quick
Auto Surgeons
Automata Inc.
Automatic Choice, Inc.
Automatic Switch Company
Automatic Transmission Shops Inc.
Automation Printing
Automotive Wheel, Inc.
Avco Chemical
Avdel Inc.
Averett University of Danville (Averett College)
Avery Body & Trim Shop
Avery Dennison
Avon Products
Avon Products Inc
Avtex Fibers Inc.
AVX Corporation
Ayerst Laboratories Inc
Ayres Corporation
Azimuth Incorporated
AZS Corp
Azteca Foods Inc.
B & B Paint & Body
B & C Furniture Stripping
B & H Steel Products Inc
B & J Auto Body
B & K Paint & Body Works
B & R Body Shop
B & R Body Shop of Pineville
B & R Realty
B and G Painting
B B & T Center
B F Goodrich
B F Goodrich Aerospace
B F Goodrich Texile Chemicals
B M Newman Grocery Inc.
Babcock & Wilcox Co. (B & W Fabricators)
Babcock and Wilcox
Bacchos Press
Badische Corporation
Bahlsen, Inc.
Baileys Body Shop
Baker Instruments
Baker Performance Chemical
Baldor Electric Company (f/k/a Reliance Electric)
Baltimore County Police Dept. Crime Lab

Baltimore County Public Schools
Baltimore Gas and Electric
Bank of America (for Rock Hill National Bank)
Bankers Savings
Banner Gelatin Products Corp
Baptist Medical Center
Bar Ran Furniture HP
Barbour Threads, Inc.
Bard Laboratories, Inc.
Barkley
Barnes Foundation (The)
Barre National
Barre National Inc.
Barriel Industries Inc
Bartlett Yancey High School
BASF
BASF
BASF Coating and Ink.
BASF Corp Cenco Terminal
BASF Corp Chemical Div
BASF Corp Chemicals Division
BASF Corp Hwy
BASF Corp.
BASF Corp.
BASF Corp.
BASF Corporation
BASF Corporation
BASF Corporation
BASF Corporation
BASF Corporation
BASF Corporation
BASF Corporation
BASF Corporation (Inmont Corp; Mew Corp)
BASF Corporation Coatings and Inks Division
BASF Corporation Plant 2
BASF Inment
BASF Inmont
BASF Structual Materials Inc.
BASF Structual Materials Inc.
BASF Wyandotte Corp
BASF Wyandotte Corporation
BASFCorp. Clemson
Bassett Walker
Bata Shoe
Bauer Compressor
Baumann Springs USA Inc.
Bausch and Lomb
Bausch and Lomb
Bausch and Lomb Incorporated
Bausch and Lomb Optics center -
Bausch and Lomb Personal Products Division
Bausch and Lomb Sunglass division
Bay Area Imaging
Bay Diesel Corp
Bayer (for Cooper Biomedical Inc.)

Bayer Corporation
Bayer Corporation
Bayer Corporation (Hooker Chemical/Ruco Polymers)
Bayliner Marine Corporation
Bayliner Marine Corporation
BDT Inc.
Beaufort County School
Beaufort County School District
Beaver Auto Supply
Beaver Company Sales
Beckett Corp
Bectin Dickinson
Becton Dickinson
Becton Dickinson
Becton Dickinson
Becton Dickinson Advanced Diagnosis
Becton Dickinson Advanced Diagnostics
Becton Dickinson Advanced Diagnostics
Becton Dickinson Advanced Diagnostics
Becton Dickinson and Company
Becton Dickinson Diagnostic Instrument Systems
Becton Dickinson Diagnostic Instrumentation System
Becton Dickinson Diagnostic Instrumentation Systems
Becton Dickinson Diagnostic Instrumentation Systems
Becton Dickinson Diagnostics Instrumentation Systems
Becton Dickinson Diagnostics Instruments Systems
Becton Dickinson Immunodiagnostics Center
Becton Dickinson Immunodiagnostics Center
Becton Dickinson Micro Biology Systems
Becton Dickinson Micro Biology Systems (Louis D Angelo)
Becton Dickinson MicroBiology System
Becton Dickinson MicroBiology Systems
Becton Dickinson MicroBiology Systems
Becton Dickinson MicroBiology Systems
Becton Dickinson MicroBiology Systems
Becton Dickinson MicroBiology Systems
Becton Dickinson Trandermal
Beecham Laboratories
BEHR Process Corp
Bel Ray Co. Inc.
Bell Aerospace Textron Inc
Bellflower Unified School District
Beloit Wheeler
Bemis (for Mactac Scranton Div)
Ben Franklin Press
Bendix
Bendix Communications Division
Benedict College
Benise Dowling and Assoc. Inc.
Benjamin Moore and Co
Bennetts Strip Shop
Benson Printing
Bent Mountain Fire & Rescue Station
Bercen Inc Cranston Print Works
Bergen Community College

Berglund Chevrolet
Berkeley County Schools
Berlex Laboratories
Berlex Laboratory
Berol USA
Berrien County Health Department
Berryville Graphics
Bert Co Graphics
Berthons Cleaners
Bertrand Products Inc.
Bethesda Research Labs.
Bethlehem Crime Laboratory
Bethlehem Steel Corp.
Betz Equipment Systems
Beverly Cemetery
BF Goodrich
BF Goodrich Flight Systems Inc.
BFGoodrich
BFI of GA Inc.
BFP Print Communications
BGF Industries
Biddle and Sawyer
Bigbee Steel and Tank
Biocraft Laboratories Inc
Biomatrix Inc.
Bionetics
Bionetics Corporation
Bionomics Laboratory Inc
Biotage a Division of Dyax Corp
Birmingham Southern College
Bitzer DC & Tailors
Black & Decker
Black & Decker
Black & Decker
Black Clawson Company
Black Street Body Shop
Blanton Cleaners
Block Drug Company Inc.
Blockhouse Company
Bloomsburg University
BLR Corp.
Blue Cross Beauty Products
Blue Print Automation
Blue Stone Middle School
BMW Manufacturing Corp.
Board of Education West Milford Township
Bob Smith GMC
BOC Lansing Automotive Div.GMC
BOC Reatta Craft Centre GMC
Body Shop (The)
Body Shop (The)
Bodycote Hinderliter Thermo Processing
Boeing Helicopters
Bombardier Motor Corp.
Bommer Ind Inc

Bommer Industries Inc
Bond Technology Div od Alcoa Composites
BondCote Corporation
Bonide Chemical Co. Inc.
Book Printer (The)
Boones Mill Auto
Bordeaux Printers
Borden Chem
Borre National Inc.
Borrough Wellcome
Bosch (for Electro Voice Facility
Boston Gear
Bou Cleaners & Laundry
Bowater Incorporated Carolina Division
Bowman Gray Research Farm
Boyertown Packaging Corporation
BP America
BP Oil
BPS Equipment Rental & Sales
BPU Nuclear Corp Lab Services
BR & T Center
Brad Rabon Inc.
Brainard Strapping Div of Sharon Steel Corporation
Brambleton Hardware
Brandt, Carl
Brandywine Hospital
Brants Body Shop
Brants Wrecker & Body
Breauxs Cleaners
Brick Township Board of Education
Bridge Painting Inc.
Bridgeport Metal Goods
Bridgeton Dyeing and Finishing Co.
Briggs and Stratton Corp.
Briggs Industries Inc.
Briggs Plumbing Products, Inc, f/k/a Briggs Plumbingware
Bristol Myers Products
Bristol Myers Products
Bristol Myers Squibb
Bristol Myers Squibb Company
Bristol Myers Squibb Company Industrial Division
Brooklake Country Club
Brotherston Medical Supply
Brower Property
Bryson Recovery Service
BTLSR Toledo, Inc. (BTL Specialty Resins Corporation)
BTR Valve Sealants Inc.
Buckingham Correctional Center
Bucyrus Blades Inc.
Buffalo Newspress
Bulk Distribution Center
Bulk Distribution Center
Buncher Rail Car Service Co.
Burgholzer, Edward
Burlington City Schools

Burlington Environmental DBA Philip Environmental Inc
Burlington Environmental Inc
Burlington Industries
Burlington Industries
Burlington Industries Inc
Burlington Industries Inc. Klopman Fabrics
Burlington Industries Lee Division
Burlington Industries Specialty Chemical Division
Burnettes Cleaners
Burroughs Wellcome Company
Busch Gardens
Butler Board of Education
BWJ, LLC (for Fluorocarbon Components Div.)
BWX Technologies
Byrum Truck Repair
C & C Industries
C & D Aerospace
C and D Charter
C B Fleet Co. Inc.
C E Thurston and Sons Inc.
C J Electronics
C J Media (C J Printing)
C Line Inc.
C P Chemical
C R Bard Inc.
C.H. Heist Corporation
Cabarrus County Schools
Cabarrus Mem Hospital
Cahill Manufacturing
Cal Lab East
Caldwell County
Calgon Carbon Corporation
Calgon Carbon Corporation
Calhoun County High School
California AETC
California Community News
California Composite Design
California Litho
California Litho Arts
California Metal Processing
Callaway Chemical (Formerly Mayo Chemical)
Cam Vac America
Camden Board of Education
Camden Board of Education
Camden County College
Camel City Poster Productions
Camelot Furniture
Campbell Chain
Campbell County Vo Tech Center
Campbells Cleaners
Candlelight Press
Cannon Ball 2
Cannon Engineering Group (The)
Canon Virginia, Inc
Capco Machinery Systems

Cape Industries
Cape May County Court House
Cape May County Mosquito Comm
Cape May County Prosecutors Office
Capistrano Unified School Dist
Capital Broadcasting Co. Inc.
Capital Chevrolet of Columbia (for Newsome Chevrolet)
Capitol Manufacturing Company
CAPSCO, Inc.
Car Body Repair
Carbide Graphite Group
Carbide Graphite Group Inc. (The)
Carborundum Company
Cardinal Industrial Park LLC
Cardinal Ohara High School
Cardinal Stabilizers
Careco
Career Development Center
Cargill
Cargill Incorporated
Caribbean Lumber Company
Caribe GE Products Arroyo Plant
Caribe GE Products Inc
Caribe GE Products Manuabo Plant
Caribe General Electric Products
Carilion Bedford Memorial Hospital
Carilion Consolidated Laboratory
Carilion Consolidated Labs
Carlsbad Printing Services
Carlyle Group (The) (for Norfolk Shipbuilding And Drydock)
Carnegie Mellon University
Carocon Corporation
Carol Sullivan
Carolina Biological
Carolina Crane Repair, Inc.
Carolina Design LTD
Carolina Eastman Company
Carolina Enterprise 2
Carolina Enterprises Inc.
Carolina Equipment Refurbishing
Carolina Exxon Sta
Carolina Handling inc.
Carolina Leasco (Cresent Cruiser)
Carolina Marine Service
Carolina Packaging Company
Carolina Paint Stores
Carolina Pole Cox Industry (for General Wood Preserving Company Inc)
Carolina Power and Light
Carolina Power and Light
Carolina Scrap Processors
Carolina Solvents
Carolina Steel & Wire Corp.
Carolina Tractor
Carolina Wholesale Office Machines (for Monroe Systems For Business Inc.)
Carpenter Technology Corp.

Carpenter Technology Corporation
Carrier Corp
Carroll County Memorial Reserve Center
Carrolls Foods Inc.
Carstruction Inc
Casde Corporation
Casey Imports Jeep Eagle
Cash Farms inc.
Cast Alloys
Catasauqua High School
Catawba Charlab Inc
Catawba Fire & Rescue Station
Caterpillar Inc
Cato Oil Company
Cave Spring Fire Station
CBH Services, Inc.
CBS / MTM Studies
CBS Records
CBS Records
CBS Records Inc
CCF Division of BASF Structural Material Inc
CDGate Palmolive Company (Colgate)
Celanese Fiber Company
Celanese Fibers Operations
Celanese Fibers Operations
Celanese Fibers Company
Celanese Fibers Inc
Celgene Corporation
Cello Corporation
Cellofilm Corp.
Cellular Products
Celotex Corporation (The)
Celotex Corporation (The)
Centocor
Central Carolina Technical College (f/k/a Sumter Area Technical College
Central Coating and Assembly
Central Piedmont Community College
Central Virginia Community College
Central/ATS, Inc
Centre Engineering Inc.
Centro De Instruccion Y Educacion Moderna (CIEM)
Century City Shopping Center
Century Furniture Company
Cenveo ColorGraphics, Inc. (for George Rice and Sons)
Cenveo, Inc. (for Mack Printing)
Cenveo, Inc. (for Mack Printing)
Ceramco
Certainteed Corporation
Certainteed Corporation
Cervitor Kitchens
CES Gaffey (for Gaffey Incorporated of TX)
Chambers Waste Systems of New Jersey Inc.
Champion Building Products
Champion International Corp
Champion Products

Champion Roller
Champion Roller
Chandler Landfill
Chanel Inc.
Channel Master
Charlatte of America
Charleston County School Dist
Charleston County Schools
Charlotte / Douglas International Airport
Charlotte Mecklenbrug School Maint
Charlotte Mecklenburg Schools
Charlotte Mecklenburg Utility Dept.
Charlotte Orthopedic Hospital
Charlotte Paint and Body
Charlotte Paint and Body Shop
Charlotte Plaza
Charlotte Sun Roof
Charlotte Tabernacle
Chatham County Schools
Chattanooga City Schools
Checker Motors
Chem Central
Chem Gen Corporation
Chem Pak Corporation
Chem Pro Corp.
Chem Service Inc.
Chem Way Corp.
Chemcraft Sadolin, Inc.
Chemdesign Corporation
Chemetall Oakite (for Oakite Products Inc.)
Chemetals
Chemical Analytics, Inc.
Chemical Coatings
Chemical Conservation Corp
Chemical Conservation of Georgia, Inc.
Chemical Dynamics Corp.
Chemical Inc.
Chemical Management Inc.
Chemical Pollution Control Inc
Chemical Reclamation Services Inc.
Chemical Solvents Inc.
Chemical Waste Management CSA
Chemical Waste Management Inc
Chemical Waste Management Inc
Chemical Waste Management Inc
Chemical Waste Management Inc
Chemical Waste Management Inc
Chemical Waste Management Inc (Pollution Control Industries)
Chemical Waste Management of Kansas Inc
Chemical Waste Management of New Jersey Inc
Chemical Waste Management, Inc
Chemicals Waste Management Controlled Waste Division
Chemicals Waste Management Inc
Chemicals Waste Management Inc
Chemtron Corporation

Chemtronics Inc
Cherokee Co. Schools Dist. 1
Cherry Hill East High School
Cherry Hill West High School
Chesapeake City Parks & Rec
Chesapeake City Sts & Maint
Chesapeake City Traffic Eng
Chesapeake General Hospital
Chesapeake Public Schools
Chesebrough Ponds
Chesebrough Ponds Inc
Chesebrough Ponds USA
Chester County Courthouse
Chester High School
Chestnut Hill Academy
Chestnut Hill College
Chevron USA Products Company
Chicago Hardware Foundry
Chicopee
Childrens Hospital
Childrens Hospital of Kings Daughters
Childress Klein Properties
Chillers Services Inc.
China Grove Textiles
Chippenham Medical Center
Choice Atlanta
Christiana Creek Country Club
Chrysler Corp ST. Louis Assy Complex
Chrysler Corporation Belvidere Assembly Plant
Chrysler Environmental
Church & Dwight Co., Inc. (for Carter Wallace Inc.)
Church and Dwight Co. Inc.
Churchland High School
Churchland High School
Ciba Corning Diagnostics Corp
Ciba Geigy
Ciba Geigy Bio Technology
Ciba Geigy Corp.
Ciba Geigy Corporation
Ciba Geigy Corporation
Ciba Geigy Corporation Toms River Plant
Ciba Vision Care
Ciba-Geigy Corporation
Cibe Geigy Corp.
Cibe Geigy Corp.
Cincinnati Milacron, LLC
Circle K Stores Inc
Citation Tool Inc.
Citgo Petroleum
Citgo Petroleum Corporation
City Body Shop of Rock Hill, Inc.
City College of New York
City of Atlanta River Intake
City of Bedford Dept of Wastewater Treatment
City of Burbank Emergency Response

City of Burbank Public Services
City of Burbank Public Works
City of Burlington
City of Charlottesville
City of Durham
City of Fairhope
City of Farmington Hills
City of Greensboro
City of Greensboro
City of Hampton Fleet Mgt Div
City of Hopewell
City of Iowa City
City of Livonia
City of Myrtle Beach Maint
City of Niagara Falls Wastewater Treatment Plant (The)
City of Norfolk Public Works
City of Olathe
City of Poquoson
City of Portsmouth PWC
City of Raeford
City of Raleigh
City of Raleigh Public Utilities Operations Center
City of Raleigh Public Utilities Operations Center
City of Richmond Dept. of Public Works
City of Richmond Traffic Engineering
City of Richmond Water Treatment Plant
City of Richmond WWT Plant
City of Rock Hill–Manchester WWTP
City of San Diego
City of Southfield
City of Sterling
City of Whittier
City of Winston Salem
City of Zanesville Waste Water Treat Plant
City University of New York College of Staten Island
Clark Lift Services Inc.
Classic Litho
Claymont High School
Clayton County School System
Clean Harbor (Laidlaw–FIW, Inc

Clean Harbors Environmental (for Laidlaw Env. Services & North East Solvents Reclamation Corp.)
Clean Harbors Environmental Services (for Chemclear of Baltimore)
Clean Harbors of Baltimore Inc.
Clean Harbors of Baltimore Inc.
Clean Harbors of Braintree Inc
Clean Harbors of Connecticut Inc
Clean Harbors of Kingston Inc.
Clean Harbors of Natick Inc.
Clean Harbors Services Inc
Clean Sites Inc. Sed Inc Abondoned Warehouse
Clear Print
Clemson Coastal Center
Cleveland State University
Cleveland Stripping

Clifton Precision
Clifton Precision
Clifton Precision
Clinical Micro Sensors
Clinical Micro Sensors
Clinical Micro Sensors
CMD Hydro Maintenance
Coast Converters Inc.
Coast to Coast
Coastal Eagle Point Oil Co.
Coastal Steel
Coastal Tag & Label
Coating Systems Inc.
Cobb County Toyota
Coca Cola
Coca Cola
Coca Cola Bottling Co Affiliated Inc
Coca Cola Bottling Co Consolidated Inc
Coca Cola Company
Codman and Shurtleff Inc.
Cofimco USA
Cogsdill Tool Products
Cold Metal Products Co., Inc.
Cole Chevrolet Cadillac Inc.
Colgate Palmolive
Colgate Palmolive Company
College of Morris
College of Wooster (The)
Collier Ray Exterminating Co.
Colloids
Colonial Refinishing
Colonial Rubber Works
Colonial Williamsburg Foundation
Colonial Williamsburg Foundation
Color Graphics
Color Graphics
Color Graphics
Colorado and Eastern Railroad Company
Colorcraft of Virginia
Colors on Parade
Colt Industries Elox Div.
Columbia Energy Group (for Columbia Lng Corp.)
Columbia Magnetics
Columbia Metropolitan Airport
Columbia Organic Chemical Co., Inc.
Columbus County Schools
Commercial Builders Service
Commercial Metals Company (for Howell Metal Company)
Commercial Oil Services Inc.
Commonwealth Laminating
Communications Exibits Inc
Community Hospital Cyto Lab
Community Memorial Health Center
Community Printing
Compass Maps

Complete Packaging Systems
Component Repair Technologies Inc.
Compuchem Laboratories
Con Way Southern Express
Conagra Pet Products Company
Conap Inc.
Conap, Inc. (for Computer Link)
Concentric Rockford, Inc. (Haldex Hydraulics Corporation)
Concord Auto Body
Concord Auto Body
Concrete Pipe and Products
Concrete Supply Company
Cone Mills Olympic Products
Congoleum Corp
Congoleum Corporation
Conn Chem
Conrail Technical Services Laboratory
Consolidated Engravers
Consolidated Engravers
Consolidated Freightways
Consolidated Freightways
Consolidated Freightways
Consolidated Freightways
Consolidated Freightways
Consolidated Laboratory Services Division
Consolidated Metal Products
Consolidated Rail Corporation
Consolidation Coal Company
Consumers Power Company Owosso Service Center
Contempo Design
Continental Airline Inc
Continental Airlines
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Continental Airlines DFW
Continental Airlines Express
Continental Airlines Express
Continental Airlines Express IAH
Continental Airlines FN
Continental Airlines Greater Plittsburg International Airport
Continental Airlines GSE
Continental Airlines IAH EBU
Continental Airlines IAHMX Line Maintenance
Continental Airlines ICT
Continental Airlines Inc
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Continental Airlines Inc
Continental Airlines Inc
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Continental Airlines Inc
Continental Airlines Inc
Continental Airlines INC AJS
Continental Airlines MSP
Continental Airlines TOL
Continental Bank
Continental Express
Continental Express
Continental Express
Continental Express
Continental Express
Continental Express Airlines
Continental Express Burlington Airport
Continental Express GSE
Continental Graphics
Continental Graphics

Continental Maritime
Continental Maritime
Continental Maritime
Control Engineering Company
Controlled Waste Division
Controlled Waste Division
Convatec
Conway Eastern Express
Cook Composites & Polymers
Cook Composites and Polymers
Cooper Ind.
Cooper Industries Cooper Ajax
Cooper Industries Lufkin Division
Cooper Power Systems
Cooper Power Systems
Cooper Power Systems Canonsburg
Cooper Wood Products
Cooper Zanesville
Copyrite Rite Press Inc
Corbett Industries Inc.
Corbin Russwin Architectural Hardware Division a Black and Decker Company
Corbin Russwin Inc
Core Laboratories
Cornell University Medical College
Corning Electronics
Corning Glass Works
Corning Glass Works
Correctional Industries
Corvette Collision Repair
Cosan Chemical Company Inc.
Cosmetic Industries Inc.
Costello Brothers
Cotton Inc.
Coty Inc
Council Tool Company
County Ford Company
County Mosquito Commission
County of Delaware
County of Henrico
County of Morris Garage
Court Count Airport Authority
Courtaulds C P D Inc
Coyne Chemicals
CP Chemicals Inc
CPC Flint Engine
Craddock High School
Craftman Trade
Craftsman Printing
Crandall Corporation
Creative Crafts Group (for Sew Simple)
Creative Dyeing Inc.
Creative Litho
Creighton Inc
Crenshaw Lighting
Crescent Xcelite

Crompton and Knowles Corp
Crompton and Knowles Corporation
Crop Production Services
Crotts Brothers Garage Inc.
Crouse Hinds Molded Protucts Division of Cooper Industries
Crown Central Petroleum
Crown Cork and Seal
Crown Cork and Seal Company Inc.
Crown Metro
Crown Metro
CSX
CSX Transportation
CSX Transportation
CSX Transportation
CT Specialties Corporation
CTE Enterprises Inc.
CTI (for Sikorsky Aircraft United Technologies)
CTL Inc
Cumbia's Garage
Cummings High School
Curtis Metal Finishing Co
Curtiss-Wright Corp (for IMC Magnetics)
Custom Car Painting
Custom Car Painting
Custom Labels
Custom Resins
Customade Chemicals Inc.
Cuzs Autobody Repair
CWM Chemical Services
CWM Chemical Services Inc
CWM City of Columbia
CWM Resource Management Inc
Cyanokem Inc
Cycle Center
Cycle Chem Inc.
Cycle Chem Inc. (for Remtech Environmental Lewisberry Inc.)
Cyprus Specially Metals
Dade Baxter Travenol Labs
Dade Co Schools
Dade Co Schools
Dade Co Schools
Dade Co Schools
Dade Co Schools
Dade Co Schools
Dade Co Schools
Dade Co Schools
Dade Co Schools
Dade Co Schools
Dade Co Schools
Dade County Public Works
Dade County Schools
Dade County Schools
Dade County Schools
Dade County Schools
Dade County Schools

Dade County Schools
Dade County Schools
Daicolor Pope Inc.
Daikin McQuay (for McQuay International)
Dale Herring
Daly Herring
Damascus Corporation
Dan River
Dana Axel Div.
Dana Corp Seco Div
Dana Corporation
Dana Corporation
Dana Perfumes Corp.
Dana Transport, Inc. (for Krajack Tank Lines Inc.)
Danaher Tool Group Inc
Danis Heavy Construction Co.
Daparak Inc.
Dare County Mosquito Control
Darlington School
Dart Container Corporation
Data General Corporation
Datascope Corp
Datascope Corp
Datascope Corp
David Fuller Wreck
David's Automotive Machine Shop
Davidson College
Davis Boat Works
Davis Golf Ball
Davis Mechanical Contractors
Davis Regional Medical Center (for Columbia Davis Community Hospital)
Dawson Consumer Products
Dawson Mfg.
Dayco Products , LLC
Dayton T Brown Inc
DBI, Inc. (f/k/a Dunning Industries)
DC Public Schools
DC Public Schools Warehouse Center
DCI Inc.
Dealers Choice Auto Painting and Body Shop
Decorated Paper Co.
Deep Impact
Degussa Corporation
Del Mar Avionics
Del Rey Yacht Works
Dela Chem Inc.
Delaware Container Company Inc.
Delaware Valley College of Science and Agriculture
Delco Electronics Corp.
Delco Remy Division GMC
Delmar Torcan
Delmarva Power
Delmarva Power and Light Co
Delmarva Power and Light Co
Delmarva Services Company

Delta Airlines
Delta Airlines Inc
Delta Chemical Corporation
Delux Cleaners
Deluxe Package
Demarco Graphics
Dentsply The LD Cavlk Division
Depor Industries
Derrick Environmental Services
Desert Industries
Designers Choice
Designs in Mica & Wood of Boca Raton (for Mica Products of Boca Raton Inc.)
Detrex Corporation
Detroit Free Press
Devro Inc.
Dexter Nonwovens Div.
Dexter Nonwovens Div.
Dexter Nonwovens Div.
Dexter Water Management Systems
Diamond Power Speciality Co.
Dick Keffer Pontiac
Dick Shirley Chevrolet
Dickerson Generating Station
Dickinson College
Dickinson High School
Dickinson High School
Dicks Auto Body
Dicks Towing (American Nukem)
Dictaphone Corporation
Dielectric Laboratories Inc.
Digestive Disease Clinic PC
Digital Equipment Corp
Digitrol
Dimetrics Taltronics
Diocese Of Allentown Dept. Of Education
Display Interior Design Corp.
District of Columbia Department of Public Works
Ditch Witch
Diversey Corporation
Diversey Corporation
Diversey Water Technologies Inc.
Divex Inc.
Dixie Cleaners
Dixon Ticonderoga
DM & E Corporation
DMC Manufacturing Inc
DNS Electronic Materials
Doc Machine Tool Service
Dodge Foundry and Machine Co.
Dolan International Truck Inc.
Dollinger Corporation
Dolphin Line Inc.
Domar Buckle
Dominion Dodge
Dominion Yarn Linn Plant

Domtar Inc Buffalo Fuel Corp.
Don's Auto and Repair
Doran Textiles Inc.
Dorothea Dix Hospital
Doty Brothers
Dow Chemical Co. (for Essex Industrial Chemical Inc.)
Dow Corning
Dow Corning
Dow Corning (fka Perennator North America Inc.
Dow Corning Corp
Dow Corning Corporation
Dow Corning Corporation Midland Plant
Dow Jones and Co., Inc.
Dow Jones and Company Inc.
Dowling College
Downey Glass Company
Downingtown Senior High School
Dozier and Gay Industrial
Drew Chemical Co.
Drexel University
Drilling Corporation
Drug and Laboratory Disposal Inc.
Dudlick Industries
Duke Power
Duke Power Buck Steam Station
Duke Power Fairfax Facility
Duke Power Hwy 70 Garage and Durham Ops
Duke Power Lincoln Combuston Turbine
Duke Power Lookout Shoals Hydro
Duke Power Riverbend
Duke Power Rocky Creek Hydro
Duke Power Allen Steam Sta
Duke Power Bad Creek Project
Duke Power Belews Creek Steam
Duke Power Burlington Ops Ctr and Garage
Duke Power Buzzard Roost Station
Duke Power Catawba Nuclear Station
Duke Power Co CMD Northern Division
Duke Power Co. Charlotte Garage
Duke Power Co. Greenville Garage (Wenwood)
Duke Power Co. Jocassee Hydro Station
Duke Power Co. Lee Steam Station
Duke Power Co. Oconee Nuclear
Duke Power College Street
Duke Power Company
Duke Power Company
Duke Power Company
Duke Power Company
Duke Power Company
Duke Power Company Durham Garage
Duke Power Company Kannapolis Operations Center
Duke Power Company Mooresville Ops Ctr.
Duke Power Company Saluda Hydro Station
Duke Power Company Toddville Operations
Duke Power Company Wateree Hydro Station

Duke Power Company Winston Salem
Duke Power Company/Cliffside Steam Station
Duke Power Cowans Ford Hydro
Duke Power Dearborn Hydro
Duke Power Great Falls Maintenance
Duke Power Greensboro Garage
Duke Power Hickory Garage & Op
Duke Power High Paint Ops
Duke Power Little Rock Ops
Duke Power Madison Operations Ctr
Duke Power Marshall Steam Station
Duke Power Oxford Hydro
Duke Power Print Shop
Duke Power Salisbury Ops Center & Garage
Duke Power Spartanburg Ops Ctr
Duke Power Wylie Hydro
Duke Power/Shelby Tie Substation
Duke University
Duke University Medical Center
Duke University Medical Center
Duncan Steel Drum Corporation
Duplin County Schools
Duquesne University
Duracell
Duracell Inc
Durham City Schools
Durham County General Hospital
Durham County Schools
Durham County Schools
Durham Public Schools
Durham Public Schools
Durham Public Schools
Durham Tech Comm. College
Duron Paints & Wallcoverings
Dworkin Electroplaters
Dyna Cure
Dynamic Engineering Inc.
Dynatron Bondo
E R Squibb and Sons Inc.
E Z Paintr Corporation
Eagle Bridges Marathon Ind.
Eagle Chemical Co.
Eanes Body Shop
Earl Tindol Ford
Earlham College
East Carolina Heat Treat Service Inc.
East Carolina School of Medicine
East Carolina University
East Coast Dip N Strip
East Cooper Paint and Body
East Garner Products (for Weatherly Consumer Products)
East Jordan Iron Works Inc.
East Ridge Body Shop
East Stroudsburg University
East Windsor School District Hightstown High School

Eastern College
Eastern Computers Inc.
Eastern Foam Products
Eastern Shore Community College
Eastern State College
Eastern Virginia Medical School
Eastman Chemical Co. Carolina Eastman Division
Eastman Kodak Company
Easton Plating and Metal Finishing Inc.
Easton-Bell Sports (for Easton Sports)
Eaton Corp
Eaton Corp
Eaton Corp (for Cutler Hammer Inc)
Eaton Corporation
Eaton Crest Apartments
Ebara Solar Inc.
Eby Company
Echo Ultrasound
Ecoflo Inc
Ecoflo Inc
Ecoflo Inc
Ecoflo Inc
Ecogen Inc.
Ecology and Environment, Inc. (for Ecology Environment Inc.)
Ecolotec Inc
Econo Body Shop
Ecusta Corp.
Edgecomb County Schools
Edgewater Machine
Edgewood Press
Edison Intermediate School
Edon Corp
Ed's Automotive
Edward Valves
Edwards Body Shop
EI Dupont Cedar Creek
EI Dupont De Nemours and Co Inc
EI Dupont De Nemours And Co Stine Haskell Research Center
Elan Chemical Co.
Elan Pharmaceutical Research
Electra Gear
Electro Tec Corp.
Electrolurgy Manufacturing, Inc.
Electromagnetic Sciences Inc.
Electronic Data Magnetics
Electronic Navigation Industries
Electronic Precision Specialties
Electronic Service & Design
Electroplate Rite Corporation (The)
Eleven West
Elf Atochem North America Inc
Elgins Auto Collision
Elinore Ringk
Elixir Industries
Elizabeth Arden Co.

Elizabeth Arden Inc
Elizabeth Arden Logistics Centre
Elizabeth Board of Education
Elizabeth City State University
Elkins Sinn Inc.
Elks National Home
Elkton Dry Cleaners
Elmira Free Academy
Eltex Chemical
Emalkem Inc (The)
EMC Global Technologies
Emerald Packaging
Emerald Publications
Emergency Equipment Inc.
Emerson Climate Technologies, Inc. (for Emerson Quiet Kool)
Emerson Network Power (ASCO Electrical Products)
Emerson Power Transmission
Emess Design Group, LLC (for Alsy Manufacturing Co., Inc.)
Empire of Carolina
Empire of Carolina
Empire Steel Treating Inc
EMSL Analytical
Energy and Environmental Center
Engelhard
Engelhard Corporation
Engineered Polymer Solutions
Engineered Polymer Solutions 1
Engineered Products
Engineering Development Laboratory
Engineering Science
Englewood Hospital
Enichem Americas, Inc.
Enka America Inc
Enka America Inc
Ensco Inc.
ENSR
ENSR Operations
ENSR Operations
ENSR Operations Michele Mago
Enterprise Printing
Enviro Chem Waste Management Services Inc
Envirochem Environmental Services
Environmental Elements Corporation
Environmental Enterprises Inc.
Environmental Health Research and Testing
Environmental Scientific
Environmental Services of America IN Inc.
Environmental Services of America MD Inc.
Environmental Technology Inc.
Environmental Waste Resouces
EnvironTank (for Enviro Tank)
Envirotech Mid Atlantic
Envirotech Mid Atlantic
Envirotech Mid Atlantic
EOK Green Acres L P

Epps Air Service
EQ Florida, Inc. (for Universal Waste and Transit)
EQT (for Haarmann And Reimer Corporation)
Equitrans, LP
Ereoline Nissan
Erieway Inc.
Escod Industries Inc
Escod Industriess
Esschem Co.
Essex Community College
Essex Group Inc
Essex Specialty Prod Co
Ethicon Inc
Ethicon Inc
Ethox Chemicals
Ethyl Corporation
Ethyl Corporation
Ethyl Corporation
Ethyl Corporation
Ethyl Corporation PDC
Etiket Printing Inc.
Eurand America Inc.
European Case Worker
Evans Auto Body Inc.
Eveready Battery Co Inc
Eveready Battery Co Inc
Eveready Battery Co Inc
Evergreen Air Center Inc
Evode Tanner Industries
Evtech
EWI Inc.
Ex Lax Pharmaceuticals
Excell Refrigeration of SC
Executive Printing
Exeter Township School District
Exhibit Productions Inc.
Experimental Pathology Assoc.
Experimental Pathology Laboratories, Inc.
Exxm Co USA
Exxon
Exxon
Exxon #40163
Exxon 40163
Exxon 40287
Exxon 44247
Exxon 46504
Exxon 46582
Exxon Biiomedical Corp
Exxon Chemical America
Exxon Chemical America
Exxon Chemical Americas
Exxon Chemical Co Baton Rouge Plastics Plant
Exxon Company USA
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Exxon Pipeline Company
Exxon Station
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Exxon 45927
Exxon Co U S A
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Exxon Station 45296
Exxon Terminal
Faberge Inc
Fabritex Inc.
Fair Oaks Hospital
Fairchild Industries

Fairchild Space Company
Fairchild Weston Systems Inc.
Fairfax County Fire Training Academy
Fairfax County Fire Training Academy
Fairfax County Water Authority
Fairfield Division (Farmerly MTM Fairfield)
Fairleigh Dickinson University
Fairleigh Dickinson University
Fairleigh Dickinson University
Fairleigh Dickinson University CODM
Fairmont Chemical Co., Inc.
Fairmont Corporation Canadian Pacific Tower (for Pacific Fairmont Corp)
Fairmount Chemical
Falcon Products
Falcon Products
Falcon Products
Falcon The Chair Source
Falk Fibers and Fabrics Inc.
Falls City Machine Technology
Falls Manufacturing
Falstaff Brewing Co
Farm Fresh Inc
Farm Fresh Inc
Farm Service Co.
Farrand Controls
Fashion Engravers
Fast Track
Fawn Industries
Fayettville State University
Federal Express
Federal Express
Federal Express
Federal Express Corp
Federal Express Corporation
Federal Laboratories Inc Pyro Division
Federal Mogul
Feldspar Corporation
Fender Mender
Fender Mender
Fender Musical Instruments
Ferranti Technologies
Ferris High School
Ferro Corp
Fiber Industries
Fibercom Division of Litton Systems Inc.
Fibre Container
Fieldcrest Cannon
Fieldcrest Cannon Inc.
Fieldcrest Cannon Inc.
Fifield Printing
Fifth Dimension
Filters Inc.
Fina Oil and Chemical Company
Fine Finishing Furniture
Finn Industries

Finnigan Corporation
Firestone Fibers and Textiles Company
First American Resources Corp. (for Coil Coaters of America)
First Baptist Church
First Chemical Corporation
Fisher and Porter Company
Fisher Auto Parts Inc.
Fisher Guide Div GMC
Fisher Guide Division General Motors
Fisher Price
Fisher Printing
Fisher Scientific
Fisher Scientific
Fisher Scientific
Fisher Scientific
Fisher Scientific Co
Fisher Scientific Company
Fisher Scientific Inc
Fitesa Nonwoven, Inc. (f/k/a Fiberweb North America)
FIW Inc Dba Laidlaw Environmental
Flamemaster Corp. Chemical Services
Flanders Filters Inc
Flavors and Fragrances North America Corporation
Fleetwood Enterprises
Fleetwood Homes of Virginia
Fleischman Distilling Co.
Fleischman Vinegar
Fletcher Oil and Gas Co.
Flex Pak of California)
Flexo First
Floortech Inc
Florida A and M University
Florida Community College
Florida Community College
Florida Community College
Florida Community College
Florida Community College Co Jax
Flowserve Corporation (f/k/a Byron Jackson Pumps
Fluid Packaging Co., Inc.
Flyer Graphics Inc.
FMC
FMC Corp Chemical Research and Development
FMC Corporation
FMC Corporation
FMC Corporation
FMC Corporation
FMC Corporation Lithium Division
FN Manufacturing
Foamex
Foamex
Foamex
Foamex
Foamex International
Foote Mineral Company
Force Inc.

Ford Motor Company
Formerly Litton Bionetics
Formica Corporation (for Surell Formica)
Formosa Plastics Corp Deleware
Formosa Plastics Corporation of Texas
Forrest City Tool Co.
Forsyth County Env. Affairs Dept.
Forsyth Memorial Hospital
Fort Howard Cup Corporation
Fort Lewis Fire & Rescue Station
Fortafil Fibers Inc.
Fosters Cleaners
Fouke Company (The)
Francis Marion University (Frances Marion College Central Rec Dept)
Frank Shelton Inc.
Franke of America
Franklin and Marshall College
Franklin Borough School
Franklin County School Board
Franklin County Schools
Franklin International
Franklin Research Center
Franklin Research Center Valley Forge Corporate Center
Freedom Textile Chemical
Freudenberg Spunweb Co.
Friedman Bag Company
Friedman Bag Company
Fries and Fries
Froehling & Robertson Inc.
Fuji Copian Corp
Furon Bunnel Plastics
G & H Technology
G E Company
G E Plastics
G E Plastics
G T Devices
GAF Chemicals Corp
GAF Corp
GAF Corporation
GAF Corporation
Galax Products
Galdwin Golf
Galena Lead Crystal
Galloway Buick
Garcy Corp
Gardner Lithograph
Gardner Machinery
Gas Spring Co.
Gas Spring Company
Gastex Inc.
Gaston County Dyeing Machine
Gates Rubber Company
GATX
Gaylord Research Institute
GB Fermentation Ind., Inc.

GD Package Machinery
GE Betz (Betz Laboratories Inc.)
GE Government Electronics Systems Div
GE Government Serv
GE Govt Elec Sys Div (Aero)
GE Govt Electronics Systems Div
GE Plastics
GE Power Protection
GE Railcar Repair Services Corporation
GE/ Astro Space Division
GEA Process Engineering, Inc. (f/k/a Niro Atomizer)
Gebe Electronic Service Inc.
Gehre Graphics
Gemchem Inc.
Gen Forms
General Chemical Corp
General Chemical Corp
General Diesel Inc
General Dynamics
General Dynamics
General Dynamics COC Plant
General Dynamics Electric Boat Division
General Dynamics Electric Boat Division
General Dynamics Land Systems
General Dynamics Land Systems Division
General Dynamics Land Systems Division Sterling Plant
General Dynamics Land Systems Division Troy Tech Center
General Dynamics Troy Tec Plant
General Elec
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General Electric Company CICO
General Electric Corp
General Electric (Cinncinati Air)
General Electric Ceramics Inc
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General Electric Company
General Electric Company
General Electric Engine Rep Support Operations
General Electric Euclid Specialty Coatings
General Electric Gov Elec Sys Div
General Electric Silicones
General Electric Space Center
General Engineering Laboratories
General Latex and Chemical Corp.
General Motors Assembly
General Motors Corp AC Roch Flint West
General Motors Corp Fisher Guide Division
General Motors Technical Center
General Steel Rail Corp.
General Super Plating Co Inc
General Switchgear
General Testing Corporation
Gene's Village Rental
Genesis Aviation
Genetic Design Inc.
Genex Corporation
Genicom Corp
Genpak (Nenpak)
Gent L Kleen Products
Genuine Parts Co
Geochem
Geochem Inc DBA Jet Line of Howell
George & Shapiro Litho
George Washington University
George Washington University Office of Safety and Security
George's Cleaners
Georgia Institute of Technology
Georgia Kaolin Co., Inc.
Georgia Pacific
Georgia Tech
Georgian Court College
Gerber Scientic, Inc. (for Coburn Optical)
GF Business Equip
GF Office Furniture
Giant Cement Co.
Gichner Mobile Systems
Gichner Mobile Systems
Gilbarco Inc
Gillette Company (The)
Gillette Research
Gillette Research Institute
Gist Brocades USA Inc.
Givaudan Corp.
Givens Trucking Inc
Glagle Auto Body
Glass Baron (The)
Glassmasters
Glaxo Inc
Glaxo Inc
Glaxo Inc (Imperial Center)

Glaxo Inc Imperial Center Exchange Place
Gleason Works
Glendale Unified School Dist
Global Embrex (Embrex, Inc.)
Glock Inc.
Glo-Tex Inc
Gloucester County College
Gloves Inc
GM Corporation AC Delco Systems Division
GMC (for Reatta Craft Centre GMC)
GMI Electronics
GNB Technologies
GOCPPS (f/k/a Plastic Piping Systems)
Good Earth Wood Works
Good Motor Company
Goode Omega
Goodwill Industries
Goodyear Tire & Rubber
Goodyear Tire Rubber Company
Gorpurhem Laboratories
Gould Inc
Gould Inc
Gould Inc
Gould Inc
Gould Inc
Governors House Hotel
GPS
GPU
GPU Nuclear Corp
GPU Nuclear Corp Lab Services
GPU Nuclear Oyster Greek
Graduate Hospital (The)
Granby High School
Graphic Packaging Flexible
Graphique De Jour, Inc.
Grass American (Duke Oxford Edel Grass American)
Gray Distribution Services
Gray Printing Co. (The)
Grease Master
Great Falls High School
Great Lakes Chemical
Great Lakes Chemical Corp Inc
Great Lakes Environmental Services Inc
Great Lakes Plating
Great Lakes Terminal & Transport Corp
Greater Egg Harbor Regional High School
Green Street Press
Greenbrier Motors
Greensboro Public Schools (Board of Ed)
Greenville Health Systems (fka Greenville Memorial Hospital
Greenville Technical College
Greenwood Fabrication & Plating, LLC (for Greenwood Plating, Inc)
Gregorys Body Shop
Gregson Manufacturing
Greyhound Lines Inc.

Griffin Thermal Products (for Griffin Racing Radiator Mfg)
Griffins Dry Cleaning & Laundry
Grinnell Fire and Protection
Gross & Sons P & B 1
Grow Group Inc.
Grumman Aerospace Corp.
GSX
GSX Chemical Services of Ohio Inc.
GSX Services
GSX Services Inc.
GSX Services Inc.
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GSX Services Inc.
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GSX Services Inc.
GSX Services Inc.
GSX Services Inc.
GSX Services Inc.
GSX Services Inc.
GSX Services Inc. Dba Laidlaw Env Services
GSX Services of South Carolina Inc.
GT Color Graphics
GT Devices
Guardsmen Chemical Inc
Guild Printing
Guilford County School System
Guilford Fibers Inc.
Guilford Technical Community College
GULF BP
Gulf Copper and Manufacturing Corp
Gulfstream Aerospace Corporation
Gunn Printing & Lithography
Gwinnett County Schools
Gwynedd Mercy College
H & H Enamel
H & T Chair Company
H Muehlstein and Co., Inc.
H Roebuck Cabinets
H.B. Fuller Co
Hackensack Board of Education
Haco Inc
Hager Hinge Co
Hai Inc.
Halifax Regional Hospital
Hallmark Cleaners
Halocarbon Products Corp.
Hals of America
Hamburg Area School District
Hambys Garage & Body Shop
Hamilton Beach Proctor Silex Inc.
Hamilton Standard
Hamilton Standard CS Central
Hampshire Chemical
Hancock Central School

Hangsterfers Laboratories Inc
Hanlin Chemicals WV Inc Washington Lands Plant
Hanlon Plating Co., Inc.
Hanover County
Harbor Printing
Hardwick Chemical Company
Hardwick Chemical Company
Hargo International Pkg.
Hargro Flexible Packaging Corp
Harken Products Inc.
Harland Co
Harmac Medical Products inc.
Harmony Green
Harnett County Board of Education
Harper Thiel Inc.
Harrell Industries Inc.
Harrell Industries Inc.
Harris Auto Body
Harris Corporation
Harris Corporation RF Communications
Harris Microelectronics
Harris Microelectronics Center
Harris Teeter
Harrisburg High School
Harrowe Servo Controls
Hart Motor Company
Harvard Industries
Haverford College
Hawnell Industries
Hazelton laboratories
Hazelton laboratories
HCA Regional Medical Center
Heatcraft Inc (Snyder General)
Hedstrom Corporation
Hedstrom Inc
Heinz (Starkist Carbide (C O Fernando Bauermeister))
Helena Chemical
Helicoflex Company Components Division
Henkel
Henkel Corp
Henkel Corporation
Henkel Corporation
Henkel Corporation
Henredon Furniture
Henrico Doctors Hospital
Henry Wurst Inc
Hercules
Hercules Corporation
Hercules Inc
Hercules Inc
Hercules Inc
Hercules Inc., PFW Div.
Hercules Incorporated
Hercules Radford Army
Heritage Buick

Heritage Environmental Services
Herley Industries (for Vega Precision Laboratories Inc)
Hermitage Foundation
Hertron International
Hess Corp. (for Micro Electronics Center of North Carolina)
Hewlett Packard Oki Printed Circuits
HGP Industries
HI Electronics
Hi Gloss Coatings
Hi Line Storage Systems
Hi Ock
Hi Shear Corp
Hi Tech Circuits
Hibco Plastics
Hickory Springs
Hickory Springs
Hickory Springs
Hickory White
High Performance Systems
High Point Central High School
High Point Regional Hospital
Highland Plastics
Hilton DavisCo.
Hitachi Electronic Devices (USA), Inc.
HNU X-Ray
Hodgson Chemicals Inc
Hoechst Celanese
Hoechst Celanese
Hoechst Celanese (f/k/a Celanese Acetate, LLC)
Hoechst Celanese Corp
Hoechst Celanese Corp
Hoechst Celanese Corp
Hoechst Celanese Corp (Separations Products Division)
Hoechst Celanese Corp Sou Tex Works
Hoechst Celanese Corporation
Hoechst Celanese Corporation
Hoechst Celanese RL Mitchell Technical Center
Hoechst Celanese Separations
Hoechst Celanse
Hoechst Roussel Agri Vet American Warehousing
Hoffmann La Roche Inc.
Holbrook Sturdiboilt
Holnam Inc.
Holy Name High School
Homasote Company
Home Automation, Inc. (for Stanley Electronics)
Home Oil Company
Home Quarters
Homelite Textron Inc
Homestead Materials Handling Co.
Honda Power Equipment MFG Inc.
Honeywell Inc.
Hoover High School
Hope College
Hordis Brothers Inc.

Horton Automotive (Johnson Chevrolet)
Hortus
Hospital Universitario
Houghton / USF Holland
House of Packaging
House of Printing (The)
House of Signs Inc.
Houston Electronics
Howard University College of Pharmacy
Howard University Dept. of Chemical Engineering
Howell Corp.
Howmedica
Howmet Corporation
HTF Mechanical Services Inc.
Hudson Avenue Pharmacy
Hudson Brothers Trailer Mfg., Inc.
Hudson Chevrolet
Hudson Shatz Mid Atlanta
Huffman and Sons Inc.
Hughes Aircraft
Hughes Aircraft
Huls America
Huls Piscataway
Humphrey Chemical Company Inc.
Hunter Government Supplies
Hunterdon Central Regional High
Hunterdon Developmental Center
Hyder Family Farm
I C Norcom High School
I L Walker
I.L. Long Construction Co.
IBM
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IBM Coporation
IBM Coporation
IBM Coporation
IBM Coporation
IBM Coporation
IBM Coporation
IBM Coporation
IBM Coporation
IBM Corp Eastview
Ice House
ICI Americas
ICI Americas
ICI Americas
ICI Americas
ICI Americas Inc
ICI Americas Inc
ICI Americas Inc
ICI Americas Inc
ICI Americas Inc
ICI Americas Inc

ICI Americas, Inc. (for ICI Pearl)
ICI Pharmaceuticals, Inc.
ICI Specialty Chemicals
ICN Biomedicals Inc.
ICS Corp.
Ideal Accents
Ideal Security Hardware Corp.
Idearc Media (for G T E Directories Press
Idearc Media (for GTE Directories Press)
IDR Corporation
IEA
II VI Incorporated
Ikeda Interior Systems Inc.
ILC Dover Inc.
Ilco Unican Corp
Ilco Unican Corporation
Illinois Central Railroad
Illinois Power Co Baldwin Power Station BAP
Illinois Power Company
Illinois Power Company Central Meter Shop Decatur CMS
Image Contracting
IMC Fertilizer Inc.
Imperial Litho
INA Bearing Company Inc.
InChem Corp.
InChem Corporation
Independence Nissan
Independent Cable Inc.
Independent Center W F Associates
Independent Tank & Fabrication
Indiana State Boys School
Indspec Chemical Corporation
Industrial Container Recycling
Industrial Drives
Industrial Engraving Co.
Industrial Fabricators
Industrial Highway Fund
Industrial Printing
Industrial Resource Development
Industrial Tectonics Bearings Corp.
Industrial Waste Removal Inc.
Industrial Welding & Machine Corp
Information Technology Solutions
Infra Corp., Ltd
Ingallis Shipbuilding
Ingersoll Dresser Pump Co.
Ingersoll Dresser Pump Co.
Ingersoll-Rand Co.
Ingersoll-Rand Company
Ingold Company Inc.
Ink International
Ink Makers
Ink Makers
Ink Services
Ink Services

Ink System
Inland Container Corp
Inland Envelope
Inland Fisher Guide Div GMC
Inland Fisher Guide General Motors
Inland Leidy
Inland Motor Division
Inmont
Inolex Chemical Company
Insilco Corporation
Insilco Corporation
Insulating Materials Inc.
Intech Bio Labs
Interco Incorporated
Intergrated Laboratory Systems
International Circuit Technologies
International Flavors and Fragrances Inc
International Flavors and Fragrances R and D
International Flavours Fragrances Inc
International Industrial Fan
International Paper (for Nevamar Corporation)
International Paper Company
International Paper Decorative Products
International Paper Decorative Products
International Salt Co.
International Technology Corp.
International Technology Inc
Interprint Inc.
Interstate Brands Corporation
Interstate Container (Brunswick Container)
Intervet Inc.
Intrapac LP (for Victor Tube)
Inx International
Inx International
IPR Pharmaceuticals PR
IPS Printing
ISK Biosciences Corporation
Isolated Ground
IT Corp
IT Corp Oak Ridge Laboratory
ITT Grinnell Industrial Piping Inc.
ITW Paktron
ITW Shakeproof Speciality Products
IVAC Medical Systems, Inc. (f/k/a Ivac Corp.)
Ivers Lee
J & M Chevrolet
J and J International Export
J and L Metrology Bridgeport Machine Div of Textron
J M Thompson Co
J P Stevens
J P Stevens and Co Inc
J P Stevens Rock Hill
J T Baker Chemical Company
J W Fergusson and Sons Inc
Jack & Perry, Inc. (f/k/a Moore Drums Inc.

Jackal Productions
Jackson Laboratories
Jakobsen Shipyard
James Blair Intermediate School
James Guenther (The Estate of)
James Motschall Printing Corporation
James River Corp PL 5
James River Corporation
James River Graphics Inc
James River Graphics Inc
James Waste Oil Service
Jamisons Custom Corvette
Jan Kens Enameling
Jarvis Cutting Tools, Inc.
JBL Parker Parker Hanifan
JDF Enterprises
JE Caldwell Jewelers
Jefferson County Courthouse
Jefferson County Courthouse (Reliable Equipment Corp.)
Jefferson Memorial Hospital
Jefferson Smurfit Corp.
Jenkins Dry Cleaners
Jenkins Metal Corp.
Jensen
Jensen (for International Jensen)
Jerry Bishop Body Shop
Jersey City State College
Jet Plastica
Jevic Transportation
JFC Furniture Refinishing
JL Clark Manufacturing
JL Prescott Co.
JMO
Joan Fabrics Corp (for Mastercraft)
John Boyle and Co.
John C Nordt Inc.
John F Kennedy High School
John H Harland
John H Harland
John H Harland Co
John H Harland Co
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John H Harland Co
John H Harland Co (Cleveland)
John H Harland Co 36
John H Harland Co 5
John H Harland Co 83
John H Harland Company

John Harland Co
John Harland Co
John Harland Company
John P Hughes Motor Co Inc.
John Randolf Hospital
Johns Hopkins University
Johnson & Johnson Consumer Product Inc
Johnson and Johnson Baby Products
Johnson and Johnson Health Care Co
Johnson and Johnson Medical
Johnson and Johnson Pharmaceutical Partners
Johnson Controls
Johnson Controls Inc
Johnson Controls Inc Foamch Plant
Johnson County
Johnson Johnson Medical
Johnston Co Schools
Johnston Willis Hospital
Jotun Marine Coatings
Joy Molded Products
JP Stevens and Co. Inc.
Juniata College
Justice Body Shop
JVC Disc America
JW Burress
JWI Group Press Fabrics
Kabi Pharmacia, Inc. (f/k/a KabiVitrum)
Kaiser Fluid Technologies
Kaiser Permanente Medical Center
Kalama Spec Chem Inc
Kannapolis Engine Service
Kanzaki Speciality Paper
Kasei of Virginia
Kasei Virginia OPC
Kawneer Company Inc
KC Perimeter Ford
KC Starnes & Sons
Keebler Company
Keefer Dodge Inc.
Keeler Brass Automotive
Keller Ornamental Iron
Kellogg Company
Kelly Koett Inst Co.
Keltech Inc.
Kemet Electronics Corp Mauldin Plant
Kemet Electronics Corporation
Kemet Electronics Corporation
Kemet Electronics Corporation
Kemron Environmental Services
Kenan Transport
Kent General Hospital
Kenyon Press
Kern Rubber Company
Kernes Dry Cleaning Inc.
Kerr Packaging Products Div

Ketema Corporation
Kettler and Scott Inc.
Kewaunee Scientific Equipment Corporation
Keystone Cement
Keystone Powdered Metal
Kidde-Fenwal (for Walter Kidde Corporation)
Kim Lighting
King Industries
Kings College
Kinyo Virginia, Inc.
Kirby Chevrolet
Kirk Paper & Graphics
Kirker Chemical Company, Inc.
Kittinger Furniture Company , Inc.
Kline Iron and Steel
Kline Iron and Steel
Kline Iron and Steel
Kline Iron and Steel
Kline Iron and Steel
Kline Iron and Steel
Kline Iron and Steel
KMart Corporation
Knauf Fiber Glass
Knotts Berry Farm
Knox County Board of Education
Koch Chemical Co.
Koch Refining Company C3667
Koger Air
Kolmar Laboratories Inc.
KP Graphics
KP Graphics
Kraft General Foods
Kramer Environmental SWMU
KRC Inc
Kroger Warehouse
KRW Energy Systems
KT Int. Inc.
L & O Auto Body Repair
L A Pierce College
L and O Auto Body Repair
L E Carpenter
LA Envelope
La Grange Moulding
La Grange Plastics
Lab Corp of America
Laboratory Corp of America
Laboratory Corp of America
Laboratory Corp of America
Laboratory Corp of America
Laboratory Resources
Lafayette College
Laidlaw En Services (TS) Inc
Laidlaw Environmental Service (North East) Inc
Laidlaw Environmental Services
Laidlaw Environmental Services Southwest

Laidlaw Environmental Services (GS) Inc
Laidlaw Environmental Services (North East) Inc
Laidlaw Environmental Services (TES) Inc
Laidlaw Environmental Services (TES) Inc
Laidlaw Environmental Services (TS) Inc
Laidlaw Environmental Services (TS) Inc
Laidlaw Environmental Services of Bartow Inc
Laidlaw Environmental Services of Illinois Inc
Laidlaw Environmental Services of South Carolina Inc
Laidlaw Environmental Services Recovery Inc
Laidlaw Environmental Services TES Inc
Laidlaw Environmental Services TOC Inc
Laidlaw Environmental Services TS Inc
Laidlaw Environmental Services TS Inc
Laird Industries Inc.
Lake Cumberland State Dock Inc.
Lake Norman Airport
Lake Norman Paint & Body
Lamar Companies
LaMotte Chemical Products
Lancy International
Lane Construction
Lankenau Hospital
Lanson Industries
Laramie River Power Station
Larry Hug
Las Virgenes Water District
Las Virgenes Water District
Lasco Bathware
Lasmo Energy Corporation
Laur Silicone Rubber Compounding Inc.
Laurel School Bus Barn
Lazar Industries
LCI Corp. International (for Luwa Corporation)
LCP Chemicals West Virginia Inc
Leach Corporation
League of Woman Voters
League of Woman Voters
Lear Sigler
Leawood Cleaners
Lebanon Quality Dry Cleaners
Lebanon Valley College
Lecroy
Lederie Laboratory
Lee L Woodard
Lee L Woodard Inc
Lee's Body and Paint Shop
Leggett & Platt (subsidiary, Collier Keyworth)
Leggett & Platt Inc.
Leggett & Platt, Inc. (for Goer Mfg.)
Lehigh County Community College
Lehigh Valley Analytics
Leica Inc
Lemmon Company
Lenox China

Lenox China and Crystal
Lenox China Mannheim
Leprechaun Graphics
Lesco
Lester Litho
Lever Brothers Company
Lewis Gale Clinic
Lewisville High School
Lexington Medical Components Inc.
Libbey Owens Ford
Liberty Fabrics
Liberty Middle School
Liceo Ponceno
Life College
Lifenet Inc.
Lillian Vernon
Lilly Company (The)
Lincoln University
Lindberg Heat Treating
Linden Board of Education
Linden Board of Education
Linden Board of Education
Liofol Co.
Liquide Air Corporation
Litton Fiberoom
Litton Special Devices
Livingstone College
Lobdell Emery Manufacturing
Lockheed Aeromod Center Inc
Lockheed Aeroparis Inc
Lockheed Areonautical Systems Co
Loctite Corporation NA Group
Logan Heating & Air
LOMAC Inc.
Longwood Elastomers Inc
Lonza
Lonza Inc
Lonza Inc
Looneys Used Cars
Lord Corporation
Lord Corporation
Lormac Plastics Inc.
Los Angeles Dept of Airports
Los Angeles Times
Lower Bucks Co Municipal
Lower Colorado River Authority
Lower Colorado River Authority
Lower Merion High School
Lower Merion Town Narberth
Lowes Body Shop
Lowes Home Center
Lowes Home Center Co.
Loyola College
Loyola University
Lubrizol (The)

Lubrizol Corporation (The)
Lubrizol Corporation (The)
Lucas Weinschel Inc.
Lucite (for ICI Acrylics)
Luck Stone Corporation
Lufkin Cooper Inc
Lunenburg Correctional Center
Lycuming College
Lykes Transport
Lynchburg Foundry Company
M & F Worldwide--Harland Clarke (for Clark American)
M & G Electronics
M & J Solvents
M & M Productions
M and M Chemical Co
M and T Chemicals Inc
M and T Chemicals Inc Atochem North America (Elf Atochem)
M and T Chemicals Inc.
M and T Harshaw (Atochem North)
M D Management
M D T Diagnostic Co
M G Paint Company
M V I
M W Manufacturers, Inc.
MA Harrisons Manufacturing Co
MAACO
MAACO Auto Body Works and Paint
MAACO Auto Paint & Body Shop
MAACO Auto Painting
MAACO Auto Painting
MAACO Auto Painting
MAACO Auto Painting
MAACO Auto Painting
MAACO Auto Painting
MAACO Auto Painting
MAACO Auto Painting
MAACO Auto Painting & Body
MAACO Auto Painting & Body Work
MAACO Auto Painting & Body Work
MAACO Auto Painting & BodyWork
MAACO Auto Painting and Body Work
MAACO Auto Painting and Body Works
MAACO Auto Painting and Body Works
MAACO Auto Painting and Body Works
MAACO Auto Painting and BodyWorks
Mac Equipment Inc.
Mac Millian Bloedel Bulk Packaging
MacDermid Inc
MacDermid Incorporated
MacDermid, Inc. (for Polyfibron Technologies)
Mack Molding
Mack Truck
Mackay Communications
MacMillan Bloedel
Macon L Stinnette

Magic Movie Studios
Magline, Inc.
Magnavox Electronic Systems Company
Magni Industries Inc.
Mahle Clevite, Inc. (Sealed Power --EFP Division)
Main Industries Inc
Maine Department of Environmental Protection (re: Eastern Surplus Co.)
Maintenance Supply Service Corp.
Majestic Cleaners Ltd.
Mak Magic
Mako Marine International Inc
Mallinck Rodt Veterinary Operations Inc
Mallinck Rodt Veterinary Operations Inc
Mallinckrodt Inc
Mallinckrodt Inc
Mallinckrodt Inc
Mallinckrodt Specialty Chemicals Co.
Manchem Incorporated
Manchester Regional High School
Manitoba Hazardous Waste Mge Corp
Manor High School
Manville Corporation
Manville Sales Corp
Manville Sales Corporation
Mar Vista International
Marathon Power Technologies
March Coatings, Inc.
Marietta Corp.
Marine Group LLC
Marine Hydraulics
Marisol Inc.
Mark Holeman Inc.
Markem-Image (for Imaje Ink Jet Printing)
Marshall Electric
Martin Marietta
Martin Marietta Corp.
Martin Metalfab Inc.
Martinsville Ford
Marvin Engineering
Mary Immaculate Hospital
Mary Jane Kelter
Maryland Cup
Maryland Cup Company
Maryview Medical Center
Masland Industries
Masland Industries
Masonite Corp
Masonite Corp
Masonite Corp
Masons Cove Fire & Rescue Station
Mastech
Master Litho Colors
Master Machine Works Inc.
Master Pneumatic
Mastercraft Furniture

Masterson LLC
Materials Research Corp
Materials Research Corporation
Matlab, Inc.
Matthew (Ex GAMMA) Cabot Lng
Mattie Graphics
Maury High School
Maxell Corp. of American (for Circuit Design Technology)
Maxwell Communication Corp.
Maxwell Energy Products Corp.
Mayer Litho
MBA Bethesda
MBA Rockville
McBee High School
McCoy Electronics
McCreary Body Shop
McCree, Emma S
McDonnell Douglas Corporation
MCF Systems Atlanta Inc
McGean Rohco Inc.
McGuire Medical Group
McGuire Nuclear Station
Mckechnie Vehicle Components
McKenney Chevrolet
McLean Trucking Company
McNeil Consumer Products Company
McNeil Consumer Products Company
McNeil Consumer Products Inc
McNeil Pharmaceutical
McNeil Pharmaceutical Co.
McNew Bouchal
McWhorter Tech
McWhorter Technologies
McWhorter Technologies
McWilliams Forge Co.
McWilliams P & B
McWorter Technologies
MDM Incorporated
Mead Packaging
Mead Research
Meade Senior High School
Meadowcraft Inc.
Meadox Medical Inc.
Measurements Group Inc.
Medale Plastics
Media General Operations, Inc. (f/k/a Richmond Newspaper Inc)
Medical College of Georgia
Medical College of VA VA Commonwealth University Environmental Health and Safety
Medical College of VA Virginia Commonwealth University
Medical College of Virginia
Medical Research Group
Medicomp Inc.
Medline Industries, Inc. (for Maxxim Medical)
Meggitt, PLC (for Whittaker Corporation Providence Chemicals Division)
Meggs Ford

Melcast Lithograph
Melrose Metal Finishing
Memorial Hospital (fka Memorial Medical Center Inc)
Mennen Co (The)
Mennen Co (The)
Mennen Co (The)
Mennen Company
Mennen Company (The)
Mepco El Ectra
Mercer County Airport
Mercer County Community College
Merck and Company Inc
Merck and Company Inc
Merck and Company Inc
Merck and Company Inc
Merck and Company Inc
Merck and Company Inc
Merck and Company Inc
Merck Company Inc
Merck Company Inc
Merck Pharmaceutical
Merck Pharmaceutical MFG Div
Merck Pharmaceutical MFG Div
Merck Sharp and Dohme
Merck Sharp and Dohme Quimica of PR Inc
Merck Sharp Dohme (f/k/a Merck & Co.)
Mercy Hospital of Buffalo
Meredith Burda
Meredith Webb Printing Co
Meridian Machine
Merit Printing
Merrimac Industries Inc
Mesco Metal Buildings
Methode Electronics
Metpath
Metpath
Metro Circuits Inc.
Metro Dade County Schools
Metro Dade Police Dept. Crime Lab
Metro Dade Schools
Metro Dade Schools
Metro Dade Schools
Metro Dade Solid Waste Dept
Metro Machine Corp
Metro Machine Corp. (for Mid Atlantic Steel and Boat Works)
Metro Machine Corporation
Metro Machine of PA Inc
Meyer Packaging
Michigan Paperboard Co
Mico Printing & Packaging
Microbiological Associates
Microlife Technics
Microsemi Corp
Mid Atlantic Golf Ball Exchange
Mid Valley Press

Midatlantic Corrosion
Mid-Atlantic Laundry
Middlesex CO DIV Solid Waste
Middlesex CO DIV Solid Waste
Middlesex County College
Middlesex County HHWD
Middlesex County HHWD
Middlesex County Schools
Midlands Technical College
Midlantic BioMedical, Inc.
Mike Duman Body Shop
Mike Duman Body Shop
Mike Richard & Associates, Inc.
Mike's Body Shop
Milburn High School
Miles Inc
Miles Inc
Miles Inc Southeast
Mill-it Striping
Milton Roy Company, LLC
Miltonia Management Inc
Milza, Joe
Mineral Springs Corporation
Mini Med
Minute Man Press
Minyard Olds Cadillac
Mission Printing
Mitchell Community College
Mitsubishi Electric Semiconductor
MKC Enterprises Inc.
MM Systems
Mobay Corp
Mobay Corp
Mobay Corp
Mobay Corporation
Mobay Corporation
Mobil Chem Co
Mobil Chemical Company
Mobil Oil Corp R and D
Mobil Oil Corporation
Mobil R and Corp
Mobile. Aerospace Engineering Inc.
Mobile Paint Manufacturing Co., Inc.
Mobile Tool International Inc.
Mobility Inc.
Model Dry Cleaners
Modern Dry Cleaners
Moen Inc
Moen Inc. (More Inc.)
Moen Incorporated
Moes Inc.
Mogul
Mohawk Labs
Mohawk Rubber Sales of New York (Mohawk Rubber Company)
Molins Richmond Incorporated

Monarch Manufacturing
Money Mailer Inc
Monmouth Co Upper Freehold
Monmouth College
Monroe Community College
Monroe Tufline Mfg
Monsanto Chemical Co
Monsanto Chemical Company
Monsanto Chemical Company
Montebello Unified School District
Montgomery County GSX
Montgomery Hospital
Montgomery Tank Lines
Moore Cabinet Makers Inc.
Moqul Division of The Dexter Corp
Morris Auto Body of Matthews
Morris Brown College
Morton Chemical Div Morton Thiokol Inc
Morton International Inc
Morton International Inc
Morton International Inc
Morton International Inc
Morton Thiokol Inc Morton Chemical Division
Motion Control Systems Inc.
Motor Bearing & Parts Co
Motor Bearing & Parts Co
Moultrie MFS
Mount Carmel School District
Mount Olive College
Mount Pleasant Fire & Rescue Station
Mountain Car Company
Mountain Dearborn and Whiting
Moyco Industries
MP Industrial Coatings
MPS Corporation
MST Chemicals Inc.
MTM Chemicals Inc
MTM Fairfield Chemical Co
MTM Hardwicke Incorporated
Mulholland Harper
Multiwire EED Kollmorgen Corporation
Muncy School District
Mundy Travelers
Murphy Manufacturing Company
Murrah High School
MVP Graphics
Mykroy Mycalex
N C A and T State University
N I Industries
Naarden Intl USA
Nabisco Biscuit Company
Nal Fleet
Nalley R J Body Shop
Nancy Douglas
Nancy Douglas

Nanya Plastics Corporation
Nash Rocky Mount Schools
Nashua Corporation
Nashua Corporation
Nashua Corporation
Nashua Corporation
Nashua Corporation
Nassau County Medical Center
Nation Ford Chemical Company
National Electrical Carbon Corp.
National Enterprises
National Envelope (Atlantic Envelope)
National Fuel Gas Corp
National Fuel Gas Supply Corp
National Ink Inc.
National Medical Services
National Petroleum Packers Inc.
National Rolling Mills
National Sandblasting
National Specialty Gases
National Spinning Co.
National Standard Company
National Starch and Chemical Corp.
National Textile Engravers Inc.
National Training Center
National Welders
NC Aquarium
NC Dept of Agriculture Constable Lab
NC Dept of Cultural Resources
NC Dept of Natural Resourcesand Community Development
NC DOT
NC DOT
NC DOT
NC DOT (Beaufort Co Bridge)
NC DOT (Buncombe Co Bridge)
NC DOT (Cenotr Co Bridge)
NC DOT (Chatham Bridge Unit)
NC DOT (Guilford Co Bride)
NC DOT (Haywood Co Bridge)
NC DOT (Henderson Co Bridge)
NC DOT (Lee Co Bridge)
NC DOT (Maoon Co Bridge)
NC DOT (McDowell Co Bridge)
NC DOT (Mitchell Co Bridge)
NC DOT (Rown Bridge Unit)
NC DOT (Rutherford Bridge)
NC DOT (Stokes Bridge Unit)
NC STATE UNIV
NC State University
NC State University
NCDOT
NCDOT
NCDOT
NCDOT
NCDOT (Randolph Bridge)

Necessary Oil Co.
Nelson Industrial Services
Nelson-Miller (for Miller Dial)
Nestle Refrigerated Food Co.
NET Atlantic Thorofare Division
Neuman USA
Neuman Wholesale Drug Company
Neuse Center for Mental Health
Nevins Center
New Bern Pontiac
New Bold
New Crete Inc.
New England Container
New River Castings
New York City Department of Environmental Protection
New York Presbyterian Hospital
Newark Electro Plating Inc.
Newark Housing Athority
Newport News Shipbuilding
News and Observer
Newton County High School
Newton Instrument Company
Newton Instrument Company Inc
NGK Metals Corp. (f/k/a Cabot Beryllium Products)
Nibco Inc.
NICCA USA Inc.
Nichols Pontiac Dodge
Nightman Production c/o Republic Paint
NIPA Hardwicke Inc Hodgson
Nippondenso
Nippondenso Tennessee Inc
Nippondenso Tennessee Inc
Nissan Motor Manufacturing Corporation
NJ American Water Supply
Noble Drilling US Inc.
Noramco Inc.
Norandal USA Inc
Norfab Inc.
Norfolk Airport Authority
Norfolk and Western Railway
Norfolk and Western Railway
Norfolk and Western Railway
Norfolk City Schools
Norfolk City Schools Admin Bldg.
Norfolk Collegiate School
Norfolk Health Department
Norfolk International Terminal
Norfolk Public Schools Risk Management and Safety
Norfolk Redevelopment and Housing Authority
Norfolk Redevelopment and Housing Authority
Norfolk Schools Plant facility
Norfolk Southern Corporation
Norfolk Southern Railway
Norfolk Southern Railway
Norfolk Southern Railway Co. (Haynes Car Shop)

Norfolk Western Railway
Norlite Corporation
Norman Corp. (The)
North American Communications
North Hand Protection
North Hand Protection Chas
North Hempstead Country Club
North Industrial Chem Co
North State Chevrolet Geo
North Tonawanda Waste Water Treatment Plant
Northeast Environmental Services, Inc.
Northeastern Analytical Corp.
Northern Telecom
Northern University
Northland Environmental Inc.
Northridge Hospital
Northrop Corporation
Northrop Grumman
Northrop Services Inc NSI Technical Services Corp. Environmental Sciences
Northwest True Value Hardware
Northwestern University
Northwestern University Office of Research Safety
Norton and Sons
Norton Co
Norton Co
Norton Company
Norview High School
Norview Middle School
NSA Micro Electronics (MRL)
NSA Micro Electronics (MRL) (had NBA Micro)
Nucor Berkeley (for Nucor Steel Berkeley Mill)
Nuddex Inc.
Nuddex, Inc. (for OMI International Corporation)
Nukem Development
Nutrasweet
NWL Capacitors
NY Life Insurance Co.
O & K Escalators
O and S Machine and Tool Company Inc.
O D Kurtz Associates
O Z Gedney Nelson Products
Oak Mitsui
Oakworks
Occidental Chemical Commpany
Occidental Chemical Corp.
Occidental Chemical Corporation
Ocean County College
Ogden Services
OHD Thermacore
Ohio Sealants
OHM Resource Recovery Corp
OI Kontes STS Inc
Oklahoma State Industries
Old Country Millwork
Old Dominion University

Oldcastle BuildingEnvelop (f/k/a Temp Glass Southern
Olin Corporation
Olin Corporation
Olin Hunt Speciality Products Inc
Olin Hunt Specialty Products Inc
Olympic Products
Olympic Screen Crafts
OM Scott and Sons Co.
OMB Pharmaceuticals
Optima Chemicals Inc
Opton Inc.
Opton Inc.
Orange Graphics
Orange Plastics
Orangeburg Calhoun Reg Hosp
Orangeburg Calhoun Tech
Orbital Science Fairchild Space Company
Oreanon Teknika
Oren Simmons
Organon Corp
Organon Corp
Orkin Fayetteville Lawn Care
Orkin Greenville Lawn Care
Orkin Lilburn Lawn Care
Orlex Chemical Corp.
Ortec Inc.
Ortho Clinical Diagnostics (Ortho Diagnostic Syst Inc.)
Ortho Pharmaceutical Corp
Osteopathic Medical Center of PA
Outagamie County
Outdoor East
Overnight Transportation
OW Slane Glass Company
Owens Brockway
Owens Corning Fiberglas
Owens Corning Fiberglas Corp
Owens-Illinois, Inc.
Oximetrix of PR
P D Puden Votech Center
P F Laboratories
P M I Concord
PA Department of Agriculture
PA Department of Agriculture
PA Dept of Agriculture
PA Dept. of Environ Resources
PA State Police Bethlehem
PA State Police Lima
Pabst Brewery
Pabst Brewing Co
Pac Polymers
Pace Litho
Pacesetter Inc
Pacific Anchor Chemical Corp.
Pacific Image Co.
Pacifico, Carl & Dianna

Pack Brothers Paint and Body
Pack Brothers Paint and Body
Package Products
Package Products
Packaging Corp of America
Paco Pharmaceutical Services Inc.
Paco Research Corp.
Pacord
Pacpro
Padre Printers
Page Aluminized Steel Corp.
Page One
Page Wilson Corp.
Paine College
Paint Works
Painter Farm
Palmetto Paint and Body Shop
Pan Pacific Printing Press
Panocean Southland Inc.
Pantasote Inc.
Paper Mill Martinizing
Parallel Design
Paramax Division of Unisys
Paramount Pest Control
Parco
Paris Printing
Park Place Cleaners
Park Place Redevelopment Foundation
Park Ridge Hospital
Parke Davis
Parking Lot Specialist (The)
Parkland School Dist.
Parkview Middle School
Parkway Ford Body Shop
Parkway Ford Inc.
Parley Coburn School
Parsippany Troy Hills Board of Education
Passaic County Vocational Technical High School
Passaic High School
Pathology Consultants
Patrick B Harris Hospital
Patten Company Inc.
Paul Kimball Medical Center
Paul Wirtz
Paxar
Paxar Systems Group
Paxar Systems Group
PBH Wesley Jessen
PCC Airfoils Inc.
PDI Division of Bird Johnson
Peake Printers
Peavey Electronics
Peavey Electronics Corp
Peavey Electronics Plant 23
Peco Peach Bottom

Peek Pavement Marking
Peek Pavement Marking Inc
Peeler Oil
Peggy Aebischer
Peguannoch School District
PEI Associates Inc.
Pembroke University
Pemco Aeroplex, Inc.
Pender Plating Co.
Penelec Altoona Trans Services
Penelec Homer City Power Station
Penelec Keystone Station
Penelec Seward Station
Penelec Shawville
Penelec Warren Station
Penelec Williamsburg
Penn Lithographers
Penn Machine Company
Pennsylvania Casting Inc
Pennsylvania State University (The)
Pentair, Inc. (for Federal Hoffman Inc.)
Pentapco Inc Belding Heminway
Pentel
Pep Boys
Perdue Farms
Perdue Showell
Perfection Auto Body
Performance Engine Builders Inc.
Performance Printers
Perkin Elmer Caribbean
Perma Fix Environmental
Perma Fix Environmental
Permite Corporation
Perry Color Card
Pet Chemicals, Inc.
Peterbilt Motors Company
Peterson Industries Inc
Petro Chem Processing Group of Nortru Inc
Petro Chem SC
Petro Chemical
Petrochemical Products Inc.
Petroleum Equipment and Service
Petroleum Tank Services Inc.
Petty Machine Company Inc.
Pfavey Electronics Corporation
Pfizer Agricultural Division
Pfizer Inc
Pfizer Inc
Pfizer Inc
Pfizer Inc
Pfizer Inc
Pfizer Inc
Pfizer Inc AG Division
Pfizer Pharmaceuticals
PFW Hercules Inc.

PH Glatfelter Co.
Phaostron
Pharmakon Research International Inc.
Phase Inc.
Phifer Wire Products
Philadelphia College of Pharmacy
Philadelphia Newspaper Inc.
Philip Morris
Philip Morris
Philip Morris
Philip Morris USA
Philip Services
Philips and Dupont Optical Co
Philips Display Components
Philips Lighting Company
Phillip Morris USA
Philmont Corp.
Phoenix Energy Products Inc.
Phoenix Medical Technology Inc.
Phoenixville Area School District
Photocircuits Corporation
Photonic Detectors
Picker International
Piedmont Airlines
Piedmont Airlines
Piedmont Dielectric Corp.
Piedmont General Aviation
Piedmont Medical Center
Piedmont Triad Clinical Research Center
Pierce & Stevens Corp.
Pieri Creations
Pietravalle
Pilkington Aerospace
Pilot Freight Carriers
Pine Grove Area School District
Pioneer Video Mfg
PIP Printing and Document Services
Pitman Moore
Pitman Moore
Pitman Moore
Pitman Moore (Mallinckrodt)
Pittsburgh Des Moines Corp
Plantation Pipe Line Company
Planters Life Savers Co.
Plaskon Electronic Materials Inc.
Plastech
Plasti Line Inc.
Plastic Omnium Auto Exterior, LLC
Plastics Manufacturing Inc.
Plastics Manufacturing Inc.
Plastiglide Manufacturing Company
Plastron
Platte Chemical Company
PLCS Inc.
PM Craftsman

PMR Printing
Polaroid Corp
Polaroid Corp
Polaroid Corp
Polaroid Corp
Polaroid Corporation
Polaroid Corporation
Polaroid Corporation
Polaroid Corporation
Pollution Abatement Consultants and Services
Pollution Control Industries of Indiana Inc
Pollution Solutions of Vermont Inc
Pollution Solutions of Vermont Inc
Poly Chrome Corporation
Poly Penco
Poly Set Co., Inc.
Polychrome Corporation
Polychrome Corporation
Polymer Dynamics
Polymer Industries
Polymer Technology Corp.
Polyone Corporation (for Dennis Chemical Company)
Polyplastex International
Polypure Inc.
Polysar Inc
Polysar Incorporated
Polytec Products Inc.
Pompton Lakes Board of Education
Porex Technologies
Pori International
Porters Cleaners
Portersville Sales and Testing
Possehl Connector Services (for Meco Metal Finishing USA Inc.)
Post Properties
Potomac Electric Power Co.
Potomac Electric Power Co. (aka PEPCO) (for Potomac River Generator Station
Potters Industries Inc.
Powell Manufacturing Co.
Power Cable Restoration Inc.
Power Curbers Inc.
Powerline Packaging
Powhatan Correctional Center
PPG Industries
PPG Industries
PPG Industries Inc
PPG Industries Inc
PPG Industries Inc
PPG Industries Inc
PPG Industries Inc Works 26
PPG Industries Inc.
PPG Industries Kokomo
PPG Industries Ridc Park
PPG Industries Tipton
PPG Industries Uparc Laboratory
PPG Industries Works 1

PPG Industries Works 1
PPG Industries Works 5
PPG Industries, Inc. (for Sigma Coatings)
PPG Industries, RIDC Park
PPM Cranes
PQ Corporation (The)
Practa Whitney
Pratt and Whitney
Pratt and Whitney
Pratt and Whitney
Pratt and Whitney
Pratt and Whitney (122 16)
Pratt and Whitney Manufacturing
Pratt and Whitney Overhaul and Repair Center
Praxair (for Sermatech International Inc.)
Praxair Inc.
PRC-DeSota International, Inc. f/k/a Courtaulds Aerospace
PRC-DeSota International, Inc. f/k/a Courtaulds Aerospace
Precious Metals Plating
Precision National Plating Services
Precision National Plating Services
Precision Resource Cal
Precision Sign Company
Preferred Boxes
Premier Applied Coatings
Premier Coating Corp.
Presbetyrian College
Presbetyrian Hospital
Presbetyrian Orthopaedic Hospital
Press and Sunday Press (The)
Press Repair Engineering Sales and Service
Prestige Painting
Prestolite Electric Inc
Preston Tool (for Reliable Equipment Company)
Preston Trucking Co. Inc.
Preston Trucking Co. Inc.
Price's Body Shop
Prices Body Shop
Prillaman Chemical Corporation
Primary Color Printing
Prince Georges Community College
Princess Anne Middle School
Princeton High School
Print N Stuff
Print Shop (The)
Print Shop Plus
Printed Circuit Solutions Mfg.
Printing Island
Prior Coated Metals
Prior Coated Metals Inc
Prism Color Corp
Process Electronics Corp.
Procter and Gamble
Procter and Gamble MFG Co
Professional Testing Lab

Program Resources
Programed Composites Inc
Progress Lighting
Progress Lighting
Progressive Crane Inc.
Progressive Furniture
Progressive Machinery
PSE and G Artificial Island
PSE G Hope Creek
PSR Firing Point
Public Service Electric and Gas
Public Works Dept. Washington NY
Publix Super Markets Inc.
Pulaski Community Hospital
Pulliam Ford
Pulse Technologies
Pulte Home Corp.
Purex Industries
Purex Pool Products
Purina
Purolator Products
Purolator Products Inc
Putzmeister
Q Systems Inc.
Quadrex Environmental
Quaker Chemical Co
Quaker Chemical Co
Quaker City Chemicals
Quala Systems Inc
Quality and Service Electroplating Inc.
Quality Auto Paint & Body, Inc. (for Quality Paint & Auto Body)
Quality Chemical
Quality Distribution, Inc. (for Chemical Leaman Tank Lines)
Quality Lithograph
Quality Offset Printing
Qualtronics
Quanterra Inc
Quebecor Printing
Quebecor Printing Dickson Inc
Queen Beach Printing Inc
Quest International
Quigley Inc.
Quincy Public Schools
Quyen Dao
R & D Fabricators Inc.
R A Industries
R F E Industries
R J R Archer
R J R Research and Development
R J R Tobacco
R J Reynolds
R J Reynolds
R J Reynolds Tobacco Co
R J Reynolds Tobacco Company
R R Donnelley & Sons

R R Donnelley and Sons Co
R R Donnelley and Sons Co
R R Donnelley Printing Co
R R Donnelley Printing Co
R S Design
R&R Realty
Rad Cure
Radiator Specialty Company
Radiator Specialty Company
Ralphs Printing
Ram Products
Ramcoat Industries
Rapid Printers
Rappahanock General Hospital
Rauch Industries
Raymert Press
Raytheon Company
Raytheon Corporation
Raytheon Service Company
Raytheon Service Company
RCR Classic Design Inc
Rea Construction
Rea Magnet Wire Company, Inc.
Rea Magnet Wire (for SPD Magnet Wire)
Readers Digest
Reading Muhlenburg Area Vocational Technical School
Ready Reproductions Inc.
Recinto De Ciencias Medicas UPR
Reclaimed Energy Co. Inc.
Red Line Chemical
Reed and Camrick Pharmaceuticals
Reeves
Regal Custom Fixtures
Reichhold Chemical
Reichhold Chemical
Reichhold Chemical Inc
Reichhold Chemical Inc
Reichhold Chemical Inc
Reliable Printing
Reliance Universal
Reliance Universal
Reliance Universal Inc
Rene's Composite Materials Corporation
Rental Towel and Uniform Company
Republic Electronics
Republic Env Sys (PA) Inc
Republic Paint
Republic Paint
Republic Technology Inc.
Research Institute on Alcoholism
Research Triangle Institute
Research Triangle Laboratories
Resource Recovery Mid South Inc.
Resource Recovery of America Inc.
Resource Technology Services Inc

Resource Technology Services Inc
Resyn Corporation
Retreat Hospital (Lab)
Reuland Electric
Revere Graphics Worldwide, Inc. (for Revere Graphic Products)
Review and Herald Publishing
Revlon Inc.
Revlon Inc. (for Max Factor and Company)
Revlon, Inc. (for USV Pharmaceutical Corp)
Rexham Corp
Rexham Corp
Rexham Corporation
Rexham Industrial
Reynolds Metal
Reynolds Metal Company
Reynolds Metal Company
Reynolds Metal Company
Reystone Powdered Metal
Rheox
Rho-Chem Corp.
Rhodia Inc.
Rhone Poluenc
Rhone Poluenc
Rhone Poluenc
Rhone Poluenc AG Inc.
Rhone Poluenc C
Rhone Poluenc Inc.
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Rhone Poluenc Inc.
Rhone Poluenc Inc.
Rhone Poluenc Inc.
Rhone Poluenc Inc.
Rhone Poluenc Marschall Products
Rhone Poluenc PR and C Division
Rhone Poluenc Rorer Puerto Rico
Rhone Poulenc AG Co
Rhone Poulenc AG Company
Rhone Poulenc Basic Chemicals Co
Rhone Poulence AG Co
Rhone Poulene
Rhone Prulenc Inc.
Ricerca Inc.
Richard Bland College
Richardson Automotive
Richland County Health Dept.
Richland County Public Schools
Richland Memorial Hospital
Richmond Community Hospital
Richmond Gravure Inc
Richmond Memorial Hospital
Rickel, William G (Estate of)
Ricoh Corporation

Ricoh Electronics
Ricoh Electronics
Right Lite Signs
Riley County
Ritchie Hardware Company
Riverside Chemical Company Inc
Riverside Health Systems
Riverside Marine Service
Riverside Walter Reed Hospital
RJM Manufacturing Inc.
RJR Tobacco Quality Assurance
RM Auto Body
RM Custom Wood Finishing
RM Industries Inc
RMS and P
RMS and P
Roanoke College
Roanoke Memorial Hospitals
Roanoke Wreck Repair
Robb and Moody Chemist Inc.
Robbins Inc
Robert Bosch
Robert Bosch Power Tool Corporation
Robert Klein
Robert Shaw Controls Inc
Robert Woodall Chevrolet
Robertson Ceco Corporation
Robinson Helicopter Company
Robinson Helicopter Company
Robson, Joe
Roche Biomedical
Roche Biomedical
Roche Biomedical
Roche Biomedical Laboratory Inc
Roche Sportsware
Rochester General Hospital
Rock Hill Manchester WWTP
Rock Hill Printing
Rock Hill Printing
Rock Hill School District #3
Rock Hill Tank Wash
Rock River Regional Waste Water Treatment Plt.
Rock Spring Development Corporation
Rockaway River Country Club
Rockingham County Senior High School
Rockingham Stainless Steel
Rockland Technologies Inc.
Rockwell International
Rockwell International
Rockwell International
Rockwell International
Rockwell International Corp
Rocky River Regional Wastewater Treatment Plant
Rodel Inc.
Rogers & McDonald Graphics

Rohm and Haas
Rohm and Haas Co
Rohm and Haas Company
Rohm and Haas Company
Rohm and Haas Corp
Rohm and Haas Delaware Valley Inc
Rohm and Haas Delaware Valley Inc
Rohm and Haas DVI
Rohm and Haas DVI
Rohm and Haas Dvi Phila Plant
Rohm and Haas Dvi Phila Plant
Rohm and Haas Dvi Phila Plant
Rohm and Haas Dvi Phila Plant
Rohm and Haas Dvi Phila Plant
Rohm and Haas Kentucky Inc
Rohm and Haas Tennessee Inc
Rohm and Haas Tennessee Inc
Rohm and Haas Tennessee Inc
Rohm and Haas Texas Inc
Rohr Aero Services
Rolfite Co (The)
Roll Technology Corporation
Ronson Hydraulic Units Corporation
Roosevelt Middle School
Roosevelt Middle School
Ropers Collision Center
Rorer Pharmaceutical Corp
Rosenmund Inc.
Roses Stores Incorporated
Roslyn Converters Inc
Roswell Park Memorial Institute
Roto Die
Rouse Chamberlain
Roush Racing
Roy F Weston
Roy F Weston
Royal Adhesives & Sealants (Para Chem Southern Inc.)
Royal Crest Cleaners
Royster Building
Royster Company
Royster Company
RPR USA Machines, Inc
RR Donnelley (for IPD Printing
RR Donnelley and Sons
RR Donnelley and Sons
RR Donnelley and Sons Company
RR Donnelley and Sons Company
RSI Home Products (for General Marble)
Rubatex Corporation Plant 1
Rubbercraft Corp of California
Rubbermaid Commercial Products Inc.
Rubberset
Ruetgers Nease Chemical Co
Rutledge Paint and Body Service Inc
Ryder

S & M Auto Paint
S & S
S & W Chemical
S and J Manufacturing Corp
S and W Waste Inc
S C M Chemicals
S D Myers Inc
S Tec Corporation
Sacred Heart Hospital
Safety Kleen Corp
Safety Kleen Corp
Safety Kleen Corp
Safety Kleen Envirosystems Co of PR Inc
Safety-Kleen Corp. (for Solvents Recovery Service of New Jersey Inc.)
Safeway Tank Disposal
Saginaw Division General Motors
Saginaw Remanufacturing Co.
Saint Christophers Hospital for Children
Saint Francis Hospital
Saint Joseph High School
Saint-Gobain (for Norton Company)
Salem Painting
Salem Vent International
Sales Systems Limited
Samet Corporation
Samsel Services Company
San Diego Printers
San Diego Transit
San Diego Transit
San Francisco Dry Dock Inc.
San Gabriel Valley Publishing
San Pedro Boat Works
Sandberg Furniture
Sandoz Agro Inc
Sandoz Chemical Corp
Sandoz Chemicals
Sandoz Chemicals Corp
Sandoz Chemicals Corporation
Sandoz Chemicals Corporation
Sandoz Pharmaceuticals Corporation
Sangamo Weston
Sanmina
Santa Ana College
Santa Ana Packaging Inc
Santa Fe Pacific Pipelines
Santa Rosa Hospital
Sara Lee
Sara Lee Socks
Sarstedt Incorporated
Sartomer
Sartomer Company
Sartomer Company Inc
SAS Inst
Saturn Corporation
Saturn Corporation

Sauder Woodworking
Saunders Oil Co., Inc.
Save More Oil Co., Inc
Saxonia Franke of America
Saxonia Franke of America
SC Electric & Gas
SC Electric & Gas Canadys
SC Electric & Gas Eastover
SC Electric & Gas McMeekin Station
SC Electric & Gas Wateree
SC Electric & Gas--SCE and G Columbia Maintenance
SCA Chemical Services
Scarsdale Board of Education
SCE and G Construction Service
Scenery West
Schaeffer Magnetics
Schawk, Inc. (for Wace Los Angeles)
Schering-Plough Products, LLC
Schlage Lock Co
Schlegel Corporation
Schlumberger Industries
Schmalbach Lubeca
Schmid Laboritories Inc
Schmid Laboritories LLC
Scholle Corporation
Scholle Corporation
Scholle Corporation
School District of Hatboro Horsham
School District of Springfield
Schoykill Training and Technology Center
Schrader Bellows
Schultes, Inc. (for Waste Conversion Inc.)
Schweizerhall Inc.
Science Applications International Corporation (SAIC)
Science Dynamics
Scientific Design Co. Inc.
Scientific Spray Finishes
Scientific-Atlanta
SCM Chemicals
SCM Metal Products
Scott Aviation
Scott Cars Inc.
Scott Paper
Scott Paper Co
Scott Union
Scott Union
Scotts Valley Printing
Scovill Inc
Scovill Inc
Scranton School District
SE Rykoff & Company
Sea Ray Boats
Sea Shore State Park
Sealed Air Corporation
Sealed Air Corporation

Searle
Sears Roebuck and Co.
Seaworld
Security Division Dresser Industry
Security Division Dresser Industry
Select Interior Door Ltd
Semi Grude (SEM Products Inc.)
Sentara Bayside Hospital
Sentry Group
SEPTA P & W Car Shop
Sequa Chemicals Inc
Sequa Corp./Precoat Metals (for Chesapeake Finished Metals)
Serono Baker Diagnostics Inc.
Service Chevrolet
Seton Hall University
Seton Hall University
Severn School
Severna Park Middle School
Sew-Eurodrive
SGS Control Services Inc.
Shakespeare Fishing Tackle
Shallcross
Shamrock Chemical Corporation
Sharp Corporation
Shaw University
Shaw's Little Super
Shelor Chevrolet
Shelton & Associates Inc.
Shemin Nurseries Inc
Sherwin Williams
Sherwin Williams
Sherwin Williams
Sherwin Williams
Sherwin Williams Automotive
Sherwin Williams Diversified Brands
Sherwin Williams Diversified Brands
Sherwin Williams Diversified Brands Inc
Sherwin-Williams Company
Shippensburg University
Showa Denko Carbon Inc. (for Airco Carbon)
Showtime Enterprises
Shuford Yams (for Shuford Mills Inc.)
Shulton Inc
Shuron Inc
Shurtape Technologies
Shurtape Technologies Hickory
Shutter Shop (The)
SI Group (for Schenectady Chemicals Inc.)
Siebe North Inc.
Siecor Corporation
Siecor Corporation
Siegwerk Inc.
Siemens Energy and Automation Inc.
Siemens Solar Industries
Siemens Switch Gear Division

Sierra Copy
Sierra Office Supply & Printing
Sifco Selective Plating
Sigma Recycling, Inc.
Signet Armorlite Inc
Sika Chemical Corp
Silvio Matarazzo
Simplimatic Engineering
Sims Manufacturing
Singer Sewing Co. (for Singer Furniture Co.)
Sir Speedy
Sir Speedy Sacramento
SK and F
SKD World
SKF Bearing Industries
Skyway Freight Systems Inc.
Slagle Auto Body
Smith & McKay
Smith and Wesson
Smith Kline Chemical
Smith Kline Chemical
Smith Kline Consumer Products
Smith Kline Consumer Products
Smithkline and French
Smithkline and French
Smithkline Beecham
Smithkline Beecham
Smithkline Beecham
Smithkline Beecham
Smithkline Beecham
Smithkline Beecham
Smithkline Beecham CHLP
Smithkline Beecham Pharmaceuticals
Smithkline Beecham Pharmaceuticals
Smiths Paint and Body
Smooth On
Smurfit Graphic Arts
Smyth County Community Hospital
Snyder High School
Soilco Incorporated
Soladyne, A Merix Company
Solarex Corporation
Solectron Technology Incorporated
Solidtek Systems Inc.
Solvent Recovery Corp
Solvent Service Inc
Sonoco Products Company
Sonoco Products Company
South Bay Boat Yard
South Bay Printing
South Bay Printing
South Bay Sand Blasting
South Bay Sand Blasting
South Boulevard Associates, Inc. (fka General Steel Drum Corporation
South Carolina Electric Gas

South Central Regional Medical
South Granville High School
South Granville High School
South Hampton County Schools
Southchem Inc
Southeastern Adhesive Co.
Southeastern Chemical & Solvent Co., Inc.
Southeastern Coated Products
Southeastern Color Graphics
Southeastern Freight Lines
Southeastern Kusan
Southeastern Office Refurnishing
Southeastern Petroleum Systems
Southeastern Tool and Die
Southeastern University
Southern Graphics Systems, Inc.
Southern Gravure Service
Southern Manufacturing
Southern Manufacturing
Southern Marble
Southern Maryland Wood Treaters
Southern Sales
Southern States Feed Division
Southern Testing and Research Labs
Southern Tool Mfg Co., Inc.
Southhampton School 2
Southland Painting Corp.
Southland Rebuilders
Southwest Marine
Southwest Marine (Chancellorsville)
Southwest Marine (G L Scow)
Southwest Marine (Kiska)
Southwest Marine (Kitty Hawy)
Southwest Marine (Manson)
Southwest Marine (Millius)
Southwest Marine/32nd Street
Southwest Plating
Southwire
Southwire (AT&T Nassau Metals Corp.)
Southwire (for HI Tech Cable Corp)
Sparkle Paint and Body Works
Spartanburg County Assessors Office
Spartanburg County HHW Collection Day
Spatz Fiberglass Products
Special Waste Inc
Special Waste Inc
Specialty Blades
Spectrum Business Forms
Spectrum Dyed Yarns
Spectrum Nationwide Environmental
Speedway P & B
Spencers Body Shop
Sperry Corporation
Sperry Marine Incorporated
Spex Industries

Sphinx Biotechnologies
Spray Tech Inc
Spray Tek
Spraylat Corp
Spring Grove Resource Recovery Inc
Spring Industries
Spring Industries
Springfield Cleaners
Springfield Cleaners
Springfield Cleaners
Springfield Company Inc. (The)
Springford Area School District
Springhouse Pharmacy
Springs Ind. Lancaster Plant
SPX Corp. (for Flair Newcastle Inc.)
SPX Corporation (for Sealed Power Technologies Sealed Power Division
Squard D Company
Square D Company
Square D Company
Squibb Manufacturing Inc
SRI International
St Augustine College
St Brides Correctional Facility
St Vincents Medical Center
St. Hubert School for Girls
St. Josephs Hospital
St. Lukes Hospital
St. Marys Seminary
St. Vincents Hospital
Stabilus
Stablex South Carolina
Stackpole Carbon
Stafford Senior High School
Stanadyne Incorporated
Stanco Metal Products Inc
Standard Chlorine of DE
Standard Graphics
Standard Paper Box Corporation
Standard Products
Standard Products
Standard Products Company
Stanley County Board of Education
Stanley Home Products (for Stanhome Inc.)
Stanley Tools
Stanley Tools
Stanley Works Inc. (The)
Star Enterprise
Star Enterprise
Star Petroleum
State of AL--Dept of Transportation
State of AL--Dept of Transportation
State of CA--Board of Equalization
State of CT--Dep OCSS
State of CT--Department of Environmental Protection
State of DE--Natural Resources & Environmental Control

State of FL--Department of Environmental Regulations
State of GA--Dept of Natural Resources EPD
State of IL-- EPA
State of IL--Environmental Protection Agency
State of IL--EPA
State of MD--Department of Natural Resources
State of MD--Department of Transportation
State of MD--Department of Transportation Churchville
State of MD--Department of Transportation Greenbelt
State of MD--Department of Transportation Lavale
State of MD--Department of Transportation Owing Mills
State of MD--Dept of Transportation
State of MD--State Police
State of MI--Dept of Natural Resources (Metamora Landfill cleanup)
State of MI--Environment, Natural Resources, & Agriculture Div. (for Michigan State Industries)
State of MS--Department of Natural Resources (Metamora LF)
State of MS--Dept of Natural Resources (Sonford Products)
State of NJ--Department of Environment of Protection
State of NJ--Department of Environmental Protection
State of NJ--Department of Environmental Protection
State of NJ--Department of Environmental Protection
State of NJ--Department of Health Laboratories
State of NY--Department of Environmental Conservation
State of NY--Department of Environmental Conservation
State of PA Department of Environmental Resources
State of PA Dept of Environmental Resources
State of PA Police Lima Regional Lab
State of PA State Police
State of PA--Department of Environmental Resources (Hillsville Quarry)
State of PA--Department of Environmental Resources (PADER)
State of PA--Dept of Environmental Protection (AMO Pollution Services Inc.)
State of TN
State of TN--Dept of Health Environmental
State of TN--Division of Superfund
State of VA-- Department of Health
State of VA--Department of Agriculture
State of VA--Department of Transportation
State of VA--Department of Transportation
State of VA--Department of Transportation
State of VA--Department of Transportation
State of VA--Department of Transportation
State of VA--Department of Transportation
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State of VA--Department of Transportation
State of VA--Department of Transportation
State of VA--Department of Transportation
State of VA--Department of Transportation
State of VA--Department of Transportation
State of VA--Department of Transportation
State of VA--Dept of Environmental Quality
State of VA--Dept of Transportation
State of VA--Water Control BD
State of VA--Water Control BD

State of VA–Water Control BD
State of VA–Water Control BD
Stateof VA–Division of Consolidated Labs
Stauffer Chemical
Stauffer Chemical Company
Stauffer Chemical Company
Stauffer Management Co
Stauffer Management Company
Steel Heddle Mfg Co
Steel Specialty, Inc.
Steele Heddle
Steele Heddle MFG Co
Stefono Foods
Stepan Company
Stepan Company
Stericycly (BFI Medical Waste Systems)
Sterling Blower Co.
Sterling Casket Hardware
Sterling Environmental Services Inc.
Sterling Organics
Sterling Pharmaceutical
Sterling Winthrop
Sterling Winthrop
Sterling Winthrop Research Pharmaceutical Division
Stevens Printing
Stiefel Laboratories
Stiffel Company
Stihl Inc.
Stock Equipment
Stockton State College
Stone Industrial Div
Stonhard Inc.
Straits Steel and Wire Co.
Strathmore Press Inc.
Stripper Herk Inc.
Stripping Wizard
Stroh Brewery Company (The)
Stuart F Cooper
Studio Displays Inc
Stylecraft
Stylecraft
Suburban Cleaners
Suburban Cleaners
Sudden Impact
Suffolk Chemical Company a Division of United Chemicals
Suffolk City Schools
Suffolk Health Dept.
Suffolk High School
Sugravo Rallis
Sullivan and Fuchs Intl Inc
Sulzer Ruti Inc.
Sumi Tomo Electric Research Triangle Inc.
Summit Board of Education
Sumter High School
Sumter Metal (for H and R Metal Products, Inc.)

Sun Chemical
Sun Chemical
Sun Chemical
Sun Chemical
Sun Chemical
Sun Chemical Charlotte
Sun Chemical Corp
Sun Chemical Corp
Sun Chemical Specialty Inks
Sun Olin Chemical Company
Sunbelt Regional Medical Center
Sunn Printing & Lithography
Sunwest Printing
Super Vala Stores Inc.
Superior Industries International Inc.
Superior Lithographics
Surgical Laser Technologies
Surtech
Survival Technology
Swarthmore College
Swift Textiles, LLC
Syar Industries, Inc. (for NAPA Shop
Syar Sand & Gravel (for Healdsburg Sand and Gravel)
Sybron Chemical
Sybron Chemicals Inc
Sybron Chemicals Inc
Sybron Chemicals Inc
Systems and Methods
T M S Corporation
T O W Maintenance & Cleaning Company
T Thermal Inc
T W Graphics
Tallwood High School
Tamms Industries
Tandy Technologies
Taniguchi Inc
Taormina Industries
Target Stores/3 E Co.
Tarkett Inc
TA's Body Shop
TA's Body Shop (Tals Body Shop)
Tate Fabricating
TaylorMade Golf--Maxfli Golf Divison
TC Analytics Inc.
TDC Filter Manf. Inc.
Techlabs
Technical Rubber Company
Technical Services Inc.
Technicon Instruments
Tecom
Tecumseh Products Company
Ted Hammer
Teepak Inc.
Tegeris Labs Inc.
Teknor Apex Company

Tektron Equipment Corporation
Teledyne Avionics
Teledyne Continental Motors
Teledyne Thermatics
Telex Computer Products
Temple University Department of Biology
Temple University Env Health and Safety
Tenneco Gas
Tenneco Polymers Inc.
Tennessee Valley Performance Products
Terra First Al Storage Operation
Terra First Inc.
Test Services Inc.
Tetra Sales USA
Tetra Second Nature
Teva Pharmaceuticals
Tex Tek Inc.
Texaco Inc
Texaco Inc
Texaco Lubricants Company
Texaco Oil
Texaco Puerto Rico Inc
Texaco Refinning and Marketing
Texaco Refinning and Marketing Inc
Texaco Refinning and Marketing Inc
Texaco Refinning and Marketing Inc
Texaco South
Texaco Trmi
Texaco Unico
Texaco Unico
Texaco Unico
Texaco Unico
Texaco Unico
Texaco Unico
Texaco Unico
Texaco Unico
Texaco Unico
Texaco Unico
Texaco Unico
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Texaco Unico
Texaco Unico
Texaco Unico
Texaloram Inc.
Texas City Refining
Texas Gulf Inc.
Textile Art and Film
Textron Defense Systems
Textron Lycoming
Textron Lycoming Reciprocating Engine Div

Themalkem Inc
Thermatics
Thermo Fisher Scientific (for Fisher Diagnostics Corp.)
Thermofil Inc
Thomas & Betts
Thomas and Betts Corporation
Thomas J Lipton Co
Thomas Jefferson University
Thomas Printing Inks
Thomas R Rogers
Thomasville Upholstery Inc (Conover Plant)
Thompson Industrial Services Inc
Thompson Industries Inc.
Thompson PBE
Thonet Furniture
Thonet Furniture
Thunderbird Products
Thypin Steel
Tico Unican Corp
Tidewater Transit Co Inc
Tilco International Inc/Wendy Balloon Corp
Timber Truss
Timco Inc.
Tiodize Company, Inc.
TJ Watson Research
TJ Watson Research Ctr
TMS Corporation
TNS Mills Inc Spartanburg Plant
Tommy Gibson / NCDEHNR
Tommy Thore Auto Truck Body and Paint
Top Coates
Torpedo Wire and Strip
Torrington Company (The)
Torrington Company (The)
Torrington Company (The)
Torrington Company (The)
Toshiba Westinghouse
Tow Maintenance and Cleaning Company
Town of Blackstone
Town of Chapel Hill / Parking Services
Town of Collins Highway Department
Town of Garner
Town of Mt. Pleasant
Town of Munster Landfill
Town of Wake Forest
Towson State University
Toyo Ink America
Toyota Motor Sales
Trade Mark Signs
Trader Publishing Co.
Trailer Factory (The)
Trans World Airlines
Trans World Airlines
Transit Management of Charlotte Inc.
Transpath Inc.

Transpo Industries (for Castek)
Transport Resources Inc.
Tranter Inc.
Travs Body Shop
Traybor Inc
Treatment One
Tredyffrin Easttown School District
Tremac Corporation
Trenton State College
Tri Circuits Inc
Tri Star Electronics
Tri State Motor Transit Co
Tri State Steel Drum Inc.
Tri Valley School District Tri Valley High School
Triangle Laboratories
Tricil Environmental Management inc
Tricil Recovery Services Inc
Trident Packaging
Trinity Foam Carolina
Trinity High School
Trotter & Sons Body Shop
Trotter & Sons Body Shop
Troy Chemical Corporation
Tru Finish Body Shop
Truckmasters
Trucks are us
True Temper Sports
Trutec Industries
TRW
TRW Fasteners Division
TRW Ross Gear
Tu Vets
Tubed Products Inc
Tucker Garder Nursing Home
Tuscarora Yarns, Inc.
Tyco International (for Raychem Corporation)
Tyson Foods
Tyson Foods Inc
U S Borax and Chemical Company
Ucar Carbon Co.
UCLA
UNC Wilmington
UNCC Station
Unifi Inc. Plant 8
Unilever (Best Foods Inc.)
Union Carbide
Union Carbide (Kemet)
Union Carbide (Kemet)
Union Carbide (Kemet)
Union Carbide AG Products
Union Carbide Chemicals and Plastics Company Inc
Union Carbide Chemicals and Plastics Inc
Union Carbide Corp
Union Carbide Corp
Union Carbide Corp., Specialty Polymers

Union Carbide Corporation
Union Carbide Corporation
Union Carbide Corporation Linde Division
Union Carbide Corporation South Charlestown Plant
Union Carbide Rhone Poulenc AG Company
Union Chemical Div of Uniroyal Inc
Union Chemicals Div
Union Chemicals Div
Union County College
Union County College
Union Oil Company of California
Uniroyal Chemical Company Inc
Unisys Corp.
Unisys Corp.
Unisys Corporation
Unisys Corporation
United Contamination Control Inc
United Defense LP
United Drum Inc.
United Forms Inc.
United Guardian Inc.
United Panel
United Parcel Service
United Parcel Service
United Riggers & Erectors Inc.
United School District
United Servo Hydraulics Inc.
United States Steel Corporation (for American Steel & Wire Corp.)
United Steel Fabricators
United Technologies Automotive Division
United Technologies Corp.
Universal Alloy
Universal Circuits Inc.
University of Pennsylvania
University of Scranton
University of Delaware
University of Florida
University of Georgia
University of Maryland
University of Montevallo
University of North Carolina
University of North Carolina
University of North Carolina at Charlotte
University of Pennsylvania
University of Pennsylvania New Bolton Center
University of Richmond
University of Richmond
University of Richmond
Upjohn Company
Upper Dublin School District
Upper Merion Area School District
Upsala College
Uro Fabrics Ltd.
Ursinus College
US Air

US Air
US Air
US Air
US Air Composite Shop
US Alliance Coosa Pines Corp.
US Metal Refining Co AMAX
US NASA Martin Marietta
US Steel Corporation
USPFO
Uttermost Company (The)
V12 Manufacturing Co.
Vaga Industries
Valadyne Engineering Co
Valadyne Engineering Co 7
Valcom
Valley Distributing Corporation
Valley Fuel Injection Service
Valley Printers
Valspar Corporation
Valspar Corporation
Valspar Corporation
Valspar Refinish
Vamply
Van Can Company
Vanco
Vanity Fair
Vanity Fair Factory Outlet
Vanply Inc.
Vans
Varga North American Inc.
Varian Associates Inc
Varian Associates Inc
Vaughan-Bassett Furniture Co., Inc.
VCF Films Division Of PMC Inc
Vectra
Ventura Printing
Venture Packaging Stylecraft Packaging Div
Veritox Labs
Vermont American Corp
Vermont American Corp Fountain Inn Div
VFP Inc
Viatech Continental Can Co. (for Continental Can Co) Inc
Vickers Inc.
Victory Printechs
Victory Printechs
Video Tek Inc.
Viking Distillery Inc. (The)
Village of Addison
Villanova University
Vince Alline AT and T
Virginia Beach Dodge
Virginia Beach General Hospital
Virginia Beach Public Schools
Virginia Biotechnical Lab
Virginia Chemicals Inc

Virginia Institute of Marine Science College of William and Mary
Virginia International Terminals
Virginia Museum Of Fine Arts
Virginia Natural Gas
Virginia Natural Gas
Virginia Natural Gas
Virginia Natural Gas Propane Plant
Virginia Panel Corporation
Virginia Trailer & Truck Body Inc.
Virginia Transformer
Viskase Corporation
Vista Chemical Co
Vista Chemical Co
Vista Chemical Lake Charles Chemical Plant
Vista Chemical VCM Plant
Vista Chemicals
Vista Chemicals VCM Plant
Vistakon Johnson and Johnson Vision Care Products Inc
Vistakona Division J and J Vision Care Product
Vita Chrome Graphics Group
Vita Foam
Vitaphore Corp.
Vogel Carton Corporation
Voith Paper Rolls, Inc. (for KRC, Inc.)
Voith Transmission
Volcano Films
Volvo GM Heavy Truck Corporation
Voplex Corporation
Vulcan Chemicals
Vulcan Spring
VWR International (for VWR Scientific Research Training Park
VWT Inc Morrison Rd Facility
W R Grace and Co Conn Cryovac Div
W Sumter Cox Painting Contractors Inc.
W W Hobbs Printing
WA Patterson Farm
Wadsworth Alert
Wadsworth Alert
Wagner College
Wagner Lighting Division
Wahlco Inc
Wake County Memorial Hospital
Wake County Schools
Wake County Schools
Wake Forest School of Medicine (Bowman Gray School of Medicine)
Wake Forest University
Wake Medical Center
Wake Technical Community College
Walbar Inc. Greenwood Facility
Waldo R Griff
Wallys Plating Company
Walmart Inc
Walmart Inc
Walmart Inc
Walmart Inc

Walmart Inc
Walmart Inc
Walmart Inc
Walmart Inc Store
Walmart Inc Store 1773
Walworth County Solid Waste Dept
Walworth County Solid Waste Dept
Wambold Furniture
Ward Machinery
Ward Trucking Corp.
Wards Body Shop
Ware Shoals School Dist 51
Warlick Paint Co
Warner Lambert
Warner Lambert
Warner Lambert
Warner Lambert Co.
Warner Lambert Co.
Warner Lambert Corp
Warwick Air Conditioning Inc
Warwick Manufacturing Company
Wash Board, Inc (for Washboard of NC Inc. (The))
Washington Hospital Center
Washington Iron Works
Washington School
Washland Custom Cleaners
Waterfront Lumber
Watkins Motor Lines
Watsons Body Shop
Watts Regulator
Watts Regulator Webster Valve Division
Watts Regulator Regtrol Enersco
Watts Regulator Regtrol Enersco
Watts Regulator Regtrol Enersco
Watts Regulator Regtrol Enersco
Watts Regulator Regtrol Enersco
Watts Regulator Regtrol Enersco
Waverly Central Schools
Wayne Community College
Wayside Cleaners
Waytec Electronics
We Do Graphics
We Do Graphics
WEA Manufacturing (f/k/a Specialty Records Corp.)
Webb Food Labs Inc.
Webb Technical Group
Webcraft Technologies Inc.
Weitbrecht Communications, Inc. (for WCI Home Comfort Division)
Welding Engineers Inc.
Wella Corporation
Wellborn Cabinet
Wellington Hall LTD
Wellman Inc
Welsh Valley Middle School
Wen Don

Wenwood Stores Facility
West American Graphics
West Coast Aerospace
West Coast Aerospace
West Coast Aerospace
West Coast Industrial Painting
West Coast Lithographers & Related Parties
West Company (The)
West End Motors
West Field Senior High School
West Marine
West Point Pepperell Research Center
Western Branch Diesel
Western Fast Printing
Western Markings
Western Metal Decorating
Western Printing Ink
Western Shield Label Co.
Western State Hospital
Western Water Proofing
Western Water Proofing
Westfield Administration Building
Westfield Senior High School
Westinghouse
Westinghouse Electric
Westinghouse Electric
Westinghouse Electric
Westinghouse Electric Co
Westinghouse Electric Corp
Westinghouse Electric Corp
Westinghouse Electric Corp
Westinghouse Electric Corp
Westinghouse Electric Corp
Westinghouse Electric Corp
Westinghouse Electric Corp
Westinghouse Electric Corp PGSD CTF
Westinghouse Electric Corporation
Westinghouse Eng Services
Westinghouse Fortin
Westinghouse Remediation Services
Westmoreland County--Municipal Authority of Westmoreland County Sanitary Landfill
Westvaco Corp
Westvaco Corporation
Westvaco Corporation
Westvaco CPD
Westvaco Folding Carton Division
Wetsel Seed Company
Weyerhaeuser Company
Whaledent International
White Business Machines
White Pigeon Paper
Whitehall Robins
Whitley Antiques
Whittaker Clark and Daniels Inc
Whyco Chromium Company Inc

Widener University Kirkbridge Hall
Widmers Cleaners
Wikoff Color Corp
Wikoff Color Corp
Wikoff Color Corporation
Wikoff Color Corporation
Wil Lou Gray Opportunity School
Wild Rivers
Wildon Ind.
Wildwood / McEnroe Lamps
Wilkes College
Wilkinson Printing
William Fisher
William House of California
Williams & Co., Inc. (for Crain Industries)
Williams Fabricare Inc.
Williamsburg Community Hospital
Wilmington Chemical Corporation (Rhone Poulence)
Wilson County Schools
Wilson County Technical College
Wilsonart, LLC (fka Ralph Wilson Plastics)
Windward Yacht Center
Wingate College
Winn Dixie
Winston Printing Co
Winston Salem State University
Winston Salem State University
Winterthur Museum Inc
Winthrop Products Inc.
Wirtz Manufacturing
Wissahickon School
Witco Allied Kelite Div
Witco Allied Kelite Div
Witco Corporation
Wix Corp.
WL Gore
WL Gore
WL Gore
WL Gore W Associates
WM Barr Company Inc.
WMMC Incorporated
WNC School for The Deaf
Wolf Range
Wolverine Technologies Inc.
Wolverine Tube
Wonderknit
Woodrow Wilson High School
World Color Press
World Color Press
World Color Press
World Resources Company
Worth Chemical Corporation
Worthington Biochemical Corporation
Worthington Steel Company (The)
WR Grace

WR Grace and Company
WR Grace and Company
Wright Color Graphics
WSLS Channel 10
Wyeth Laboratories
Wyeth Ayerst Labs
Wynns Precision Inc.
Xaloy Inc.
Xerox Corporation
Xtal Technologies Ltd
Yale Materials Handling Corp
Yamaha Musical Products
Yellow Freight
Yield House Inc
Yield House Inc
Yokohama Tire Corp.
York Hospital
York Properties
Youngs Cleaners
YYK Enterprises
ZA Sneeder and Sons, Inc.
Zapata Haynie
Zapata Haynie Corp Zapata Protein
Zapata Haynie Corporation
Zeneca Inc
Zeneca Specialities
Zeneca Specialities Inc
Zenith Engraving Company
Zeon Chemicals Kentucky Inc
Zoological Society of Buffalo Inc/Buffalo Zoological Gardens (The)

Philip Services Corporation (ThermalKEM) Site
Potentially Responsible Parties--Former Owner/Operators

Industrial Chemical Co., Inc. (f/k/a Quality Drum Co., Inc.)
Johnson (Sr), Marvin Ray
Neal, Walter D.
Nortru, Inc. ThermalKEM, Petro-Chem, Stablex South Carolina, Inc., Stablex, Inc., Piedmont Analytical, Inc.)
(subsidiaries of Philip Services Corporation)
Rhodes (Sr), Samuel W.

117TH CES BIRMINGHAM ANG
188 TFG EM
444 MAINT CO (CHICHASHA RES)
468TH CHEM BATTALION PR FINKBINDER USAR CTR
ABERDEEN PROVING GROUNDS
AMTRAK
AMTRAK
ANDREWS AIR FORCE BASE 89 CES CES
ARMY MATERIAL TECH LAB
ARNOLD AIR FORCE BASE
AS COAST GUARD SUPPORT CENTER
BOILLING AIR FORCE BASE
Broken Arrow USAR Center
CAPE CANAVERAL AIR FORCE STATION
CAPE HENLOPEN USAR 946TH TRANS COMPANY
CHARLESTON AIR FORCE BASE
CHARLESTON NAVAL SHIPYARD
CHEROKEE DRUM SITE
CHIEF PROPERTY DISPOSAL OFFICER
COLONIAL NATIONAL HISTORICAL PARK
COMMANDER NORFOLK NAVAL SHIPYARD
COMMANDER NORFOLK NAVAL SHIPYARD
COMMANDING GENERAL USMC
DE ARMY NATIONAL GUARD USPFO
DEFENSE NATL STOCKPILE DEPOT
DELAWARE ANG HEADQUARTERS 166 AIRLIFT GROUP
DERM
DOD DGSC WI (DEFENSE GENERAL)
DOVER AIRFORCE BASE
DRMO ANNISTON ARMY DEPOT
DRMO CHERRY POINT
DRMO FORT RUCKER
DRMO FORT SILL
DRMO FT MCCLELLAN
DRMO GORDON
DRMO HUNTSVILLE
DRMO KIRTLAND AFB
DRMO MEADE
DRMO MEMPHIS
DRMO SELFRIDGE ANG
DRMO WHITEMAN AFB
DRMO WILLIAMSBURG CHEATHAM ANNEX
DRMO WILLIAMSBURG FT EUSTIS
DRMO WILLIAMSBURG LANGLEY AFB
DRMO WILLIAMSBURG YORKTOWN NWS

EDWARD G USARC
ENGLAND AIR FORCE BASE
FEDERAL BUREAU OF INVESTIGATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL HIGHWAY ADMINISTRATION WASHINGTON NAVY YARD
FEDERAL LAW ENFORCEMENT TRAINING CENTER
FEDERAL RESERVE BANK
FEDERAL TRADE COMMISSION
FMHA USDA (ROY SITE)
FORT CHAFFEE
FORT HOOD
Fort Leonard Wood
FORT McNair--Directorate of Public Works
FORT Meade Director of Public Works FGGM
FORT RILEY
FORT WASHINGTON NAVY PUBLIC WORKS FACILITY
GOODFELLOW AFB
GSA Central Support Field Office
GUNTER AIR FORCE BASE
HAZARDOUS WASTE FACILITY
HEAD QUATERS NAVAL DISTRICT WASHINGTON
HHD 1ST BDE USARC
HQ 3245 ABG
HQ FORT DEVENS
HQ NAVAL DISTRICT WASHINGTON ANACOSTIA NAVAL STATION
HUNTON USAR CENTER
ILG - "______" ARMY MEDICAL CTR
JAMES W REESE USARC
JECELIN USAR CENTER
LANGLEY AFB VIRGINIA
Letterkenny Army Depot
Liquid Waste Management
LISEPA REGION II ANDOR CHEMICAL
MANUEL A PEREZ JUNIOR USARC
MARSHALL SPACE FLIGHT CENTER
Martin Marietta Corp AirStation
MARYLAND AIR NATIONAL GUARD ENVIRONMENTAL
MAUS WAR FIELD USAR CENTER
MCALESTER ARMY AMMUNITION PLANT
MCGUIRE VA HOSPITAL
MONCRIEF ARMY COMMUNITY HOSPITAL
MONCRIEF ARMY HOSPITAL
MYRTLE BEACH AFB AT FORT FISHER RECREATION AREA NC
NAS CECIL FIELD
NAS ROOSEVELT ROADS

NASA GODDARD SPACE FLIGHT CENTER
NASA JPL
NASA JPL MAINTENANCE FACILITY
NASA LANGLEY RESEARCH CENTER
NATION NAVAL MEDICAL CENTER
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
NATIONAL NAVAL MEDICAL CENTER
NATIONAL SECURITY AGENCY
NATIONAL SECURITY AGENCY
NATIONAL SECURITY AGENCY
NATIONAL SECURITY AGENCY 9LPS0 COLLEGE PARK
NAVA AIR PROPULSION CENTER
NAVAL & MARINE CORPS RESERVE CENTER
NAVAL AIR REWORK FACILITY
NAVAL AIR STATION
NAVAL AIR STATION
NAVAL AIR STATION JACKSONVILLE
NAVAL AIR STATION PATUXENT
NAVAL AIR STATION PUBLIC WORKS DEPARTMENT
NAVAL AIR STATION PUBLIC WORKS DEPARTMENT
NAVAL AIR WARFARE CENTER
NAVAL DIST WASHINGTON SOLOMON
NAVAL IMAGING COMMAND
NAVAL RESERVE READINESS COMMAND
NAVAL SECURITY STATION
NAVAL SURAFACE WARFARE DIV ANNAPOLIS
NAVAL SURFACE WARFACE CENTER
NAVAL SURFACE WARFARE CENTER
NAVAL SURFACE WARFARE CENTER
NAVAL SURFACE WARFARE CENTER CARDEROCK DIVISION
NAVAL SURFACE WARFARE CENTER WHITE OAK
NAVAL SURFACE WARFARE DIVISION
NAVAL WEAPONS STATION
NAVAL WEAPONS STATION EARLE
NAVAL WEAPONS STATION/PIONEER ENTE
NELSON COUNTY ARMED FORCES RESERVE - KY0000021147
NEWPORT ARMY AMMUNITION BASE
NIOSH
NIOSH
NORFOLK NAVAL SHIPYARD
NREAB MARINE CORP BASE
OFFICE OF NAVAL INTELLIGENCE NATIONAL MARITIME
OFFICE OF NAVAL INTELLIGENCE NATIONAL MARITIME
OFFICER IN CHARGE LT CAMP NAV COMM DET CHELIENHAM
OIL POINT NATIONAL BANK

OKLAHOMA AIR NATIONAL GUARD
PATRICK AIR FORCE BASE
PEASE AIR FORCE BASE DMT PEASE
PHILADELPHIA NAVAL SHIP YARD
PICATINNY ARSENAL
PINE BLUFF ARSENAL
PLATTSBURGH AFB US AIR FORCE
PR 1ST BN 95TH TNG DIV
PR MG HARRY TWADOLE AFRC
PRINCE GEORGES COUNTY USARC
RADFORD ARMY AMMUNITION PLANT
SAFETY AND ENVIRONMENTAL DEPARTMENT CODE 044
SAVANAH RIVER SITE
SCRDI BLUFF RD GROUP EPA I
SHERIDIAN USAR CENTER
SMITHSONIAN INSTITUTE
SOUTHERN MARYLAND USAR CENTER -
SRVHHC MMC 291DLT SPT CMD DSU SRA RUHL ARMCRY
TINKER AIR FORCE BASE
TULSA USAR CENTER
TURNER USAR CENTER
US ALTAIR
US ARMY
US ARMY COMMUNICATION ELECTRONICS COMMAND
US ARMY CORP OF ENGINEERING WASHINGTON AQUADUCT DIVISION
US ARMY FORT BELVOIR DEH ENRD
US ARMY FT BRAGG AIRBORNE CORP
US ARMY GARRISON
US ARMY NATICK RESEARCH AND DEVELOPMENT AND ENGINEERING CENTER - MA1210020631
US Army-Garrison (Presido of San Francisco)
US CIA (Bruce Herdt)
US CIA MCLEAN
US COAST GUARD ACTIVITY
US COAST GUARD AIR STATION
US COAST GUARD ENGINEERING LOGISTIC
US COAST GUARD MARQUETTE
US COAST GUARD MSO
US COAST GUARD SHORESIDE SUPPORT DETACHMENT (SSD)
US COAST GUARD SUPPORT CENTER
US COAST GUARD SUPPORT CENTER
US COAST GUARD YARD CURTIS BAY
US CUSTOMS SERVICE ENTRY DIVISION
US CUSTOMS SERVICE ENTRY DIVISION
US DEPARTMENT OF COMMERCE AND ECONOMIC DEVELOPMENT
US DEPARTMENT OF CORRECTIONS

US DEPARTMENT OF ENERGY
US DEPARTMENT OF ENERGY
US DEPARTMENT OF ENERGY
US DEPARTMENT of Energy (Morgantown Energy Technology Center)
US DEPARTMENT OF JUSTICE DRUG ENFORCEMENT ADMINISTRATION
US DEPARTMENT OF JUSTICE US MARSHALS OFFICE
US DEPARTMENT OF NAVY C\O GENERAL DYNAMICS ELECTRIC BOAT DIVISION
US DEPARTMENT OF THE ARMY
US DEPARTMENT OF THE NAVY HQ NAVAL DISTRICT
US DEPARTMENT OF TREASURY CENTRAL MOTOR POOL
US GEOLOGICAL SURVEY
US GEOLOGICAL SURVEY
US MARINE CORP
US MARINE CORP BARRACKS
US NATIONAL PARK SERVICE
US NAVAL ACADEMY LAUNDRY
US NAVAL ACADEMY LAUNDRY
US NAVAL OBSERVATORY
US NAVAL SURFACE WARFARE CENTER
US Navy (NAS) Jacksonville
US NAVY PUBLIC WORKS CENTER
US Navy--James J. Howard Marine Science Lab (for Sandy Hook Laboratory)
US NOAA ATLANTIC MARINE CENTER
US SOLDIERS AND AIRMENS HOME
USAG FORT DETRICK
USAR (Tagg Zirkle USAR Center)
USCG SUPPORT CENTER
USDA
USDA AMS SCIENCE DIVISION
USDA APPALACHIAN FRUIT RESEARCH STATION
USDA ARS APPLACHIAN FRUIT RESEARCH STATION
USDA ARS PASTURE SYSTEMS AND WATERSHED MGT
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USEPA AMERICAN RADIOCHEMICAL CORP
USEPA ANNEX
USEPA AUTOMATIC INDUSTRIAL PLATING
USEPA BROOKS FOUNDRY
USEPA C AND M PLATING
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USEPA CHESNUTIS SITE
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USEPA EASTON RESPONSE UNIT
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USEPA ENVIRONMENTAL RESEARCH LAB
USEPA FINANCIAL MGMT DIV (MD32)
USEPA II (Synkote Paints)
USEPA INTERNATIONAL DISC SITE
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USEPA IV (Bonnieville, KY Site) Ray Strickland
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USEPA IV (Tricity Industrial Park)
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USEPA KINROSS SITE
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USEPA MALLEABLE IRON SITE BEAVER DAM WI
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USEPA MURRAY SALVAGE
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USEPA REGION II FASCO FINISHING SITE
USEPA REGION II HEXAGON LABS
USEPA REGION II ORD
USEPA REGION II QUANTA RESOURCES SITE
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USEPA REGION III HANOVER DRUM SITE
USEPA REGION III HAVERTOWN PCP
USEPA REGION III JAMES RIVER SITE
USEPA REGION III MARCUS PAULSEN
USEPA REGION III MERRIT PRODUCTS
USEPA REGION III SMALL LAB SITE
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USEPA REGION IV (Sun Labs)
USEPA REGION IV (WARREN DIXON)
USEPA REGION IV (WISE FARM SITE)
USEPA REGION IV APF INDUSTRIES
USEPA REGION IV AQUATECH SITE
USEPA REGION IV ARAB PLATING
USEPA REGION IV CHEM 4 SITE
USEPA REGION IV OLD MOUNT HOLLY
USEPA REGION IV SKIPPERS III COCOA FL
USEPA REGION IV SYCAMORE PESTICIDE
USEPA REGION IV WORTHINGTON SPRINGS FL SITE
USEPA REGION LO GA PLATING
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USEPA REGION V (Weekley Lumber)
USEPA REGION V BURGESS BATTERY
USEPA REGION V CHEM PAC SITE
USEPA REGION V EMERGENCY RESPONSE
USEPA REGION V EMERGENCY RESPONSE
USEPA REGION V EMERGENCY RESPONSE SECTION
USEPA REGION V K AND S CIRCUITS
USEPA REGION V KELLY KOETT INSTRUMENT
USEPA REGION V MCI
USEPA REGION V MD WOOD TREATERS
USEPA REGION V RESPONSE SECTION 1
USEPA REGION V TRI STATE PLATING
USEPA REGION VII (DELMAR DRUMS)
USEPA REGION VIII
USEPA REGION VIII CR
USEPA REGIONIV
USEPA REGIONS
USEPA REGOION V
USEPA REGON II
USEPA ROBERT STEAM SPECIALTY
USEPA SELKIRK
USEPA SER PLATING
USEPA TAYLOR STONE
USEPA TRYCHEM
USEPA TYSON SUPERFUND SITE
USEPA WESTERN RESPONSE UNIT
USEPA WESTERN RESPONSE UNIT
USEPA WESTERN SCRAP
USMC USMC RESERVE TRAINING CENTER
USNAVSECGRUACT
USNS CAPELLA BAY SHIP MGT
USNS COMFORT
USPEA REGION III
USPFO AL WHSE
USPFO FOR OKLAHOMA
VALLEY FORGE MILITARY ACADEMY
VALLEY FORGE NATIONAL HISTORICAL PARK
VANCE AIR FORCE BASE
VETERANS ADMINISTRATION MEDICAL CENTER
VETERANS ADMINISTRATION
VETERANS ADMINISTRATION
VETERANS ADMINISTRATION COATESVILLE
VETERANS ADMINISTRATION HOSPITAL
VETERANS ADMINISTRATION HOSPITAL HAMPTON

VETERANS ADMINISTRATION MED CENTER OF MANHATTAN
VETERANS ADMINISTRATION MEDICAL CENTER
VETERANS ADMINISTRATION MEDICAL CENTER
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VETERANS ADMINISTRATION MEDICAL CENTER
VETERANS ADMINISTRATION MEDICAL EAST ORANGE
VETERANS ADMINISTRATION MEDICAL EAST ORANGE
VETERANS ADMINISTRATION MEDICAL HOSPITAL
WALTER REED ARMY INSTITUTE DIVISION OF EXPERIMENTAL THERP
WALTER REED ARMY INSTITUTE OF RESEARCH VETERINARY MEDICINE
WALTER REED ARMY MEDICAL CNTR
WALTER REED ARMY MEDICAL CNTR
WALTER REED ARMY MEDICAL CNTR
WALTER REED FOREST GLEN ARMY MEDICAL CENTER
WALTER REED FOREST GLEN ARMY MEDICAL CENTER
WARRENTON TRAINING CENTER
WJBD VETERANS HOSPITAL
WM JENNINGS BRYAN DORN VETERANS HOSPITAL
WRIGHT PATTERSON AFB SITE AC 88 ABW EMC
WRIGHT PATTERSON AFB SITE B 88 ABW EMC

Clemson Edisto Branch Station
Clemson Technical Center
Clemson University
Clemson University Tiwet
Lander University
SC National Guard
SC Department of Mental Health
SC Department of Mental Health (Patrick B. Harris Hospital)
SC Department of Mental Health (Tucker Garmer Nursing Home
SC National Guard
SC National Guard
SC State Museum
SC State Museum
SCDHEC (Harvey Mann Site)
SCDHEC (Max Siegel Estate/Smith Drug Site)
SCDHEC (Murrells Inlet Site)
SCDHEC (Pete Hasell Site)
SCDHEC (Pine Street Site)
SCDHEC (Steffew Robertson & Ribsten Site (#1 Pelion Rd Off Hwy 6)
SCDHEC (Three Lakes Dump Site)
SCDHEC Analytical Services
SCDOT
SCDOT
SCDOT
SCDOT Barnwell
SCDOT Beaufort
SCDOT Beech Island Section Shed
SCDOT Cherokee
SCDOT Chester
SCDOT Chester
SCDOT Chesterfield Maintenance
SCDOT Columbia
SCDOT Darlington
SCDOT Florence
SCDOT Greenville
SCDOT Kingstree
SCDOT Lancaster
SCDOT Laurens
SCDOT Materials Testing Lab
SCDOT Newberry
SCDOT Oconee
SCDOT Orangeburg
SCDOT Pickens
SCDOT Ridgeland

SCDOT Spartanburg
SCDOT Sumter
SCDOT Union
SCDOT York
Citadel (The)
University of South Carolina
University of South Carolina at Sumter
University of South Carolina Baruch Marine Field Laboratory
Winthrop University (f/k/a Winthrop College)

Appendix D : Analytical Results Private Well Sampling

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Eaton Analytical

LABORATORY REPORT

This report contains 51 pages.
(including the cover page)

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

eurofins

Eaton Analytical

110 South Hill Street
South Bend, IN 46617
Tel: (574) 233-4777
Fax: (574) 233-8207
1 800 332 4345

Laboratory Report

Client: CDM Smith Chattanooga

Attn: Andrew Romanek
651 East 4th Street
Suite 100
Chattanooga, TN 37403

Copies to: None

Report: 329500
Priority: Standard Written
Status: Final
PWS ID: Not Supplied
Lab ID #: 95005

Sample Information

EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3142217	DW593RW	524.2	11/19/14 11:30	Client	11/20/14 09:30
3142218	DW593RW-DUP	524.2	11/19/14 11:30	Client	11/20/14 09:30
3142219	DW569RW	524.2	11/19/14 11:45	Client	11/20/14 09:30
3142220	DW 400 Rockwell	524.2	11/19/14 11:57	Client	11/20/14 09:30
3142221	DW 530 E. Robertson	524.2	11/19/14 11:58	Client	11/20/14 09:30
3142222	DW 530 E. Robertson DUP	524.2	11/19/14 12:01	Client	11/20/14 09:30
3142223	DW620RW	524.2	11/19/14 12:10	Client	11/20/14 09:30
3142224	DW 674 Rockwell	524.2	11/19/14 12:40	Client	11/20/14 09:30
3142225	DW 552 E. Robertson	524.2	11/19/14 12:41	Client	11/20/14 09:30
3142226	DW 590 E. Robertson	524.2	11/19/14 13:12	Client	11/20/14 09:30
3142227	DW 645 Rockwell	524.2	11/19/14 13:22	Client	11/20/14 09:30
3142228	DW 449 Rockwell	524.2	11/19/14 14:23	Client	11/20/14 09:30
3142229	DW 652 Rockwell	524.2	11/19/14 12:55	Client	11/20/14 09:30
3142230	DW 431 Rockwell	524.2	11/19/14 14:44	Client	11/20/14 09:30
3142231	DW 1014 Shelby Ct	524.2	11/19/14 13:58	Client	11/20/14 09:30
3142232	DW Nazareth Church Well	524.2	11/19/14 13:27	Client	11/20/14 09:30
3142233	DW553RW	524.2	11/19/14 12:55	Client	11/20/14 09:30
3142234	DW563RW	524.2	11/19/14 12:55	Client	11/20/14 09:30
3142235	DW560RW	524.2	11/19/14 13:00	Client	11/20/14 09:30
3142236	DW539RW	524.2	11/19/14 13:55	Client	11/20/14 09:30
3142237	DW545RW	524.2	11/19/14 13:50	Client	11/20/14 09:30
3142238	DW530RW	524.2	11/19/14 13:45	Client	11/20/14 09:30

Report Summary

Project Name: PSC Rock Hill

Note: In the Method 524.2 analysis, the nitrobenzene recovery (64%) in the MS associated with site DW553RW was outside the acceptance limits of 70-130%.

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for nalysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Kelly Trott at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from EEA.

Kelly Trott Project Manager

Digitally signed by Kelly Trott
Date: 2014.12.12 15:43:45 -05'00'

Authorized Signature	Title	Date

Client Name: CDM Smith Chattanooga
Report #: 329500

Client Name: CDM Smith Chattanooga

Report #: 329500

Sampling Point: DW593RW

PWS ID: Not Supplied

Volatile Organic Chemicals

Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
2240	Acrylonitrile	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 12:20	3142217
2402	Allyl chloride	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:20	3142217
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2993	Bromobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2430	Bromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2943	Bromodichloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2942	Bromoform	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2214	Bromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2247	2-Butanone (MEK)	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:20	3142217
2422	n-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2428	sec-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2426	tert-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
1902	Carbon disulfide	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:20	3142217
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2466	Chloroacetonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:20	3142217
2989	Chlorobenzene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2086	1-Chlorobutane	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:20	3142217
2216	Chloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2941	Chloroform	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2210	Chloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2965	2-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2966	4-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2944	Dibromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	—	0.0002	< 0.0002	mg/L	—	11/21/14 12:20	3142217
2946	1,2-Dibromoethane (EDB)	524.2	—	0.0002	< 0.0002	mg/L	—	11/21/14 12:20	3142217
2408	Dibromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2968	1,2-Dichlorobenzene	524.2	0.6 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2967	1,3-Dichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2970	trans-1,4-Dichloro-2-butylene	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:20	3142217
2212	Dichlorodifluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2978	1,1-Dichloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2412	1,3-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2463	1,1-Dichloropropanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:20	3142217
2416	2,2-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2410	1,1-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 12:20	3142217
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 12:20	3142217
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 12:20	3142217
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:20	3142217
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:20	3142217
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 12:20	3142217
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 12:20	3142217
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 12:20	3142217
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 12:20	3142217
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:20	3142217
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 12:20	3142217
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 12:20	3142217
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:20	3142217
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:20	3142217
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/21/14 12:20	3142217
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:20	3142217

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

Client Name: CDM Smith Chattanooga

Report #: 329500

Sampling Point: DW593RW-DUP

PWS ID: Not Supplied

Volatile Organic Chemicals									
Analyte ID #	**Analyte**	**Method**	**Reg Limit**	**MRL†**	**Result**	**Units**	**Preparation Date**	**Analyzed Date**	**EEA ID #**
2240	Acrylonitrile	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 12:53	3142218
2402	Allyl chloride	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:53	3142218
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2993	Bromobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2430	Bromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2943	Bromodichloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2942	Bromoform	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2214	Bromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2247	2-Butanone (MEK)	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:53	3142218
2422	n-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2428	sec-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2426	tert-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
1902	Carbon disulfide	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:53	3142218
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2466	Chloroacetonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:53	3142218
2989	Chlorobenzene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2086	1-Chlorobutane	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:53	3142218
2216	Chloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2941	Chloroform	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2210	Chloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2965	2-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2966	4-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2944	Dibromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	—	0.0002	< 0.0002	mg/L	—	11/21/14 12:53	3142218
2946	1,2-Dibromoethane (EDB)	524.2	—	0.0002	< 0.0002	mg/L	—	11/21/14 12:53	3142218
2408	Dibromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2968	1,2-Dichlorobenzene	524.2	0.6 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2967	1,3-Dichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2970	trans-1,4-Dichloro-2-butylene	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:53	3142218
2212	Dichlorodifluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2978	1,1-Dichloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2412	1,3-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2463	1,1-Dichloropropanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:53	3142218
2416	2,2-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2410	1,1-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 12:53	3142218
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 12:53	3142218
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 12:53	3142218
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:53	3142218
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:53	3142218
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 12:53	3142218
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 12:53	3142218
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 12:53	3142218
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 12:53	3142218
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:53	3142218
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 12:53	3142218
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 12:53	3142218
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:53	3142218
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 12:53	3142218
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/21/14 12:53	3142218
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/21/14 12:53	3142218

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

Client Name: CDM Smith Chattanooga

Report #: 329500

Sampling Point: DW569RW

PWS ID: Not Supplied

Volatile Organic Chemicals

Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
2240	Acrylonitrile	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 13:27	3142219
2402	Allyl chloride	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 13:27	3142219
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2993	Bromobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2430	Bromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2943	Bromodichloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2942	Bromoform	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2214	Bromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2247	2-Butanone (MEK)	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 13:27	3142219
2422	n-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2428	sec-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2426	tert-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
1902	Carbon disulfide	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 13:27	3142219
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2466	Chloroacetonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 13:27	3142219
2989	Chlorobenzene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2086	1-Chlorobutane	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 13:27	3142219
2216	Chloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2941	Chloroform	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2210	Chloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2965	2-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2966	4-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2944	Dibromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	—	0.0002	< 0.0002	mg/L	—	11/21/14 13:27	3142219
2946	1,2-Dibromoethane (EDB)	524.2	—	0.0002	< 0.0002	mg/L	—	11/21/14 13:27	3142219
2408	Dibromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2968	1,2-Dichlorobenzene	524.2	0.6 *	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2967	1,3-Dichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2970	trans-1,4-Dichloro-2-butylene	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 13:27	3142219
2212	Dichlorodifluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2978	1,1-Dichloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2412	1,3-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2463	1,1-Dichloropropanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 13:27	3142219
2416	2,2-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2410	1,1-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 13:27	3142219
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 13:27	3142219
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 13:27	3142219
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 13:27	3142219
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 13:27	3142219
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 13:27	3142219
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 13:27	3142219
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 13:27	3142219
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 13:27	3142219
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219.
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 13:27	3142219
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 13:27	3142219
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 13:27	3142219
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 13:27	3142219
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 13:27	3142219
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/21/14 13:27	3142219
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/21/14 13:27	3142219

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

Client Name: CDM Smith Chattanooga

Report #: 329500

Sampling Point: DW 400 Rockwell

PWS ID: Not Supplied

Volatile Organic Chemicals

Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
2240	Acrylonitrile	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 14:00	3142220
2402	Allyl chloride	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:00	3142220
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2993	Bromobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2430	Bromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2943	Bromodichloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2942	Bromoform	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2214	Bromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2247	2-Butanone (MEK)	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:00	3142220
2422	n-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2428	sec-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2426	tert-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
1902	Carbon disulfide	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:00	3142220
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2466	Chloroacetonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:00	3142220
2989	Chlorobenzene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2086	1-Chlorobutane	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:00	3142220
2216	Chloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2941	Chloroform	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2210	Chloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2965	2-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2966	4-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2944	Dibromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	—	0.0002	< 0.0002	mg/L	—	11/21/14 14:00	3142220
2946	1,2-Dibromoethane (EDB)	524.2	—	0.0002	< 0.0002	mg/L	—	11/21/14 14:00	3142220
2408	Dibromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2968	1,2-Dichlorobenzene	524.2	0.8 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2967	1,3-Dichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2970	trans-1,4-Dichloro-2-butylene	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:00	3142220
2212	Dichlorodifluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2978	1,1-Dichloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2412	1,3-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2463	1,1-Dichloropropanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:00	3142220
2416	2,2-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2410	1,1-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 14:00	3142220
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 14:00	3142220
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 14:00	3142220
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:00	3142220
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:00	3142220
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 14:00	3142220
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 14:00	3142220
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 14:00	3142220
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 14:00	3142220
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:00	3142220
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 14:00	3142220
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 14:00	3142220
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:00	3142220
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:00	3142220
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/21/14 14:00	3142220
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:00	3142220

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

Client Name: CDM Smith Chattanooga

Report #: 329500

Sampling Point: DW 530 E. Robertson

PWS ID: Not Supplied

Volatile Organic Chemicals

Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
2240	Acrylonitrile	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 14:34	3142221
2402	Allyl chloride	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:34	3142221
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2993	Bromobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2430	Bromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2943	Bromodichloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2942	Bromoform	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2214	Bromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2247	2-Butanone (MEK)	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:34	3142221
2422	n-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2428	sec-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2426	tert-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
1902	Carbon disulfide	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:34	3142221
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2466	Chloroacetonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:34	3142221
2989	Chlorobenzene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2086	1-Chlorobutane	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:34	3142221
2216	Chloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2941	Chloroform	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2210	Chloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2965	2-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2966	4-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2944	Dibromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	—	0.0002	< 0.0002	mg/L	—	11/21/14 14:34	3142221
2946	1,2-Dibromoethane (EDB)	524.2	—	0.0002	< 0.0002	mg/L	—	11/21/14 14:34	3142221
2408	Dibromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2968	1,2-Dichlorobenzene	524.2	0.6 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2967	1,3-Dichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2970	trans-1,4-Dichloro-2-butylene	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:34	3142221
2212	Dichlorodifluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2978	1,1-Dichloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2412	1,3-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2463	1,1-Dichloropropanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:34	3142221
2416	2,2-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2410	1,1-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 14:34	3142221
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 14:34	3142221
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 14:34	3142221
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:34	3142221
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:34	3142221
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 14:34	3142221
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 14:34	3142221
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 14:34	3142221
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 14:34	3142221
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:34	3142221
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 14:34	3142221
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 14:34	3142221
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:34	3142221
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 14:34	3142221
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/21/14 14:34	3142221
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/21/14 14:34	3142221

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

Client Name: CDM Smith Chattanooga Report #: 329500

Sampling Point: DW 530 E. Robertson DUP PWS ID: Not Supplied

Volatile Organic Chemicals									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
2240	Acrylonitrile	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 15:07	3142222
2402	Allyl chloride	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:07	3142222
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2993	Bromobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2430	Bromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2943	Bromodichloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2942	Bromoform	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2214	Bromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2247	2-Butanone (MEK)	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:07	3142222
2422	n-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2428	sec-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2426	tert-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
1902	Carbon disulfide	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:07	3142222
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2466	Chloroacetonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:07	3142222
2989	Chlorobenzene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2086	1-Chlorobutane	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:07	3142222
2216	Chloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2941	Chloroform	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2210	Chloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2965	2-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2966	4-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2944	Dibromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	—	0.0002	< 0.0002	mg/L	—	11/21/14 15:07	3142222
2946	1,2-Dibromoethane (EDB)	524.2	—	0.0002	< 0.0002	mg/L	—	11/21/14 15:07	3142222
2408	Dibromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2968	1,2-Dichlorobenzene	524.2	0.6 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2967	1,3-Dichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2970	trans-1,4-Dichloro-2-butylene	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:07	3142222
2212	Dichlorodifluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2978	1,1-Dichloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2412	1,3-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2463	1,1-Dichloropropanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:07	3142222
2416	2,2-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2410	1,1-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 15:07	3142222
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 15:07	3142222
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 15:07	3142222
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:07	3142222
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:07	3142222
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 15:07	3142222
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 15:07	3142222
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 15:07	3142222
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 15:07	3142222
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:07	3142222
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 15:07	3142222
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 15:07	3142222
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:07	3142222
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:07	3142222
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/21/14 15:07	3142222
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:07	3142222

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

Client Name: CDM Smith Chattanooga Report #: 329500

Sampling Point: DW620RW PWS ID: Not Supplied

Volatile Organic Chemicals

Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
2240	Acrylonitrile	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 15:40	3142223
2402	Allyl chloride	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:40	3142223
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2993	Bromobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2430	Bromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2943	Bromodichloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2942	Bromoform	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2214	Bromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2247	2-Butanone (MEK)	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:40	3142223
2422	n-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2428	sec-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2426	tert-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
1902	Carbon disulfide	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:40	3142223
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2466	Chloroacetonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:40	3142223
2989	Chlorobenzene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2086	1-Chlorobutane	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:40	3142223
2216	Chloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2941	Chloroform	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2210	Chloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2965	2-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2966	4-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2944	Dibromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	—	0.0002	< 0.0002	mg/L	—	11/21/14 15:40	3142223
2946	1,2-Dibromoethane (EDB)	524.2	—	0.0002	< 0.0002	mg/L	—	11/21/14 15:40	3142223
2408	Dibromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2968	1,2-Dichlorobenzene	524.2	0.6 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2967	1,3-Dichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2970	trans-1,4-Dichloro-2-butylene	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:40	3142223
2212	Dichlorodifluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2978	1,1-Dichloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2412	1,3-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2463	1,1-Dichloropropanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:40	3142223
2416	2,2-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2410	1,1-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 15:40	3142223
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 15:40	3142223
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 15:40	3142223
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:40	3142223
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:40	3142223
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 15:40	3142223
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 15:40	3142223
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 15:40	3142223
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 15:40	3142223
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:40	3142223
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 15:40	3142223
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 15:40	3142223
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:40	3142223
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 15:40	3142223
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/21/14 15:40	3142223
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/21/14 15:40	3142223

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

Client Name: CDM Smith Chattanooga Report #: 329500

Sampling Point: DW 674 Rockwell PWS ID: Not Supplied

Volatile Organic Chemicals									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
2240	Acrylonitrile	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 16:14	3142224
2402	Allyl chloride	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 16:14	3142224
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2993	Bromobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2430	Bromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2943	Bromodichloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2942	Bromoform	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2214	Bromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2247	2-Butanone (MEK)	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 16:14	3142224
2422	n-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2428	sec-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2426	tert-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
1902	Carbon disulfide	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 16:14	3142224
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2466	Chloroacetonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 16:14	3142224
2989	Chlorobenzene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2086	1-Chlorobutane	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 16:14	3142224
2216	Chloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2941	Chloroform	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2210	Chloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2965	2-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2966	4-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2944	Dibromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	—	0.0002	< 0.0002	mg/L	—	11/21/14 16:14	3142224
2946	1,2-Dibromoethane (EDB)	524.2	—	0.0002	< 0.0002	mg/L	—	11/21/14 16:14	3142224
2408	Dibromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2968	1,2-Dichlorobenzene	524.2	0.6 *	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2967	1,3-Dichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2970	trans-1,4-Dichloro-2-butylene	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 16:14	3142224
2212	Dichlorodifluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2978	1,1-Dichloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2412	1,3-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2483	1,1-Dichloropropanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 16:14	3142224
2416	2,2-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2410	1,1-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 16:14	3142224
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 16:14	3142224
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 16:14	3142224
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 16:14	3142224
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 16:14	3142224
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 16:14	3142224
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 16:14	3142224
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/21/14 16:14	3142224
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 16:14	3142224
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	**0.0009**	mg/L	—	11/21/14 16:14	3142224
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 16:14	3142224
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 16:14	3142224
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/21/14 16:14	3142224
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 16:14	3142224
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/21/14 16:14	3142224
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/21/14 16:14	3142224
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/21/14 16:14	3142224

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

Client Name: CDM Smith Chattanooga Report #: 329500

Sampling Point: DW 552 E. Robertson PWS ID: Not Supplied

Volatile Organic Chemicals									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
2240	Acrylonitrile	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 13:22	3142225
2402	Allyl chloride	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:22	3142225
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2993	Bromobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2430	Bromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2943	Bromodichloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2942	Bromoform	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2214	Bromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2247	2-Butanone (MEK)	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:22	3142225
2422	n-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2428	sec-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2426	tert-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
1902	Carbon disulfide	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:22	3142225
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2466	Chloroacetonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:22	3142225
2989	Chlorobenzene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2086	1-Chlorobutane	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:22	3142225
2216	Chloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2941	Chloroform	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2210	Chloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2965	2-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2966	4-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2944	Dibromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	—	0.0002	< 0.0002	mg/L	—	11/24/14 13:22	3142225
2946	1,2-Dibromoethane (EDB)	524.2	—	0.0002	< 0.0002	mg/L	—	11/24/14 13:22	3142225
2408	Dibromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2968	1,2-Dichlorobenzene	524.2	0.6 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2967	1,3-Dichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2970	trans-1,4-Dichloro-2-butylene	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:22	3142225
2212	Dichlorodifluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2978	1,1-Dichloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2412	1,3-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2463	1,1-Dichloropropanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:22	3142225
2416	2,2-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2410	1,1-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 13:22	3142225
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 13:22	3142225
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 13:22	3142225
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:22	3142225
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:22	3142225
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 13:22	3142225
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 13:22	3142225
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 13:22	3142225
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 13:22	3142225
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:22	3142225
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 13:22	3142225
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 13:22	3142225
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:22	3142225
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:22	3142225
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/24/14 13:22	3142225
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:22	3142225

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

Client Name: CDM Smith Chattanooga Report #: 329500

Sampling Point: DW 590 E. Robertson PWS ID: Not Supplied

Volatile Organic Chemicals									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
2240	Acrylonitrile	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 13:55	3142226
2402	Allyl chloride	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:55	3142226
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2993	Bromobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2430	Bromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2943	Bromodichloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2942	Bromoform	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2214	Bromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2247	2-Butanone (MEK)	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:55	3142226
2422	n-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2428	sec-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2426	tert-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
1902	Carbon disulfide	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:55	3142226
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2466	Chloroacetonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:55	3142226
2989	Chlorobenzene	524.2	0.1 *	0.0005	**0.0018**	mg/L	—	11/24/14 13:55	3142226
2086	1-Chlorobutane	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:55	3142226
2216	Chloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2941	Chloroform	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2210	Chloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2965	2-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2966	4-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2944	Dibromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	—	0.0002	< 0.0002	mg/L	—	11/24/14 13:55	3142226
2948	1,2-Dibromoethane (EDB)	524.2	—	0.0002	< 0.0002	mg/L	—	11/24/14 13:55	3142226
2408	Dibromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2968	1,2-Dichlorobenzene	524.2	0.6 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2967	1,3-Dichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2970	trans-1,4-Dichloro-2-butylene	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:55	3142226
2212	Dichlorodifluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2978	1,1-Dichloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2412	1,3-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2463	1,1-Dichloropropanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:55	3142226
2416	2,2-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2410	1,1-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 13:55	3142226
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 13:55	3142226
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 13:55	3142226
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:55	3142226
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:55	3142226
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 13:55	3142226
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 13:55	3142226
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 13:55	3142226
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 13:55	3142226
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:55	3142226
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 13:55	3142226
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 13:55	3142226
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:55	3142226
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 13:55	3142226
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/24/14 13:55	3142226
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/24/14 13:55	3142226

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

Client Name: CDM Smith Chattanooga

Report #: 329500

Sampling Point: DW 645 Rockwell

PWS ID: Not Supplied

Volatile Organic Chemicals

Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
2240	Acrylonitrile	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 14:33	3142227
2402	Allyl chloride	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 14:33	3142227
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2993	Bromobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2430	Bromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2943	Bromodichloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2942	Bromoform	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2214	Bromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2247	2-Butanone (MEK)	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 14:33	3142227
2422	n-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2428	sec-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2426	tert-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
1902	Carbon disulfide	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 14:33	3142227
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2466	Chloroacetonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 14:33	3142227
2989	Chlorobenzene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2086	1-Chlorobutane	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 14:33	3142227
2216	Chloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2941	Chloroform	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2210	Chloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2965	2-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2966	4-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2944	Dibromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	—	0.0002	< 0.0002	mg/L	—	11/24/14 14:33	3142227
2946	1,2-Dibromoethane (EDB)	524.2	—	0.0002	< 0.0002	mg/L	—	11/24/14 14:33	3142227
2408	Dibromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2968	1,2-Dichlorobenzene	524.2	0.6 *	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2967	1,3-Dichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2970	trans-1,4-Dichloro-2-butylene	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 14:33	3142227
2212	Dichlorodifluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2978	1,1-Dichloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2412	1,3-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2463	1,1-Dichloropropanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 14:33	3142227
2416	2,2-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2410	1,1-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 14:33	3142227
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 14:33	3142227
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 14:33	3142227
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 14:33	3142227
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 14:33	3142227
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 14:33	3142227
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 14:33	3142227
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 14:33	3142227
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 14:33	3142227
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 14:33	3142227
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 14:33	3142227
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 14:33	3142227
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 14:33	3142227
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 14:33	3142227
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/24/14 14:33	3142227
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/24/14 14:33	3142227

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

Client Name: CDM Smith Chattanooga Report #: 329500

Sampling Point: DW 449 Rockwell PWS ID: Not Supplied

Volatile Organic Chemicals

Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
2240	Acrylonitrile	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 15:07	3142228
2402	Allyl chloride	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:07	3142228
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2993	Bromobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2430	Bromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2943	Bromodichloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2942	Bromoform	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2214	Bromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2247	2-Butanone (MEK)	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:07	3142228
2422	n-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2428	sec-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2426	tert-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
1902	Carbon disulfide	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:07	3142228
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2466	Chloroacetonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:07	3142228
2989	Chlorobenzene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2086	1-Chlorobutane	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:07	3142228
2216	Chloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2941	Chloroform	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2210	Chloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2965	2-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2966	4-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2944	Dibromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	—	0.0002	< 0.0002	mg/L	—	11/24/14 15:07	3142228
2946	1,2-Dibromoethane (EDB)	524.2	—	0.0002	< 0.0002	mg/L	—	11/24/14 15:07	3142228
2408	Dibromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2968	1,2-Dichlorobenzene	524.2	0.6 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2967	1,3-Dichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2970	trans-1,4-Dichloro-2-butylene	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:07	3142228
2212	Dichlorodifluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2978	1,1-Dichloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2412	1,3-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2463	1,1-Dichloropropanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:07	3142228
2416	2,2-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2410	1,1-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 15:07	3142228
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 15:07	3142228
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 15:07	3142228
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:07	3142228
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:07	3142228
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 15:07	3142228
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 15:07	3142228
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 15:07	3142228
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 15:07	3142228
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:07	3142228
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 15:07	3142228
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 15:07	3142228
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:07	3142228
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:07	3142228
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/24/14 15:07	3142228
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:07	3142228

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

Client Name: CDM Smith Chattanooga

Report #: 329500

Sampling Point: DW 652 Rockwell

PWS ID: Not Supplied

Volatile Organic Chemicals

Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
2240	Acrylonitrile	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 15:40	3142229
2402	Allyl chloride	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:40	3142229
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2993	Bromobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2430	Bromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2943	Bromodichloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2942	Bromoform	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2214	Bromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2247	2-Butanone (MEK)	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:40	3142229
2422	n-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2428	sec-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2426	tert-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
1902	Carbon disulfide	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:40	3142229
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2486	Chloroacetonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:40	3142229
2989	Chlorobenzene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2086	1-Chlorobutane	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:40	3142229
2216	Chloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2941	Chloroform	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2210	Chloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2965	2-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2966	4-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2944	Dibromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	—	0.0002	< 0.0002	mg/L	—	11/24/14 15:40	3142229
2946	1,2-Dibromoethane (EDB)	524.2	—	0.0002	< 0.0002	mg/L	—	11/24/14 15:40	3142229
2408	Dibromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2968	1,2-Dichlorobenzene	524.2	0.6 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2967	1,3-Dichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2970	trans-1,4-Dichloro-2-butylene	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:40	3142229
2212	Dichlorodifluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2978	1,1-Dichloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2412	1,3-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2463	1,1-Dichloropropanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:40	3142229
2416	2,2-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2410	1,1-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 15:40	3142229
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 15:40	3142229
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 15:40	3142229
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:40	3142229
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:40	3142229
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 15:40	3142229
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 15:40	3142229
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 15:40	3142229
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 15:40	3142229
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:40	3142229
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 15:40	3142229
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 15:40	3142229
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:40	3142229
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 15:40	3142229
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/24/14 15:40	3142229
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/24/14 15:40	3142229

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

Client Name: CDM Smith Chattanooga

Report #: 329500

Sampling Point: DW 431 Rockwell

PWS ID: Not Supplied

Volatile Organic Chemicals

Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
2240	Acrylonitrile	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 16:13	3142230
2402	Allyl chloride	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 16:13	3142230
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2993	Bromobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2430	Bromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2943	Bromodichloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2942	Bromoform	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2214	Bromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2247	2-Butanone (MEK)	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 16:13	3142230
2422	n-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2428	sec-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2426	tert-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
1902	Carbon disulfide	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 16:13	3142230
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2466	Chloroacetonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 16:13	3142230
2989	Chlorobenzene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2086	1-Chlorobutane	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 16:13	3142230
2216	Chloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2941	Chloroform	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2210	Chloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2965	2-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2968	4-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2944	Dibromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	—	0.0002	< 0.0002	mg/L	—	11/24/14 16:13	3142230
2946	1,2-Dibromoethane (EDB)	524.2	—	0.0002	< 0.0002	mg/L	—	11/24/14 16:13	3142230
2408	Dibromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2968	1,2-Dichlorobenzene	524.2	0.6 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2967	1,3-Dichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2970	trans-1,4-Dichloro-2-butylene	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 16:13	3142230
2212	Dichlorodifluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2978	1,1-Dichloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2412	1,3-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2463	1,1-Dichloropropanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 16:13	3142230
2416	2,2-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2410	1,1-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 16:13	3142230
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 16:13	3142230
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 16:13	3142230
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 16:13	3142230
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 16:13	3142230
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 16:13	3142230
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 16:13	3142230
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 16:13	3142230
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 16:13	3142230
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 18:13	3142230
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 16:13	3142230
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 16:13	3142230
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 16:13	3142230
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 16:13	3142230
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 16:13	3142230
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/24/14 16:13	3142230
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:13	3142230

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

Client Name: CDM Smith Chattanooga Report #: 329500

Sampling Point: DW 1014 Shelby Ct PWS ID: Not Supplied

Volatile Organic Chemicals

Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
2240	Acrylonitrile	524.2	---	0.0010	< 0.0010	mg/L	---	11/24/14 16:47	3142231
2402	Allyl chloride	524.2	---	0.0050	< 0.0050	mg/L	---	11/24/14 16:47	3142231
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2993	Bromobenzene	524.2	---	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2430	Bromochloromethane	524.2	---	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2943	Bromodichloromethane	524.2	---	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2942	Bromoform	524.2	---	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2214	Bromomethane	524.2	---	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2247	2-Butanone (MEK)	524.2	---	0.0050	< 0.0050	mg/L	---	11/24/14 16:47	3142231
2422	n-Butylbenzene	524.2	---	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2428	sec-Butylbenzene	524.2	---	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2426	tert-Butylbenzene	524.2	---	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
1902	Carbon disulfide	524.2	---	0.0050	< 0.0050	mg/L	---	11/24/14 16:47	3142231
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2486	Chloroacetonitrile	524.2	---	0.0050	< 0.0050	mg/L	---	11/24/14 16:47	3142231
2989	Chlorobenzene	524.2	0.1 *	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2086	1-Chlorobutane	524.2	---	0.0050	< 0.0050	mg/L	---	11/24/14 16:47	3142231
2216	Chloroethane	524.2	---	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2941	Chloroform	524.2	---	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2210	Chloromethane	524.2	---	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2965	2-Chlorotoluene	524.2	---	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2966	4-Chlorotoluene	524.2	---	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2944	Dibromochloromethane	524.2	---	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	---	0.0002	< 0.0002	mg/L	---	11/24/14 16:47	3142231
2946	1,2-Dibromoethane (EDB)	524.2	---	0.0002	< 0.0002	mg/L	---	11/24/14 16:47	3142231
2408	Dibromomethane	524.2	---	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2968	1,2-Dichlorobenzene	524.2	0.6 *	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2967	1,3-Dichlorobenzene	524.2	---	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2970	trans-1,4-Dichloro-2-butylene	524.2	---	0.0050	< 0.0050	mg/L	---	11/24/14 16:47	3142231
2212	Dichlorodifluoromethane	524.2	---	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2978	1,1-Dichloroethane	524.2	---	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2412	1,3-Dichloropropane	524.2	---	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2463	1,1-Dichloropropanone	524.2	---	0.0050	< 0.0050	mg/L	---	11/24/14 16:47	3142231
2416	2,2-Dichloropropane	524.2	---	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231
2410	1,1-Dichloropropylene	524.2	---	0.0005	< 0.0005	mg/L	---	11/24/14 16:47	3142231

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 16:47	3142231
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 16:47	3142231
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 16:47	3142231
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 16:47	3142231
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 16:47	3142231
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 16:47	3142231
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 16:47	3142231
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 16:47	3142231
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 16:47	3142231
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 16:47	3142231
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 16:47	3142231
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 16:47	3142231
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 16:47	3142231
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 16:47	3142231
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/24/14 16:47	3142231
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/24/14 16:47	3142231

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

Client Name: CDM Smith Chattanooga

Report #: 329500

Sampling Point: DW Nazareth Church Well

PWS ID: Not Supplied

Volatile Organic Chemicals									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
2240	Acrylonitrile	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 17:20	3142232
2402	Allyl chloride	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:20	3142232
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2993	Bromobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2430	Bromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2943	Bromodichloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2942	Bromoform	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2214	Bromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2247	2-Butanone (MEK)	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:20	3142232
2422	n-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2428	sec-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2426	tert-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
1902	Carbon disulfide	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:20	3142232
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2466	Chloroacetonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:20	3142232
2989	Chlorobenzene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2086	1-Chlorobutane	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:20	3142232
2216	Chloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2941	Chloroform	524.2	—	0.0005	**0.016**	mg/L	—	11/24/14 17:20	3142232
2210	Chloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2965	2-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2966	4-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2944	Dibromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	**0.016**	mg/L	—	11/24/14 17:20	3142232
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	—	0.0002	< 0.0002	mg/L	—	11/24/14 17:20	3142232
2946	1,2-Dibromoethane (EDB)	524.2	—	0.0002	< 0.0002	mg/L	—	11/24/14 17:20	3142232
2408	Dibromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2968	1,2-Dichlorobenzene	524.2	0.6 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2967	1,3-Dichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2970	trans-1,4-Dichloro-2-butylene	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:20	3142232
2212	Dichlorodifluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2978	1,1-Dichloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2412	1,3-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2463	1,1-Dichloropropanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:20	3142232
2416	2,2-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2410	1,1-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 17:20	3142232
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 17:20	3142232
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 17:20	3142232
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:20	3142232
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:20	3142232
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 17:20	3142232
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 17:20	3142232
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 17:20	3142232
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 17:20	3142232
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:20	3142232
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 17:20	3142232
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 17:20	3142232
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:20	3142232
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:20	3142232
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/24/14 17:20	3142232
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:20	3142232

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

Client Name: CDM Smith Chattanooga   Report #: 329500

Sampling Point: DW553RW   PWS ID: Not Supplied

Volatile Organic Chemicals									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
2240	Acrylonitrile	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 17:53	3142233
2402	Allyl chloride	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:53	3142233
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2993	Bromobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2430	Bromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2943	Bromodichloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2942	Bromoform	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2214	Bromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2247	2-Butanone (MEK)	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:53	3142233
2422	n-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2428	sec-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2426	tert-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
1902	Carbon disulfide	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:53	3142233
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2486	Chloroacetonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:53	3142233
2989	Chlorobenzene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2086	1-Chlorobutane	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:53	3142233
2216	Chloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2941	Chloroform	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2210	Chloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2965	2-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2966	4-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2944	Dibromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	—	0.0002	< 0.0002	mg/L	—	11/24/14 17:53	3142233
2946	1,2-Dibromoethane (EDB)	524.2	—	0.0002	< 0.0002	mg/L	—	11/24/14 17:53	3142233
2408	Dibromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2968	1,2-Dichlorobenzene	524.2	0.6 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2967	1,3-Dichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2970	trans-1,4-Dichloro-2-butylene	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:53	3142233
2212	Dichlorodifluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2978	1,1-Dichloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2412	1,3-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2463	1,1-Dichloropropanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:53	3142233
2416	2,2-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2410	1,1-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 17:53	3142233
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 17:53	3142233
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 17:53	3142233
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:53	3142233
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:53	3142233
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 17:53	3142233
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 17:53	3142233
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/24/14 17:53	3142233
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 17:53	3142233
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:53	3142233
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 17:53	3142233
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/24/14 17:53	3142233
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:53	3142233
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/24/14 17:53	3142233
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/24/14 17:53	3142233
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/24/14 17:53	3142233

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

Client Name: CDM Smith Chattanooga

Report #: 329500

Sampling Point: DW563RW

PWS ID: Not Supplied

Volatile Organic Chemicals

Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
2240	Acrylonitrile	524.2	—	0.0010	< 0.0010	mg/L	—	11/25/14 14:19	3142234
2402	Allyl chloride	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 14:19	3142234
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2993	Bromobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2430	Bromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2943	Bromodichloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2942	Bromoform	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2214	Bromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2247	2-Butanone (MEK)	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 14:19	3142234
2422	n-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2428	sec-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2426	tert-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
1902	Carbon disulfide	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 14:19	3142234
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2466	Chloroacetonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 14:19	3142234
2989	Chlorobenzene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2086	1-Chlorobutane	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 14:19	3142234
2216	Chloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2941	Chloroform	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2210	Chloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2965	2-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2966	4-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2944	Dibromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	—	0.0002	< 0.0002	mg/L	—	11/25/14 14:19	3142234
2946	1,2-Dibromoethane (EDB)	524.2	—	0.0002	< 0.0002	mg/L	—	11/25/14 14:19	3142234
2408	Dibromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2968	1,2-Dichlorobenzene	524.2	0.6 *	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2967	1,3-Dichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2970	trans-1,4-Dichloro-2-butylene	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 14:19	3142234
2212	Dichlorodifluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2978	1,1-Dichloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2412	1,3-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2463	1,1-Dichloropropanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 14:19	3142234
2416	2,2-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2410	1,1-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 14:19	3142234
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/25/14 14:19	3142234
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 14:19	3142234
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 14:19	3142234
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 14:19	3142234
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/25/14 14:19	3142234
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 14:19	3142234
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/25/14 14:19	3142234
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 14:19	3142234
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 14:19	3142234
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 14:19	3142234
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 14:19	3142234
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 14:19	3142234
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 14:19	3142234
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/25/14 14:19	3142234
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/25/14 14:19	3142234

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

Client Name: CDM Smith Chattanooga

Report #: 329500

Sampling Point: DW560RW

PWS ID: Not Supplied

Volatile Organic Chemicals

Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
2240	Acrylonitrile	524.2	—	0.0010	< 0.0010	mg/L	—	11/25/14 15:23	3142235
2402	Allyl chloride	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:23	3142235
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2993	Bromobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2430	Bromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2943	Bromodichloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2942	Bromoform	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2214	Bromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2247	2-Butanone (MEK)	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:23	3142235
2422	n-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2428	sec-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2426	tert-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
1902	Carbon disulfide	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:23	3142235
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2466	Chloroacetonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:23	3142235
2989	Chlorobenzene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2086	1-Chlorobutane	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:23	3142235
2216	Chloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2941	Chloroform	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2210	Chloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2965	2-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2966	4-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2944	Dibromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	—	0.0002	< 0.0002	mg/L	—	11/25/14 15:23	3142235
2946	1,2-Dibromoethane (EDB)	524.2	—	0.0002	< 0.0002	mg/L	—	11/25/14 15:23	3142235
2408	Dibromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2968	1,2-Dichlorobenzene	524.2	0.6 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2967	1,3-Dichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2970	trans-1,4-Dichloro-2-butylene	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:23	3142235
2212	Dichlorodifluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2978	1,1-Dichloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2412	1,3-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2463	1,1-Dichloropropanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:23	3142235
2416	2,2-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2410	1,1-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 15:23	3142235
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/25/14 15:23	3142235
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 15:23	3142235
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:23	3142235
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:23	3142235
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/25/14 15:23	3142235
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 15:23	3142235
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/25/14 15:23	3142235
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 15:23	3142235
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:23	3142235
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 15:23	3142235
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 15:23	3142235
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:23	3142235
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:23	3142235
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/25/14 15:23	3142235
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:23	3142235

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

Client Name: CDM Smith Chattanooga

Report #: 329500

Sampling Point: DW539RW

PWS ID: Not Supplied

Volatile Organic Chemicals									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
2240	Acrylonitrile	524.2	—	0.0010	< 0.0010	mg/L	—	11/25/14 15:56	3142236
2402	Allyl chloride	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:56	3142236
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2993	Bromobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2430	Bromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2943	Bromodichloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2942	Bromoform	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2214	Bromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2247	2-Butanone (MEK)	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:56	3142236
2422	n-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2428	sec-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2426	tert-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
1902	Carbon disulfide	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:56	3142236
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2466	Chloroacetonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:56	3142236
2989	Chlorobenzene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2086	1-Chlorobutane	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:56	3142236
2216	Chloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2941	Chloroform	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2210	Chloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2965	2-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2966	4-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2944	Dibromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	—	0.0002	< 0.0002	mg/L	—	11/25/14 15:56	3142236
2946	1,2-Dibromoethane (EDB)	524.2	—	0.0002	< 0.0002	mg/L	—	11/25/14 15:56	3142236
2408	Dibromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2968	1,2-Dichlorobenzene	524.2	0.6 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2967	1,3-Dichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2970	trans-1,4-Dichloro-2-butylene	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:56	3142236
2212	Dichlorodifluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2978	1,1-Dichloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2412	1,3-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2463	1,1-Dichloropropanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:56	3142236
2416	2,2-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2410	1,1-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 15:56	3142236
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/25/14 15:56	3142236
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 15:56	3142236
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:56	3142236
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:56	3142236
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/25/14 15:56	3142236
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 15:56	3142236
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/25/14 15:56	3142236
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 15:56	3142236
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:56	3142236
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 15:56	3142236
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 15:56	3142236
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:56	3142236
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 15:56	3142236
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/25/14 15:56	3142236
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/25/14 15:56	3142236

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

Client Name: CDM Smith Chattanooga

Report #: 329500

Sampling Point: DW545RW

PWS ID: Not Supplied

Volatile Organic Chemicals

Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
2240	Acrylonitrile	524.2	—	0.0010	< 0.0010	mg/L	—	11/25/14 16:28	3142237
2402	Allyl chloride	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 16:28	3142237
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2993	Bromobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2430	Bromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2943	Bromodichloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2942	Bromoform	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2214	Bromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2247	2-Butanone (MEK)	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 16:28	3142237
2422	n-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2428	sec-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2426	tert-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
1902	Carbon disulfide	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 16:28	3142237
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2466	Chloroacetonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 16:28	3142237
2989	Chlorobenzene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2086	1-Chlorobutane	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 16:28	3142237
2216	Chloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2941	Chloroform	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2210	Chloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2965	2-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2966	4-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2944	Dibromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	—	0.0002	< 0.0002	mg/L	—	11/25/14 16:28	3142237
2946	1,2-Dibromoethane (EDB)	524.2	—	0.0002	< 0.0002	mg/L	—	11/25/14 16:28	3142237
2408	Dibromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2968	1,2-Dichlorobenzene	524.2	0.6 *	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2967	1,3-Dichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2970	trans-1,4-Dichloro-2-butylene	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 16:28	3142237
2212	Dichlorodifluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2978	1,1-Dichloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2412	1,3-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2463	1,1-Dichloropropanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 16:28	3142237
2416	2,2-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2410	1,1-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 16:28	3142237
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/25/14 16:28	3142237
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 16:28	3142237
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 16:28	3142237
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 16:28	3142237
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/25/14 16:28	3142237
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 16:28	3142237
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/25/14 16:28	3142237
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 16:28	3142237
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 16:28	3142237
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 16:28	3142237
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 16:28	3142237
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 16:28	3142237
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 16:28	3142237
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/25/14 16:28	3142237
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/25/14 16:28	3142237

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

Client Name: CDM Smith Chattanooga Report #: 329500

Sampling Point: DW530RW PWS ID: Not Supplied

Volatile Organic Chemicals

Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
2240	Acrylonitrile	524.2	—	0.0010	< 0.0010	mg/L	—	11/25/14 17:00	3142238
2402	Allyl chloride	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 17:00	3142238
2990	Benzene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2993	Bromobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2430	Bromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2943	Bromodichloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2942	Bromoform	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2214	Bromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2247	2-Butanone (MEK)	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 17:00	3142238
2422	n-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2428	sec-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2426	tert-Butylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
1902	Carbon disulfide	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 17:00	3142238
2982	Carbon tetrachloride	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2466	Chloroacetonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 17:00	3142238
2989	Chlorobenzene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2086	1-Chlorobutane	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 17:00	3142238
2216	Chloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2941	Chloroform	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2210	Chloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2965	2-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2966	4-Chlorotoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2944	Dibromochloromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2950	Total Trihalomethanes	524.2	0.08 *	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2931	1,2-Dibromo-3-chloropropane (DBCP)	524.2	—	0.0002	< 0.0002	mg/L	—	11/25/14 17:00	3142236
2946	1,2-Dibromoethane (EDB)	524.2	—	0.0002	< 0.0002	mg/L	—	11/25/14 17:00	3142238
2408	Dibromomethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2968	1,2-Dichlorobenzene	524.2	0.6 *	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2967	1,3-Dichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2969	1,4-Dichlorobenzene	524.2	0.075 *	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2970	trans-1,4-Dichloro-2-butylene	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 17:00	3142238
2212	Dichlorodifluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2978	1,1-Dichloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2980	1,2-Dichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2977	1,1-Dichloroethylene	524.2	0.007 *	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2380	cis-1,2-Dichloroethylene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2979	trans-1,2-Dichloroethylene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2964	Dichloromethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2983	1,2-Dichloropropane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2412	1,3-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2463	1,1-Dichloropropanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 17:00	3142238
2416	2,2-Dichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2410	1,1-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238

2228	cis-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2224	trans-1,3-Dichloropropylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2413	1,3-Dichloropropylene, cis & trans	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2090	Ethyl Ether	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 17:00	3142238
2293	Ethyl methacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/25/14 17:00	3142238
2992	Ethylbenzene	524.2	0.7 *	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2246	Hexachlorobutadiene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2225	Hexachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 17:00	3142238
2269	2-Hexanone	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 17:00	3142238
2994	Isopropylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2030	4-Isopropyltoluene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2467	Methacrylonitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 17:00	3142238
2297	Methylacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/25/14 17:00	3142238
2458	Methyl iodide	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 17:00	3142238
2295	Methylmethacrylate	524.2	—	0.0010	< 0.0010	mg/L	—	11/25/14 17:00	3142238
2249	4-Methyl-2-pentanone (MIBK)	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 17:00	3142238
2251	Methyl-t-butyl ether (MTBE)	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2248	Naphthalene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2254	Nitrobenzene	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 17:00	3142238
2469	2-Nitropropane	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 17:00	3142238
2327	Pentachloroethane	524.2	—	0.0020	< 0.0020	mg/L	—	11/25/14 17:00	3142238
2468	Propionitrile	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 17:00	3142238
2998	n-Propylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2996	Styrene	524.2	0.1 *	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2986	1,1,1,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2988	1,1,2,2-Tetrachloroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2987	Tetrachloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2263	Tetrahydrofuran	524.2	—	0.0050	< 0.0050	mg/L	—	11/25/14 17:00	3142238
2991	Toluene	524.2	1 *	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2420	1,2,3-Trichlorobenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2378	1,2,4-Trichlorobenzene	524.2	0.07 *	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2981	1,1,1-Trichloroethane	524.2	0.2 *	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2985	1,1,2-Trichloroethane	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2984	Trichloroethylene	524.2	0.005 *	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2218	Trichlorofluoromethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2414	1,2,3-Trichloropropane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2904	1,1,2-Trichloro-1,2,2-trifluoroethane	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2419	1,2,3-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2418	1,2,4-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2424	1,3,5-Trimethylbenzene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2976	Vinyl chloride	524.2	0.002 *	0.0002	< 0.0002	mg/L	—	11/25/14 17:00	3142238
2997	1,2-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2963	1,3 + 1,4-Xylene	524.2	—	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238
2955	Xylenes, Total	524.2	10 *	0.0005	< 0.0005	mg/L	—	11/25/14 17:00	3142238

Compliance monitoring for 1,2-Dibromo-3-chloropropane (DBCP) must be done using EPA method 504.1.

Compliance monitoring for 1,2-Dibromoethane (EDB) must be done using EPA method 504.1.

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

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Eaton Analytical

www.eatonanalytical.com

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F: 1.574.233.8207

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Batch # 339500

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CHAIN OF CUSTODY RECORD

Page 1 of 1

REPORT TO: Andrew Romanek - CDM Smith
RomanekAP @ CDM Smith.com

BILL TO: SAME

SAMPLER (Signature): [signature]

COMPLIANCE MONITORING	Yes	No
		X

PWS ID #	STATE (sample origin)	PROJECT NAME	PO#
	SC	PSC ROCK HILL	
POPULATION SERVED	SOURCE WATER		
	GW		

#	LAB Number	COLLECTION DATE	COLLECTION TIME	AM	PM	SAMPLING SITE	TEST NAME	SAMPLE REMARKS	CHLORINATED YES	CHLORINATED NO	# OF CONTAINERS	MATRIX CODE	TURNAROUND TIME
1	3142-217	11-19-14	1130	X		DW 593RW	VOC by 524.2			X	3	GW	
2	218	11-19-14	1130	X		DW 593 RW - DUP	VOC by 524.2			X	3	GW	
3	219	11-19-14	1145	X		DW 569 RW	VOC by 524.2			✓	3	GW	
4	220	11-19-14	1157	X		DW 400 Rockwell	VOC by 524.2			X	3	GW	
5	221	11-19-14	1158	X		DW 530 E. Robertson	VOC by 524.2			X	3	GW	
6	222	11-19-14	1201		X	DW 530 E. Robertson - DUP	VOC by 524.2	1 vial broke in transit		X	3	GW	
7	223	11-19-14	1210		X	DW 620 RW	VOC by 524.2	1 vial Cap was cracked but intact		X	3	GW	
8	224	11-19-14	1240		X	DW 674 Rockwell	VOC by 524.2			X	3	GW	
9	225	11-19-14	1241		X	DW 552 E. Robertson	VOC by 524.2			X	3	GW	
10	226	11-19-14	1312		X	DW 590 E. Robertson	VOC by 524.2	1 vial cap was cracked but intact		X	3	GW	
11	227	11-19-14	1322		X	DW 645 Rockwell	VOC by 524.2			X	3	GW	
12	228	11-19-14	1423		X	DW 449 ROCKWELL	VOC by 524.2			X	3	GW	
13	229	11-19-14	1255		X	DW 652 ROCKWELL	VOC by 524.2			X	3	GW	
14	230	11-19-14	1444		X	DW 431 ROCKWELL	VOC by 524.2			X	3	GW	

SS 11-20-14

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
[signature]	11-19-14	5:00 PM			AM PM
RELINQUISHED BY: (Signature)	DATE	TIME AM PM	RECEIVED BY: (Signature)	DATE	TIME AM PM
RELINQUISHED BY: (Signature)	DATE	TIME AM PM	RECEIVED FOR LABORATORY BY	DATE	TIME
			[signature]	11-20-14	0930 AM PM

LAB RESERVES THE RIGHT TO RETURN UNUSED PORTIONS OF NON-AQUEOUS SAMPLES TO CLIENT

LAB COMMENTS

CONDITIONS UPON RECEIPT (check one): X Iced: Wet/Blue ____ Ambient 2.2 °C Upon Receipt____ N/A

MATRIX CODES:
DW-DRINKING WATER
RW-REAGENT WATER
GW-GROUND WATER
EW-EXPOSURE WATER
SW-SURFACE WATER
PW-POOL WATER
WW-WASTE WATER

TURN-AROUND TIME (TAT) - SURCHARGES

SW = Standard Written (15 working days)	0%
RV* = Rush Verbal (5 working days)	50%
RW* = Rush Written (5 working days)	75%
IV* = Immediate Verbal (3 working days)	100%
IW* = Immediate Written (3 working days)	125%
SP* = Weekend, Holiday	CALL
STAT* = Less than 48 hours	CALL

* Please call, expedited service not available for all testing

Samples received unannounced with less than 48 hours holding time remaining may be subject to additional charges.

Sample analysis will be provided according to the standard EEA/Water Services Terms, which are available upon request. Any other terms proposed by Customer are deemed material alterations and are rejected unless expressly agree to in writing by EEA

06-LO-F0435 Issue 4.0 Effective Date: 2014-05-01 eurofins | Eaton Analytical

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CHAIN OF CUSTODY RECORD

REPORT TO: Andrew Romanek - CDM Smith
RomanekAP@CDMSmith.Com

BILL TO: SAME

SAMPLER (Signature): [signature]

COMPLIANCE MONITORING: Yes: | No: X

PWS ID #:
POPULATION SERVED:
STATE (sample origin): SC
SOURCE WATER: GW
PROJECT NAME: PSC Rock Hill
PO#:

#	LAB Number	COLLECTION DATE	TIME	AM	PM	SAMPLING SITE	TEST NAME	SAMPLE REMARKS	CHLORINATED YES	CHLORINATED NO	# OF CONTAINERS	MATRIX CODE	TURNAROUND TIME
1	3142 231	11-19-14	1358		X	DW 1014 SHELBY CT	VOC by 524.2			X	3	GW	
2	232	11-19-14	1327		X	DW Nazareth Church Well	VOC by 524.2			X	3	GW	
3	233	11-19-14	1255		X	DW 553 RW	VOC by 524.2			X	3	GW	
4	234	11-19-14	1255		X	DW 563 RW	VOC by 524.2			X	3	GW	
5	235	11-19-14	1300		X	DW 560 RW	VOC by 524.2			X	3	GW	
6	236	11-19-14	1355		X	DW 539 RW	VOC by 524.2			X	3	GW	
7	237	11-19-14	1350		X	DW 545 RW	VOC by 524.2			X	3	GW	
8	238	11-19-14	1345		X	DW 530 RW	VOC by 524.2			X	3	GW	
9	239	11-14-14				TRIP BLANK	VOC by 524.2			X	2		
10													
11													
12		~~11-14-14~~	SS 11-20-14										
13													
14													

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
[signature]	11-19-14	5:00 PM			
			RECEIVED FOR LABORATORY BY: [signature]	11-20-14	0930

LAB RESERVES THE RIGHT TO RETURN UNUSED PORTIONS OF NON-AQUEOUS SAMPLES TO CLIENT

LAB COMMENTS

CONDITIONS UPON RECEIPT (check one). X Iced: Wet/Blue ___ Ambient 2.2 °C Upon Receipt ___ N/A

MATRIX CODES:

DW-DRINKING WATER
RW-REAGENT WATER
GW-GROUND WATER
EW-EXPOSURE WATER
SW-SURFACE WATER
PW-POOL WATER
WW-WASTE WATER

TURN-AROUND TIME (TAT) - SURCHARGES

SW = Standard Written: (15 working days)	0%	IV* = Immediate Verbal (3 working days)	100%
RV* = Rush Verbal (5 working days)	50%	IW* = Immediate Written (3 working days)	125%
RW* = Rush Written: (5 working days)	75%	SP* = Weekend, Holiday	CALL
		STAT* = Less than 48 hours	CALL

* Please call, expedited service not available for all testing

Samples received unannounced with less than 48 hours holding time remaining may be subject to additional charges

06-LO-F0435 Issue 4.0 Effective Date: 2014-05-01

Sample analysis will be provided according to the standard EEA/Water Services Terms, which are available upon request. Any other terms proposed by Customer are deemed material alterations and are rejected unless expressly agree to in writing by EEA.