



## **Report for Cannon Campgrounds, ZIP code 29307 Area Spartanburg County, South Carolina.**

**This composite report for the Cannon Campgrounds - ZIP code 29307 area contains two components:**

- 1) Summary of Cancer Incidence and Mortality for ZIP Code 29307 with Additional Spatial/Temporal Analysis
- 2) Cannons Campground Environmental Quality Control Summary including Private Well Lab Analysis Reports #1, 2,3,4

### **1) Summary of Cancer Incidence and Mortality for ZIP Code 29307 (Spartanburg, SC), July 2011**

To determine if there are any unusual cancer patterns in an area the first step is to look at the number of new cancer cases (incidence) and deaths (mortality) occurring in the ZIP code and compare this to the number of cancer cases and deaths expected to occur by chance alone, given the corresponding South Carolina state rates. The number of expected cases and deaths are determined by using South Carolina state cancer incidence and mortality rates and applying them to the population of the geographic area of interest (29307). These observed and expected values allow us to compare the ratio of observed to expected numbers, as well as the calculation of a chi-square test statistic to look for statistically significant differences. When significant results are encountered, additional steps are taken to look at the data more closely (e.g., look at counts, type of cancers, age, etc.).

In order for a true cancer cluster to exist, the number of cancer cases occurring must be more than would be expected by chance. Additionally, a cancer cluster would more likely involve rarer types of cancer rather than more common cancers such lung, breast, prostate, or colon. A cancer cluster will usually occur with excess in one specific type of cancer rather than in several different types. Along with statistical testing, there are several other criteria that determine whether a true cancer cluster exists (see *Guidelines for Investigating Clusters of Chronic Disease and Adverse Birth Outcomes* for further information).

The time interval from reporting to public release for national and state-specific cancer statistics is generally 24 months. Extensive quality control and de-duplication takes place during this interval to assure cancer data are reported correctly. Currently, the data available from the SC Central Cancer Registry include cases and deaths from 1996 to 2007. While timeliness of the data is certainly a limitation, trends over time can help identify unusual cancer patterns. The most recent five years of data available (2003-2007) were used for this analysis. Also, additional statistical analysis using all years of data was conducted and results are included in this report.

### ***Cancer Incidence for ZIP code 29307***

Table 1 shows what types of cancer occurred in ZIP code 29307 from 2003-2007 and how many cancer cases were expected. Overall, there were fewer cases observed than expected. A total of 594 new cases of cancer occurred in the ZIP code, while 655 cases were expected. Statistical testing showed that the observed number of new cases was significantly lower than expected. In South Carolina the most common types of cancer are prostate, lung, breast, and colon/rectum. The most common types of cancer in this ZIP code are lung, female breast, prostate, and colon/rectum (listed in order from high to low in Table 1). The analysis revealed that no types of cancer were significantly higher than expected. At least a three-fold increase of observed-to-expected cases is the scientific rule of thumb warranting further investigation. This level was not reached, therefore, at this time no further investigation is being conducted.

### ***Cancer Mortality for ZIP code 29307***

The same process used to analyze new cancer cases was also used to analyze cancer deaths. Table 2 shows the number of cancer deaths that occurred and the number expected in the ZIP code. A total of 259 cancer deaths occurred in this ZIP code, while 291 deaths were expected. Statistical testing showed that the observed number of deaths was not significantly different than expected. The most common causes of cancer death in South Carolina are lung, colon/rectum, breast, and prostate. In this ZIP code the most common causes of cancer death are lung, female breast, pancreas, and leukemia (listed in order from high to low in Table 2). The analysis revealed that no deaths from cancer were significantly higher than expected. As noted above, at least a three-fold increase of observed-to-expected deaths is needed to warrant further investigation. This level was not reached, therefore, at this time no further investigation is being conducted.

### ***Expanded Data Analysis for All Available Years of Cancer Incidence and Corresponding Mortality***

For completeness, all years of cancer incidence data available, 1996 – 2007, from the SC Central Cancer Registry and corresponding years of cancer mortality data were examined using the same methods. This was performed to identify any excess cancer patterns occurring in years 1996 -2007. Table 3 and 4 results show no excess for cancer incidence or mortality for these years for this ZIP code.

### ***Conclusion***

Overall, results show no excess in either cancer incidence or mortality for this ZIP code for this time period. It is alarming when someone you know is diagnosed with cancer. Unfortunately, current statistics reported by the American Cancer Society reveal that one in two men and one in three women will develop cancer in their lifetime. Included with this report is a list of risk factors for those cancers, if any, which significantly exceed the number of expected cases and deaths. Residents of ZIP code 29307 are encouraged to have regular check-ups with their physicians and to lead a healthy, active lifestyle.

Table 1. Summary of Cancer Incidence for ZIP code 29307: Incidence 2003-2007

SiteCat	DataYears	ObsNum	ExpNum	Ratio	CHISQ	SIG	SigDir
All Cancer Sites	2003-2007	594	654.6	<b>0.9</b>	5.6	<b>Yes</b>	<b>Lower</b>
Lung & Bronchus	2003-2007	85	104.8	0.8	3.8	No	n/a
Female Breast	2003-2007	79	88.8	0.9	1.1	No	n/a
Prostate	2003-2007	79	94.9	0.8	2.7	No	n/a
Colon & Rectum	2003-2007	58	71.5	0.8	2.5	No	n/a
Melanoma of Skin	2003-2007	36	27.5	1.3	2.6	No	n/a
Urinary Bladder	2003-2007	27	27.4	1.0	0.0	No	n/a
Non-Hodgkin Lymphoma	2003-2007	25	23.9	1.0	0.1	No	n/a
Kidney & Renal Pelvis	2003-2007	21	19.5	1.1	0.1	No	n/a
Pancreas	2003-2007	19	17.0	1.1	0.2	No	n/a
Uterus/Corpus/NOS	2003-2007	15	15.0	1.0	0.0	No	n/a
Oral Cavity & Pharynx	2003-2007	15	15.3	1.0	0.0	No	n/a
Brain & CNS (Malignant)	2003-2007	≥10*	10*	1.6	2.7	No	n/a
Leukemia	2003-2007	13	16.9	0.8	0.9	No	n/a
Ovary	2003-2007	≥10*	10*	1.2	0.3	No	n/a
Liver & Intrahepatic Bile Duct	2003-2007	10*	10*	1.2	0.1	No	n/a
Stomach	2003-2007	10*	≥10*	0.7	1.0	No	n/a
Esophagus	2003-2007	10*	10*	0.8	0.3	No	n/a
Testis	2003-2007	10*	<5*	~	~	~	n/a
Soft Tissue (& Heart)	2003-2007	10*	<5*	~	~	~	n/a
Larynx	2003-2007	10*	10*	0.7	0.5	No	n/a
Thyroid	2003-2007	10*	10*	0.6	1.4	No	n/a
Anus & Anal Canal	2003-2007	<5*	<5*	~	~	~	n/a
Myeloma	2003-2007	<5*	10*	0.4	3.1	No	n/a
Cervix Uteri	2003-2007	<5*	<5*	~	~	~	n/a
Bones & Joints	2003-2007	<5*	<5*	~	~	~	n/a
Hodgkin Lymphoma	2003-2007	<5*	<5*	~	~	~	n/a
Small Intestine	2003-2007	<5*	<5*	~	~	~	n/a
Mesothelioma	2003-2007	<5*	<5*	~	~	~	n/a
Gallbladder	2003-2007	<5*	<5*	~	~	~	n/a
Male Breast	2003-2007	0	<5*	~	~	~	n/a
Eye & Orbit	2003-2007	0	<5*	~	~	~	n/a
Kaposi Sarcoma	2003-2007	0	<5*	~	~	~	n/a

<sup>1</sup>Excludes in-situ cases of cancer, except bladder to allow for comparison.

<sup>2</sup>The Chi-square statistical test allows us to determine if the difference between what is observed and what is expected is significant.

If the value is greater than 3.84, then we are 95% confident that the observed number of cases is significantly different from the expected number of cases.

\*Suppression rules have been applied to these data: 1-4 cases are recorded as <5; 5-9 cases are rounded to 10. Observed or expected cases are recorded as ≥10 when the corresponding observed or expected count has been suppressed.

~Cancer types with less than 5 cases of cancer expected are not analyzed due to the unreliability of statistical tests based on small numbers.

HIGHER: Indicates that the observed number of cases is significantly higher than the expected number.

LOWER: Indicates that the observed number of cases is significantly lower than the expected number.

Table 2. Summary of Cancer Mortality for ZIP code 29307: Mortality 2003-2007

SiteCat	DataYears	ObsNum	ExpNum	Ratio	CHISQ	SIG	SigDir
All Cancer Sites	2003-2007	259	291.4	0.9	3.6	No	n/a
Lung & Bronchus	2003-2007	80	85.7	0.9	0.4	No	n/a
Female Breast	2003-2007	25	20.5	1.2	1.0	No	n/a
Pancreas	2003-2007	18	16.3	1.1	0.2	No	n/a
Leukemia	2003-2007	13	10.7	1.2	0.5	No	n/a
Colon & Rectum	2003-2007	13	27.6	<b>0.5</b>	<b>7.7</b>	<b>Yes</b>	<b>Lower</b>
Non-Hodgkin Lymphoma	2003-2007	11	10.1	1.1	0.1	No	n/a
Prostate	2003-2007	11	17.0	0.6	2.1	No	n/a
Ovary	2003-2007	10*	10*	1.2	0.3	No	n/a
Kidney & Renal Pelvis	2003-2007	10*	10*	1.1	0.0	No	n/a
Urinary Bladder	2003-2007	10*	10*	1.1	0.0	No	n/a
Brain & CNS (Malignant)	2003-2007	10*	10*	1.0	0.0	No	n/a
Esophagus	2003-2007	10*	10*	0.9	0.0	No	n/a
Melanoma of Skin	2003-2007	<5*	<5*	~	~	~	n/a
Oral Cavity & Pharynx	2003-2007	<5*	<5*	~	~	~	n/a
Myeloma	2003-2007	<5*	10*	0.6	1.1	No	n/a
Stomach	2003-2007	<5*	10*	0.5	1.7	No	n/a
Liver & Intrahepatic Bile Duct	2003-2007	<5*	10*	0.4	2.3	No	n/a
Hodgkin Lymphoma	2003-2007	<5*	<5*	~	~	~	n/a
Soft Tissue (& Heart)	2003-2007	<5*	<5*	~	~	~	n/a
Larynx	2003-2007	<5*	<5*	~	~	~	n/a
Anus & Anal Canal	2003-2007	<5*	<5*	~	~	~	n/a
Mesothelioma	2003-2007	<5*	<5*	~	~	~	n/a
Cervix Uteri	2003-2007	<5*	<5*	~	~	~	n/a
Uterus/Corpus/NOS	2003-2007	<5*	<5*	~	~	~	n/a
Small Intestine	2003-2007	0	<5*	~	~	~	n/a
Gallbladder	2003-2007	0	<5*	~	~	~	n/a
Bones & Joints	2003-2007	0	<5*	~	~	~	n/a
Testis	2003-2007	0	<5*	~	~	~	n/a
Male Breast	2003-2007	0	<5*	~	~	~	n/a
Eye & Orbit	2003-2007	0	<5*	~	~	~	n/a
Thyroid	2003-2007	0	<5*	~	~	~	n/a
Kaposi Sarcoma	2003-2007	0	<5*	~	~	~	n/a

<sup>1</sup>The Chi-square statistical test allows us to determine if the difference between what is observed and what is expected is significant.

If the value is greater than 3.84, then we are 95% confident that the observed number of deaths is significantly different from the expected number of deaths.

\*Suppression rules have been applied to these data: 1-4 deaths are recorded as <5; 5-9 deaths are rounded to 10. Observed or expected deaths are recorded as ≥10 when the corresponding observed or expected count has been suppressed.

~Cancer types with less than 5 deaths of cancer expected are not analyzed due to the unreliability of statistical tests based on small numbers.

HIGHER: Indicates that the observed number of deaths is significantly higher than the expected number.

LOWER: Indicates that the observed number of deaths is significantly lower than the expected number.

Table 3. Summary of Cancer Incidence for ZIP code 29307: Incidence 1996-2007

SiteCat	DataYears	ObsNum	ExpNum	Ratio	CHISQ	SIG	SigDir
All Cancer Sites	1996-2007	1356	1592.5	<b>0.9</b>	35.1	<b>Yes</b>	<b>Lower</b>
Female Breast	1996-2007	207	220.6	0.9	0.8	No	n/a
Lung & Bronchus	1996-2007	204	251.8	<b>0.8</b>	9.1	<b>Yes</b>	<b>Lower</b>
Prostate	1996-2007	202	243.2	<b>0.8</b>	7.0	<b>Yes</b>	<b>Lower</b>
Colon & Rectum	1996-2007	139	184.8	<b>0.8</b>	11.3	<b>Yes</b>	<b>Lower</b>
Non-Hodgkin Lymphoma	1996-2007	57	57.0	1.0	0.0	No	n/a
Melanoma of Skin	1996-2007	54	57.4	0.9	0.2	No	n/a
Urinary Bladder	1996-2007	54	67.3	0.8	2.6	No	n/a
Kidney & Renal Pelvis	1996-2007	41	43.8	0.9	0.2	No	n/a
Pancreas	1996-2007	35	40.8	0.9	0.8	No	n/a
Uterus/Corpus/NOS	1996-2007	32	36.5	0.9	0.6	No	n/a
Oral Cavity & Pharynx	1996-2007	27	38.7	0.7	3.6	No	n/a
Leukemia	1996-2007	27	39.9	<b>0.7</b>	4.2	<b>Yes</b>	<b>Lower</b>
Brain & CNS (Malignant)	1996-2007	25	19.2	1.3	1.8	No	n/a
Stomach	1996-2007	24	26.0	0.9	0.1	No	n/a
Ovary	1996-2007	21	24.4	0.9	0.5	No	n/a
Liver & Intrahepatic Bile Duct	1996-2007	17	14.0	1.2	0.7	No	n/a
Thyroid	1996-2007	15	16.9	0.9	0.2	No	n/a
Larynx	1996-2007	15	17.0	0.9	0.2	No	n/a
Esophagus	1996-2007	14	18.6	0.8	1.2	No	n/a
Myeloma	1996-2007	14	22.9	0.6	3.4	No	n/a
Anus & Anal Canal	1996-2007	≥10*	>5*	~	~	~	n/a
Soft Tissue (& Heart)	1996-2007	10*	10*	1.1	0.0	No	n/a
Testis	1996-2007	10*	>5*	~	~	~	n/a
Hodgkin Lymphoma	1996-2007	10*	10*	1.3	0.5	No	n/a
Cervix Uteri	1996-2007	10*	≤10*	<b>0.4</b>	5.0	<b>Yes</b>	<b>Lower</b>
Gallbladder	1996-2007	10*	>5*	1.3	0.3	No	n/a
Small Intestine	1996-2007	10*	10*	0.8	0.3	No	n/a
Male Breast	1996-2007	>5*	>5*	~	~	~	n/a
Bones & Joints	1996-2007	>5*	>5*	~	~	~	n/a
Mesothelioma	1996-2007	>5*	>5*	~	~	~	n/a
Eye & Orbit	1996-2007	>5*	>5*	~	~	~	n/a
Kaposi Sarcoma	1996-2007	0	>5*	~	~	~	n/a

<sup>1</sup>Excludes in-situ cases of cancer, except bladder to allow for comparison.

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Table 4. Summary of Cancer Mortality for ZIP code 29307: Mortality 1996-2007

SiteCat	DataYears	ObsNum	ExpNum	Ratio	CHISQ	SIG	SigDir
All Cancer Sites	1996-2007	620	741.1	<b>0.8</b>	19.8	<b>Yes</b>	<b>Lower</b>
Lung & Bronchus	1996-2007	193	210.2	0.9	1.4	No	n/a
Colon & Rectum	1996-2007	55	74.4	<b>0.7</b>	5.1	<b>Yes</b>	<b>Lower</b>
Female Breast	1996-2007	45	53.4	0.8	1.3	No	n/a
Pancreas	1996-2007	33	41.8	0.8	1.8	No	n/a
Leukemia	1996-2007	30	27.6	1.1	0.2	No	n/a
Prostate	1996-2007	30	49.3	<b>0.6</b>	7.6	<b>Yes</b>	<b>Lower</b>
Non-Hodgkin Lymphoma	1996-2007	28	26.6	1.1	0.1	No	n/a
Ovary	1996-2007	22	17.9	1.2	0.9	No	n/a
Esophagus	1996-2007	20	16.5	1.2	0.8	No	n/a
Brain & CNS (Malignant)	1996-2007	17	15.1	1.1	0.2	No	n/a
Urinary Bladder	1996-2007	17	16.5	1.0	0.0	No	n/a
Liver & Intrahepatic Bile Duct	1996-2007	14	16	0.9	0.3	No	n/a
Stomach	1996-2007	13	17.7	0.7	1.3	No	n/a
Kidney & Renal Pelvis	1996-2007	10	15.6	0.6	2.0	No	n/a
Myeloma	1996-2007	10*	≥10*	<b>0.5</b>	4.1	<b>Yes</b>	<b>Lower</b>
Oral Cavity & Pharynx	1996-2007	10*	≥10*	0.7	1.2	No	n/a
Uterus/Corpus/NOS	1996-2007	10*	10*	0.8	0.5	No	n/a
Melanoma of Skin	1996-2007	10*	10*	0.7	0.7	No	n/a
Soft Tissue (& Heart)	1996-2007	>5*	>5*	~	~	~	n/a
Hodgkin Lymphoma	1996-2007	>5*	>5*	~	~	~	n/a
Larynx	1996-2007	>5*	10*	0.6	0.8	No	n/a
Cervix Uteri	1996-2007	>5*	10*	0.4	2.2	No	n/a
Testis	1996-2007	>5*	>5*	~	~	~	n/a
Anus & Anal Canal	1996-2007	>5*	>5*	~	~	~	n/a
Thyroid	1996-2007	>5*	>5*	~	~	~	n/a
Mesothelioma	1996-2007	>5*	>5*	~	~	~	n/a
Gallbladder	1996-2007	>5*	>5*	~	~	~	n/a
Small Intestine	1996-2007	0	>5*	~	~	~	n/a
Bones & Joints	1996-2007	0	>5*	~	~	~	n/a
Male Breast	1996-2007	0	>5*	~	~	~	n/a
Eye & Orbit	1996-2007	0	>5*	~	~	~	n/a
Kaposi Sarcoma	1996-2007	0	>5*	~	~	~	n/a

<sup>1</sup>The Chi-square statistical test allows us to determine if the difference between what is observed and what is expected is significant.

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~Cancer types with less than 5 deaths of cancer expected are not analyzed due to the unreliability of statistical tests based on small numbers.

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## **Additional Statistical Analysis**

### ***ZIP Code Comparison***

Identical 5-year analyses (2003-2007) were applied to two other SC ZIP codes whose total population and population distribution by sex and age are similar to that of ZIP code 29307. Results for comparison ZIP codes showed no significant excesses in new cancer cases or deaths for one ZIP code and a statistically significant higher number of new stomach cancer cases and a statistically significant higher number of cancer deaths, as well as deaths for cancers of the stomach and prostate for the other ZIP code. All statistically significant higher results had an observed-to-expected ratio of  $<3$ .

### ***SaTScan Analysis***

Additional spatial analysis was conducted to examine the area of concern without restrictions of geopolitical boundaries (the ZIP code). SaTScan, a spatial and temporal statistical testing software, was applied to the cancer data for the entire state. Then additional tests were run focusing on the area of concern. Elliptical scan windows were used to scan the data across the state. Adjustment for age was made based on five year age groups. Any significant clustering of cases for specific time periods were identified with probability values less than or equal to 0.05.

Critical to the understanding of this analysis is that while significant clustering may be found, no conclusions for causation or even association with environmental or behavioral/lifestyle factors can be made from the results. Significant clustering can be random. The identification of a 'meaningful (significant) cluster' must meet certain scientific and epidemiologic criteria over space and time and magnitude.

Focused (area of concern) tests were conducted. Tests were first conducted on all cancer types together for incidence and mortality to determine if the cancers occurring in the area of concern were any different from those occurring in the surrounding areas in general.

Significant clustering for incidence of all cancer types was found in the area of concern in the years 2004-2005 only. However, the test revealed significant clustering in a much larger area of Spartanburg and Cherokee counties outside the area of concern. Therefore, the area of concern where any exposure may have occurred was no different from surrounding areas outside the area of concern.

For 2008 only, similar results were found for all types of cancer mortality from the focused test. Significant clustering of cancer deaths was found in a much larger area in Spartanburg, Cherokee, Greenville, and Laurens counties. It did include the area of concern, but that area was no different than the larger area of clustering in those named counties.

The focused test for the two specific cancer types, primary liver and kidney cancers, shown in the literature to have possible associations with chloroform (as well as some other chemical compounds of concern) revealed no significant clustering for cancer incidence or mortality in the area of concern.

### ***Conclusions from the SaTScan Analysis***

No scientifically meaningful excess of cancer or cancer clustering was found to be present during this time period. These tests support results from the *Summary of Cancer Incidence and Mortality for ZIP Code 29307*.

The two significant results from this analysis (2004-2005 all cancer incidence and 2008 all cancer mortality) are not congruent with continuous exposure over time. Meaningful clustering would be expected to occur continuously over time, and would not be sporadic, i.e., to be present for one/two years and then return to normal.

In addition the significant results were present for all cancer types. Meaningful clustering most always occurs with a specific rare cancer type, not all cancers.

For questions about this report, please contact Susan Bolick, SC Central Cancer Registry.

**Report provided by:**

SC Central Cancer Registry, Department of Health and Environmental Control  
2600 Bull St., Columbia, SC 29201  
Phone: (800) 817-4774 or (803) 896-2100

**Resources:**

1. Washington State Department of Health, *Guidelines for Investigating Clusters of Chronic Disease and Adverse Birth Outcomes*,  
<http://www.doh.wa.gov/ehsphl/Epidemiology/NICE/publications/ClusterProtocol.pdf>
2. American Cancer Society website, [www.cancer.org](http://www.cancer.org)
3. National Cancer Institute, [www.cancer.gov](http://www.cancer.gov)

Information on cancer incidence provided by the SC Central Cancer Registry, Office of Public Health Statistics and Information Systems, SC Dept. of Health and Environmental Control.

Information on cancer mortality provided by the Divisions of Vital Records, Biostatistics, and Public Health Informatics, SC Dept. of Health and Environmental Control.  
*Updated, 7/25/11 sb, 7/29/11dh, js*

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## **2) Cannons Campground Environmental Quality Control Summary**

***Summary of Findings:***

SC DHEC has not detected any of the chemicals from the known groundwater plume originating at the former Hoechst Celanese site located at 1550 Dewberry Road, Spartanburg SC at concentrations above any SC Maximum Concentration Level (MCL) in any of the private wells sampled as of the date of this report. SC DHEC's South Carolina Central Cancer Registry assessment did not find any cancer clusters in the Cannons Campground area.

***Background Investigation:***

The Department initially became aware of Mrs. Lisa Nielsen's health and environmental concerns when WSPA TV posed a few general questions to our media relations representative in September 2010. It wasn't until September 28, 2010 that we were given specific locations and facility of concern, which were the Cannons Campground Community and the former Hoechst Celanese (HC) facility respectively. Hereinafter, when "site", "onsite" and/or "offsite" is mentioned, the site being referenced is the property of the former HC facility located at 1550 Dewberry Road, Spartanburg SC. "Onsite" means within the boundary of that property; "offsite" means outside the boundary of that property.

Staff from local Region 2 Spartanburg EQC office and our Upstate Community Liaison met with Mrs. Nielsen and several others from the community on October 1, 2010. Their concerns were heard and arrangements were made to sample a private well on Bennett Dairy Road, which was completed October



11, 2010. Chemical parameters were sampled based on known groundwater contaminants from the HC site and their breakdown byproducts (see attached well sampling report #1). These results were within acceptable drinking water standards (MCLs). During the October 1, 2010 meeting, Mrs. Nielsen also supplied DHEC staff with a copy of an anecdotal listing of cancer illnesses, past and present, in the Cannons Campground Community. Based on the report and concern expressed to SC DHEC about cancers, SC DHEC's Central Cancer Registry conducted an assessment following well established CDC protocols (report also attached). The SCCCR assessment did not find any cancer clusters.

Subsequently, over the last 8 months we have sampled three additional private wells. See attached well sampling reports #2, #3, and #4. These wells were also within acceptable drinking water standards.

Hoechst Celanese is not currently in business at the site, but as the Responsible Party, they continue to be the party whom the Department deals with for these efforts. There are known contaminant plumes in the groundwater at the site. Hoechst Celanese's consultant, AECOM, regularly monitors groundwater thru a series of several dozen monitoring wells located both onsite and offsite. The groundwater investigations and remedial efforts have been an ongoing multi-phased project which began in 1989. Hoechst-Celanese has continued to perform these activities in a voluntary basis even after the sold the facility to a subsequent owner/operators. AECOM identified chemicals in groundwater plumes in a 2002 Risk Assessment. The chemicals of concern to potentially move *offsite* in groundwater are 1,4 dioxane, chloroform, tetrachloroethene, trichloroethene, cis-1,2 dichloroethene, 1,1,2,2 -tetrachloroethane, methylene chloride, and lead. Vinyl chloride, 1,1 biphenyl and biphenyl ether have also been added to that list.

Other chemicals detected in *onsite* groundwater (that may discharge to surface water) include the following (some of which may be naturally occurring, but most of which can be traced back to the HC facility

- manganese
- ferrous iron
- arsenic
- chromium
- barium
- mercury
- selenium
- carbon disulfide
- methane
- ethane
- ethene
- 1,1,1 Trichloroethane
- 1,1 dichloroethane
- 1,2 dichloroethane
- 1,1 dischloroethene
- 2-butanone
- acetaldehyde
- acetic acid
- acetone
- ethylene glycol
- xylenes
- benzene
- chloroethene
- methylene chloride
- trans 1,2 dichloroethane

The information found in this report is to be communicated to the citizens at a public meeting to be held at Mary Black Hospital Conference Center, Medical Office Building III, 1650 Skylyn Drive, Spartanburg, SC on August 4, 2011.

Other than continuing to monitor and oversee the progress and effectiveness of the environmental cleanup that is currently in progress, SC DHEC does not have any further planned activity for this area. Hoechst Celanese is not currently in business at the site, but as the Responsible Party, they continue to be the party whom the Department deals with related to clean up.

For questions, contact Donna Rowe, Community Liaison.  
Report provided by:

SC DHEC Region 2 Environmental Quality Control Staff  
Bureau of Land and Waste Management Staff  
SC DHEC State Toxicologist



**Request for Chemical and Physical Analysis  
Drinking Water Investigation Samples  
Drinking Water Compliance Monitoring Section**

Charge Code: **W S P**

Sample Number: \_\_\_\_\_

Collected By: RODNEY HENDERSON

System Number: N/A

County: SPARTANBURG

Date Collected: 10 / 11 / 2010

Military Time Collected: 950

**Sample Description:**

Source ID: \_\_\_\_\_ Cecil Arthur \_\_\_\_\_ Sample Type:  CS  TS  VS  
 Location: \_\_\_\_\_ 835 Bennett Dairy Rd \_\_\_\_\_  
 Spartanburg, SC 29307 \_\_\_\_\_  
 System Name: PRIVATE Well \_\_\_\_\_

Check Analysis Group (A) or Individual Analyses (B) Requested

**A. Analysis Group:**

- Base Neutral/Acid Extractables
- Herbicides
- Hydrocarbons
- Pesticides
- Public Complete (investigation)
- Public Complete (new source)
- Volatile Organic Compounds
- Other: Chloroforms

**B. Individual Analyses:**

- |                                     |                                             |                                                       |
|-------------------------------------|---------------------------------------------|-------------------------------------------------------|
| <input type="checkbox"/> Alkalinity | <input type="checkbox"/> Hardness           | <input type="checkbox"/> Selenium                     |
| <input type="checkbox"/> Aluminum   | <input type="checkbox"/> Hydrogen Sulfide   | <input type="checkbox"/> Silver                       |
| <input type="checkbox"/> Ammonia    | <input type="checkbox"/> Iron               | <input type="checkbox"/> Sodium                       |
| <input type="checkbox"/> Arsenic    | <input type="checkbox"/> Lead               | <input type="checkbox"/> Sulfate                      |
| <input type="checkbox"/> Barium     | <input type="checkbox"/> Magnesium          | <input type="checkbox"/> Total Dissolved Solids       |
| <input type="checkbox"/> Cadmium    | <input type="checkbox"/> Manganese          | <input type="checkbox"/> Total Organic Carbon         |
| <input type="checkbox"/> Calcium    | <input type="checkbox"/> Mercury            | <input type="checkbox"/> Total Solids                 |
| <input type="checkbox"/> Chloride   | <input type="checkbox"/> Nickel             | <input type="checkbox"/> Turbidity                    |
| <input type="checkbox"/> Chromium   | <input type="checkbox"/> Nitrate            | <input type="checkbox"/> Zinc                         |
| <input type="checkbox"/> Color      | <input type="checkbox"/> Nitrite            | <input checked="" type="checkbox"/> Other: <u>PCB</u> |
| <input type="checkbox"/> Copper     | <input type="checkbox"/> pH                 |                                                       |
| <input type="checkbox"/> Fluoride   | <input type="checkbox"/> Phosphorus (total) |                                                       |

**District Laboratory Analyses:**

Alkalinity: \_\_\_\_\_ mg/L      Turbidity: \_\_\_\_\_ N.T.U.  
 TDS: \_\_\_\_\_ mg/L      Nitrite: \_\_\_\_\_ mg/L  
 Color: \_\_\_\_\_ C.U.      Other: \_\_\_\_\_ = \_\_\_\_\_ mg/L

**Field Analyses:**

pH: \_\_\_\_\_ S.U.  
 Temp: \_\_\_\_\_ °C

Comments:

Samples iced

Relinquished by (signature): <u>Rodney K Henderson</u>	Received by (signature): <u>COURIER</u>	Date/Time: <u>10/11/2010 - 1700</u>
Relinquished by (signature):	Received by (signature):	Date/Time:
Relinquished by (signature):	Received for Laboratory by (signature):	Date/Time:
Results Released by (signature):	Date:	



South Carolina Department of Health and Environmental Control  
Analytical Services Division Laboratory Report

Station Code: CWSR  
Location Description: ARTHUR CECIL  
Matrix: WATER  
County: SPARTANBURG  
Sample Type: GR3  
Additional Info:

Laboratory Sample Number: AC79102  
Program Charge: WRI  
Collected By: HENDERSON R  
Date of Collection: 10/11/2010  
Time of Collection: 9:50:00 AM

Laboratory Sample Number: **AC79102**

Analysis	Result	Units	Method Reference
PCB 1016	<0.00010	mg/L	EPA 508
PCB 1221	<0.00010	mg/L	EPA 508
PCB 1232	<0.00010	mg/L	EPA 508
PCB 1242	<0.00010	mg/L	EPA 508
PCB 1248	<0.00010	mg/L	EPA 508
PCB 1254	<0.00010	mg/L	EPA 508
PCB 1260	<0.00010	mg/L	EPA 508
Toxaphene	<0.0010	mg/L	EPA 508
Bromodichloromethane	<0.0010	mg/L	EPA 551.1
Bromoform	<0.0010	mg/L	EPA 551.1
Chloroform	<0.0010	mg/L	EPA 551.1
Dibromochloromethane	<0.0010	mg/L	EPA 551.1
1,1,1,2-Tetrachloroethane	<0.000500	mg/L	EPA 524
1,1,1-Trichloroethane	<0.000500	mg/L	EPA 524
1,1,2,2-Tetrachloroethane	<0.000500	mg/L	EPA 524
1,1,2-Trichloroethane	<0.000500	mg/L	EPA 524
1,1-Dichloroethane	<0.000500	mg/L	EPA 524
1,1-Dichloroethylene	<0.000500	mg/L	EPA 524
1,1-Dichloropropene	<0.000500	mg/L	EPA 524
1,2,3-Trichlorobenzene	<0.000500	mg/L	EPA 524
1,2,3-Trichloropropane	<0.000500	mg/L	EPA 524
1,2,4-Trichlorobenzene	<0.000500	mg/L	EPA 524
1,2,4-Trimethylbenzene	<0.000500	mg/L	EPA 524
1,2-Dichlorobenzene	<0.000500	mg/L	EPA 524



South Carolina Department of Health and Environmental Control  
Analytical Services Division Laboratory Report

Station Code: CWSR  
Location Description: ARTHUR CECIL  
Matrix: WATER  
County: SPARTANBURG  
Sample Type: GR3

Laboratory Sample Number: AC79102  
Program Charge: WRI  
Collected By: HENDERSON R  
Date of Collection: 10/11/2010  
Time of Collection: 9:50:00 AM

Additional Info:

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1,2-Dichloroethane	<0.000500	mg/L	EPA 524
1,2-Dichloropropane	<0.000500	mg/L	EPA 524
1,3,5-Trimethylbenzene	<0.000500	mg/L	EPA 524
1,3-Dichlorobenzene	<0.000500	mg/L	EPA 524
1,3-Dichloropropane	<0.000500	mg/L	EPA 524
1,4-Dichlorobenzene	<0.000500	mg/L	EPA 524
2,2-Dichloropropane	<0.000500	mg/L	EPA 524
2-Chlorotoluene	<0.000500	mg/L	EPA 524
4-Chlorotoluene	<0.000500	mg/L	EPA 524
Benzene	<0.000500	mg/L	EPA 524
Bromobenzene	<0.000500	mg/L	EPA 524
Bromochloromethane	<0.000500	mg/L	EPA 524
Bromomethane	<0.000500	mg/L	EPA 524
Carbon tetrachloride	<0.000500	mg/L	EPA 524
Chlorobenzene	<0.000500	mg/L	EPA 524
Chloroethane	<0.000500	mg/L	EPA 524
Chloromethane	<0.000500	mg/L	EPA 524
cis-1,2-Dichloroethene	<0.000500	mg/L	EPA 524
cis-1,3-Dichloropropene	<0.000500	mg/L	EPA 524
Dibromomethane	<0.000500	mg/L	EPA 524
Dichlorodifluoromethane	<0.000500	mg/L	EPA 524
Ethylbenzene	<0.000500	mg/L	EPA 524
Hexachlorobutadiene	<0.000500	mg/L	EPA 524
Isopropylbenzene	<0.000500	mg/L	EPA 524
m,p-Xylenes	<0.00100	mg/L	EPA 524
Methyl tert-Butyl Ether	<0.000500	mg/L	EPA 524



South Carolina Department of Health and Environmental Control  
Analytical Services Division Laboratory Report

Station Code: CWSR  
Location Description: ARTHUR CECIL  
Matrix: WATER  
County: SPARTANBURG  
Sample Type: GR3  
Additional Info:

Laboratory Sample Number: AC79102  
Program Charge: WRI  
Collected By: HENDERSON R  
Date of Collection: 10/11/2010  
Time of Collection: 9:50:00 AM

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Methylene chloride	<0.000500	mg/L	EPA 524
Napthalene	<0.000500	mg/L	EPA 524
n-Butylbenzene	<0.000500	mg/L	EPA 524
n-Propylbenzene	<0.000500	mg/L	EPA 524
o-Xylene	<0.000500	mg/L	EPA 524
p-Isopropyltoluene	<0.000500	mg/L	EPA 524
sec-Butylbenzene	<0.000500	mg/L	EPA 524
Styrene	<0.000500	mg/L	EPA 524
tert-Butylbenzene	<0.000500	mg/L	EPA 524
Tetrachloroethene	<0.000500	mg/L	EPA 524
Toluene	<0.000500	mg/L	EPA 524
trans-1,2-Dichloroethene	<0.000500	mg/L	EPA 524
trans-1,3-Dichloropropene	<0.000500	mg/L	EPA 524
Trichloroethylene	<0.000500	mg/L	EPA 524
Trichlorofluoromethane	<0.000500	mg/L	EPA 524
Vinyl Chloride	<0.000500	mg/L	EPA 524

**Sample Comments**



South Carolina Department of Health and Environmental Control  
Analytical Services Division Laboratory Report

Station Code: WSVBLK  
Location Description: BLANK FOR AC79102  
Matrix: WATER  
County: SPARTANBURG  
Sample Type:  
Additional Info:

Laboratory Sample Number: AC79103  
Program Charge: WRI  
Collected By: HENDERSON R  
Date of Collection: 10/11/2010  
Time of Collection: 12:00:00 AM

Laboratory Sample Number: **AC79103**

Analysis	Result	Units	Method Reference
Bromodichloromethane	<0.0010	mg/L	EPA 551.1
Bromoform	<0.0010	mg/L	EPA 551.1
Chloroform	<0.0010	mg/L	EPA 551.1
Dibromochloromethane	<0.0010	mg/L	EPA 551.1
1,1,1,2-Tetrachloroethane	<0.000500	mg/L	EPA 524
1,1,1-Trichloroethane	<0.000500	mg/L	EPA 524
1,1,2,2-Tetrachloroethane	<0.000500	mg/L	EPA 524
1,1,2-Trichloroethane	<0.000500	mg/L	EPA 524
1,1-Dichloroethane	<0.000500	mg/L	EPA 524
1,1-Dichloroethylene	<0.000500	mg/L	EPA 524
1,1-Dichloropropene	<0.000500	mg/L	EPA 524
1,2,3-Trichlorobenzene	<0.000500	mg/L	EPA 524
1,2,3-Trichloropropane	<0.000500	mg/L	EPA 524
1,2,4-Trichlorobenzene	<0.000500	mg/L	EPA 524
1,2,4-Trimethylbenzene	<0.000500	mg/L	EPA 524
1,2-Dichlorobenzene	<0.000500	mg/L	EPA 524
1,2-Dichloroethane	<0.000500	mg/L	EPA 524
1,2-Dichloropropane	<0.000500	mg/L	EPA 524
1,3,5-Trimethylbenzene	<0.000500	mg/L	EPA 524
1,3-Dichlorobenzene	<0.000500	mg/L	EPA 524
1,3-Dichloropropane	<0.000500	mg/L	EPA 524
1,4-Dichlorobenzene	<0.000500	mg/L	EPA 524
2,2-Dichloropropane	<0.000500	mg/L	EPA 524
2-Chlorotoluene	<0.000500	mg/L	EPA 524



South Carolina Department of Health and Environmental Control  
Analytical Services Division Laboratory Report

Station Code: WSVBLK  
Location Description: BLANK FOR AC79102  
Matrix: WATER  
County: SPARTANBURG  
Sample Type:  
Additional Info:

Laboratory Sample Number: AC79103  
Program Charge: WRI  
Collected By: HENDERSON R  
Date of Collection: 10/11/2010  
Time of Collection: 12:00:00 AM

4-Chlorotoluene	<0.000500	mg/L	EPA 524
Benzene	<0.000500	mg/L	EPA 524
Bromobenzene	<0.000500	mg/L	EPA 524
Bromochloromethane	<0.000500	mg/L	EPA 524
Bromomethane	<0.000500	mg/L	EPA 524
Carbon tetrachloride	<0.000500	mg/L	EPA 524
Chlorobenzene	<0.000500	mg/L	EPA 524
Chloroethane	<0.000500	mg/L	EPA 524
Chloromethane	<0.000500	mg/L	EPA 524
cis-1,2-Dichloroethene	<0.000500	mg/L	EPA 524
cis-1,3-Dichloropropene	<0.000500	mg/L	EPA 524
Dibromomethane	<0.000500	mg/L	EPA 524
Dichlorodifluoromethane	<0.000500	mg/L	EPA 524
Ethylbenzene	<0.000500	mg/L	EPA 524
Hexachlorobutadiene	<0.000500	mg/L	EPA 524
Isopropylbenzene	<0.000500	mg/L	EPA 524
m,p-Xylenes	<0.00100	mg/L	EPA 524
Methyl tert-Butyl Ether	<0.000500	mg/L	EPA 524
Methylene chloride	<0.000500	mg/L	EPA 524
Napthalene	<0.000500	mg/L	EPA 524
n-Butylbenzene	<0.000500	mg/L	EPA 524
n-Propylbenzene	<0.000500	mg/L	EPA 524
o-Xylene	<0.000500	mg/L	EPA 524
p-Isopropyltoluene	<0.000500	mg/L	EPA 524
sec-Butylbenzene	<0.000500	mg/L	EPA 524
Styrene	<0.000500	mg/L	EPA 524





South Carolina Department of Health and Environmental Control  
Analytical Services Division Laboratory Report

Station Code: WSVBLK  
Location Description: BLANK FOR AC79102  
Matrix: WATER  
County: SPARTANBURG  
Sample Type:  
Additional Info:

Laboratory Sample Number: AC79103  
Program Charge: WRI  
Collected By: HENDERSON R  
Date of Collection: 10/11/2010  
Time of Collection: 12:00:00 AM

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tert-Butylbenzene	<0.000500	mg/L	EPA 524
Tetrachloroethene	<0.000500	mg/L	EPA 524
Toluene	<0.000500	mg/L	EPA 524
trans-1,2-Dichloroethene	<0.000500	mg/L	EPA 524
trans-1,3-Dichloropropene	<0.000500	mg/L	EPA 524
Trichloroethylene	<0.000500	mg/L	EPA 524
Trichlorofluoromethane	<0.000500	mg/L	EPA 524
Vinyl Chloride	<0.000500	mg/L	EPA 524

**Sample Comments**



## Request for Metals and Minerals Analysis of an Individual Residential Well or Lake Drinking Water System

Laboratory  
Sample Number

AC87529

Charge Code: WSR

**NOTE:** For analysis of an individual residential well or lake system. **NOT** to be used for public water, or non-drinking water use. Please contact your water supplier or local EQC office of DHEC for these concerns. **This report represents the quality of the sample as submitted to the DHEC Laboratory, and does not represent water quality for selling, mortgaging, or any other types of real estate purposes.**

DATE COLLECTED: 3/31/2011 COLLECTED BY: Rodney Henderson TIME COLLECTED: 1445

**MAILING ADDRESS** (Results mailed here):

Name: \* MAIL RESULTS TO R. HENDERSON

Address:

City, State and Zip:

County:

Phone: ( )

**WELL INFORMATION** (if known) RECEIVED

Age (yrs):

Depth:

Diameter (in):

Water Level (ft):

Casing Depth (ft): APR 26 2011

Yield (gpm):

No. People Using Well: S.C. DHEC REGION 2

Driller: SPARTANBURG, EQC

**SAMPLE ADDRESS** (if different from mailing address):

Name:

Address: 525 Conway Black Road

City, State and Zip: Spartanburg, SC 29307

County: Sptbg

Phone: (864) 205-8204

**COMMENTS:**

\* PRIVATE WELL INVESTIGATIVE SCREENING:  
- PESTICIDES, HERBICIDES, THMs, VOCs  
BNA, METALS

**Analysis Requested:**

Private Routine Analysis: Includes Lead, Alkalinity, pH, Nitrate/Nitrite, Calcium, Magnesium, Hardness, Chloride, Iron, Copper, Manganese and Zinc. \$50 FEE FOR THIS TEST

Fluoride: \$25 FEE FOR THIS TEST

Samples should be collected in DHEC-provided containers

Because required holding times and preservation techniques can not be met, the reported results are approximations and are intended for informational purposes only.

\* SEND RESULTS TO RODNEY HENDERSON  
**SAMPLE COLLECTION INSTRUCTIONS:**

1. Let faucet flow for two to three minutes.
2. Rinse then fill container.
3. List name, address and the date and time of collection on the bottle.
4. Take sample to local County Health Department or EQC office on the same day of collection.
5. Results will be mailed to the address above in approximately 6-8 weeks.

**DHEC USE ONLY**

Other\*:

**\*Please consult local EQC office for any other analysis requested. (and fee charge)**

**DO NOT WRITE IN THIS SPACE - DHEC USE ONLY**

The Items listed below either exceed the recommended limits for drinking water or may cause problems with domestic use of the water supply. Please refer to the enclosed booklet for further information.

Reviewed By:

Phone: (803) 898-4300

District Laboratory Analyses:

pH (s.u.): \_\_\_\_\_

Alkalinity (ml/L): \_\_\_\_\_

Other (mg/L): \_\_\_\_\_

Received By:

Health Department/Regional Lab

Date:

Name:

Received By: Central Lab

Date: 4/11/11

Name: S. Mann

Released By:

Health Department/Regional Lab

Date: 3/31/2011 - 1700

Name: Rodney K Henderson

Released By: Central Lab

Date: 4/21/11

Name: [Signature]



South Carolina Department of Health and Environmental Control  
Analytical Services Division Laboratory Report

Station Code: CWSR  
Location Description: INVISTA - HORTON  
Matrix: WATER  
County: SPARTANBURG  
Sample Type: GR3  
Additional Info: Invista

Laboratory Sample Number: AC87529  
Program Charge: WRI  
Collected By: HENDERSON R  
Date of Collection: 3/31/2011  
Time of Collection: 2:45:00 PM

Laboratory Sample Number: **AC87529**

Analysis	Result	Units	Method Reference
2,4,5-T	<0.000025	mg/L	SM 6640
2,4-D	<0.000050	mg/L	SM 6640
2,4,5-TP	<0.000025	mg/L	SM 6640
Aldrin	<0.000050	mg/L	EPA 608
alpha-BHC	<0.000050	mg/L	EPA 608
beta-BHC	<0.000050	mg/L	EPA 608
Chlordane	<0.000050	mg/L	EPA 608
delta-BHC	<0.000050	mg/L	EPA 608
Dieldrin	<0.000050	mg/L	EPA 608
Endosulfan I	<0.000050	mg/L	EPA 608
Endosulfan II	<0.000050	mg/L	EPA 608
Endosulfan Sulfate	<0.000050	mg/L	EPA 608
Endrin	<0.000050	mg/L	EPA 608
Endrin aldehyde	<0.000050	mg/L	EPA 608
Heptachlor	<0.000050	mg/L	EPA 608
Heptachlor epoxide	<0.000050	mg/L	EPA 608
Lindane	<0.000050	mg/L	EPA 608
p,p'-DDD	<0.000050	mg/L	EPA 608
p,p'-DDE	<0.000050	mg/L	EPA 608
p,p'-DDT	<0.000050	mg/L	EPA 608
PCB 1016	<0.000050	mg/L	EPA 608
PCB 1221	<0.0010	mg/L	EPA 608
PCB 1232	<0.000050	mg/L	EPA 608
PCB 1242	<0.000050	mg/L	EPA 608



**South Carolina Department of Health and Environmental Control  
Analytical Services Division Laboratory Report**

Station Code: CWSR  
 Location Description: INVISTA - HORTON  
 Matrix: WATER  
 County: SPARTANBURG  
 Sample Type: GR3  
 Additional Info: Invista

Laboratory Sample Number: AC87529  
 Program Charge: WRI  
 Collected By: HENDERSON R  
 Date of Collection: 3/31/2011  
 Time of Collection: 2:45:00 PM

PCB 1248	<0.00050	mg/L	EPA 608
PCB 1254	<0.00050	mg/L	EPA 608
PCB 1260	<0.00050	mg/L	EPA 608
Toxaphene	<0.0025	mg/L	EPA 608
Bromodichloromethane	<0.0010	mg/L	EPA 551.1
Bromoform	<0.0010	mg/L	EPA 551.1
Chloroform	<0.0010	mg/L	EPA 551.1
Dibromochloromethane	<0.0010	mg/L	EPA 551.1
Calcium in Water	5.0	mg/L	EPA 200.7
Copper in Water	<0.010	mg/L	EPA 200.7
Iron in Water	0.10	mg/L	EPA 200.7
Hardness	23	mg/L	EPA 200.7
Magnesium in Water	2.6	mg/L	EPA 200.7
Manganese in Water	0.013	mg/L	EPA 200.7
Lead in drinking water	<0.0020	mg/L	EPA 200.9
Zinc in Water	<0.010	mg/L	EPA 200.7
1,2,4-trichlorobenzene	<0.0040	mg/L	EPA 625
2,4,5-trichlorophenol	<0.0040	mg/L	EPA 625
2,4,6-trichlorophenol	<0.0040	mg/L	EPA 625
2,4-dichlorophenol	<0.0040	mg/L	EPA 625
2,4-dimethyl phenol	<0.0040	mg/L	EPA 625
2,4-Dinitrophenol	<0.0040	mg/L	EPA 625
2,4-dinitrotoluene	<0.0040	mg/L	EPA 625
2,6-dinitrotoluene	<0.0040	mg/L	EPA 625
2-chloronaphthalene	<0.0040	mg/L	EPA 625
2-chlorophenol	<0.0040	mg/L	EPA 625



South Carolina Department of Health and Environmental Control  
Analytical Services Division Laboratory Report

Station Code: CWSR  
Location Description: INVISTA - HORTON  
Matrix: WATER  
County: SPARTANBURG  
Sample Type: GR3  
Additional Info: Invista

Laboratory Sample Number: AC87529  
Program Charge: WRI  
Collected By: HENDERSON R  
Date of Collection: 3/31/2011  
Time of Collection: 2:45:00 PM

2-methyl naphthalene	<0.0040	mg/L	EPA 625
2-methyl-4,6-dinitrophenol	<0.0040	mg/L	EPA 625
2-methylphenol	<0.0040	mg/L	EPA 625
2-nitroaniline	<0.0040	mg/L	EPA 625
2-nitrophenol	<0.0040	mg/L	EPA 625
3,3'-dichlorobenzidine	<0.0040	mg/L	EPA 625
3-nitroaniline	<0.0040	mg/L	EPA 625
4-bromophenyl phenyl ether	<0.0040	mg/L	EPA 625
4-chloro-3 methyl phenol	<0.0040	mg/L	EPA 625
4-chloroaniline	<0.0040	mg/L	EPA 625
4-chlorophenyl phenyl ether	<0.0040	mg/L	EPA 625
4-methylphenol	<0.0040	mg/L	EPA 625
4-nitroaniline	<0.0040	mg/L	EPA 625
4-nitrophenol	<0.0040	mg/L	EPA 625
Acenaphthene	<0.0040	mg/L	EPA 625
Acenaphthylene	<0.0040	mg/L	EPA 625
Aniline	<0.0040	mg/L	EPA 625
Anthracene	<0.0040	mg/L	EPA 625
Azobenzene	<0.0040	mg/L	EPA 625
Benzo(a)anthracene	<0.0040	mg/L	EPA 625
Benzo(a)pyrene	<0.0040	mg/L	EPA 625
Benzo(b)fluoranthene	<0.0040	mg/L	EPA 625
Benzo(ghi)perylene	<0.0040	mg/L	EPA 625
Benzo(k)fluoranthene	<0.0040	mg/L	EPA 625
Benzoic acid	<0.0040	mg/L	EPA 625
Benzyl alcohol	<0.0040	mg/L	EPA 625



South Carolina Department of Health and Environmental Control  
Analytical Services Division Laboratory Report

Station Code: CWSR  
Location Description: INVISTA - HORTON  
Matrix: WATER  
County: SPARTANBURG  
Sample Type: GR3  
Additional Info: Invista

Laboratory Sample Number: AC87529  
Program Charge: WRI  
Collected By: HENDERSON R  
Date of Collection: 3/31/2011  
Time of Collection: 2:45:00 PM

Bis(2-chloroethoxy)methane	<0.0040	mg/L	EPA 625
Bis(2-chloroethyl)ether	<0.0040	mg/L	EPA 625
Bis(2-chloroisopropyl)ether	<0.0040	mg/L	EPA 625
Bis(2-ethylhexyl)phthalate	<0.0040	mg/L	EPA 625
Butylbenzyl phthalate	<0.0040	mg/L	EPA 625
Chrysene	<0.0040	mg/L	EPA 625
Dibenzo(a,h)anthracene	<0.0040	mg/L	EPA 625
Dibenzofuran	<0.0040	mg/L	EPA 625
Diethyl phthalate	<0.0040	mg/L	EPA 625
Dimethyl phthalate	<0.0040	mg/L	EPA 625
Di-n-butylphthalate	<0.0040	mg/L	EPA 625
Di-n-octylphthalate	<0.0040	mg/L	EPA 625
Fluoranthene	<0.0040	mg/L	EPA 625
Fluorene	<0.0040	mg/L	EPA 625
Hexachlorobenzene	<0.0040	mg/L	EPA 625
Hexachlorobutadiene	<0.0040	mg/L	EPA 625
Hexachlorocyclopentadiene	<0.0040	mg/L	EPA 625
Hexachloroethane	<0.0040	mg/L	EPA 625
Indeno(1,2,3-cd)pyrene	<0.0040	mg/L	EPA 625
Isophorone	<0.0040	mg/L	EPA 625
Naphthalene	<0.0040	mg/L	EPA 625
Nitrobenzene	<0.0040	mg/L	EPA 625
N-nitrosodimethylamine	<0.0040	mg/L	EPA 625
N-nitrosodi-n-propylamine	<0.0040	mg/L	EPA 625
N-nitrosodiphenylamine	<0.0040	mg/L	EPA 625
Pentachlorophenol	<0.0040	mg/L	EPA 625



South Carolina Department of Health and Environmental Control  
Analytical Services Division Laboratory Report

Station Code: CWSR  
Location Description: INVISTA - HORTON  
Matrix: WATER  
County: SPARTANBURG  
Sample Type: GR3  
Additional Info: Invista

Laboratory Sample Number: AC87529  
Program Charge: WRI  
Collected By: HENDERSON R  
Date of Collection: 3/31/2011  
Time of Collection: 2:45:00 PM

Bromochloromethane	<0.000500	mg/L	EPA 524
Bromomethane	<0.000500	mg/L	EPA 524
Carbon tetrachloride	<0.000500	mg/L	EPA 524
Chlorobenzene	<0.000500	mg/L	EPA 524
Chloroethane	<0.000500	mg/L	EPA 524
Chloromethane	<0.000500	mg/L	EPA 524
cis-1,2-Dichloroethene	<0.000500	mg/L	EPA 524
cis-1,3-Dichloropropene	<0.000500	mg/L	EPA 524
Dibromomethane	<0.000500	mg/L	EPA 524
Dichlorodifluoromethane	<0.000500	mg/L	EPA 524
Ethylbenzene	<0.000500	mg/L	EPA 524
Hexachlorobutadiene	<0.000500	mg/L	EPA 524
Isopropylbenzene	<0.000500	mg/L	EPA 524
m,p-Xylenes	<0.00100	mg/L	EPA 524
Methyl tert-Butyl Ether	<0.000500	mg/L	EPA 524
Methylene chloride	<0.000500	mg/L	EPA 524
Napthalene	<0.000500	mg/L	EPA 524
n-Butylbenzene	<0.000500	mg/L	EPA 524
n-Propylbenzene	<0.000500	mg/L	EPA 524
o-Xylene	<0.000500	mg/L	EPA 524
p-Isopropyltoluene	<0.000500	mg/L	EPA 524
sec-Butylbenzene	<0.000500	mg/L	EPA 524
Styrene	<0.000500	mg/L	EPA 524
tert-Butylbenzene	<0.000500	mg/L	EPA 524
Tetrachloroethene	<0.000500	mg/L	EPA 524
Toluene	<0.000500	mg/L	EPA 524



South Carolina Department of Health and Environmental Control  
Analytical Services Division Laboratory Report

Station Code: CWSR  
Location Description: INVISTA - HORTON  
Matrix: WATER  
County: SPARTANBURG  
Sample Type: GR3  
Additional Info: Invista

Laboratory Sample Number: AC87529  
Program Charge: WRI  
Collected By: HENDERSON R  
Date of Collection: 3/31/2011  
Time of Collection: 2:45:00 PM

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trans-1,2-Dichloroethene	<0.000500	mg/L	EPA 524
trans-1,3-Dichloropropene	<0.000500	mg/L	EPA 524
Trichloroethylene	<0.000500	mg/L	EPA 524
Trichlorofluoromethane	<0.000500	mg/L	EPA 524
Vinyl Chloride	<0.000500	mg/L	EPA 524

**Sample Comments**





**Request for Metals and Minerals Analysis  
of an Individual Residential Well or  
Lake Drinking Water System  
Drinking Water Monitoring Section**

Laboratory  
Sample Number  
AC87701  
Charge Code: WSR

**NOTE:** For analysis of an individual residential well or lake system. NOT to be used for public water, or non-drinking water use. Please contact your water supplier or local EQC office of DHEC for these concerns. This report represents the quality of the sample as submitted to the DHEC Laboratory, and does not represent water quality for selling, mortgaging, or any other types of real estate purposes.

DATE COLLECTED: 4/04/2011 COLLECTED BY: R. HENDERSON TIME COLLECTED: 11:30

<b>MAILING ADDRESS</b> (Results mailed here):		<b>WELL INFORMATION</b> (If known):	
Name: * <u>MAIL RESULTS TO R. HENDERSON</u>	Age (yrs):	Depth:	Diameter (in):
Address:	Water Level (ft):		Casing Depth (ft):
City, State and Zip:	Yield (gpm):		No. People Using Well:
County:	Phone: ( )	Driller: <u>APR 20 2011</u>	

<b>SAMPLE ADDRESS</b> (if different from mailing address):		<b>COMMENTS:</b> <u>S.C. DHEC REGION 2 SPARTANBURG</u>	
Name: <u>CARMEN WILCOX</u>	<u>PRIVATE WELL INVESTIGATIVE SCREENING:</u>		
Address: <u>611 BRUCKNER ROAD</u>	<u>- PESTICIDES, HERBICIDES, THMs, VOCs,</u>		
City, State and Zip: <u>SPARTANBURG SC 29307</u>	<u>BNA, METALS</u>		
County: <u>Sptbg</u>	Phone: <u>(864) 316-1965</u>		

<p><b>Analysis Requested:</b></p> <p><input type="checkbox"/> Private Routine Analysis: Includes Lead, Alkalinity, pH, Nitrates, Calcium, Magnesium, Hardness, Chloride, Iron, Copper, Manganese and Zinc. A HALF GALLON OF WATER IN A CLEAN PLASTIC CONTAINER IS REQUIRED. \$50 FEE FOR THIS TEST</p> <p><input type="checkbox"/> Fluoride: 8 OUNCES OF WATER IN A CLEAN PLASTIC CONTAINER IS REQUIRED. \$25 FEE FOR THIS TEST</p> <p><input checked="" type="checkbox"/> <b>DHEC USE ONLY</b> Other*: _____ *Please consult local EQC office for any other analysis requested. (and fee charge)</p>	<p>Because required holding times and preservation techniques can not be met, the reported results for pH and Nitrates are approximations and are intended for informational purposes only.</p> <p>* SEND RESULTS TO R. HENDERSON</p> <p><b>SAMPLE COLLECTION INSTRUCTIONS:</b></p> <ol style="list-style-type: none"> <li>Let faucet flow for two to three minutes.</li> <li>Rinse then fill container.</li> <li>List name, address and the date and time of collection on the bottle.</li> <li>Take sample to local County Health Department or EQC office on the same day of collection.</li> </ol>
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**DO NOT WRITE IN THIS SPACE - DHEC USE ONLY**  
The Items listed below either exceed the recommended limits for drinking water or may cause problems with domestic use of the water supply. Please refer to the enclosed booklet for further information.

Reviewed By:		Phone: (803) 898-4300	
District Laboratory Analyses: pH (s.u.): _____ Alkalinity (ml/L): _____ Other (mg/L): _____	Received By: _____ Health Department/Regional Lab	Released By: <u>Rmj Z. Sptbg EQC</u> Health Department/Regional Lab	
	Date: _____ Name: _____	Date: <u>4/05/2011 - 1700</u> Name: <u>R. Henderson</u>	
	Received By: <u>Central Lab</u> Date: <u>4/16/11</u> Name: <u>S. Wilson</u>	Released By: <u>Central Lab</u> Date: <u>4/21/11</u> Name: _____	



**South Carolina Department of Health and Environmental Control  
Analytical Services Division Laboratory Report**

Station Code: CWSR  
 Location Description: INVISTA-WILCOX  
 Matrix: WATER  
 County: SPARTANBURG  
 Sample Type:  
 Additional Info:

Laboratory Sample Number: AC87701  
 Program Charge: WRI  
 Collected By: HENDERSON R  
 Date of Collection: 4/4/2011  
 Time of Collection: 11:30:00 AM

Laboratory Sample Number: **AC87701**

<b>Analysis</b>	<b>Result</b>	<b>Units</b>	<b>Method Reference</b>
2,4,5-T	<0.000025	mg/L	SM 6640
2,4-D	<0.000050	mg/L	SM 6640
2,4,5-TP	<0.000025	mg/L	SM 6640
Aldrin	<0.000050	mg/L	EPA 608
alpha-BHC	<0.000050	mg/L	EPA 608
beta-BHC	<0.000050	mg/L	EPA 608
Chlordane	<0.000050	mg/L	EPA 608
delta-BHC	<0.000050	mg/L	EPA 608
Dieldrin	<0.000050	mg/L	EPA 608
Endosulfan I	<0.000050	mg/L	EPA 608
Endosulfan II	<0.000050	mg/L	EPA 608
Endosulfan Sulfate	<0.000050	mg/L	EPA 608
Endrin	<0.000050	mg/L	EPA 608
Endrin aldehyde	<0.000050	mg/L	EPA 608
Heptachlor	<0.000050	mg/L	EPA 608
Heptachlor epoxide	<0.000050	mg/L	EPA 608
Lindane	<0.000050	mg/L	EPA 608
p,p'-DDD	<0.000050	mg/L	EPA 608
p,p'-DDE	<0.000050	mg/L	EPA 608
p,p'-DDT	<0.000050	mg/L	EPA 608
PCB 1016	<0.000050	mg/L	EPA 608
PCB 1221	<0.0010	mg/L	EPA 608
PCB 1232	<0.000050	mg/L	EPA 608
PCB 1242	<0.000050	mg/L	EPA 608



**South Carolina Department of Health and Environmental Control  
Analytical Services Division Laboratory Report**

Station Code: CWSR  
 Location Description: INVISTA-WILCOX  
 Matrix: WATER  
 County: SPARTANBURG  
 Sample Type:  
 Additional Info:

Laboratory Sample Number: AC87701  
 Program Charge: WRI  
 Collected By: HENDERSON R  
 Date of Collection: 4/4/2011  
 Time of Collection: 11:30:00 AM

PCB 1248	<0.00050	mg/L	EPA 608
PCB 1254	<0.00050	mg/L	EPA 608
PCB 1260	<0.00050	mg/L	EPA 608
Toxaphene	<0.0025	mg/L	EPA 608
Bromodichloromethane	<0.0010	mg/L	EPA 551.1
Bromoform	<0.0010	mg/L	EPA 551.1
Chloroform	<0.0010	mg/L	EPA 551.1
Dibromochloromethane	<0.0010	mg/L	EPA 551.1
Calcium in Water	13	mg/L	EPA 200.7
Copper in Water	0.017	mg/L	EPA 200.7
Iron in Water	0.020	mg/L	EPA 200.7
Hardness	59	mg/L	EPA 200.7
Magnesium in Water	6.5	mg/L	EPA 200.7
Manganese in Water	<0.010	mg/L	EPA 200.7
Lead in drinking water	<0.0020	mg/L	EPA 200.9
Zinc in Water	0.039	mg/L	EPA 200.7
1,2,4-trichlorobenzene	<0.0040	mg/L	EPA 625
2,4,5-trichlorophenol	<0.0040	mg/L	EPA 625
2,4,6-trichlorophenol	<0.0040	mg/L	EPA 625
2,4-dichlorophenol	<0.0040	mg/L	EPA 625
2,4-dimethyl phenol	<0.0040	mg/L	EPA 625
2,4-Dinitrophenol	<0.0040	mg/L	EPA 625
2,4-dinitrotoluene	<0.0040	mg/L	EPA 625
2,6-dinitrotoluene	<0.0040	mg/L	EPA 625
2-chloronaphthalene	<0.0040	mg/L	EPA 625
2-chlorophenol	<0.0040	mg/L	EPA 625



South Carolina Department of Health and Environmental Control  
Analytical Services Division Laboratory Report

Station Code: CWSR  
Location Description: INVISTA-WILCOX  
Matrix: WATER  
County: SPARTANBURG  
Sample Type:  
Additional Info:

Laboratory Sample Number: AC87701  
Program Charge: WRI  
Collected By: HENDERSON R  
Date of Collection: 4/4/2011  
Time of Collection: 11:30:00 AM

2-methyl naphthalene	<0.0040	mg/L	EPA 625
2-methyl-4,6-dinitrophenol	<0.0040	mg/L	EPA 625
2-methylphenol	<0.0040	mg/L	EPA 625
2-nitroaniline	<0.0040	mg/L	EPA 625
2-nitrophenol	<0.0040	mg/L	EPA 625
3,3'-dichlorobenzidine	<0.0040	mg/L	EPA 625
3-nitroaniline	<0.0040	mg/L	EPA 625
4-bromophenyl phenyl ether	<0.0040	mg/L	EPA 625
4-chloro-3 methyl phenol	<0.0040	mg/L	EPA 625
4-chloroaniline	<0.0040	mg/L	EPA 625
4-chlorophenyl phenyl ether	<0.0040	mg/L	EPA 625
4-methylphenol	<0.0040	mg/L	EPA 625
4-nitroaniline	<0.0040	mg/L	EPA 625
4-nitrophenol	<0.0040	mg/L	EPA 625
Acenaphthene	<0.0040	mg/L	EPA 625
Acenaphthylene	<0.0040	mg/L	EPA 625
Aniline	<0.0040	mg/L	EPA 625
Anthracene	<0.0040	mg/L	EPA 625
Azobenzene	<0.0040	mg/L	EPA 625
Benzo(a)anthracene	<0.0040	mg/L	EPA 625
Benzo(a)pyrene	<0.0040	mg/L	EPA 625
Benzo(b)fluoranthene	<0.0040	mg/L	EPA 625
Benzo(ghi)perylene	<0.0040	mg/L	EPA 625
Benzo(k)fluoranthene	<0.0040	mg/L	EPA 625
Benzoic acid	<0.0040	mg/L	EPA 625
Benzyl alcohol	<0.0040	mg/L	EPA 625



**South Carolina Department of Health and Environmental Control  
Analytical Services Division Laboratory Report**

Station Code: CWSR  
 Location Description: INVISTA-WILCOX  
 Matrix: WATER  
 County: SPARTANBURG  
 Sample Type:  
 Additional Info:

Laboratory Sample Number: AC87701  
 Program Charge: WRI  
 Collected By: HENDERSON R  
 Date of Collection: 4/4/2011  
 Time of Collection: 11:30:00 AM

Bis(2-chloroethoxy)methane	<0.0040	mg/L	EPA 625
Bis(2-chloroethyl)ether	<0.0040	mg/L	EPA 625
Bis(2-chloroisopropyl)ether	<0.0040	mg/L	EPA 625
Bis(2-ethylhexyl)phthalate	<0.0040	mg/L	EPA 625
Butylbenzyl phthalate	<0.0040	mg/L	EPA 625
Chrysene	<0.0040	mg/L	EPA 625
Dibenzo(a,h)anthracene	<0.0040	mg/L	EPA 625
Dibenzofuran	<0.0040	mg/L	EPA 625
Diethyl phthalate	<0.0040	mg/L	EPA 625
Dimethyl phthalate	<0.0040	mg/L	EPA 625
Di-n-butylphthalate	<0.0040	mg/L	EPA 625
Di-n-octylphthalate	<0.0040	mg/L	EPA 625
Fluoranthene	<0.0040	mg/L	EPA 625
Fluorene	<0.0040	mg/L	EPA 625
Hexachlorobenzene	<0.0040	mg/L	EPA 625
Hexachlorobutadiene	<0.0040	mg/L	EPA 625
Hexachlorocyclopentadiene	<0.0040	mg/L	EPA 625
Hexachloroethane	<0.0040	mg/L	EPA 625
Indeno(1,2,3-cd)pyrene	<0.0040	mg/L	EPA 625
Isophorone	<0.0040	mg/L	EPA 625
Naphthalene	<0.0040	mg/L	EPA 625
Nitrobenzene	<0.0040	mg/L	EPA 625
N-nitrosodimethylamine	<0.0040	mg/L	EPA 625
N-nitrosodi-n-propylamine	<0.0040	mg/L	EPA 625
N-nitrosodiphenylamine	<0.0040	mg/L	EPA 625
Pentachlorophenol	<0.0040	mg/L	EPA 625



South Carolina Department of Health and Environmental Control  
Analytical Services Division Laboratory Report

Station Code: CWSR  
Location Description: INVISTA-WILCOX  
Matrix: WATER  
County: SPARTANBURG  
Sample Type:  
Additional Info:

Laboratory Sample Number: AC87701  
Program Charge: WRI  
Collected By: HENDERSON R  
Date of Collection: 4/4/2011  
Time of Collection: 11:30:00 AM

Phenanthrene	<0.0040	mg/L	EPA 625
Phenol	<0.0040	mg/L	EPA 625
Pyrene	<0.0040	mg/L	EPA 625
1,1,1,2-Tetrachloroethane	<0.000500	mg/L	EPA 524
1,1,1-Trichloroethane	<0.000500	mg/L	EPA 524
1,1,2,2-Tetrachloroethane	<0.000500	mg/L	EPA 524
1,1,2-Trichloroethane	<0.000500	mg/L	EPA 524
1,1-Dichloroethane	<0.000500	mg/L	EPA 524
1,1-Dichloroethylene	<0.000500	mg/L	EPA 524
1,1-Dichloropropene	<0.000500	mg/L	EPA 524
1,2,3-Trichlorobenzene	<0.000500	mg/L	EPA 524
1,2,3-Trichloropropane	<0.000500	mg/L	EPA 524
1,2,4-Trichlorobenzene	<0.000500	mg/L	EPA 524
1,2,4-Trimethylbenzene	<0.000500	mg/L	EPA 524
1,2-Dichlorobenzene	<0.000500	mg/L	EPA 524
1,2-Dichloroethane	<0.000500	mg/L	EPA 524
1,2-Dichloropropane	<0.000500	mg/L	EPA 524
1,3,5-Trimethylbenzene	<0.000500	mg/L	EPA 524
1,3-Dichlorobenzene	<0.000500	mg/L	EPA 524
1,3-Dichloropropane	<0.000500	mg/L	EPA 524
1,4-Dichlorobenzene	<0.000500	mg/L	EPA 524
2,2-Dichloropropane	<0.000500	mg/L	EPA 524
2-Chlorotoluene	<0.000500	mg/L	EPA 524
4-Chlorotoluene	<0.000500	mg/L	EPA 524
Benzene	<0.000500	mg/L	EPA 524
Bromobenzene	<0.000500	mg/L	EPA 524



South Carolina Department of Health and Environmental Control  
Analytical Services Division Laboratory Report

Station Code: CWSR  
Location Description: INVISTA-WILCOX  
Matrix: WATER  
County: SPARTANBURG  
Sample Type:  
Additional Info:

Laboratory Sample Number: AC87701  
Program Charge: WRI  
Collected By: HENDERSON R  
Date of Collection: 4/4/2011  
Time of Collection: 11:30:00 AM

Bromochloromethane	<0.000500	mg/L	EPA 524
Bromomethane	<0.000500	mg/L	EPA 524
Carbon tetrachloride	<0.000500	mg/L	EPA 524
Chlorobenzene	<0.000500	mg/L	EPA 524
Chloroethane	<0.000500	mg/L	EPA 524
Chloromethane	<0.000500	mg/L	EPA 524
cis-1,2-Dichloroethene	<0.000500	mg/L	EPA 524
cis-1,3-Dichloropropene	<0.000500	mg/L	EPA 524
Dibromomethane	<0.000500	mg/L	EPA 524
Dichlorodifluoromethane	<0.000500	mg/L	EPA 524
Ethylbenzene	<0.000500	mg/L	EPA 524
Hexachlorobutadiene	<0.000500	mg/L	EPA 524
Isopropylbenzene	<0.000500	mg/L	EPA 524
m,p-Xylenes	<0.00100	mg/L	EPA 524
Methyl tert-Butyl Ether	<0.000500	mg/L	EPA 524
Methylene chloride	<0.000500	mg/L	EPA 524
Napthalene	<0.000500	mg/L	EPA 524
n-Butylbenzene	<0.000500	mg/L	EPA 524
n-Propylbenzene	<0.000500	mg/L	EPA 524
o-Xylene	<0.000500	mg/L	EPA 524
p-Isopropyltoluene	<0.000500	mg/L	EPA 524
sec-Butylbenzene	<0.000500	mg/L	EPA 524
Styrene	<0.000500	mg/L	EPA 524
tert-Butylbenzene	<0.000500	mg/L	EPA 524
Tetrachloroethene	<0.000500	mg/L	EPA 524
Toluene	<0.000500	mg/L	EPA 524



South Carolina Department of Health and Environmental Control  
Analytical Services Division Laboratory Report

Station Code: CWSR  
Location Description: INVISTA-WILCOX  
Matrix: WATER  
County: SPARTANBURG  
Sample Type:  
Additional Info:

Laboratory Sample Number: AC87701  
Program Charge: WRI  
Collected By: HENDERSON R  
Date of Collection: 4/4/2011  
Time of Collection: 11:30:00 AM

trans-1,2-Dichloroethene	<0.000500	mg/L	EPA 524
trans-1,3-Dichloropropene	<0.000500	mg/L	EPA 524
Trichloroethylene	<0.000500	mg/L	EPA 524
Trichlorofluoromethane	<0.000500	mg/L	EPA 524
Vinyl Chloride	<0.000500	mg/L	EPA 524

**Sample Comments**



4-20-11 copied to [unclear] EPA



### Request for Metals and Minerals Analysis of an Individual Residential Well or Lake Drinking Water System

Laboratory  
Sample Number  
**4085087**  
Charge Code: WSR

**NOTE:** For analysis of an individual residential well or lake system. **NOT** to be used for public water, or non-drinking water use. Please contact your water supplier or local EQC office of DHEC for these concerns. This report represents the quality of the sample as submitted to the DHEC Laboratory, and does not represent water quality for selling, mortgaging, or any other types of real estate purposes.

DATE COLLECTED: 2-10-11 COLLECTED BY: RODNEY HENDERSON TIME COLLECTED: 14:30

<b>MAILING ADDRESS</b> (Results mailed here):		<b>WELL INFORMATION</b> (If known):		
Name: * <u>MAIL RESULTS TO R. HENDERSON</u>	Age (yrs):	Depth:	Diameter (in):	
Address:	Water Level (ft):		Casing Depth (ft):	
City, State and Zip:	Yield (gpm):		No. People Using Well:	
County:	Phone: ( )	Driller:		

<b>SAMPLE ADDRESS</b> (if different from mailing address):	<b>COMMENTS:</b>
Name: <u>JANNA NOLAN</u>	* <u>PRIVATE Well INVESTIGATIVE SCREENING:</u> <u>-PESTICIDES, HERBICIDES, THMs, VOCs,</u> <u>BNA, SEMI-VOLATILES</u>
Address: <u>338 FAMILY DRIVE</u>	
City, State and Zip: <u>SPARTANBURG, SC 29307</u>	
County: <u>Sptbg</u> Phone: <u>(864) 497-1370</u>	

<p><b>Analysis Requested:</b></p> <input type="checkbox"/> Private Routine Analysis: Includes Lead, Alkalinity, pH, Nitrate/Nitrite, Calcium, Magnesium, Hardness, Chloride, Iron, Copper, Manganese and Zinc. \$50 FEE FOR THIS TEST	<p>Because required holding times and preservation techniques can not be met, the reported results are approximations and are intended for informational purposes only.</p> <p>* <u>SEND RESULTS TO RODNEY HENDERSON</u></p> <p><b>SAMPLE COLLECTION INSTRUCTIONS:</b></p> <ol style="list-style-type: none"> <li>1. Let faucet flow for two to three minutes.</li> <li>2. Rinse then fill container.</li> <li>3. List name, address and the date and time of collection on the bottle.</li> <li>4. Take sample to local County Health Department or EQC office on the same day of collection.</li> <li>5. Results will be mailed to the address above in approximately 6-8 weeks.</li> </ol> <p><u>CL Temp 1.5</u></p>
<input type="checkbox"/> Fluoride: \$25 FEE FOR THIS TEST	
<p>Samples should be collected in DHEC-provided containers</p>	
<p><b>DHEC USE ONLY</b></p> <input type="checkbox"/> Other*: <u>_____</u> *Please consult local EQC office for any other analysis requested. (and fee charge)	

**DO NOT WRITE IN THIS SPACE - DHEC USE ONLY**

The Items listed below either exceed the recommended limits for drinking water or may cause problems with domestic use of the water supply. Please refer to the enclosed booklet for further information.

None Detected

Reviewed By: [Signature] Phone: (803) 898-4300

District Laboratory Analyses: pH (s.u.): _____ Alkalinity (ml/L): _____ Other (mg/L): _____	Received By: _____ Health Department/Regional Lab Date: _____ Name: _____	Released By: <u>Reg 2 - Sptbg EQC</u> Health Department/Regional Lab Date: <u>2/10/2011 - 17:30</u> Name: <u>Rodney Henderson</u>
	Received By: <u>Central Lab</u> Date: <u>2-11-11</u> Name: <u>[Signature]</u>	Released By: <u>Central Lab</u> Date: <u>3/2/11</u> Name: <u>[Signature]</u>



South Carolina Department of Health and Environmental Control  
Analytical Services Division Laboratory Report

Station Code: CWSR  
Location Description: INVISTA  
Matrix: WATER  
County: SPARTANBURG  
Sample Type: GR3  
Additional Info: Janna Nolan

Laboratory Sample Number: AC85087  
Program Charge: WRI  
Collected By: HENDERSON R  
Date of Collection: 2/10/2011  
Time of Collection: 2:30:00 PM

Laboratory Sample Number: **AC85087**

Analysis	Result	Units	Method Reference
2,4,5-T	<0.000025	mg/L	SM 6640
2,4-D	<0.000050	mg/L	SM 6640
2,4,5-TP	<0.000025	mg/L	SM 6640
Aldrin	<0.000050	mg/L	EPA 608
alpha-BHC	<0.000050	mg/L	EPA 608
beta-BHC	<0.000050	mg/L	EPA 608
Chlordane	<0.00050	mg/L	EPA 608
delta-BHC	<0.000050	mg/L	EPA 608
Dieldrin	<0.000050	mg/L	EPA 608
Endosulfan I	<0.000050	mg/L	EPA 608
Endosulfan II	<0.000050	mg/L	EPA 608
Endosulfan Sulfate	<0.000050	mg/L	EPA 608
Endrin	<0.000050	mg/L	EPA 608
Endrin aldehyde	<0.000050	mg/L	EPA 608
Heptachlor	<0.000050	mg/L	EPA 608
Heptachlor epoxide	<0.000050	mg/L	EPA 608
Lindane	<0.000050	mg/L	EPA 608
p,p'-DDD	<0.000050	mg/L	EPA 608
p,p'-DDE	<0.000050	mg/L	EPA 608
p,p'-DDT	<0.000050	mg/L	EPA 608
PCB 1016	<0.00050	mg/L	EPA 608
PCB 1221	<0.0010	mg/L	EPA 608
PCB 1232	<0.00050	mg/L	EPA 608
PCB 1242	<0.00050	mg/L	EPA 608



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Matrix: WATER  
County: SPARTANBURG  
Sample Type: GR3  
Additional Info: Janna Nolan

Laboratory Sample Number: AC85087  
Program Charge: WRI  
Collected By: HENDERSON R  
Date of Collection: 2/10/2011  
Time of Collection: 2:30:00 PM

PCB 1248	<0.00050	mg/L	EPA 608
PCB 1254	<0.00050	mg/L	EPA 608
PCB 1260	<0.00050	mg/L	EPA 608
Toxaphene	<0.0025	mg/L	EPA 608
Bromodichloromethane	<0.0010	mg/L	EPA 551.1
Bromoform	<0.0010	mg/L	EPA 551.1
Chloroform	<0.0010	mg/L	EPA 551.1
Dibromochloromethane	<0.0010	mg/L	EPA 551.1
1,2,4-trichlorobenzene	<0.0040	mg/L	EPA 625
2,4,5-trichlorophenol	<0.0040	mg/L	EPA 625
2,4,6-trichlorophenol	<0.0040	mg/L	EPA 625
2,4-dichlorophenol	<0.0040	mg/L	EPA 625
2,4-dimethyl phenol	<0.0040	mg/L	EPA 625
2,4-Dinitrophenol	<0.0040	mg/L	EPA 625
2,4-dinitrotoluene	<0.0040	mg/L	EPA 625
2,6-dinitrotoluene	<0.0040	mg/L	EPA 625
2-chloronaphthalene	<0.0040	mg/L	EPA 625
2-chlorophenol	<0.0040	mg/L	EPA 625
2-methyl naphthalene	<0.0040	mg/L	EPA 625
2-methyl-4,6-dinitrophenol	<0.0040	mg/L	EPA 625
2-methylphenol	<0.0040	mg/L	EPA 625
2-nitroaniline	<0.0040	mg/L	EPA 625
2-nitrophenol	<0.0040	mg/L	EPA 625
3,3'-dichlorobenzidine	<0.0040	mg/L	EPA 625
3-nitroaniline	<0.0040	mg/L	EPA 625
4-bromophenyl phenyl ether	<0.0040	mg/L	EPA 625



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4-chloro-3 methyl phenol	<0.0040	mg/L	EPA 625
4-chloroaniline	<0.0040	mg/L	EPA 625
4-chlorophenyl phenyl ether	<0.0040	mg/L	EPA 625
4-methylphenol	<0.0040	mg/L	EPA 625
4-nitroaniline	<0.0040	mg/L	EPA 625
4-nitrophenol	<0.0040	mg/L	EPA 625
Acenaphthene	<0.0040	mg/L	EPA 625
Acenaphthylene	<0.0040	mg/L	EPA 625
Aniline	<0.0040	mg/L	EPA 625
Anthracene	<0.0040	mg/L	EPA 625
Azobenzene	<0.0040	mg/L	EPA 625
Benzo(a)anthracene	<0.0040	mg/L	EPA 625
Benzo(a)pyrene	<0.0040	mg/L	EPA 625
Benzo(b)fluoranthene	<0.0040	mg/L	EPA 625
Benzo(ghi)perylene	<0.0040	mg/L	EPA 625
Benzo(k)fluoranthene	<0.0040	mg/L	EPA 625
Benzoic acid	<0.0040	mg/L	EPA 625
Benzyl alcohol	<0.0040	mg/L	EPA 625
Bis(2-chloroethoxy)methane	<0.0040	mg/L	EPA 625
Bis(2-chloroethyl)ether	<0.0040	mg/L	EPA 625
Bis(2-chloroisopropyl)ether	<0.0040	mg/L	EPA 625
Bis(2-ethylhexyl)phthalate	<0.0040	mg/L	EPA 625
Butylbenzyl phthalate	<0.0040	mg/L	EPA 625
Chrysene	<0.0040	mg/L	EPA 625
Dibenzo(a,h)anthracene	<0.0040	mg/L	EPA 625
Dibenzofuran	<0.0040	mg/L	EPA 625



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Diethyl phthalate	<0.0040	mg/L	EPA 625
Dimethyl phthalate	<0.0040	mg/L	EPA 625
Di-n-butylphthalate	<0.0040	mg/L	EPA 625
Di-n-octylphthalate	<0.0040	mg/L	EPA 625
Fluoranthene	<0.0040	mg/L	EPA 625
Fluorene	<0.0040	mg/L	EPA 625
Hexachlorobenzene	<0.0040	mg/L	EPA 625
Hexachlorobutadiene	<0.0040	mg/L	EPA 625
Hexachlorocyclopentadiene	<0.0040	mg/L	EPA 625
Hexachloroethane	<0.0040	mg/L	EPA 625
Indeno(1,2,3-cd)pyrene	<0.0040	mg/L	EPA 625
Isophorone	<0.0040	mg/L	EPA 625
Naphthalene	<0.0040	mg/L	EPA 625
Nitrobenzene	<0.0040	mg/L	EPA 625
N-nitrosodimethylamine	<0.0040	mg/L	EPA 625
N-nitrosodi-n-propylamine	<0.0040	mg/L	EPA 625
N-nitrosodiphenylamine	<0.0040	mg/L	EPA 625
Pentachlorophenol	<0.0040	mg/L	EPA 625
Phenanthrene	<0.0040	mg/L	EPA 625
Phenol	<0.0040	mg/L	EPA 625
Pyrene	<0.0040	mg/L	EPA 625
Alachlor	<0.00040	mg/L	EPA 525.2
Aldrin	<0.00010	mg/L	EPA 525.2
Atrazine	<0.00022	mg/L	EPA 525.2
Butachlor	<0.00010	mg/L	EPA 525.2
Di (2-ethylhexyl) adipate	<0.00060	mg/L	EPA 525.2



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Date of Collection: 2/10/2011  
Time of Collection: 2:30:00 PM

Di (2-ethylhexyl) phthalate	<0.00060	mg/L	EPA 525.2
Dieldrin	<0.00010	mg/L	EPA 525.2
Endrin	<0.00022	mg/L	EPA 525.2
Heptachlor	<0.000080	mg/L	EPA 525.2
Heptachlor epoxide	<0.00010	mg/L	EPA 525.2
Hexachlorobenzene	<0.00020	mg/L	EPA 525.2
Hexachlorocyclopentadiene	<0.00022	mg/L	EPA 525.2
Lindane	<0.00010	mg/L	EPA 525.2
Methoxychlor	<0.0080	mg/L	EPA 525.2
Metolachlor	<0.00010	mg/L	EPA 525.2
Metribuzin	<0.00020	mg/L	EPA 525.2
Propachlor	<0.00010	mg/L	EPA 525.2
Simazine	<0.00015	mg/L	EPA 525.2
Technical chlordane	<0.00040	mg/L	EPA 525.2
1,1,1,2-Tetrachloroethane	<0.000500	mg/L	EPA 524
1,1,1-Trichloroethane	<0.000500	mg/L	EPA 524
1,1,2,2-Tetrachloroethane	<0.000500	mg/L	EPA 524
1,1,2-Trichloroethane	<0.000500	mg/L	EPA 524
1,1-Dichloroethane	<0.000500	mg/L	EPA 524
1,1-Dichloroethylene	<0.000500	mg/L	EPA 524
1,1-Dichloropropene	<0.000500	mg/L	EPA 524
1,2,3-Trichlorobenzene	<0.000500	mg/L	EPA 524
1,2,3-Trichloropropane	<0.000500	mg/L	EPA 524
1,2,4-Trichlorobenzene	<0.000500	mg/L	EPA 524
1,2,4-Trimethylbenzene	<0.000500	mg/L	EPA 524
1,2-Dichlorobenzene	<0.000500	mg/L	EPA 524



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1,2-Dichloroethane	<0.000500	mg/L	EPA 524
1,2-Dichloropropane	<0.000500	mg/L	EPA 524
1,3,5-Trimethylbenzene	<0.000500	mg/L	EPA 524
1,3-Dichlorobenzene	<0.000500	mg/L	EPA 524
1,3-Dichloropropane	<0.000500	mg/L	EPA 524
1,4-Dichlorobenzene	<0.000500	mg/L	EPA 524
2,2-Dichloropropane	<0.000500	mg/L	EPA 524
2-Chlorotoluene	<0.000500	mg/L	EPA 524
4-Chlorotoluene	<0.000500	mg/L	EPA 524
Benzene	<0.000500	mg/L	EPA 524
Bromobenzene	<0.000500	mg/L	EPA 524
Bromochloromethane	<0.000500	mg/L	EPA 524
Bromomethane	<0.000500	mg/L	EPA 524
Carbon tetrachloride	<0.000500	mg/L	EPA 524
Chlorobenzene	<0.000500	mg/L	EPA 524
Chloroethane	<0.000500	mg/L	EPA 524
Chloromethane	<0.000500	mg/L	EPA 524
cis-1,2-Dichloroethene	<0.000500	mg/L	EPA 524
cis-1,3-Dichloropropene	<0.000500	mg/L	EPA 524
Dibromomethane	<0.000500	mg/L	EPA 524
Dichlorodifluoromethane	<0.000500	mg/L	EPA 524
Ethylbenzene	<0.000500	mg/L	EPA 524
Hexachlorobutadiene	<0.000500	mg/L	EPA 524
Isopropylbenzene	<0.000500	mg/L	EPA 524
m,p-Xylenes	<0.00100	mg/L	EPA 524
Methyl tert-Butyl Ether	<0.000500	mg/L	EPA 524



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Methylene chloride	<0.000500	mg/L	EPA 524
Napthalene	<0.000500	mg/L	EPA 524
n-Butylbenzene	<0.000500	mg/L	EPA 524
n-Propylbenzene	<0.000500	mg/L	EPA 524
o-Xylene	<0.000500	mg/L	EPA 524
p-Isopropyltoluene	<0.000500	mg/L	EPA 524
sec-Butylbenzene	<0.000500	mg/L	EPA 524
Styrene	<0.000500	mg/L	EPA 524
tert-Butylbenzene	<0.000500	mg/L	EPA 524
Tetrachloroethene	<0.000500	mg/L	EPA 524
Toluene	<0.000500	mg/L	EPA 524
trans-1,2-Dichloroethene	<0.000500	mg/L	EPA 524
trans-1,3-Dichloropropene	<0.000500	mg/L	EPA 524
Trichloroethylene	<0.000500	mg/L	EPA 524
Trichlorofluoromethane	<0.000500	mg/L	EPA 524
Vinyl Chloride	<0.000500	mg/L	EPA 524

**Sample Comments**