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NC DENR

Environmental Monitoring Reporting Form

Division of Waste Management - Solid Waste

Notice: This form and any information attached to it are "Public Records" as defined in NC General Statute 132-1. As such, these documents are available for inspection and examination by any person upon request (NC General Statute 132-6).

Instructions:

- Prepare one form for each individually monitored unit.
- Please type or print legibly.
- Attach a notification table with values that attain or exceed NC 2L groundwater standards or NC 2B surface water standards. The notification must include a preliminary analysis of the cause and significance of each value. (e.g. naturally occurring, off-site source, pre-existing condition, etc.).
- Attach a notification table of any groundwater or surface water values that equal or exceed the reporting limits.
- Attach a notification table of any methane gas values that attain or exceed explosive gas levels. This includes any structures on or nearby the facility (NCAC 13B .1629 (4)(a)(i)).
- Send the original signed and sealed form, any tables, and Electronic Data Deliverable to: Compliance Unit, NCDENR-DWM, Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646.

Solid Waste Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

Joyce Engineering, Inc.

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: G. Van Ness Burbach, Ph.D., P.G.

Phone: (336) 323-0092

E-mail: vburbach@joyceengineering.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Butner Landfill	State Road 1004 Butner, NC	39-02	.1600	August 11-12 24, 2014 August 20, 2014

Environmental Status: (Check all that apply)

Initial/Background Monitoring

Detection Monitoring

Assessment Monitoring

Corrective Action

Type of data submitted: (Check all that apply)

Groundwater monitoring data from monitoring wells

Groundwater monitoring data from private water supply wells

Leachate monitoring data

Surface water monitoring data

Methane gas monitoring data

Corrective action data (specify) _____

Other(specify) _____

Notification attached?

No. No groundwater or surface water standards were exceeded.

Yes, a notification of values exceeding a groundwater or surface water standard is attached. It includes a list of groundwater and surface water monitoring points, dates, analytical values, NC 2L groundwater standard, NC 2B surface water standard or NC Solid Waste GWPS and preliminary analysis of the cause and significance of any concentration.

Yes, a notification of values exceeding an explosive methane gas limit is attached. It includes the methane monitoring points, dates, sample values and explosive methane gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards. I am aware that there are significant penalties for making any false statement, representation, or certification including the possibility of a fine and imprisonment.

G. VanNess Burbach, Ph.D., PG

Technical Consultant

(336) 323-0092

Facility Representative Name (Print)

Title

(Area Code) Telephone Number

Affix NC Licensed/ Professional Geologist Seal

Signature

Date

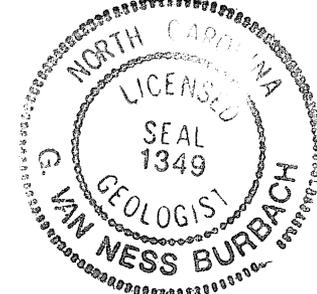
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Revised 6/2009





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December 4, 2014

Ms. Jackie Drummond
North Carolina Department of Environment and Natural Resources
Division of Waste Management, Solid Waste Section
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

**RE: Second Semiannual Water Quality Monitoring Report of 2013
Granville County – Butner MSWLF, Permit No. 39-02
JOYCE Project No. 660.1501.12, Tasks No. 07**

Dear Ms. Drummond:

Please find the attached *Second Semiannual Water Quality Monitoring Report of 2014* for the Granville County Butner closed MSW landfill (Permit No. 39-02). The attached report contains electronic versions of the complete report and all appendices for the August 2014 sampling event. Also attached is the North Carolina Environmental Monitoring Reporting Form for the August 2014 monitoring event.

If you wish to have a hard copy of the report, drawings, or appendices, we will be happy to provide it upon your request. Please feel free to contact me or Alex Everhart at (336) 323-0092 if you have any questions regarding this report.

Sincerely,
JOYCE ENGINEERING

A handwritten signature in blue ink that reads "Van Burbach".

Van Burbach, Ph.D., P.G.
Technical Consultant

Copy: Jason Falls, Granville County Solid Waste

PREPARED FOR:

GRANVILLE COUNTY
SOLID WASTE DEPARTMENT
P.O. BOX 906
OXFORD, NORTH CAROLINA 27565



**BUTNER LANDFILL
PERMIT NO. 39-02**

**SECOND SEMIANNUAL WATER QUALITY MONITORING
REPORT OF 2014**

DECEMBER 2014

PREPARED BY:



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**Second Semiannual Water Quality Monitoring Report of 2014
Butner Landfill, Permit No. 39-02
Granville County, North Carolina**

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Drawing

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Second Semiannual Water Quality Monitoring Report of 2014 Butner Landfill, Permit No. 39-02

1.0 INTRODUCTION

1.1 Site Information

The Butner Landfill is a closed municipal solid waste (MSW) landfill, located off State Route 1004 near the town of Butner, in Granville County, North Carolina (Figure No. 1). The Butner facility started receiving waste prior to May 1973. Permit Number 39-02, was issued by the State of North Carolina on March 3, 1982. The facility stopped receiving waste in August 1998. A small recycling center and transfer station are operated by the County of Granville at the entrance of the closed landfill.

In accordance with North Carolina Solid Waste Management Regulations (NCSWMR), the Butner Landfill entered an Assessment Monitoring Program in December of 1997 as a result of detections of volatile organic compounds and pesticide above 15A-NCAC-2L (NC-2L) Groundwater Standards. An Assessment of Corrective Measures (ACM) was initiated in 2003, and then suspended by North Carolina Department of Environment and Natural Resources (DENR) since there had been no more NC-2L exceedances. The Nature and Extent Study (NES) and ACM recommenced in 2007 when apparent volatile organic compound (VOC) exceedances of the NC-2L Standards began to appear; however, they were again suspended when it was determined that the apparent exceedances were not statistically significant increases (SSIs) above background. An ACM was reinitiated after an exceedance of benzene in MW-2R in December 2012, and was submitted to DENR in May 2013. Approval of the ACM was granted in a letter from DENR dated June 27, 2013. A Corrective Action Plan (CAP) was submitted to DENR on May 23, 2014, and was approved by DENR on June 18, 2014.

1.2 Site Geology

The Butner Landfill lies within the Piedmont physiographic province. The topography of the area consists of rolling hills that support farmland and forest. The majority of the landfill area is underlain by Carolina Slate Belt felsic volcanic rocks, which have been metamorphosed into greenish grey foliated tuffs. The southeastern portion of the site is underlain by Triassic Sanford Formation (conglomerate, sandstone, and mudstone), which unconformably overlies the Carolina Slate Belt felsic volcanic rocks. There is no exposure of the Sanford Formation at the site; however, float material consisting of grey, coarse-grained sandstone with quartz pebbles was observed. Diabase dikes have also been observed in the vicinity of the site. Geologic descriptions were taken from GAI Consultants' *Groundwater and Surface Water Monitoring System* report (GAI, 1994).

1.3 Groundwater Monitoring History

- **April 1994** – Current Monitoring Well Network installed.
- **Dec. 1997** - The facility entered Assessment Monitoring.

- **June 2003** – NC-2L exceedances for heptachlor in MW-2R and MW-3R initiated an ACM.
- **Dec. 2004 & June 2005** – There were no NC-2L exceedances, so DENR agreed to put the ACM on hold pending future monitoring results. At first, DENR said the facility needed deed restrictions on adjoining property owned by the County, but this was apparently based on false information (the County did not own the property) so the requirement for deed restrictions was dropped.
- **Dec. 2006** – Benzene in MW-2R and 1,4-dichlorobenzene in MW-2R and MW-3R detected above NC-2L standards.
- **June 14, 2007** - Granville County and JOYCE met with DENR to discuss a strategy for performing a Nature and Extent Study (NES) and an ACM.
- **Nov. 2007** – Nature & Extent well NES-1 was installed downgradient of MW-2R & MW-3R.
- **Dec. 2007** – NES & MNA sampling event on selected wells.
- **Dec. 2008** – Organic results above the NC-2L standards were determined to not represent statistically significant exceedances, so corrective action and ACM were suspended with the concurrence of the DENR and in accordance with the NCSWMR.
- **Dec. 2012** – Benzene detections above the NC-2L in MW-2R initiated the ACM.
- **May 17, 2013** – ACM addressing the benzene detections above the NC 2L in MW-2R submitted to DENR.
- **June 27, 2013** – ACM approved by DENR.
- **September 3, 2013** – Public meeting and selection of remedy.
- **May 23, 2014** – CAP submitted to DENR.
- **June 18, 2014** – CAP approved by DENR.

1.4 Regulatory Status

Groundwater and surface water monitoring at the Butner Landfill is completed in accordance with North Carolina Solid Waste Management Regulations (NCSWMR) §.1634. The site is currently in a Corrective Action Monitoring Program. Groundwater samples are collected semiannually and analyzed in accordance with the approved Corrective Action Plan. Surface water samples are collected and sampled for Appendix I constituents during each sampling event.

2.0 FACILITY MONITORING PROGRAM

2.1 Groundwater Monitoring Program

Six active groundwater monitoring wells comprise the monitoring network at the Butner Landfill. The current compliance network consists of the following monitoring wells: MW-1R (facility background well), MW-2R, MW-3R, MW-4, MW-5, and MW-6. An additional well, NES-1, was installed as part of a Nature and Extent Study on November 14, 2007. The following table summarizes the monitoring network and required analytical parameters.

Groundwater Monitoring Network

Monitoring Well	Date Installed	Classification	Monitoring Program	TD (ft)	Lithology of Screened Interval	1 st SA Event Analyses	2 nd SA Event Analyses
<i>MW-1R</i>	4/21/94	Background	Assessment/ CAMP	45.1	Saprolite	App. II, MNA	App. I + Det., MNA
<i>MW-2R</i>	4/12/94	Compliance/ Performance	Assessment/ CAMP	19.0	Saprolite	App. II, MNA	App. I + Det., MNA
<i>MW-3R</i>	4/14/94	Compliance/ Performance	Assessment/ CAMP	37.2	Bedrock	App. II, MNA	App. I + Det., MNA
<i>MW-4</i>	4/18/94	Compliance	Detection	31.5	Bedrock	App. I	App. I
<i>MW-5</i>	4/18/94	Compliance	Detection	23.4	Saprolite	App. I	App. I
<i>MW-6</i>	4/19/94	Compliance	Detection	31.7	Saprolite/ Bedrock	App. I	App. I
<i>NES-1</i>	11/14/07	Nature & Extent	Sentinel	33.0	Saprolite/ Bedrock	COCs, MNA	COCs, MNA

App. I = NCSWMR Appendix I list of constituents.

App. II = NCSWMR Appendix II list of constituents.

MNA = Monitoring Natural Attenuation parameters.

COCs = Constituents of Concern

App. I + Det. = App. I list plus detected App. II constituents.

CAMP = Corrective Action Monitoring Plan

Current Appendix II detected constituents: tin; gamma-BHC heptachlor; 2,4-D; and endrin aldehyde.

Current COC: Benzene

MNA Field Parameters: Temperature, pH, specific conductance, oxidation reduction potential, turbidity, dissolved oxygen, dissolved carbon dioxide, and ferrous iron.

MNA Laboratory Parameters: Dissolved hydrogen, volatile fatty acids, dissolved methane, ethane, ethane, alkalinity, sulfide, sulfate, nitrate, chloride, biological oxygen demand (BOD), chemical oxygen demand (COD), and total organic carbon (TOC).

2.2 Surface Water Monitoring Program

Two surface water samples have been collected semiannually since September 1994 at the Butner Landfill. The points SW-1 and SW-2 are located respectively upstream and downstream of the facility, along an unnamed tributary of Picture Creek. The surface water samples are analyzed for the NCSWMR Appendix I list of constituents during both semiannual events.

3.0 SECOND SEMIANNUAL SAMPLING EVENT OF 2014

3.1 Field Work

On August 12, 2014 Joyce Engineering, (JOYCE) personnel visited the Butner Landfill to purge and sample monitoring wells MW-1R, MW-2R, MW-3R, MW-4, MW-5, MW-6, and NES-1.

All monitoring wells were purged and sampled using new, disposable bailers. Measurements of temperature, pH, turbidity and specific conductivity were recorded in a field log. Prior to sampling, laboratory-supplied containers were prepared with the following information:

- Monitoring well number (completed by laboratory/field personnel),
- Date and time of sample collection (completed by laboratory/field personnel),
- Initials of sampling personnel (completed by laboratory/field personnel),
- Project name and number (completed by the laboratory/field personnel),
- Chemical preservative (completed by the laboratory/field personnel); and
- Requested chemical analysis (completed by the laboratory/field personnel).

Groundwater samples from each monitoring well were collected directly from the bailers into the provided laboratory containers, either immediately after purging or within 24 hours of the final purge volume. Immediately after collection, the samples were placed in a laboratory provided cooler and chilled on ice. Field Logs are provided in Appendix A.

Surface water point SW-1 was dry and was not sampled during the August 2014 sampling event. SW-2 was sampled using a decontaminated graduated dipper. Laboratory-prepared sampling containers were filled, placed in a cooler, and chilled on ice. JOYCE personnel measured temperature, pH, specific conductivity, and turbidity of the surface water in the field at the time of sampling. Field Logs are included in Appendix A.

3.2 Laboratory Analysis and JOYCE Quality Control

Pace Analytical Services Inc. of Huntersville, North Carolina, analyzed the February 2014, groundwater and surface water samples under chain-of-custody control. The groundwater samples from the compliance wells were analyzed for NC Appendix II constituents. The sample from sentinel well NES-1 was analyzed for Appendix I VOCs only. Samples from MW-1R, MW-2R, MW-3R, and NES-1 were also analyzed for MNA parameters. The surface water samples were analyzed for NC Appendix I constituents. The samples were received by the laboratory on February 27, 2014, in good condition, properly preserved, at proper temperatures, and within analysis hold times.

In addition to samples collected for compliance monitoring at the Butner Landfill, JOYCE personnel collected a Field Blank as part of the February 2014 sampling event. The Field Blank was analyzed for the NC Appendix II constituents. Also, a Trip Blank that was prepared by the laboratory accompanied the volatile sampling containers to and from the laboratory. The Trip Blank was analyzed for the Appendix II volatile organic compounds.

Upon receipt of the samples by the laboratory, it was determined that the VOC samples for MW-4 were missing. MW-4 VOC resampling was completed on August 20, 2014 and the results were included in the laboratory report for the August 12, 2014 sampling event. The complete laboratory analytical reports are included in *Appendix A*.

Upon receipt of the laboratory data package, JOYCE personnel reviewed the following data:

- General typographical errors;
- Correct analyses performed and within method specified hold times;
- Biased data results based on Matrix Spike, Matrix Spike Duplicate, and Laboratory Control Samples;
- Blank qualified data (B-flags);
- Detections above the NC-2L Groundwater Standards or DENR Groundwater Water Protection Standards (GWPS); and
- Detections that are above historical levels.

4.0 ANALYTICAL RESULTS AND STATISTICAL ANALYSES

4.1 Analytical Results for Groundwater and Comparisons to Standards

4.1.1 Inorganic Analyses

The following inorganic constituents were detected at quantified concentrations above the solid waste section reporting limits (SWSL's) during the August 2014 sampling event.

Constituent	NC-2L /GWPS*	Background	Downgradient					Blanks
		MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	
<i>Antimony</i>	1*	ND	10.5	8.0	ND	ND	ND	ND
<i>Barium</i>	700	ND	125	66.4 J	ND	121	ND	ND
<i>Cobalt</i>	1*	ND	9.4 J	ND	ND	46.3	ND	ND
<i>Copper</i>	1,000	ND	ND	10.5	ND	ND	ND	ND
<i>Nickel</i>	100	ND	97.9	29.0 J	12.9 J	13.2 J	ND	ND
<i>Zinc</i>	1,000	ND	ND	ND	ND	16.9	ND	ND

All concentrations are reported in micrograms per liter (µg/L).

NC-2L= Groundwater Standard from 15NCAC 21.0202

GWPS = Groundwater Protection Standard – for constituents with no NC-2L Standard (indicted by *).

J = Estimated concentration below the SWSL.

ND = Not detected above laboratory detection limits.

Highlighted data are above the NC-2L Standard or GWPS.

Antimony in MW-2R and MW-3R and cobalt in MW-5 were detected above their respective GWPS; however, not above the calculated background concentration (see section 4.2). Since the antimony and cobalt detections were below the site specific calculated background values, there were no exceedances of the GPS as defined by rule .1634.g. Complete historical analytical results for inorganic constituents are presented in Table 1. The laboratory analytical reports and the chains of custody are included in Appendix A.

4.1.2 Organic Analyses

The following organic constituents were detected at quantified concentrations above the solid waste section report limits (SWSL's) during the August 2014 sampling event. Benzene was detected above its NC-2L standard in MW-2R.

Constituent	NC-2L	Background	Downgradient					Blanks
		MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	
<i>Benzene</i>	1	ND	1.7	0.61 J	0.25 J	ND	ND	ND
<i>Chlorobenzene</i>	50	ND	15.6	18.3	3.6	ND	ND	ND
<i>1,4- Dichlorobenzene</i>	6	ND	2.4	1.3	ND	ND	ND	ND

All concentrations are reported in micrograms per liter ($\mu\text{g/L}$).

J = Estimated concentration below the Solid Waste Section Limit (SWSL).

ND = Not detected above laboratory detection limits.

Highlighted data are above the NC-2L Standard.

The benzene exceedance in MW-2R has been addressed in the ACM, approved in June 2013, and the CAP, approved in June 2014. No other organic constituents were detected above their GPS during the February 2014 sampling event. Historical analytical results for organic constituents are presented in Table 1. The laboratory analytical reports, the laboratory quality assurance/quality control information, and the chains of custody are included in the Appendix A.

4.2 Statistical Analyses

4.2.1 Statistical Methods

Monitoring well MW-1R is designated as the up-gradient background well for the facility. Data from MW-1R between September 1994 and February 2014 have been used to determine statistical background concentrations for constituents detected at the facility.

The background data were evaluated using the Shapiro-Wilk Test, Parametric Prediction Limits, Parametric Tolerance Intervals, Aitchison's Adjustment, Non-Parametric Prediction Limits, and Poisson Prediction Limits, as appropriate. Background data, tests for normality, outliers, Aitchison's adjustment, tolerance interval, or prediction limits are used, as appropriate based on the background data. The statistical test by which downgradient data are compared to facility background data is based upon the nature of the data and the number of data values that are less than the laboratory limit of detection. All statistical tests are evaluated at the 0.05 level of significance, 95% confidence level, and are conducted as one-tailed tests. The data set was evaluated to determine the appropriate procedure for calculation of the background value for each parameter.

4.2.2 Results of Statistical Analyses

Antimony and cobalt were the only inorganic constituents detected in exceedance of their NC 2L or GWPS during the August 2014 sampling event. The calculated background concentrations for antimony and cobalt are proposed as the Groundwater Protection Standards specific to the site per rule .1634(g.5) of the NCSWMR. Statistical analysis worksheets can be found in Appendix B. The results of the August 2014 statistical background calculations are provided in the following table.

Constituent	Data Distribution	Statistical Method used to Establish Background	Background Concentration	GWPS	GPS	GPS Exceedances
Antimony	95% ND	Upper Poisson Prediction Limit	59	1	59	None
Cobalt	74% ND	Nonparametric Prediction Interval	130	1	130	None

GWPS = Solid Waste Section Groundwater Standard for constituents with no listed NC 2L.

GPS = Groundwater Protection Standard as defined in 15A NCAC .1634(g).

%ND = percentage of background data that is truncated (non-detect).

All concentrations are in µg/L (micrograms per liter).

4.3 Analytical Results for Surface Water and Comparisons to Standards

Surface water point SW-1 was dry and was not sampled during the August 2014 sampling event. SW-2 was collected from an unnamed tributary to Picture Creek, which has its confluence with Picture Creek approximately ½ mile south of the site. Picture Creek at this location is classified WS-IV/NSW. Surface water analytical results from the site were compared to the 15A-NCAC-2B (NC-2B) surface water standards for water supply-classified waters, human health, or fresh-water aquatic life, whichever is lowest for a given constituent.

Barium was detected above the SWSL in SW-2; no other inorganic or organic constituents were detected above the SWSL in the surface water samples during the August 2014 sampling event. No constituents were detected above the applicable NC-2B surface water standards. The historical analytical results for surface water are included in Table 2. The laboratory analytical reports, the laboratory quality assurance/quality control information, and the chain of custody, are included in the Appendix A.

5.0 HYDROGEOLOGICAL CONDITIONS

Groundwater in the saprolite feeds the fractures in the bedrock and discharges into creeks northeast of the landfill. Groundwater flow direction at deeper levels within the fractured bedrock is controlled by fracture orientation. A groundwater surface contour map, developed with static water level data obtained August 12, 2014, is presented as Drawing 1. The static water elevations depict groundwater flow to the southeast.

Depth to groundwater was measured in the compliance monitoring wells at the site prior to purging. The groundwater elevations were calculated relative to the surveyed measuring point (top of casing) for each monitoring well. The historical groundwater elevations are summarized in Table 4. The groundwater elevation contours shown on Drawing 1 are based on data from the August 2014 sampling event. Horizontal groundwater gradients along representative flow paths were estimated from the August 2014 groundwater contours shown on Drawing 1 and are

summarized in Table 5. Horizontal gradients across the site ranged from 0.0496 to 0.0558 ft/ft, with an average of approximately 0.0527 ft/ft. This is consistent with previous estimates.

Linear groundwater flow velocities were computed using the modified Darcy equation:

$$V = Ki/n_e$$

where V = average linear velocity (feet/day),
 K = hydraulic conductivity (feet/day),
 i = horizontal hydraulic gradient, and
 n_e = effective porosity.

The average of hydraulic conductivities ($K = 2.18 \times 10^{-05}$ cm/sec = 6.18×10^{-02} feet/day) from slug-tests conducted in 1994 (GAI, 1994) was used in these calculations. The average effective porosity ($n_e = 18\%$) based on 90% of reported total porosity for soils (GAI, 1994), and $n_e = 10\%$ for fractured bedrock were also used. Although the regolith and bedrock are hydraulically connected, the effective porosity generally decreases with depth into the underlying fractured bedrock. The modified Darcy equation makes the simplifying assumption of a homogeneous and isotropic aquifer. The calculated linear groundwater velocities range from approximately 6.2 to 7.0 feet/year, and the average estimated linear groundwater flow velocity under the facility was calculated at approximately 6.6 feet/year (see Table 5). Groundwater flow direction beneath the landfill is predominantly to the south and southeast.

Because of our conservative estimate of effective porosity, actual groundwater velocities may be significantly less than those calculated. Also, the modified Darcy equation makes the simplifying assumptions of a homogeneous and isotropic aquifer, which may not be accurate for this site.

6.0 CORRECTIVE ACTION EVALUATION

6.1 Monitored Natural Attenuation Parameters

Wells MW-1R (background), MW-2R, MW-3R, and NES-1 were analyzed for the following MNA parameters during the August 2014 sampling event:

MNA Field Parameters: Temperature, pH, specific conductance, oxidation reduction potential, turbidity, dissolved oxygen, dissolved carbon dioxide, and ferrous iron.

MNA Laboratory Parameters: Dissolved hydrogen, volatile fatty acids, dissolved methane, ethane, ethane, alkalinity, sulfide, sulfate, nitrate, chloride, biological oxygen demand (BOD), chemical oxygen demand (COD), and total organic carbon (TOC).

The current and historical MNA parameter data are presented in Table 6, and the laboratory analytical report for the August 2014 sampling event is included in Appendix A. The August 2014 sampling event represents the second of four required baseline sampling events for the MNA remedy. The MNA data will be evaluated after the data from all four baseline events are available and will be reported in the first Corrective Action Evaluation Report (CAER).

6.2 BIOSCREEN Modelling and Mass Flux

The EPA's BIOSCREEN Natural Attenuation Decision Support System (Newell, et al, 1996, 1997) has been used as a screening model to evaluate MNA at the Butner Landfill facility. BIOSCREEN is an easy-to-use screening model which simulates remediation through natural attenuation (RNA) of dissolved hydrocarbons. The model is designed to simulate biodegradation by both aerobic and anaerobic reactions. BIOSCREEN includes three different model types:

1. Solute transport without decay,
2. Solute transport with biodegradation modeled as a first-order decay process (simple, lumped-parameter approach),
3. Solute transport with biodegradation modeled as an "instantaneous" biodegradation reaction.

BIOSCREEN modeling was run for the Butner Landfill using both the "no decay" and the "first order decay" options using known site parameters and the results from the August 2014 sampling event as input. The results of the BIOSCREEN modeling, including both input and output, are presented in Appendix C.

The BIOSCREEN modeling calculated the mass flux of the plume at various distances from the source (edge of the landfill), as summarized below.

Distance from Source (feet):	0	120	240	360	480
Mass Flux (No Degradation):	9.2E-01	4.3E-02	4.8E-06	4.4E-13	0
Mass Flux (1 st Order Degradation):	9.2E-01	4.0E-09	1.7E-17	3.6E-26	0

Mass Flux in milligrams per day (mg/day).

For reference, MW-2R and MW-3R are approximately 270 feet from the source, the creek is approximately 800 feet from the source, and NES-1 is approximately 1060 feet from the source.

Due to the limited data and very low concentrations, the model was not able to calculate contaminant mass reduction.

6.3 Phytoremediation

The first phytoremediation tree survey for the Butner Landfill was conducted in April 2014 and the results were presented in the May 2014 CAP. The CAP requires annual tree surveys, and the next survey is scheduled for spring 2015.

6.4 Evaluation of Plume Stability and Trends

Chart 1 presents a plot of the benzene concentrations versus time in all monitoring wells where it has been detected (MW-2R, MW-3R, and MW-4). There were no benzene detections prior to December 2006, possibly due to a higher quantitation limit and the fact that estimated detections below the quantitation limit were not reported prior to December 2006. From December 2006 to present, benzene in MW-2R has fluctuated between 1 µg/L and 2 µg/L with no clear trend. From December 2007 to present, benzene in MW-3R has fluctuated between 0.3 µg/L and 0.7 µg/L, and benzene in MW 4 has fluctuated between non-detect and 0.4 µg/L.

The benzene concentrations from the August 2014 sampling event were slightly higher in all three wells than the previous (February 2014) event; however, they are within the range of historical fluctuations. Since there have been no detections of benzene in either surface water sample SW-2 or sentinel well NES-1, there is no indication that the plume is migrating toward the property boundary. The plume appears stable.

7.0 CONCLUSIONS

Antimony in MW-2R and MW-3R and cobalt in MW-5 were detected above their respective GWPS; however, they were not above the calculated background concentrations. The County of Granville requests that the background values for antimony and cobalt be considered the GPS at the Butner Landfill per rule .1634(g.5) of the NCSWMR; in which case there was no exceedances of the GPS for inorganic constituents from the August 2014 sampling event.

Benzene was detected above the NC-2L in MW-2R during the August 2014 sampling event. In response to the historical benzene exceedances in MW-2R, Granville County submitted an ACM on May 17, 2013, which was approved on June 27, 2013. A CAP was submitted on May 23, 2014 and approved on June 18, 2014. Review of MNA parameter data, BIOSCREEN modeling, plume stability, and benzene trends indicate that the selected remedies of natural attenuation and phytoremediation are adequately controlling the plume.

There were no exceedances of surface water standards during the August 2014 sampling event.

The groundwater flow regime is consistent with previous events and the groundwater monitoring network remains adequate to monitor the site. The next semiannual sampling event is scheduled for the first quarter of 2015.

8.0 REFERENCES

- GAI Consultants – NC, Inc. (GAI), 1994. *Ground and Surface Water Monitoring System, Granville County, Butner Landfill, NC Permit No. 39-02*. June, 1994.
- Joyce Engineering (JOYCE), 2013. *Assessment of Corrective Action, Butner Landfill, Granville County, Permit No. 39-02*. May 2013.
- Joyce Engineering (JOYCE), 2014. *Corrective Action Plan, Butner Landfill, Granville County, Permit No. 39-02*. May 2014.
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North Carolina Department of Environment and Natural Resources (NC-DENR), 2011. *North Carolina Solid Waste Management Rules*. 15 NCAC 13B. Amended April 2011.

NC-DENR, 2007. *North Carolina Solid Waste Section Guidelines for Corrective Action at Solid Waste Management Facilities*. March 2007.

9.0 ACRONYMS

ACM	Assessment of Corrective Measures (Report)
AOC	Area of Concern
C&D	Construction and Demolition Waste
CAP	Corrective Action Plan (Report)
CAER	Corrective Action Evaluation Report (Report)
COC	Constituent of Concern
DENR	North Carolina Department of Environment and Natural Resources
DL	Detection Limit (for laboratory data)
DO	Dissolved Oxygen
EPA	United States Environmental Protection Agency
GPS	Site-specific Groundwater Protection Standards per NCSWMR §1634.g-h
GWPS	Groundwater Protection Standards (established by DENR-SWS)
JOYCE	Joyce Engineering
LFG	Landfill Gas
MNA	Monitored Natural Attenuation
MSW	Municipal Solid Waste
NC-2B	North Carolina Surface Water Standards found in 15A NCAC 2B
NC-2L	North Carolina Groundwater Standards found in 15A NCAC 2L
NCAC	North Carolina Administrative Code
NCSWMR	North Carolina Solid Waste Management Regulations (15A NCAC 13B.1600)
ND	Not Detected (for laboratory data)
NES	Nature and Extent Study (Report)
O&M	Operations and Maintenance
QL	Quantitation Limit (for laboratory data)
QRA	Quantitative Risk Assessment (Report)
RL	Reporting Limit (for laboratory data)
SWQS	Surface Water Quality Standards
SWS	Solid Waste Section (of DENR)
SWSL	North Carolina Solid Waste Section Reporting Limits
VOC	Volatile Organic Compound
WQMP	Water Quality Monitoring Plan (Report)
WQMR	Water Quality Monitoring Report (Report)

TABLES

Table 1	Historical Constituents in Groundwater
Table 2	Historical Constituents in Surface Water
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Table 6	Monitored Natural Attenuation Parameters

TABLE 1: HISTORICAL CONSTITUENTS IN GROUNDWATER

Analyte	Sample Date	Method	DL	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	NES-IS	Blanks	
INORGANICS													
Antimony	8-Sep-94		---	30	ND	ND	ND	ND	ND	ND	---	---	
	1-Dec-94		---	30	ND	ND	ND	ND	ND	ND	---	---	
	9-Feb-95		---	30	ND	ND	ND	ND	ND	ND	---	---	
	2-Mar-95		---	30	ND	ND	ND	ND	ND	ND	---	---	
	15-Nov-95		---	30	ND	ND	ND	ND	ND	ND	---	---	
	28-May-96		---	30	ND	ND	ND	ND	ND	ND	---	---	
	22-Nov-96		---	30	ND	ND	ND	ND	ND	ND	---	---	
	17-Jun-97		---	30	ND	ND	ND	ND	ND	ND	---	---	
	1-Dec-97		---	30	ND	ND	ND	ND	ND	ND	---	---	
	20-May-98		---	30	ND	ND	ND	ND	ND	ND	---	---	
	19-Nov-98		---	30	ND	ND	ND	ND	ND	ND	---	---	
	21-Jul-99		---	30	ND	ND	ND	ND	ND	ND	---	---	
	16-Nov-99		---	30	ND	ND	ND	ND	ND	ND	---	---	
	10-May-00		---	30	ND	80.0	38.0	32.0	33.0	31.0	---	---	
	26-Oct-00		---	30	30.0	ND	ND	ND	ND	ND	---	---	
	18-Apr-01		---	30	ND	ND	ND	ND	ND	ND	---	---	
	27-Oct-01		---	30	ND	ND	ND	ND	ND	ND	---	---	
	13-Jun-02		---	30	ND	ND	ND	ND	ND	ND	---	---	
	19-Nov-02		---	30	ND	ND	ND	ND	ND	ND	---	---	
	27-Jun-03		---	30	ND	ND	ND	ND	ND	ND	---	---	
	30-Dec-03		---	30	ND	ND	ND	ND	ND	ND	---	ND	
	30-Jun-04		---	30	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-04		---	30	ND	ND	ND	ND	ND	ND	---	ND	
	29-Jun-05		---	30	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-05		---	30	ND	ND	ND	ND	ND	ND	---	ND	
	28-Jun-06		---	30	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-06		---	6	6	ND	ND	ND	ND	ND	---	ND	
	12-Jul-07		---	6	6	ND	ND	ND	ND	ND	---	ND	
	19-Dec-07	GWPS = 1.4 ug/L (10/23/07)	---	6	6	ND	ND	ND	ND	ND	ND	ND	ND
	8-Jul-08		---	6	6	ND	ND	ND	ND	ND	ND	---	ND
	17-Dec-08		2.6	6.0	6.0	ND	ND	ND	ND	ND	ND	---	ND
	9-Jul-09		2.6	6.0	6.0	ND	ND	ND	ND	ND	ND	ND	ND
	16-Dec-09		2.6	6.0	6.0	ND	ND	ND	ND	ND	ND	---	ND
	24-Jun-10	NC 2B = NE (03/24/10)	2.6	6.0	6.0	ND	ND	ND	2.9	J	ND	---	ND
	13-Dec-10	GWPS = 1 ug/L (8/1/10)	2.6	6.0	6.0	ND	ND	3.0	J	2.8	J	---	ND
	20-Jun-11		5.0	6.0	6.0	ND	ND	ND	ND	6.0	ND	---	ND
	5-Dec-11		5.0	6.0	6.0	ND	ND	ND	ND	ND	ND	---	ND
	11-Jun-12		5.0	6.0	6.0	ND	ND	ND	ND	ND	ND	ND	ND
	12-Dec-12		5.0	6.0	6.0	ND	ND	ND	ND	ND	ND	---	ND
	1-May-13		5.0	6.0	6.0	ND	ND	ND	ND	ND	ND	ND	ND
5-Aug-13		5.0	6.0	6.0	ND	ND	ND	ND	ND	ND	---	ND	
24-Feb-14		5.0	6.0	6.0	8.8	ND	ND	ND	ND	ND	ND	ND	
12-Aug-14		EPA 6010	5.0	6.0	ND	10.5	8.0	ND	ND	ND	---	ND	
Arsenic	8-Sep-94		---	10	ND	ND	ND	ND	ND	ND	---	---	
	1-Dec-94		---	10	ND	ND	ND	ND	ND	ND	---	---	
	9-Feb-95		---	10	ND	ND	ND	ND	ND	ND	---	---	
	2-Mar-95		---	10	ND	ND	ND	ND	ND	ND	---	---	
	15-Nov-95		---	10	ND	ND	ND	ND	ND	ND	---	---	
	28-May-96		---	10	ND	ND	ND	ND	ND	ND	---	---	
	22-Nov-96		---	10	ND	ND	ND	ND	ND	ND	---	---	
	17-Jun-97		---	10	6.0	J	15.0	ND	ND	ND	---	---	
	1-Dec-97		---	10	ND	J	5.0	J	ND	ND	---	---	
	20-May-98		---	10	ND	ND	ND	ND	ND	ND	---	---	
	19-Nov-98		---	10	ND	ND	ND	ND	ND	ND	---	---	
	21-Jul-99		---	10	ND	ND	ND	ND	ND	ND	---	---	
	16-Nov-99		---	10	ND	ND	ND	ND	ND	ND	---	---	
	10-May-00		---	10	ND	ND	ND	ND	ND	ND	---	---	
	26-Oct-00		---	10	ND	ND	ND	ND	ND	ND	---	---	
	18-Apr-01		---	10	ND	ND	ND	ND	ND	ND	---	---	
	27-Oct-01		---	10	ND	ND	ND	ND	ND	ND	---	---	
	13-Jun-02		---	10	ND	ND	ND	ND	ND	ND	---	---	
	19-Nov-02		---	10	ND	ND	ND	ND	ND	ND	---	---	
	27-Jun-03		---	10	ND	ND	ND	ND	ND	ND	---	---	
	30-Dec-03		---	10	ND	ND	ND	ND	ND	ND	---	ND	
	30-Jun-04		---	10	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-04		---	10	ND	ND	ND	ND	ND	ND	---	ND	
	29-Jun-05		---	10	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-05		---	10	ND	ND	ND	ND	ND	ND	---	ND	
	28-Jun-06		---	10	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-06		---	10	2.0	J	ND	ND	ND	ND	---	ND	
	12-Jul-07		---	10	ND	ND	ND	ND	ND	ND	---	ND	
	19-Dec-07	NC 2L = 50 ug/L (10/23/07)	---	10	ND	4.1	J	ND	ND	ND	ND	ND	ND
	8-Jul-08		---	10	ND	4.9	J	ND	ND	ND	ND	---	ND
	17-Dec-08		2.7	10.0	10.0	ND	ND	ND	ND	ND	ND	---	ND
	9-Jul-09		2.7	10.0	10.0	ND	13.5	10.9	5.6	J	ND	4.0	J
	16-Dec-09		2.7	10.0	10.0	ND	10.6	6.4	5.0	J	ND	3.6	J
	24-Jun-10		2.7	10.0	10.0	ND	11.8	8.1	J	8.2	J	3.1	J
	12-Aug-10	Resample >	2.7	10.0	10.0	---	---	7.2	J	---	---	---	---
	31-Aug-10	Resample >	2.7	10.0	10.0	---	15.4	---	---	---	---	---	---
	13-Dec-10		2.7	10.0	10.0	ND	4.9	J	2.7	J	ND	---	---
	20-Jun-11		5.0	10.0	10.0	ND	ND	ND	ND	ND	ND	---	---
	5-Dec-11		5.0	10.0	10.0	ND	ND	ND	ND	ND	ND	---	---
	11-Jun-12		5.0	10.0	10.0	ND	5.4	J	ND	ND	ND	ND	ND
12-Dec-12		5.0	10.0	10.0	ND	ND	ND	ND	ND	ND	---	---	
1-May-13		5.0	10.0	10.0	ND	ND	ND	ND	ND	ND	ND	ND	
5-Aug-13		5.0	10.0	10.0	ND	ND	5.6	J	ND	ND	---	---	
24-Feb-14		5.0	10.0	10.0	ND	6.4	J	ND	ND	ND	ND	ND	
12-Aug-14		EPA 6010	5.0	10.0	ND	ND	ND	ND	ND	ND	---	---	

TABLE 1: HISTORICAL CONSTITUENTS IN GROUNDWATER

Analyte	Sample Date	Method	DL	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	NES-1S	Blanks		
Barium	8-Sep-94		---	500	ND	270	ND	ND	830	860	---	---		
	1-Dec-94		---	500	ND	ND	ND	ND	ND	ND	---	---		
	9-Feb-95		---	500	ND	ND	ND	ND	510	ND	---	---		
	2-Mar-95		---	500	ND	ND	ND	ND	ND	ND	---	---		
	15-Nov-95		---	500	ND	ND	ND	ND	ND	ND	---	---		
	28-May-96		---	500	ND	ND	ND	ND	ND	ND	---	---		
	22-Nov-96		---	500	ND	82.0	30.0	ND	15.0	ND	---	---		
	17-Jun-97		---	500	200	320	37.0	17.0	210	31.0	---	---		
	1-Dec-97		---	500	61.0	180	43.0	46.0	220	33.0	---	---		
	20-May-98		---	500	30.0	150	45.0	13.0	180	22.0	---	---		
	19-Nov-98		---	500	48.0	120	42.0	ND	380	12.0	---	---		
	21-Jul-99		---	500	ND	ND	ND	ND	ND	ND	---	---		
	16-Nov-99		---	500	ND	ND	ND	ND	ND	ND	---	---		
	10-May-00		---	500	ND	ND	ND	ND	ND	ND	---	---		
	26-Oct-00		---	500	ND	ND	ND	ND	ND	ND	---	---		
	18-Apr-01		---	500	ND	ND	ND	ND	ND	ND	---	---		
	27-Oct-01		---	500	ND	ND	ND	ND	ND	ND	---	---		
	13-Jun-02		---	500	ND	ND	ND	ND	ND	ND	---	---		
	19-Nov-02		---	500	ND	ND	ND	ND	ND	ND	---	---		
	27-Jun-03		---	500	ND	ND	ND	ND	ND	ND	---	---		
	30-Dec-03		---	500	ND	ND	ND	ND	ND	ND	---	ND		
	30-Jun-04		---	500	ND	ND	ND	ND	ND	ND	---	ND		
	29-Dec-04		---	500	ND	ND	ND	ND	ND	ND	---	ND		
	29-Dec-04		---	500	ND	ND	ND	ND	ND	ND	---	ND		
	29-Jun-05		---	500	ND	ND	ND	ND	ND	ND	---	ND		
	29-Dec-05		---	500	ND	ND	ND	ND	ND	ND	---	ND		
	28-Jun-06		---	500	ND	ND	ND	ND	ND	ND	---	ND		
	29-Dec-06		---	100	5.2	J	120	64.9	1.5	J	64.1	1.8	J	
	12-Jul-07		---	100	2.5	J	129	65.7	1.1	J	77.0	1.3	J	
	19-Dec-07	NC 2L = 2,000 ug/L (10/23/07)	---	100	2.8	B	99.2	50.0	B	1.4	B	49.6	B	87.8
	8-Jul-08		---	100	5.8	J	102	58.4	J	1.1	B	57.9	J	1.2
	17-Dec-08		0.20	100	2.7	B	92.9	53.1	B	1.2	B	55.5	J	1.1
	9-Jul-09		0.20	100	4.6	B	121	63.4	B	0.37	B	81.4	B	0.94
	16-Dec-09		0.20	100	2.9	B	108	62.8	B	0.61	B	56.8	B	0.87
	24-Jun-10	NC 2L = 700 ug/L (02/05/10)	0.20	100	2.5	B	115	61.1	B	1.6	B	93.5	B	1.4
	13-Dec-10		0.20	100	4.3	B	122	67.9	J	1.3	B	90.6	J	1.5
	20-Jun-11		5.0	100	ND		108	70.7	J	ND		84.7	J	ND
	5-Dec-11		5.0	100	ND		118	73.0	J	ND		90.6	J	ND
	11-Jun-12		5.0	100	ND		138	65.2	J	ND		76.4	J	ND
	12-Dec-12		5.0	100	ND		113	64.7	J	ND		73.6	J	ND
1-May-13		5.0	100	ND		118	69.1	J	ND		84.2	J	ND	
5-Aug-13		5.0	100	ND		111	65.1	J	ND		95.6	J	ND	
24-Feb-14		5.0	100	ND		93.8	44.8	J	ND		139	J	ND	
12-Aug-14		5.0	100	ND		125	66.4	J	ND		121	J	ND	
Beryllium	8-Sep-94		---	2	ND	ND	ND	ND	ND	ND	---	---		
	1-Dec-94		---	2	ND	ND	ND	ND	4.0	ND	---	---		
	9-Feb-95		---	2	ND	ND	ND	ND	ND	ND	---	---		
	2-Mar-95		---	2	ND	ND	ND	ND	2.0	ND	---	---		
	15-Nov-95		---	2	ND	ND	ND	ND	ND	ND	---	---		
	28-May-96		---	2	ND	ND	ND	ND	6.0	ND	---	---		
	22-Nov-96		---	2	ND	ND	ND	ND	3.0	ND	---	---		
	17-Jun-97		---	2	2.0	3.0	ND	ND	1.0	ND	---	---		
	1-Dec-97		---	2	ND	ND	ND	ND	ND	ND	---	---		
	20-May-98		---	2	ND	ND	ND	ND	ND	ND	---	---		
	19-Nov-98		---	2	ND	ND	ND	ND	2.0	ND	---	---		
	21-Jul-99		---	2	ND	ND	ND	ND	ND	ND	---	---		
	16-Nov-99		---	2	ND	ND	ND	ND	ND	ND	---	---		
	10-May-00		---	2	ND	ND	ND	ND	ND	ND	---	---		
	26-Oct-00		---	2	ND	ND	ND	ND	ND	ND	---	---		
	18-Apr-01		---	2	ND	12.0	ND	ND	ND	ND	---	---		
	27-Oct-01		---	2	ND	ND	ND	ND	ND	ND	---	---		
	13-Jun-02		---	2	ND	ND	ND	ND	ND	ND	---	---		
	19-Nov-02		---	2	ND	ND	ND	ND	ND	ND	---	---		
	27-Jun-03		---	2	ND	ND	ND	ND	ND	ND	---	---		
	30-Dec-03		---	2	ND	ND	ND	ND	ND	ND	---	ND		
	30-Jun-04		---	2	ND	ND	ND	ND	ND	ND	---	ND		
	29-Dec-04		---	2	ND	ND	ND	ND	ND	ND	---	ND		
	29-Dec-04		---	2	ND	ND	ND	ND	ND	ND	---	ND		
	29-Jun-05		---	2	ND	ND	ND	ND	ND	ND	---	ND		
	29-Dec-05		---	2	ND	ND	ND	ND	ND	ND	---	ND		
	28-Jun-06		---	2	ND	ND	ND	ND	ND	ND	---	ND		
	29-Dec-06		---	1	ND	ND	ND	ND	ND	ND	---	ND		
	12-Jul-07		---	1	ND	ND	ND	ND	ND	ND	---	ND		
	19-Dec-07		---	1	ND	ND	ND	ND	ND	ND	---	ND		
	8-Jul-08		---	1	ND	ND	ND	ND	ND	ND	---	ND		
	17-Dec-08		0.10	1.0	ND	ND	ND	ND	0.14	J	ND	---	ND	
	9-Jul-09		0.10	1.0	ND	0.18	J	0.22	J	0.17	J	ND	0.23	
	16-Dec-09		0.10	1.0	ND	0.15	J	0.17	J	0.15	J	0.25	J	
	24-Jun-10		0.10	1.0	ND	ND	J	0.27	J	0.16	J	ND	---	
	13-Dec-10	NC 2B = 6.5 ug/L (02/05/10)	0.10	1.0	ND	ND	ND	ND	ND	ND	ND	---	ND	
	20-Jun-11		1.0	1.0	ND	ND	ND	ND	ND	ND	ND	---	ND	
	5-Dec-11		1.0	1.0	ND	ND	ND	ND	ND	ND	ND	---	ND	
	11-Jun-12		1.0	1.0	ND	ND	ND	ND	ND	ND	ND	---	ND	
	12-Dec-12		1.0	1.0	ND	ND	ND	ND	ND	ND	ND	---	ND	
1-May-13		1.0	1.0	ND	ND	ND	ND	ND	ND	ND	---	ND		
5-Aug-13		1.0	1.0	ND	ND	ND	ND	ND	ND	ND	---	ND		
24-Feb-14		1.0	1.0	ND	ND	ND	ND	ND	ND	ND	---	ND		
12-Aug-14		1.0	1.0	ND	ND	ND	ND	ND	ND	ND	---	ND		

TABLE 1: HISTORICAL CONSTITUENTS IN GROUNDWATER

Analyte	Sample Date	Method	DL	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	NES-IS	Blanks	
Cadmium	8-Sep-94		---	1	ND	ND	ND	ND	ND	4.0	---	---	
	1-Dec-94		---	1	ND	ND	ND	ND	ND	ND	---	---	
	9-Feb-95		---	1	ND	ND	ND	ND	ND	ND	---	---	
	2-Mar-95		---	1	ND	ND	ND	ND	ND	ND	---	---	
	15-Nov-95		---	1	ND	ND	ND	ND	ND	ND	---	---	
	28-May-96		---	1	ND	ND	ND	ND	ND	ND	---	---	
	22-Nov-96		---	1	ND	ND	ND	ND	ND	ND	---	---	
	17-Jun-97		---	1	ND	3.0	1.0	ND	ND	ND	---	---	
	1-Dec-97		---	1	ND	2.0	ND	ND	ND	ND	---	---	
	20-May-98		---	1	ND	ND	ND	ND	ND	ND	---	---	
	19-Nov-98		---	1	ND	ND	ND	ND	ND	ND	---	---	
	21-Jul-99		---	1	ND	ND	ND	ND	ND	ND	---	---	
	16-Nov-99		---	1	ND	3.0	3.0	ND	2.0	ND	---	---	
	10-May-00		---	1	5.0	ND	ND	ND	ND	ND	---	---	
	26-Oct-00		---	1	ND	2.0	ND	ND	ND	ND	---	---	
	18-Apr-01		---	1	ND	11.0	ND	ND	ND	ND	---	---	
	27-Oct-01		---	1	ND	ND	ND	ND	ND	ND	---	---	
	13-Jun-02		---	1	ND	2.0	ND	ND	ND	ND	---	---	
	19-Nov-02		---	1	2.0	2.0	ND	ND	2.0	ND	---	---	
	27-Jun-03		---	1	ND	ND	ND	ND	ND	ND	---	---	
	30-Dec-03		---	1	ND	1.0	ND	ND	ND	ND	---	ND	
	30-Jun-04		---	1	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-04		---	1	ND	ND	ND	ND	ND	ND	---	ND	
	29-Jun-05		---	1	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-05		---	1	ND	ND	ND	ND	ND	ND	---	ND	
	28-Jun-06		---	1	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-06		---	1	ND	ND	ND	ND	ND	ND	---	ND	
	12-Jul-07		---	1	ND	ND	ND	ND	ND	ND	---	ND	
	19-Dec-07		---	1	ND	ND	ND	ND	ND	ND	ND	ND	
	8-Jul-08		---	1	ND	ND	ND	ND	ND	ND	ND	ND	
	17-Dec-08		0.50	1.0	ND	ND	ND	ND	ND	ND	ND	ND	
	9-Jul-09		0.50	1.0	ND	1.4	ND	ND	ND	ND	ND	ND	
	16-Dec-09		0.50	1.0	ND	ND	ND	ND	ND	ND	ND	ND	
	24-Jun-10		0.50	1.0	ND	ND	ND	ND	ND	ND	ND	ND	
	13-Dec-10		0.50	1.0	ND	ND	ND	ND	ND	ND	ND	ND	
	20-Jun-11		1.0	1.0	ND	ND	ND	ND	ND	ND	ND	ND	
	5-Dec-11		1.0	1.0	ND	ND	ND	ND	ND	ND	ND	ND	
	11-Jun-12		1.0	1.0	ND	ND	ND	ND	ND	ND	ND	ND	
	12-Dec-12		1.0	1.0	ND	ND	ND	ND	ND	ND	ND	ND	
	1-May-13		1.0	1.0	ND	ND	ND	ND	ND	ND	ND	ND	
5-Aug-13		1.0	1.0	ND	ND	ND	ND	ND	ND	ND	ND		
24-Feb-14		1.0	1.0	ND	ND	ND	ND	ND	ND	ND	ND		
12-Aug-14		EPA 6010	1.0	1.0	ND	ND	ND	ND	ND	ND	ND		
Chromium	8-Sep-94		---	10	8.0	44.0	ND	6.0	48.0	80.0	---	---	
	1-Dec-94		---	10	14.0	ND	ND	ND	18.0	ND	---	---	
	9-Feb-95		---	10	14.0	ND	ND	10.0	ND	ND	---	---	
	2-Mar-95		---	10	ND	ND	ND	ND	ND	ND	---	---	
	15-Nov-95		---	10	13.0	13.0	ND	ND	ND	ND	---	---	
	28-May-96		---	10	33.0	ND	ND	ND	ND	ND	---	---	
	22-Nov-96		---	10	3.0	ND	ND	ND	ND	3.0	---	---	
	17-Jun-97		---	10	57.0	43.0	ND	3.0	2.0	6.0	---	---	
	1-Dec-97		---	10	29.0	ND	ND	ND	ND	ND	---	---	
	20-May-98		---	10	10.0	3.0	ND	ND	12.0	ND	---	---	
	19-Nov-98		---	10	17.0	3.0	ND	ND	5.0	ND	---	---	
	21-Jul-99		---	10	ND	ND	ND	ND	ND	ND	---	---	
	16-Nov-99		---	10	ND	ND	ND	ND	ND	ND	---	---	
	10-May-00		---	10	ND	ND	ND	ND	ND	ND	---	---	
	26-Oct-00		---	10	ND	ND	ND	ND	ND	ND	---	---	
	18-Apr-01		---	10	ND	12.0	ND	ND	ND	ND	---	---	
	27-Oct-01		---	10	ND	ND	ND	ND	ND	ND	---	---	
	13-Jun-02		---	10	ND	ND	ND	ND	ND	ND	---	---	
	19-Nov-02		---	10	ND	ND	ND	ND	ND	ND	---	---	
	27-Jun-03		---	10	ND	ND	ND	ND	ND	ND	---	---	
	30-Dec-03		---	10	ND	ND	ND	ND	ND	ND	---	ND	
	30-Jun-04		---	10	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-04		---	10	ND	ND	ND	ND	ND	ND	---	ND	
	29-Jun-05		---	10	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-05		---	10	ND	ND	ND	ND	ND	ND	---	ND	
	28-Jun-06		---	10	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-06		---	10	ND	ND	ND	ND	ND	ND	---	ND	
	12-Jul-07		---	10	ND	ND	ND	ND	ND	ND	---	ND	
	19-Dec-07		---	10	ND	2.0	B	ND	ND	ND	1.1	B	1.4
	8-Jul-08		---	10	ND	0.54	J	0.58	J	ND	ND	---	ND
	17-Dec-08		0.40	10.0	0.73	J	1.8	J	0.96	J	0.70	J	ND
	9-Jul-09		0.40	10.0	1.2	J	2.4	J	1.1	J	0.53	J	4.8
	16-Dec-09		0.40	10.0	1.3	J	ND	ND	ND	J	ND	---	ND
	24-Jun-10		0.40	10.0	1.1	B	3.5	B	2.8	B	1.4	B	0.71
	13-Dec-10		0.40	10.0	2.5	J	1.3	J	1.8	J	0.57	J	ND
	20-Jun-11		5.0	10.0	ND	ND	ND	ND	ND	ND	ND	---	ND
	5-Dec-11		5.0	10.0	ND	ND	ND	ND	ND	ND	ND	---	ND
	11-Jun-12		5.0	10.0	ND	8.6	J	ND	ND	ND	ND	ND	ND
	12-Dec-12		5.0	10.0	ND	5.2	J	ND	ND	ND	ND	---	ND
	1-May-13		5.0	10.0	ND	ND	ND	ND	ND	ND	ND	---	ND
5-Aug-13		5.0	10.0	ND	ND	ND	ND	ND	ND	ND	---	ND	
24-Feb-14		5.0	10.0	ND	ND	ND	ND	ND	ND	ND	---	ND	
12-Aug-14		EPA 6010	5.0	10.0	ND	ND	ND	ND	ND	ND	---	ND	

TABLE 1: HISTORICAL CONSTITUENTS IN GROUNDWATER

Analyte	Sample Date	Method	DL	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	NES-1S	Blanks				
Cobalt	8-Sep-94		---	10	ND	ND	ND	ND	ND	ND	---	---				
	1-Dec-94		---	10	11.0	ND	13.0	16.0	22.0	ND	---	---				
	9-Feb-95		---	10	20.0	14.0	ND	48.0	39.0	ND	---	---				
	2-Mar-95		---	10	16.0	21.0	ND	29.0	121.0	ND	---	---				
	15-Nov-95		---	10	20.0	21.0	ND	ND	27.0	ND	---	---				
	28-May-96		---	10	30.0	16.0	ND	ND	122	ND	---	---				
	22-Nov-96		---	10	6.0	13.0	ND	4.7	93.0	ND	---	---				
	17-Jun-97		---	10	130	38.0	ND	6.0	45.0	3.0	---	---				
	1-Dec-97		---	10	32.0	21.0	ND	12.0	36.0	4.0	---	---				
	20-May-98		---	10	15.0	16.0	2.0	9.0	100	3.0	---	---				
	19-Nov-98		---	10	21.0	16.0	2.0	7.0	180	3.0	---	---				
	21-Jul-99		---	10	ND	16.0	ND	ND	100	ND	---	---				
	16-Nov-99		---	10	ND	15.0	ND	ND	38.0	ND	---	---				
	10-May-00		---	10	ND	17.0	ND	ND	61.0	ND	---	---				
	26-Oct-00		---	10	ND	15.0	ND	ND	ND	ND	---	---				
	18-Apr-01		---	10	ND	27.0	ND	ND	74.0	ND	---	---				
	27-Oct-01		---	10	ND	12.0	ND	ND	47.0	ND	---	---				
	13-Jun-02		---	10	ND	14.0	ND	ND	251	ND	---	---				
	19-Nov-02		---	10	ND	10.0	ND	ND	57.0	ND	---	---				
	27-Jun-03		---	10	ND	15.0	ND	ND	75.0	ND	---	---				
	30-Dec-03		---	10	ND	17.0	ND	ND	52.0	ND	---	ND				
	30-Jun-04		---	10	ND	16.0	ND	ND	31.0	ND	---	ND				
	29-Dec-04		---	10	ND	11.0	ND	ND	46.0	ND	---	ND				
	29-Jun-05		---	10	ND	11.0	ND	ND	43.0	ND	---	ND				
	29-Dec-05		---	10	ND	12.0	ND	ND	30.0	ND	---	ND				
	28-Jun-06		---	10	ND	ND	ND	ND	72.5	ND	---	ND				
	29-Dec-06		---	10	ND	11.4	ND	ND	37.5	ND	---	ND				
	12-Jul-07		---	10	ND	11.8	ND	2.7	58.4	ND	---	ND				
	19-Dec-07	GWPS = 70 ug/L (10/23/07)		---	10	2.5	B	ND	2.0	103	2.6	B	8.0	B	1.8	J
	8-Jul-08			---	10	10.3	B	12.1	2.0	130	4.8	B	---	---	6.2	J
	17-Dec-08			0.60	10.0	2.1	B	11.8	2.3	43.7	1.6	B	---	---	2.5	J
	9-Jul-09			0.60	10.0	ND		6.2	ND	100	ND	2.2	J	---	ND	
	16-Dec-09			0.60	10.0	ND		4.7	ND	6.6	J	---	---	---	ND	
	24-Jun-10			0.60	10.0	ND		16.3	ND	25.0	---	---	---	---	ND	
	13-Dec-10	GWPS = 1 ug/L (10/23/07)		0.60	10.0	2.5	B	15.5	ND	{129}	{ND}	---	---	---	1.6 {1.0 J}	J
	20-Jun-11			5.0	10.0	ND		14.2	ND	81.8	ND	---	---	---	ND	
	5-Dec-11			5.0	10.0	ND		12.7	ND	146	ND	---	---	---	ND	
	25-Jan-12	Resample >		5.0	10.0	---		---	---	47.5	---	---	---	---	ND	
	11-Jun-12			5.0	10.0	ND		14.2	ND	101	ND	ND	---	---	ND	
	12-Dec-12			5.0	10.0	ND		11.3	ND	113	ND	---	---	---	ND	
1-May-13			5.0	10.0	ND		24.3	ND	34.0	ND	ND	---	---	ND		
5-Aug-13			5.0	10.0	ND		24.7	ND	50.9	ND	---	---	---	ND		
24-Feb-14			5.0	10.0	ND		18.4	ND	9.6	J	ND	---	---	ND		
12-Aug-14		EPA 6010	5.0	10.0	ND		9.4	J	ND	ND	---	---	---	ND		
Copper	8-Sep-94		---	200	ND	ND	ND	ND	ND	660	---	---				
	1-Dec-94		---	200	ND	ND	ND	ND	ND	ND	---	---				
	9-Feb-95		---	200	ND	ND	ND	ND	ND	ND	---	---				
	2-Mar-95		---	200	ND	ND	ND	ND	ND	ND	---	---				
	15-Nov-95		---	200	ND	ND	ND	ND	ND	ND	---	---				
	28-May-96		---	200	ND	ND	ND	ND	ND	ND	---	---				
	22-Nov-96		---	200	ND	ND	32.0	13.0	100	ND	---	---				
	17-Jun-97		---	200	34.0	35.0	13.0	37.0	28.0	77.0	---	---				
	1-Dec-97		---	200	19.0	72.0	14.0	88.0	15.0	34.0	---	---				
	20-May-98		---	200	12.0	48.0	380	41.0	53.0	28.0	---	---				
	19-Nov-98		---	200	10.0	ND	410	28.0	53.0	14.0	---	---				
	21-Jul-99		---	200	ND	ND	ND	ND	ND	ND	---	---				
	16-Nov-99		---	200	ND	ND	ND	ND	ND	ND	---	---				
	10-May-00		---	200	ND	ND	ND	ND	ND	ND	---	---				
	26-Oct-00		---	200	ND	ND	ND	ND	ND	ND	---	---				
	18-Apr-01		---	200	ND	ND	ND	ND	ND	ND	---	---				
	27-Oct-01		---	200	ND	ND	ND	ND	ND	ND	---	---				
	13-Jun-02		---	200	ND	ND	ND	ND	ND	ND	---	---				
	19-Nov-02		---	200	ND	ND	ND	ND	ND	ND	---	---				
	27-Jun-03		---	200	ND	ND	ND	ND	ND	ND	---	---				
	30-Dec-03		---	200	ND	ND	ND	ND	ND	ND	---	ND				
	30-Jun-04		---	200	ND	ND	ND	ND	ND	ND	---	ND				
	29-Dec-04		---	200	ND	ND	ND	ND	ND	ND	---	ND				
	29-Jun-05		---	200	ND	ND	ND	ND	ND	ND	---	ND				
	29-Dec-05		---	200	ND	ND	ND	ND	ND	ND	---	ND				
	28-Jun-06		---	200	ND	ND	ND	ND	ND	ND	---	ND				
	29-Dec-06		---	10	ND	ND	11.3	5.50	J	10.4	1.90	B	---	0.60	J	
	12-Jul-07		---	10	ND	ND	13.4	7.90	J	2.6	ND	---	---	ND		
	19-Dec-07		---	10	2.0	B	ND	8.6	B	7.0	B	5.8	B	9.8		
	8-Jul-08		---	10	0.64	J	ND	12.1	J	8.5	J	---	---	ND		
	17-Dec-08		0.30	10.0	0.80	J	13.6	10.2	J	11.9	J	---	---	ND		
	9-Jul-09		0.30	10.0	ND	ND	6.3	J	ND	5.7	J	8.8	J	ND		
	16-Dec-09		0.30	10.0	ND	ND	9.2	J	1.6	J	J	---	---	ND		
	24-Jun-10		0.30	10.0	ND	ND	10	J	1.2	J	J	---	---	ND		
	13-Dec-10		0.30	10.0	1.1	B	ND	13.6	J	5.6	J	0.59	B	0.49	J	
	20-Jun-11		5.0	10.0	ND	ND	15.3	J	8.1	J	J	---	---	ND		
	5-Dec-11		5.0	10.0	ND	ND	16.9	J	10.0	J	J	---	---	ND		
	11-Jun-12		5.0	10.0	ND	ND	10.7	J	6.3	J	J	---	---	ND		
	12-Dec-12		5.0	10.0	ND	ND	11.6	J	8.5	J	J	---	---	ND		
	1-May-13		5.0	10.0	ND	ND	13.6	J	5.8	J	J	---	---	ND		
5-Aug-13		5.0	10.0	ND	ND	14.3	J	ND	10.2	J	---	---	ND			
24-Feb-14		5.0	10.0	ND	ND	12.2	J	ND	5.1	J	---	---	ND			
12-Aug-14		EPA 6010	5.0	10.0	ND	ND	10.5	J	ND	ND	---	---	---	ND		

TABLE 1: HISTORICAL CONSTITUENTS IN GROUNDWATER

Analyte	Sample Date	Method	DL	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	NES-1S	Blanks		
Lead NC 2L = 15 ug/L (10/23/07)	8-Sep-94		---	10	ND	13.0	ND	ND	30.0	36.0	---	---		
	1-Dec-94		---	10	11.0	ND	ND	ND	36.0	ND	---	---		
	9-Feb-95		---	10	ND	ND	ND	10.0	37.0	ND	---	---		
	2-Mar-95		---	10	ND	ND	ND	ND	44.0	ND	---	---		
	15-Nov-95		---	10	ND	ND	ND	ND	ND	ND	---	---		
	28-May-96		---	10	ND	ND	ND	ND	42.0	ND	---	---		
	22-Nov-96		---	10	ND	ND	ND	ND	13.0	ND	---	---		
	17-Jun-97		---	10	20.0	29.0	ND	ND	13.0	ND	---	---		
	1-Dec-97		---	10	8.0	14.0	ND	5.0	14.0	ND	---	---		
	20-May-98		---	10	ND	6.0	ND	6.0	21.0	ND	---	---		
	19-Nov-98		---	10	5.0	ND	ND	ND	58.0	ND	---	---		
	21-Jul-99		---	10	ND	12.0	14.0	ND	ND	ND	---	---		
	16-Nov-99		---	10	ND	ND	ND	ND	ND	ND	---	---		
	10-May-00		---	10	ND	ND	ND	ND	ND	ND	---	---		
	26-Oct-00		---	10	ND	ND	ND	ND	ND	ND	---	---		
	18-Apr-01		---	10	ND	ND	ND	ND	ND	ND	---	---		
	27-Oct-01		---	10	ND	ND	ND	ND	ND	ND	---	---		
	13-Jun-02		---	10	11.0	ND	ND	ND	ND	ND	---	---		
	19-Nov-02		---	10	ND	ND	ND	ND	12.0	ND	---	---		
	27-Jun-03		---	10	ND	ND	ND	ND	ND	ND	---	---		
	30-Dec-03		---	10	ND	ND	ND	ND	ND	ND	---	ND		
	30-Jun-04		---	10	ND	ND	ND	ND	ND	ND	---	ND		
	29-Dec-04		---	10	ND	ND	ND	ND	ND	ND	---	ND		
	29-Jun-05		---	10	ND	ND	ND	ND	ND	ND	---	ND		
	29-Dec-05		---	10	ND	ND	ND	ND	ND	ND	---	ND		
	28-Jun-06		---	10	ND	ND	ND	ND	ND	ND	---	ND		
	29-Dec-06		---	10	ND	ND	ND	ND	ND	2.1	J	---	ND	
	12-Jul-07		---	10	ND	ND	ND	ND	ND	ND	---	---	ND	
	19-Dec-07		---	10	ND	ND	ND	ND	ND	ND	---	ND	ND	
	8-Jul-08		---	10	ND	ND	ND	ND	ND	ND	---	---	ND	
	17-Dec-08		---	4.0	10.0	ND	ND	ND	ND	ND	---	---	ND	
	9-Jul-09		---	4.0	10.0	ND	ND	ND	ND	ND	---	ND	ND	
	16-Dec-09		---	4.0	10.0	ND	ND	ND	ND	ND	---	---	ND	
	24-Jun-10		---	4.0	10.0	ND	ND	ND	ND	ND	---	---	ND	
	13-Dec-10		---	4.0	10.0	ND	ND	ND	ND	ND	---	---	ND	
	20-Jun-11		---	5.0	10.0	ND	ND	ND	ND	ND	---	---	ND	
	5-Dec-11		---	5.0	10.0	ND	ND	ND	ND	ND	---	---	ND	
	11-Jun-12		---	5.0	10.0	ND	ND	ND	ND	ND	---	ND	ND	
	12-Dec-12		---	5.0	10.0	ND	ND	ND	ND	ND	---	---	ND	
1-May-13		---	5.0	10.0	ND	ND	ND	ND	ND	---	---	ND		
5-Aug-13		---	5.0	10.0	ND	ND	ND	ND	ND	---	---	ND		
24-Feb-14		---	5.0	10.0	ND	ND	ND	ND	ND	---	ND	ND		
12-Aug-14	EPA 6010	---	5.0	10.0	ND	ND	ND	ND	ND	---	---	ND		
Mercury NC 2L = 1.05 ug/L (10/23/07) NC 2L = 1 ug/L (02/05/10)	1-Dec-97		---	0.5	ND	ND	ND	ND	ND	ND	---	---		
	19-Nov-98		---	0.5	ND	ND	ND	ND	ND	ND	---	---		
	16-Nov-99		---	0.5	ND	0.59	0.65	0.65	0.76	---	---	---		
	10-May-00		---	0.5	---	---	---	---	---	---	---	---		
	26-Oct-00		---	0.5	---	---	---	---	---	---	---	---		
	18-Apr-01		---	0.5	---	---	---	---	---	---	---	---		
	13-Jun-02		---	0.5	---	---	---	---	---	---	---	---		
	27-Jun-03		---	0.5	---	---	---	---	---	---	---	---		
	30-Dec-03		---	0.5	---	---	---	---	---	---	---	---		
	30-Jun-04		---	0.5	ND	ND	ND	ND	ND	ND	---	ND		
	29-Dec-04		---	---	---	---	---	---	---	---	---	---		
	29-Jun-05		---	0.5	ND	ND	ND	ND	ND	ND	---	ND		
	29-Dec-05		---	---	---	---	---	---	---	---	---	---		
	28-Jun-06		---	2	ND	ND	ND	ND	ND	ND	---	ND		
	29-Dec-06		---	---	---	---	---	---	---	---	---	---		
	12-Jul-07		---	0.2	ND	ND	ND	ND	ND	ND	---	ND		
	19-Dec-07		---	---	---	---	---	---	---	---	ND	---		
	8-Jul-08		---	0.2	ND	ND	ND	ND	ND	ND	---	ND		
	17-Dec-08		---	---	---	---	---	---	---	---	---	---		
	9-Jul-09		0.070	0.2	ND	ND	ND	ND	ND	ND	---	ND		
	16-Dec-09		---	---	---	---	---	---	---	---	---	---		
	24-Jun-10		0.070	0.20	ND	ND	ND	ND	ND	0.098	J	---	ND	
	13-Dec-10		---	---	---	---	---	---	---	---	---	---	---	
	20-Jun-11		0.10	0.20	ND	ND	ND	ND	ND	ND	---	---	ND	
5-Dec-11		---	---	---	---	---	---	---	---	---	---	---		
11-Jun-12		0.10	0.20	ND	ND	ND	ND	ND	ND	---	ND	ND		
12-Dec-12		---	---	---	---	---	---	---	---	---	---	---		
1-May-13		0.10	0.20	ND	ND	ND	ND	ND	ND	---	---	ND		
5-Aug-13		---	---	---	---	---	---	---	---	---	---	---		
24-Feb-14		0.10	0.20	ND	ND	ND	ND	ND	ND	---	ND	ND		
12-Aug-14		---	---	---	---	---	---	---	---	---	---	---		
Nickel NC 2L = 100 ug/L (10/23/07)	8-Sep-94		---	50	ND	ND	ND	ND	ND	ND	---	---		
	1-Dec-94		---	50	ND	ND	ND	ND	ND	ND	---	---		
	9-Feb-95		---	50	ND	72	ND	ND	ND	ND	---	---		
	2-Mar-95		---	50	ND	100	ND	ND	ND	ND	---	---		
	15-Nov-95		---	50	ND	61.0	ND	ND	ND	ND	---	---		
	28-May-96		---	50	ND	85.0	ND	ND	ND	ND	---	---		
	22-Nov-96		---	50	ND	72.0	ND	ND	ND	ND	---	---		
	17-Jun-97		---	50	75	98.0	ND	ND	ND	ND	---	---		
	1-Dec-97		---	50	ND	89.0	ND	ND	ND	ND	---	---		
	20-May-98		---	50	ND	91.0	ND	ND	ND	ND	---	---		
	19-Nov-98		---	50	ND	83.0	ND	ND	ND	ND	---	---		
	21-Jul-99		---	50	ND	109	ND	ND	ND	ND	---	---		
	16-Nov-99		---	50	ND	122	ND	ND	ND	ND	---	---		
	10-May-00		---	50	ND	104	ND	ND	ND	ND	---	---		
	26-Oct-00		---	50	ND	93.0	ND	ND	ND	ND	---	---		
	18-Apr-01		---	50	ND	107	ND	ND	ND	ND	---	---		
	27-Oct-01		---	50	ND	92.0	ND	ND	ND	ND	---	---		
	13-Jun-02		---	50	ND	98.0	ND	ND	ND	ND	---	---		
	19-Nov-02		---	50	ND	74.0	ND	ND	ND	ND	---	---		
	27-Jun-03		---	50	ND	85.0	ND	ND	ND	ND	---	---		
	30-Dec-03		---	50	ND	100	ND	ND	ND	ND	---	ND		
	30-Jun-04		---	50	ND	120 (81.0)	ND	ND	ND	ND	---	ND		
	29-Dec-04		---	50	ND	100	ND	ND	ND	ND	---	ND		
	29-Jun-05		---	50	ND	150 (92.0)	ND	ND	ND	ND	---	ND		
	29-Dec-05		---	50	ND	96.0	ND	ND	ND	ND	---	ND		
	28-Jun-06		---	50	ND	88.7	ND	ND	ND	ND	---	ND		
	29-Dec-06		---	50	ND	94.7	30.1	14.2	8.9	J	---	ND		
	12-Jul-07		---	50	ND	99.0	30.6	J	13.9	J	---	ND		
	19-Dec-07		---	50	ND	83.4	23.7	11.0	18.3	---	11.4	---	ND	
	8-Jul-08		---	50	ND	76.0	28.1	J	11.5	J	---	---	ND	
	17-Dec-08		1.7	50.0	ND	75.5	27.8	J	12.2	J	---	---	2.4	
	9-Jul-09		1.7	50.0	2.2	J	93.5	29.4	J	11.7	J	23.2	J	ND
	16-Dec-09		1.7	50.0	ND	J	81.2	28.2	J	11.8	B	2.6	B	ND
24-Jun-10		1.7	50.0	ND	J	76.3	19.7	J	9.0	J	7.0	J	4.5	
13-Dec-10		1.7	50.0	ND	J	83.0	23.5	J	6.8	B	20.7	J	ND	
20-Jun-11		5.0	50.0	ND	J	78.8	30.1	J	11.2	J	15.3	J	ND	
5-Dec-11		5.0	50.0	ND	J	89.1	32.8	J	11.7	J	24.3	J	ND	
11-Jun-12		5.0	50.0	ND	J	91.8	28.9	J	10.0	J	17.3	J	ND	
12-Dec-12		5.0	50.0	ND	J	91.8	29.2	J	9.3	J	21.1	J	ND	
1-May-13		5.0	50.0	ND	J	89.6	31.9	J	10.4	J	5.7	J	ND	
5-Aug-13		5.0	50.0	ND	J	87.9	28.1	J	9.0	J	8.4	J	ND	
24-Feb-14		5.0	50.0	ND	J	83.1	16.7	J	10.4	J	---	---	ND	
12-Aug-14	EPA 6010	5.0	50.0	ND	J	97.9	29	J	12.9	J	13.2	J	ND	

TABLE 1: HISTORICAL CONSTITUENTS IN GROUNDWATER

Analyte	Sample Date	Method	DL	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	NES-IS	Blanks			
Selenium	8-Sep-94		---	20	ND	ND	ND	ND	ND	ND	---	---			
	1-Dec-94		---	20	ND	ND	ND	ND	ND	ND	---	---			
	9-Feb-95		---	20	ND	ND	ND	ND	ND	ND	---	---			
	2-Mar-95		---	20	ND	ND	ND	ND	ND	ND	---	---			
	15-Nov-95		---	20	ND	ND	ND	ND	ND	ND	---	---			
	28-May-96		---	20	ND	ND	ND	ND	ND	ND	---	---			
	22-Nov-96		---	20	ND	ND	ND	ND	ND	ND	---	---			
	17-Jun-97		---	20	ND	ND	ND	ND	ND	ND	---	---			
	1-Dec-97		---	20	ND	ND	ND	ND	ND	ND	---	---			
	20-May-98		---	20	ND	ND	ND	ND	ND	ND	---	---			
	19-Nov-98		---	20	ND	ND	ND	ND	ND	ND	---	---			
	21-Jul-99		---	20	ND	ND	ND	ND	36.0	ND	---	---			
	16-Nov-99		---	20	ND	ND	ND	ND	ND	ND	---	---			
	10-May-00		---	20	ND	ND	ND	ND	ND	ND	---	---			
	26-Oct-00		---	20	ND	ND	ND	ND	ND	ND	---	---			
	18-Apr-01		---	20	ND	ND	ND	ND	ND	ND	---	---			
	27-Oct-01		---	20	ND	ND	ND	ND	ND	ND	---	---			
	13-Jun-02		---	20	ND	ND	ND	ND	ND	ND	---	---			
	19-Nov-02		---	20	ND	ND	ND	ND	ND	ND	---	---			
	27-Jun-03		---	20	ND	ND	ND	ND	ND	ND	---	---			
	30-Dec-03		---	20	ND	ND	ND	ND	ND	ND	---	ND			
	30-Jun-04		---	20	ND	ND	ND	ND	ND	ND	---	ND			
	29-Dec-04		---	20	ND	ND	ND	ND	ND	ND	---	ND			
	29-Jun-05		---	20	ND	ND	ND	ND	ND	ND	---	ND			
	29-Dec-05		---	20	ND	ND	ND	ND	ND	ND	---	ND			
	28-Jun-06		---	20	ND	ND	ND	ND	ND	ND	---	ND			
	29-Dec-06		---	10	ND	ND	ND	ND	ND	ND	---	ND			
	12-Jul-07		---	10	ND	ND	ND	ND	ND	ND	---	ND			
	19-Dec-07	NC 2L = 50 ug/L (10/23/07)		---	10	ND	11.5	ND	ND	ND	ND	ND	ND		
	8-Jul-08			---	10	ND	ND	ND	ND	ND	ND	ND	ND		
	17-Dec-08			3.8	10	4.8	B	5.1	B	4.8	B	ND	4.9	J	
	9-Jul-09			3.8	10	ND		ND		4.2	J	ND	ND		
	16-Dec-09			3.8	10	ND		ND		5.1	J	ND	ND		
	24-Jun-10	NC 2L = 20 ug/L (02/05/10)		3.8	10	ND		ND		ND		---	ND		
	13-Dec-10			3.8	10	ND		ND		ND		---	ND		
	20-Jun-11			10.0	10	ND		ND		ND		---	ND		
	5-Dec-11			10.0	10	ND		ND		ND		---	ND		
	11-Jun-12			10.0	10	ND		ND		ND		ND	ND		
	12-Dec-12			10.0	10	ND		ND		ND		---	ND		
1-May-13			10.0	10	ND		ND		ND		ND	ND			
5-Aug-13			10.0	10	ND		ND		ND		---	ND			
24-Feb-14			10.0	10	ND		ND		ND		ND	ND			
12-Aug-14		EPA 6010	10.0	10	ND		ND		ND		---	ND			
Silver	8-Sep-94		---	10	ND	ND	ND	ND	ND	ND	---	---			
	1-Dec-94		---	10	ND	ND	ND	ND	ND	ND	---	---			
	9-Feb-95		---	10	ND	ND	ND	ND	ND	ND	---	---			
	2-Mar-95		---	10	ND	ND	ND	ND	ND	ND	---	---			
	15-Nov-95		---	10	ND	ND	ND	ND	ND	ND	---	---			
	28-May-96		---	10	ND	ND	ND	ND	ND	ND	---	---			
	22-Nov-96		---	10	ND	ND	ND	ND	ND	ND	---	---			
	17-Jun-97		---	10	ND	ND	ND	ND	ND	ND	---	---			
	1-Dec-97		---	10	ND	8.0	ND	ND	ND	3	---	---			
	20-May-98		---	10	ND	ND	ND	ND	ND	ND	---	---			
	19-Nov-98		---	10	ND	ND	ND	ND	ND	ND	---	---			
	21-Jul-99		---	10	ND	ND	ND	ND	ND	ND	---	---			
	16-Nov-99		---	10	ND	ND	ND	ND	ND	ND	---	---			
	10-May-00		---	10	ND	ND	ND	ND	ND	ND	---	---			
	26-Oct-00		---	10	ND	ND	ND	ND	ND	ND	---	---			
	18-Apr-01		---	10	ND	15.0	ND	ND	ND	ND	---	---			
	27-Oct-01		---	10	ND	ND	ND	ND	ND	ND	---	---			
	13-Jun-02		---	10	ND	ND	ND	ND	ND	ND	---	---			
	19-Nov-02		---	10	ND	ND	ND	ND	ND	ND	---	---			
	27-Jun-03		---	10	ND	ND	ND	ND	ND	ND	---	---			
	30-Dec-03		---	10	ND	ND	ND	ND	ND	ND	---	ND			
	30-Jun-04		---	10	ND	ND	ND	ND	ND	ND	---	ND			
	29-Dec-04		---	10	ND	ND	ND	ND	ND	ND	---	ND			
	29-Jun-05		---	10	ND	ND	ND	ND	ND	ND	---	ND			
	29-Dec-05		---	10	ND	ND	ND	ND	ND	ND	---	ND			
	28-Jun-06		---	10	ND	ND	ND	ND	ND	ND	---	ND			
	29-Dec-06		---	10	ND	ND	ND	ND	ND	ND	---	ND			
	12-Jul-07		---	10	ND	ND	ND	ND	ND	ND	---	ND			
	19-Dec-07	NC 2L = 17.5 ug/L (10/23/07)		---	10	ND	0.57	J	0.60	J	0.55	J	0.33	J	
	8-Jul-08			---	10	ND	2.7	J	2.3	J	1.1	J	0.69	J	
	17-Dec-08			0.10	10.0	0.13	J	1.8	J	1.4	J	0.85	J	0.51	J
	9-Jul-09			0.10	10.0	ND		0.84	J	0.63	J	0.45	J	0.11	J
	16-Dec-09			0.10	10.0	0.12	J	2.0	J	1.6	J	1.0	J	0.52	J
	24-Jun-10	NC 2L = 20 ug/L (02/05/10)		0.10	10.0	ND		0.38	J	0.33	J	0.35	J	ND	
	13-Dec-10			0.10	10.0	0.15	B	1.3	J	0.99	J	0.45	B	{ND}	0.21 {0.19 J} J
	20-Jun-11			5.0	10.0	ND		ND		ND		ND		ND	
	5-Dec-11			5.0	10.0	ND		ND		ND		ND		ND	
	11-Jun-12			5.0	10.0	ND		ND		ND		ND		ND	
	12-Dec-12			5.0	10.0	ND		ND		ND		ND		ND	
1-May-13			5.0	10.0	ND		ND		ND		ND		ND		
5-Aug-13			5.0	10.0	ND		ND		ND		ND		ND		
24-Feb-14			5.0	10.0	ND		ND		ND		ND		ND		
12-Aug-14		EPA 6010	5.0	10.0	ND		ND		ND		---	ND			

TABLE 1: HISTORICAL CONSTITUENTS IN GROUNDWATER

Analyte	Sample Date	Method	DL	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	NES-1S	Blanks		
Thallium	8-Sep-94		---	10	ND	ND	ND	ND	ND	ND	---	---		
	1-Dec-94		---	10	ND	ND	ND	ND	ND	ND	---	---		
	9-Feb-95		---	10	ND	ND	ND	ND	ND	ND	---	---		
	2-Mar-95		---	10	ND	ND	ND	ND	ND	ND	---	---		
	15-Nov-95		---	10	ND	ND	ND	ND	ND	ND	---	---		
	28-May-96		---	10	ND	ND	ND	ND	ND	ND	---	---		
	22-Nov-96		---	10	ND	ND	ND	ND	ND	ND	---	---		
	17-Jun-97		---	10	ND	3.0	ND	ND	ND	ND	---	---		
	1-Dec-97		---	10	ND	ND	ND	ND	ND	ND	---	---		
	20-May-98		---	10	ND	ND	ND	ND	ND	ND	---	---		
	19-Nov-98		---	10	ND	ND	ND	ND	ND	ND	---	---		
	21-Jul-99		---	10	ND	ND	ND	ND	ND	ND	---	---		
	16-Nov-99		---	10	ND	ND	ND	ND	ND	ND	---	---		
	10-May-00		---	10	ND	ND	ND	ND	ND	ND	---	---		
	26-Oct-00		---	10	ND	ND	ND	ND	ND	ND	---	---		
	18-Apr-01		---	10	ND	ND	ND	ND	ND	ND	---	---		
	27-Oct-01		---	10	ND	ND	ND	ND	ND	ND	---	---		
	13-Jun-02		---	10	ND	ND	ND	ND	ND	ND	---	---		
	19-Nov-02		---	10	ND	ND	ND	ND	ND	ND	---	---		
	27-Jun-03		---	10	ND	ND	ND	ND	ND	ND	---	---		
	30-Dec-03		---	10	ND	ND	ND	ND	ND	ND	---	ND		
	30-Jun-04		---	10	ND	ND	ND	ND	ND	ND	---	ND		
	29-Dec-04		---	10	ND	10 J (ND)	ND	ND	ND	ND	---	ND		
	29-Jun-05		---	10	ND	22.0 (30.0)	13.0 (24.0)	ND	ND	ND	---	ND		
	29-Dec-05		---	10	ND	23.0	20.0	ND	ND	ND	---	ND		
	28-Jun-06		---	10	ND	25.7	12.6	ND	ND	ND	---	ND		
	29-Dec-06		---	6	ND	ND	ND	ND	ND	ND	---	ND		
	12-Jul-07		---	5.5	ND	ND	ND	ND	ND	ND	---	ND		
	19-Dec-07	GWPS = 0.28 ug/L (10/23/07)		5.5	ND	4.0	J	ND	ND	ND	ND	ND	ND	
	8-Jul-08		---	5.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	17-Dec-08		---	3.0	5.5	ND	3.2	J	3.2	J	ND	ND	ND	
	9-Jul-09		---	3.0	5.5	ND	ND	ND	4.1	J	ND	ND	ND	
	16-Dec-09		---	3.0	5.5	ND	ND	ND	ND	ND	ND	ND	ND	
	24-Jun-10		---	3.0	5.5	ND	ND	5.2	J	3.1	J	ND	ND	
	13-Dec-10	GWPS = 0.2 ug/L (10/1/10)		3.0	5.5	ND	ND	7.7	ND	ND	ND	ND	ND	
	20-Jun-11		---	5.4	5.5	ND	ND	ND	ND	ND	ND	ND	ND	
	5-Dec-11		---	5.4	5.5	ND	ND	ND	ND	ND	ND	ND	ND	
	11-Jun-12		---	5.4	5.5	ND	ND	ND	ND	ND	ND	ND	ND	
	12-Dec-12		---	5.4	5.5	ND	ND	ND	ND	ND	ND	ND	ND	
1-May-13		---	5.4	5.5	ND	ND	ND	ND	ND	ND	ND	ND		
5-Aug-13		---	5.4	5.5	ND	ND	ND	ND	ND	ND	ND	ND		
24-Feb-14		---	5.4	5.5	ND	ND	ND	ND	ND	ND	ND	ND		
12-Aug-14	EPA 6010	---	5.4	5.5	ND	ND	ND	ND	ND	ND	ND	ND		
Tin	1-Dec-97		---	100	ND	ND	ND	ND	ND	ND	---	---		
	19-Nov-98		---	100	ND	ND	ND	ND	ND	ND	---	---		
	16-Nov-99		---	100	ND	ND	ND	ND	ND	ND	---	---		
	26-Oct-00		---	100	---	---	---	---	---	---	---	---		
	18-Apr-01		---	100	---	---	---	---	---	---	---	---		
	27-Oct-01		---	100	---	---	---	---	---	---	---	---		
	13-Jun-02		---	100	ND	ND	ND	ND	ND	ND	---	---		
	19-Nov-02		---	100	---	---	---	---	---	---	---	---		
	27-Jun-03		---	100	ND	149	127	ND	ND	ND	---	---		
	30-Dec-03		---	100	ND	ND	ND	ND	ND	ND	---	ND		
	30-Jun-04		---	100	ND	ND	ND	ND	ND	ND	---	ND		
	29-Dec-04		---	100	ND	ND	ND	ND	ND	ND	---	ND		
	29-Jun-05		---	100	ND	ND	ND	ND	ND	ND	---	ND		
	29-Dec-05		---	100	ND	ND	ND	ND	ND	ND	---	ND		
	28-Jun-06		---	100	ND	ND	ND	ND	ND	ND	---	ND		
	29-Dec-06		---	100	ND	41.1	14.4	3.2	J	ND	ND	ND		
	12-Jul-07	NC 2L = NE ug/L (10/23/07)		100	ND	35.2	J	13.9	J	5.2	J	ND	ND	
	19-Dec-07		---	100	ND	33.6	7.4	ND	ND	ND	ND	ND	ND	
	8-Jul-08		---	100	4.4	J	28.6	J	15.1	J	5.4	J	3.6	J
	17-Dec-08		---	1.8	100	ND	22.5	J	9.2	J	ND	ND	ND	ND
	9-Jul-09		---	1.8	100	ND	21.4	J	8.6	J	ND	ND	ND	ND
	16-Dec-09		---	1.8	100	ND	26.3	J	10.7	J	ND	ND	ND	ND
	24-Jun-10	GWPS = 2100 ug/L (02/05/10)		1.8	100	ND	23.4	J	10.7	J	3.2	J	2.2	J
	13-Dec-10		---	1.8	100	ND	30.3	J	12.1	J	5.8	J	ND	ND
20-Jun-11		---	5.0	100	ND	26.8	J	13.8	J	ND	ND	ND	ND	
5-Dec-11		---	5.0	100	ND	25.8	J	13.9	J	ND	ND	ND	ND	
11-Jun-12		---	5.0	100	ND	22.2	J	9.0	J	ND	ND	ND	ND	
12-Dec-12		---	5.0	100	ND	30.0	J	13.2	J	ND	ND	ND	ND	
1-May-13		---	5.0	100	ND	25.8	J	12.2	J	ND	ND	ND	ND	
5-Aug-13		---	5.0	100	ND	22.7	J	12.5	J	ND	ND	ND	ND	
24-Feb-14		---	5.0	100	ND	26.7	J	11.7	J	9.8	J	ND	ND	
12-Aug-14	EPA 6010	---	5.0	100	ND	30.7	J	8.2	J	ND	ND	ND	ND	
Vanadium	8-Sep-94		---	40	ND	ND	ND	ND	ND	130	---	---		
	1-Dec-94		---	40	63.0	ND	ND	45.0	ND	ND	---	---		
	9-Feb-95		---	40	ND	ND	ND	ND	ND	ND	---	---		
	2-Mar-95		---	40	41.0	ND	ND	45.0	ND	ND	---	---		
	15-Nov-95		---	40	ND	ND	ND	ND	ND	ND	---	---		
	28-May-96		---	40	83.0	ND	ND	ND	ND	ND	---	---		
	22-Nov-96		---	40	7.0	17	ND	21.0	ND	ND	---	---		
	17-Jun-97		---	40	450	560	ND	19.0	ND	ND	---	---		
	1-Dec-97		---	40	62.0	88.0	ND	41.0	ND	10.0	---	---		
	20-May-98		---	40	25.0	15.0	ND	10.0	5.0	ND	---	---		
	19-Nov-98		---	40	33.0	29.0	5.0	16.0	9.0	5.0	---	---		
	21-Jul-99		---	40	ND	ND	ND	ND	ND	ND	---	---		
	16-Nov-99		---	40	ND	ND	ND	ND	ND	ND	---	---		
	10-May-00		---	40	ND	ND	ND	ND	ND	ND	---	---		
	26-Oct-00		---	40	ND	ND	ND	ND	ND	ND	---	---		
	18-Apr-01		---	40	ND	ND	ND	ND	ND	ND	---	---		
	27-Oct-01		---	40	ND	ND	ND	ND	ND	ND	---	---		
	13-Jun-02		---	40	ND	ND	ND	ND	ND	ND	---	---		
	19-Nov-02		---	40	ND	ND	ND	ND	ND	ND	---	---		
	27-Jun-03		---	40	ND	ND	ND	ND	ND	ND	---	---		
	30-Dec-03		---	40	ND	ND	ND	ND	ND	ND	---	ND		
	30-Jun-04		---	40	ND	ND	ND	ND	ND	ND	---	ND		
	29-Dec-04		---	40	ND	ND	ND	ND	ND	ND	---	ND		
	29-Jun-05		---	40	ND	ND	ND	ND	ND	ND	---	ND		
	29-Dec-05		---	40	ND	ND	ND	ND	ND	ND	---	ND		
	28-Jun-06		---	40	ND	ND	ND	ND	ND	ND	---	ND		
	29-Dec-06		---	25	2.7	J	ND	ND	14.5	ND	1.0	J	ND	
	12-Jul-07		---	25	2.2	B	2.2	B	19.4	J	ND	ND	ND	
	19-Dec-07	GWPS = 3.5 ug/L (10/23/07)		25	2.2	B	2.2	B	15.7	J	3.0	B	1.2	B
8-Jul-08		---	25	2.6	J	2.4	J	14.6	J	1.4	J	1.2	J	
17-Dec-08		---	0.20	25.0	1.9	B	2.3	13.9	J	2.5	B	1.2	B	
9-Jul-09		---	0.20	25.0	3.9	B	9.7	18.4	J	2.9	B	2.2	B	
16-Dec-09		---	0.20	25.0	2.0	B	4.4	14.0	J	2.2	B	1.5	B	
24-Jun-10	GWPS = 0.3 ug/L (10/1/10)		0.20	25.0	1.8	J	4.4	13.3	J	2.2	J	1.3	J	
13-Dec-10		---	0.20	25.0	3.2	J	3.6	16.6	J	1.8	B	1.0	B	
20-Jun-11		---	5.0	25.0	ND	ND	ND	14.5	J	ND	ND	ND	ND	
5-Dec-11		---	5.0	25.0	ND	ND	ND	13.5	J	ND	ND	ND	ND	
11-Jun-12		---	5.0	25.0	ND	18.0	J	12.3	J	ND	ND	ND	ND	
12-Dec-12		---	5.0	25.0	ND	ND	ND	13.6	J	ND	ND	ND	ND	
1-May-13		---	5.0	25.0	ND	ND	ND	6.3	J	ND	ND	ND	ND	
5-Aug-13		---	5.0	25.0	ND	ND	ND	10.2	J	ND	ND	ND	ND	
24-Feb-14		---	5.0	25.0	ND	ND	ND	12.9	J	ND	ND	ND	ND	
12-Aug-14	EPA 6010	---	5.0	25.0	ND	ND	ND	18.6	J	ND	ND	ND	ND	

TABLE 1: HISTORICAL CONSTITUENTS IN GROUNDWATER

Analyte	Sample Date	Method	DL	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	NES-IS	Blanks					
Zinc	8-Sep-94		---	50	110	160	ND	ND	320	430	---	---					
	1-Dec-94		---	50	132	ND	ND	70	164	ND	---	---					
	9-Feb-95		---	50	144	89	ND	91	79	74	---	---					
	2-Mar-95		---	50	67	ND	ND	ND	111	ND	---	---					
	15-Nov-95		---	50	ND	50	ND	ND	ND	ND	---	---					
	28-May-96		---	50	136	ND	ND	ND	122	ND	---	---					
	22-Nov-96		---	50	79.0	48.0	28.0	ND	38.0	ND	---	---					
	17-Jun-97		---	50	370	410	33.0	39.0	36.0	69.0	---	---					
	1-Dec-97		---	50	140	110	11.0	45.0	34.0	30.0	---	---					
	20-May-98		---	50	70.0	63.0	23.0	31.0	47.0	34.0	---	---					
	19-Nov-98		---	50	61.0	33.0	21.0	17.0	53.0	10.0	---	---					
	21-Jul-99		---	50	ND	ND	ND	ND	ND	ND	---	---					
	16-Nov-99		---	50	ND	ND	ND	ND	ND	ND	---	---					
	10-May-00		---	50	ND	ND	ND	ND	ND	ND	---	---					
	26-Oct-00		---	50	ND	ND	ND	ND	ND	ND	---	---					
	18-Apr-01		---	50	ND	ND	ND	ND	ND	ND	---	---					
	27-Oct-01		---	50	ND	ND	ND	ND	ND	ND	---	---					
	13-Jun-02		---	50	ND	ND	ND	ND	382	ND	---	---					
	19-Nov-02		---	50	ND	ND	ND	ND	ND	ND	---	---					
	27-Jun-03		---	50	ND	ND	ND	ND	ND	ND	---	---					
	30-Dec-03		---	50	ND	ND	ND	ND	ND	ND	---	ND					
	30-Jun-04		---	50	ND	ND	ND	ND	ND	ND	---	ND					
	29-Dec-04		---	50	ND	ND	ND	66.0	ND	ND	---	ND					
	29-Jun-05		---	50	ND	54.0	56.0	ND	ND	ND	---	ND					
	29-Dec-05		---	50	ND	ND	ND	ND	ND	ND	---	ND					
	28-Jun-06		---	50	ND	ND	ND	ND	ND	ND	---	ND					
	29-Dec-06		---	50	8.0	J	ND	ND	4.1	J	4.1	J	ND				
	12-Jul-07		---	10	9.6	J	ND	ND	ND	ND	4.1	J	ND				
	19-Dec-07	NC 2L = 1,050 ug/L (10/23/07)	---	10	4.3	B	14.3	B	6.3	B	ND	2.4	B	102			
	8-Jul-08		---	10	5.9	B	ND	ND	ND	4.1	B	ND	---	1.2			
	17-Dec-08		0.40	10.0	2.4	B	6.3	J	ND	4.6	J	0.60	B	0.49			
	9-Jul-09		0.40	10.0	3.4	B	ND	ND	ND	ND	ND	6.1	B	1.6			
	16-Dec-09		0.40	10.0	4.6	B	ND	ND	ND	7.4	B	---	---	7.7			
	24-Jun-10	NC 2L = 1,000 ug/L (02/05/10)	0.40	10.0	0.58	J	ND	ND	ND	ND	1.3	J	---	ND			
	13-Dec-10		0.40	10.0	4.5	B	ND	ND	ND	ND	ND	---	---	6.7			
	20-Jun-11		10.0	10.0	ND	ND	ND	ND	ND	ND	ND	---	---	ND			
	5-Dec-11		10.0	10.0	ND	ND	ND	ND	ND	ND	ND	---	---	12.4			
	11-Jun-12		10.0	10.0	ND	20.9	ND	ND	ND	ND	ND	ND	---	ND			
	12-Dec-12		10.0	10.0	ND	ND	ND	ND	ND	ND	ND	---	---	ND			
	1-May-13		10.0	10.0	ND	ND	ND	ND	ND	11.8	ND	10.0	---	ND			
5-Aug-13		10.0	10.0	ND	ND	ND	ND	ND	ND	ND	---	---	ND				
24-Feb-14		10.0	10.0	ND	ND	ND	ND	ND	ND	ND	ND	---	ND				
12-Aug-14		EPA 6010	10.0	10.0	ND	ND	ND	ND	16.9	ND	---	---	ND				
Cyanide	9-Jul-09		5.0	10	ND	ND	ND	ND	46.9	ND	ND	ND					
	28-Sep-09	Resample >	5.0	10	---	---	---	---	ND	---	---	ND					
	16-Dec-09		---	---	---	---	---	---	---	---	---	ND					
	24-Jun-10		5.0	10.0	ND	ND	ND	ND	ND	ND	---	ND					
	13-Dec-10		---	---	---	---	---	---	---	---	---	ND					
	20-Jun-11	Resample >	5.0	10.0	ND	ND	ND	ND	ND	ND	---	ND					
	5-Dec-11		---	---	---	---	---	---	---	---	---	ND					
	11-Jun-12		5.0	10.0	ND	6.4	J	ND	8.7	J	ND	---	ND				
	12-Dec-12		---	---	---	---	---	---	---	---	---	---	ND				
	1-May-13		5.0	10.0	ND	ND	ND	ND	ND	ND	---	---	ND				
	5-Aug-13		---	---	---	---	---	---	---	---	---	---	ND				
	24-Feb-14		5.0	10.0	ND	ND	ND	ND	ND	ND	ND	---	5.5				
	12-Aug-14		5.0	10.0	ND	ND	ND	ND	ND	ND	ND	---	ND				
ORGANICS																	
Acetone	27-Oct-01		---	100	244	B	109	B	ND	130	B	128	B	476	B	---	479
	13-Jun-02		---	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---
	13-Jun-02		---	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---
	19-Nov-02		---	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---
	27-Jun-03		---	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---
	30-Dec-03		---	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND
	30-Jun-04		---	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND
	29-Dec-04		---	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND
	29-Jun-05		---	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND
	29-Dec-05		---	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND
	28-Jun-06		---	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND
	29-Dec-06		---	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND
	12-Jul-07		---	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND
	19-Dec-07		---	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	4.5
	8-Jul-08		---	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND
	17-Dec-08		20.0	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND
	9-Jul-09		20.0	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	ND
	16-Dec-09		2.2	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	2.8
	24-Jun-10	NC 2L = 6,000 ug/L (02/05/10)	2.2	100	ND	18.5	B	6.5	B	ND	2.2	B	ND	---	7.7	J	---
	13-Dec-10		2.2	100	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	---	---
	20-Jun-11		2.2	100	ND	ND	ND	ND	ND	ND	2.4	B	---	---	3.9	J	---
	5-Dec-11		2.2	100	ND	2.3	B	ND	ND	ND	ND	---	---	---	8.8	J	---
	11-Jun-12		2.2	100	ND	3.5	B	ND	ND	ND	ND	---	---	---	4.7	J	---
	12-Dec-12		10.0	100	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	---	---
	1-May-13		10.0	100	ND	ND	ND	ND	ND	ND	ND	---	---	---	14.6	J	---
	5-Aug-13		10.0	100	ND	ND	ND	ND	ND	ND	ND	---	---	---	ND	---	---
24-Feb-14		10.0	100	ND	ND	ND	ND	ND	ND	ND	ND	---	---	25.7	J	---	
12-Aug-14	*	EPA 8260	10.0	100	ND	ND	ND	ND	ND	ND	ND	---	---	22.0	J	---	

TABLE 1: HISTORICAL CONSTITUENTS IN GROUNDWATER

Analyte	Sample Date	Method	DL	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	NES-1S	Blanks
Benzene NC 2L = 1 ug/L (10/23/07)	8-Sep-94		---	5	ND	ND	ND	ND	ND	ND	---	---
	1-Dec-94		---	5	ND	ND	ND	ND	ND	ND	---	---
	9-Feb-95		---	5	ND	ND	ND	ND	ND	ND	---	---
	2-Mar-95		---	5	ND	ND	ND	ND	ND	ND	---	---
	15-Nov-95		---	5	ND	ND	ND	ND	ND	ND	---	---
	28-May-96		---	5	ND	ND	ND	ND	ND	ND	---	---
	22-Nov-96		---	5	ND	ND	ND	ND	ND	ND	---	---
	17-Jun-97		---	5	ND	ND	ND	ND	ND	ND	---	---
	1-Dec-97		---	5	ND	ND	ND	ND	ND	ND	---	---
	20-May-98		---	5	ND	ND	ND	ND	ND	ND	---	---
	19-Nov-98		---	5	ND	ND	ND	ND	ND	ND	---	---
	21-Jul-99		---	5	ND	ND	ND	ND	ND	ND	---	---
	16-Nov-99		---	5	ND	ND	ND	ND	ND	ND	---	---
	10-May-00		---	5	ND	ND	ND	ND	ND	ND	---	---
	26-Oct-00		---	5	ND	ND	ND	ND	ND	ND	---	---
	18-Apr-01		---	5	ND	ND	ND	ND	ND	ND	---	---
	27-Oct-01		---	5	ND	ND	ND	ND	ND	ND	---	---
	13-Jun-02		---	5	ND	ND	ND	ND	ND	ND	---	---
	19-Nov-02		---	5	ND	ND	ND	ND	ND	ND	---	---
	27-Jun-03		---	5	ND	ND	ND	ND	ND	ND	---	---
	30-Dec-03		---	5	ND	ND	ND	ND	ND	ND	---	ND
	30-Jun-04		---	5	ND	ND	ND	ND	ND	ND	---	ND
	29-Dec-04		---	5	ND	ND	ND	ND	ND	ND	---	ND
	29-Jun-05		---	5	ND	ND	ND	ND	ND	ND	---	ND
	29-Dec-05		---	5	ND	ND	ND	ND	ND	ND	---	ND
	28-Jun-06		---	5	ND	ND	ND	ND	ND	ND	---	ND
	29-Dec-06		---	3	ND	1.5	ND	ND	ND	ND	---	ND
	Resample > 23-Feb-07		---	3	---	1.2	---	---	---	---	---	ND
	12-Jul-07		---	1	ND	1.9	ND	ND	ND	ND	---	ND
	19-Dec-07		---	1	ND	1.8	0.48	J	0.26	J	ND	ND
	8-Jul-08		---	1	ND	1.4	0.51	J	0.32	J	ND	ND
	17-Dec-08		0.25	1.0	ND	1.7	0.54	J	ND	ND	ND	ND
	9-Jul-09		0.25	1.0	ND	1.7	0.34	J	ND	ND	ND	ND
	16-Dec-09		0.25	1.0	ND	1.7	0.60	J	0.29	J	ND	ND
	24-Jun-10		0.25	1.0	ND	0.77	J	0.49	J	0.33	J	ND
	13-Dec-10		0.25	1.0	ND	1.8	0.59	J	0.37	J	ND	ND
	Resample > 8-Feb-11		0.25	1.0	---	1.4	---	---	---	---	---	ND
	20-Jun-11		0.25	1.0	ND	1.7	0.60	J	0.39	J	ND	ND
	5-Dec-11		0.25	1.0	ND	1.4	0.69	J	0.40	J	ND	ND
	11-Jun-12		0.25	1.0	ND	ND	0.51	J	ND	ND	ND	ND
	12-Dec-12		0.25	1.0	ND	1.6	0.73	J	0.32	J	ND	ND
Resample > 10-Jan-13		0.25	1.0	ND	1.4	---	---	---	---	---	ND	
1-May-13		0.25	1.0	ND	1.3	0.56	J	0.27	J	ND	ND	
5-Aug-13		0.25	1.0	ND	1.6	0.64	J	0.44	J	ND	ND	
24-Feb-14		0.25	1.0	ND	1.4	ND	ND	ND	ND	ND	ND	
* 12-Aug-14	EPA 8260	0.25	1.0	ND	1.7	0.61	J	0.25	J	ND	ND	
Bromomethane NC 2L = NE ug/L (10/23/07)	17-Dec-08		0.29	10.0	ND	ND	0.58	J	ND	ND	---	ND
	9-Jul-09		0.29	10.0	ND	ND	ND	ND	ND	ND	ND	ND
	16-Dec-09		0.29	10.0	ND	ND	ND	ND	ND	ND	---	ND
GWPS = 10 ug/L (8/1/10)	24-Jun-10		0.29	10.0	ND	ND	ND	ND	ND	ND	---	ND
	13-Dec-10		0.29	10.0	ND	ND	ND	ND	ND	ND	---	ND
	20-Jun-11		0.29	10.0	ND	ND	ND	ND	ND	ND	---	ND
	5-Dec-11		0.29	10.0	ND	ND	ND	ND	ND	ND	ND	ND
	11-Jun-12		0.29	10.0	ND	ND	ND	ND	ND	ND	ND	ND
	12-Dec-12		0.29	10.0	ND	ND	ND	ND	ND	ND	---	ND
	1-May-13		0.29	10.0	ND	ND	ND	ND	ND	ND	ND	ND
	5-Aug-13		0.29	10.0	ND	ND	ND	ND	ND	ND	---	ND
	24-Feb-14		0.29	10.0	ND	ND	ND	ND	ND	ND	ND	ND
* 12-Aug-14	EPA 8260	0.29	10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone NC 2L = 4,200 ug/L (10/23/07)	17-Dec-08		0.96	100	ND	ND	ND	ND	1.2	J	---	ND
	9-Jul-09		0.96	100	ND	ND	ND	ND	ND	ND	ND	ND
	16-Dec-09		0.96	100	ND	ND	ND	ND	ND	ND	---	ND
NC 2L = 4,000 ug/L (02/05/10)	24-Jun-10		0.96	100	ND	ND	ND	ND	ND	ND	---	ND
	13-Dec-10		0.96	100	ND	ND	ND	ND	ND	ND	---	ND
	20-Jun-11		0.96	100	ND	ND	ND	ND	ND	ND	---	ND
	5-Dec-11		0.96	100	ND	ND	ND	ND	ND	ND	---	ND
	11-Jun-12		0.96	100	ND	ND	ND	ND	ND	ND	ND	ND
	12-Dec-12		0.96	100	ND	ND	ND	ND	ND	ND	---	ND
	1-May-13		0.96	100	ND	ND	ND	ND	ND	ND	ND	ND
	8-May-13		0.96	100	ND	ND	ND	ND	ND	ND	---	ND
	24-Feb-14		0.96	100	ND	ND	ND	ND	ND	ND	ND	ND
* 12-Aug-14			0.96	100	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide NC 2L = 700 ug/L (10/23/07)	17-Jun-97		---	100	ND	64.0	ND	ND	ND	ND	---	---
	1-Dec-97		---	100	ND	5.0	8.0	ND	ND	ND	---	---
	20-May-98		---	100	ND	7.5	6.2	ND	ND	ND	---	---
	19-Nov-98		---	100	ND	ND	ND	ND	ND	ND	---	---
	21-Jul-99		---	100	ND	ND	ND	ND	ND	ND	---	---
	16-Nov-99		---	100	ND	ND	ND	ND	ND	ND	---	---
	10-May-00		---	100	ND	ND	ND	ND	ND	ND	---	---
	26-Oct-00		---	100	ND	ND	ND	ND	ND	ND	---	---
	18-Apr-01		---	100	ND	ND	ND	ND	ND	ND	---	---
	27-Oct-01		---	100	ND	ND	ND	ND	ND	ND	---	---
	13-Jun-02		---	5	ND	ND	ND	ND	ND	ND	---	---
	19-Nov-02		---	100	ND	ND	ND	ND	ND	ND	---	---
	27-Jun-03		---	100	ND	ND	ND	ND	ND	ND	---	---
	30-Dec-03		---	100	ND	ND	ND	ND	ND	ND	---	ND
	30-Jun-04		---	100	ND	ND	ND	ND	ND	ND	---	ND
	29-Dec-04		---	100	ND	ND	ND	ND	ND	ND	---	ND
	29-Jun-05		---	100	ND	ND	ND	ND	ND	ND	---	ND
	29-Dec-05		---	100	ND	ND	ND	ND	ND	ND	---	ND
	28-Jun-06		---	100	ND	ND	ND	ND	ND	ND	---	ND
	29-Dec-06		---	100	ND	ND	ND	ND	ND	ND	---	ND
	12-Jul-07		---	100	ND	ND	ND	ND	ND	ND	---	ND
	19-Dec-07		---	100	ND	ND	ND	ND	ND	ND	ND	ND
	8-Jul-08		---	100	ND	ND	ND	ND	ND	ND	---	ND
	17-Dec-08		1.2	100	ND	ND	ND	ND	ND	ND	---	ND
	9-Jul-09		1.2	100	ND	ND	ND	ND	ND	ND	ND	ND
	16-Dec-09		1.2	100	ND	ND	ND	ND	ND	ND	---	ND
	24-Jun-10		1.2	100	ND	ND	ND	ND	ND	ND	---	ND
	13-Dec-10		1.2	100	ND	ND	ND	ND	ND	ND	---	ND
	20-Jun-11		1.2	100	ND	ND	ND	ND	ND	ND	---	ND
	5-Dec-11		1.2	100	ND	ND	ND	ND	ND	ND	---	ND
	11-Jun-12		1.2	100	ND	ND	ND	ND	ND	ND	ND	ND
	12-Dec-12		1.2	100	ND	ND	ND	ND	ND	ND	---	ND
	1-May-13		1.2	100	ND	ND	ND	ND	ND	ND	ND	ND
	5-Aug-13		1.2	100	ND	ND	ND	ND	ND	ND	---	ND
	24-Feb-14		1.2	100	ND	ND	ND	ND	ND	ND	ND	ND
* 12-Aug-14	EPA 8260	1.2	100	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 1: HISTORICAL CONSTITUENTS IN GROUNDWATER

Analyte	Sample Date	Method	DL	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	NES-1S	Blanks
Chlorobenzene NC 2L = 50 ug/L (10/23/07) *	8-Sep-94		---	5	ND	10.0	7.0	ND	ND	ND	---	---
	1-Dec-94		---	5	ND	ND	7.0	ND	ND	ND	---	---
	9-Feb-95		---	5	ND	13.0	8.0	6.0	ND	ND	---	---
	2-Mar-95		---	5	ND	12.0	9.0	ND	ND	ND	---	---
	15-Nov-95		---	5	ND	14.0	8.0	9.0	ND	ND	---	---
	28-May-96		---	5	ND	15.0	9.0	10.0	ND	ND	---	---
	22-Nov-96		---	5	ND	15.0	ND	11.0	ND	ND	---	---
	17-Jun-97		---	5	ND	19.0	11.0	14.0	ND	ND	---	---
	1-Dec-97		---	5	ND	17.0	9.0	14.0	ND	ND	---	---
	20-May-98		---	5	ND	20.0	8.6	12.0	ND	ND	---	---
	19-Nov-98		---	5	ND	17.2	9.2	10.0	ND	ND	---	---
	21-Jul-99		---	5	ND	14.0	10.0	11.0	ND	ND	---	---
	16-Nov-99		---	5	ND	16.0	10.0	8.0	ND	ND	---	---
	10-May-00		---	5	ND	17.0	11.0	10.0	ND	ND	---	---
	26-Oct-00		---	5	ND	16.0	12.0	9.0	ND	ND	---	---
	18-Apr-01		---	5	ND	16.0	13.0	6.0	ND	ND	---	---
	27-Oct-01		---	0.5	ND	17.0	12.0	9.0	ND	ND	---	---
	13-Jun-02		---	0.5	ND	16.0	11.0	8.0	ND	ND	---	---
	19-Nov-02		---	0.5	ND	18.0	15.0	9.0	ND	ND	---	---
	27-Jun-03		---	0.5	ND	17.7	13.3	7.4	ND	ND	---	---
	30-Dec-03		---	5	ND	20.0	15.0	6.1	ND	ND	---	---
	30-Jun-04		---	5	ND	18.0	15.0	9.9	ND	ND	---	---
	29-Dec-04		---	5	ND	19.0	16.0	9.4	ND	ND	---	---
	29-Jun-05		---	5	ND	15.0	13.0	8.0	ND	ND	---	---
	29-Dec-05		---	5	ND	18.0	16.0	5.0	ND	ND	---	---
	28-Jun-06		---	5	ND	16.5	10.8	7.8	ND	ND	---	---
	29-Dec-06		---	3	ND	17.0	17.0	4.2	ND	ND	---	---
	12-Jul-07		---	3	ND	17.0	16.0	ND	ND	ND	---	---
	19-Dec-07		---	3	ND	17.3	16.9	4.7	ND	ND	ND	---
	8-Jul-08		---	3	ND	17.2	17.4	6.5	ND	ND	ND	---
	17-Dec-08		0.23	3.0	ND	15.9	15.6	2.6	J	ND	ND	---
	9-Jul-09		0.23	3.0	ND	16.1	17.2	6.1	ND	ND	ND	---
	16-Dec-09		0.23	3.0	ND	15.5	17.7	4.8	ND	ND	ND	---
	24-Jun-10		0.23	3.0	ND	8.3	15.7	6.3	ND	ND	ND	---
	13-Dec-10		0.23	3.0	ND	17.7	18.2	6.4	ND	ND	ND	---
	20-Jun-11		0.23	3.0	ND	16.3	17.2	6.7	ND	ND	ND	---
	5-Dec-11		0.23	3.0	ND	14.2	17.0	5.8	ND	ND	ND	---
	11-Jun-12		0.23	3.0	ND	12	14.8	4.4	ND	ND	ND	---
	12-Dec-12		0.23	3.0	ND	15.8	17.9	4.5	ND	ND	ND	---
	1-May-13		0.23	3.0	ND	14.0	16.6	3.0	J	ND	ND	---
5-Aug-13		0.23	3.0	ND	14.4	15.9	4.6	ND	ND	ND	---	
24-Feb-14		0.23	3.0	ND	16.3	2.5	1.4	J	ND	ND	---	
12-Aug-14		EPA 8260	0.23	3.0	ND	15.6	18.3	3.6	J	ND	ND	---
Chloroethane NC 2L = 2,800 ug/L (10/23/07) NC 2L = 3,000 ug/L (02/05/10) *	1-Dec-97		---	10	ND	5.0	2.0	2.0	ND	ND	---	---
	20-May-98		---	10	ND	ND	ND	ND	ND	ND	---	---
	19-Nov-98		---	10	ND	ND	ND	ND	ND	ND	---	---
	21-Jul-99		---	10	ND	ND	ND	ND	ND	ND	---	---
	16-Nov-99		---	10	ND	ND	ND	ND	ND	ND	---	---
	10-May-00		---	10	ND	ND	ND	ND	ND	ND	---	---
	26-Oct-00		---	10	ND	ND	ND	ND	ND	ND	---	---
	18-Apr-01		---	10	ND	ND	ND	ND	ND	ND	---	---
	27-Oct-01		---	10	ND	ND	ND	ND	ND	ND	---	---
	13-Jun-02		---	10	ND	ND	ND	ND	ND	ND	---	---
	19-Nov-02		---	10	ND	ND	ND	ND	ND	ND	---	---
	27-Jun-03		---	10	ND	ND	ND	ND	ND	ND	---	---
	30-Dec-03		---	10	ND	ND	ND	ND	ND	ND	---	---
	30-Jun-04		---	10	ND	ND	ND	ND	ND	ND	---	---
	29-Dec-04		---	10	ND	ND	ND	ND	ND	ND	---	---
	29-Jun-05		---	10	ND	ND	ND	ND	ND	ND	---	---
	29-Dec-05		---	10	ND	ND	ND	ND	ND	ND	---	---
	28-Jun-06		---	10	ND	ND	ND	ND	ND	ND	---	---
	29-Dec-06		---	10	ND	2.2	1.9	ND	ND	ND	---	---
	12-Jul-07		---	10	ND	ND	ND	ND	ND	ND	---	---
	19-Dec-07		---	10	ND	1.9	1.9	1.5	ND	ND	ND	---
	8-Jul-08		---	10	ND	2.2	2.5	1.8	J	ND	ND	---
	17-Dec-08		0.54	10.0	ND	1.6	J	ND	ND	ND	ND	---
	9-Jul-09		0.54	10.0	ND	ND	ND	3.8	J	ND	ND	---
	16-Dec-09		0.54	10.0	ND	ND	2.2	J	2.0	J	ND	---
	24-Jun-10		0.54	10.0	ND	ND	2.1	J	2.0	J	ND	---
13-Dec-10		0.54	10.0	ND	1.8	J	2.0	J	1.7	J	---	
20-Jun-11		0.54	10.0	ND	1.2	J	2.2	J	2.0	J	---	
5-Dec-11		0.54	10.0	ND	1.3	J	2.0	J	1.7	J	---	
11-Jun-12		0.54	10.0	ND	ND	ND	ND	ND	ND	ND	---	
12-Dec-12		0.54	10.0	ND	ND	ND	ND	ND	ND	ND	---	
1-May-13		0.54	10.0	ND	ND	1.9	J	2.7	J	ND	---	
5-Aug-13		0.54	10.0	ND	ND	2.0	J	2.2	J	ND	---	
24-Feb-14		0.54	10.0	ND	1.1	J	0.82	J	ND	ND	---	
12-Aug-14		EPA 8260	0.54	10.0	ND	1.1	J	1.50	J	1.1	J	---
Chloromethane NC 2L = 2.6 ug/L (10/23/07) NC 2L = 3 ug/L (02/05/10)	9-Jul-09		0.11	1.0	ND	ND	ND	ND	ND	ND	ND	ND
	16-Dec-09		0.11	1.0	ND	ND	ND	ND	ND	ND	---	ND
	24-Jun-10		0.11	1.0	ND	ND	ND	ND	ND	0.11	J	---
	13-Dec-10		0.11	1.0	ND	ND	ND	ND	ND	ND	---	---
	20-Jun-11		0.11	1.0	ND	ND	ND	ND	ND	ND	---	---
	5-Dec-11		0.11	1.0	ND	ND	ND	ND	ND	ND	---	---
	11-Jun-12		0.11	1.0	ND	ND	ND	ND	ND	ND	---	---
	12-Dec-12		0.11	1.0	ND	ND	ND	ND	ND	ND	---	---
	1-May-13		0.11	1.0	ND	ND	ND	ND	ND	ND	ND	---
	5-Aug-13		0.11	1.0	ND	ND	ND	ND	ND	ND	---	---
24-Feb-14		0.11	1.0	ND	ND	ND	ND	ND	ND	---	0.25	
12-Aug-14		EPA 8260	0.11	1.0	ND	ND	ND	ND	ND	ND	---	ND

TABLE 1: HISTORICAL CONSTITUENTS IN GROUNDWATER

Analyte	Sample Date	Method	DL	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	NES-1S	Blanks	
1,2-Dichlorobenzene	1-Dec-97		---	5	ND	3.0	2.0	1.0	ND	ND	---	---	
	20-May-98		---	5	ND	ND	ND	ND	ND	ND	---	---	
	19-Nov-98		---	5	ND	2.4	2.3	ND	ND	ND	---	---	
	21-Jul-99		---	5	ND	ND	ND	ND	ND	ND	---	---	
	16-Nov-99		---	5	ND	ND	ND	ND	ND	ND	---	---	
	10-May-00		---	5	ND	ND	ND	ND	ND	ND	---	---	
	26-Oct-00		---	5	ND	ND	ND	ND	ND	ND	---	---	
	18-Apr-01		---	5	ND	ND	ND	ND	ND	ND	---	---	
	27-Oct-01		---	5	ND	ND	ND	ND	ND	ND	---	---	
	13-Jun-02		---	5	ND	ND	ND	ND	ND	ND	---	---	
	19-Nov-02		---	5	ND	ND	ND	ND	ND	ND	---	---	
	27-Jun-03		---	5	ND	ND	ND	ND	ND	ND	---	---	
	30-Dec-03		---	5	ND	ND	ND	ND	ND	ND	---	ND	
	30-Jun-04		---	5	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-04		---	5	ND	ND	ND	ND	ND	ND	---	ND	
	29-Jun-05		---	5	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-05		---	5	ND	ND	ND	ND	ND	ND	---	ND	
	28-Jun-06		---	5	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-06		---	5	ND	1.5	2.3	ND	ND	ND	---	ND	
	12-Jul-07		---	5	ND	1.4	1.7	0.31	J	ND	---	ND	
	19-Dec-07		---	5	ND	1.6	2.0	0.37	J	ND	ND	ND	
	8-Jul-08		---	5	ND	1.6	2.0	0.39	J	ND	---	ND	
	17-Dec-08		0.30	5.0	ND	1.4	1.9	J	ND	ND	---	ND	
	9-Jul-09		0.30	5.0	ND	1.6	2.0	J	0.36	J	ND	ND	
	16-Dec-09		0.30	5.0	ND	1.6	2.0	J	0.33	J	ND	ND	
	24-Jun-10		0.30	5.0	ND	0.96	1.7	J	0.31	J	ND	ND	
	13-Dec-10		0.30	5.0	ND	1.9	1.9	J	0.43	J	ND	ND	
	20-Jun-11		0.30	5.0	ND	1.5	1.7	J	0.37	J	ND	ND	
	5-Dec-11		0.30	5.0	ND	1.3	1.6	J	ND	ND	ND	ND	
	11-Jun-12		0.30	5.0	ND	1.0	1.5	J	ND	ND	ND	ND	
	12-Dec-12		0.30	5.0	ND	1.3	1.7	J	ND	ND	ND	ND	
	1-May-13		0.30	5.0	ND	1.2	1.6	J	ND	ND	ND	ND	
	5-Aug-13		0.30	5.0	ND	1.2	1.6	J	0.30	J	ND	ND	
	24-Feb-14		0.30	5.0	ND	1.4	1.6	J	ND	ND	ND	ND	
12-Aug-14	*	EPA 8260	0.30	5.0	ND	1.2	1.5	J	ND	ND	ND	ND	
1,4-Dichlorobenzene	8-Sep-94		---	5	ND	ND	5.0	ND	ND	ND	---	---	
	1-Dec-94		---	5	ND	ND	5.0	ND	ND	ND	---	---	
	9-Feb-95		---	5	ND	8.0	6.0	ND	ND	ND	---	---	
	2-Mar-95		---	5	ND	7.0	6.0	ND	ND	ND	---	---	
	15-Nov-95		---	5	ND	7.0	6.0	ND	ND	ND	---	---	
	28-May-96		---	5	ND	ND	ND	ND	ND	ND	---	---	
	22-Nov-96		---	5	ND	ND	ND	ND	ND	ND	---	---	
	17-Jun-97		---	5	ND	7.6	6.2	ND	ND	ND	---	---	
	1-Dec-97		---	5	ND	6.0	5.0	4.0	ND	ND	---	---	
	20-May-98		---	5	ND	7.6	ND	ND	ND	ND	---	---	
	19-Nov-98		---	5	ND	3.7	2.8	ND	ND	ND	---	---	
	21-Jul-99		---	5	ND	ND	ND	ND	ND	ND	---	---	
	16-Nov-99		---	5	ND	ND	ND	ND	ND	ND	---	---	
	10-May-00		---	5	ND	ND	ND	ND	ND	ND	---	---	
	26-Oct-00		---	5	ND	5.0	6.0	ND	ND	ND	---	---	
	18-Apr-01		---	5	ND	ND	5.0	6.0	ND	ND	---	---	
	27-Oct-01		---	5	ND	ND	ND	ND	ND	ND	---	---	
	13-Jun-02		---	5	ND	ND	ND	ND	ND	ND	---	---	
	19-Nov-02		---	5	ND	ND	ND	ND	ND	ND	---	---	
	27-Jun-03		---	5	ND	ND	ND	ND	ND	ND	---	---	
	30-Dec-03		---	5	ND	ND	ND	ND	ND	ND	---	ND	
	30-Jun-04		---	5	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-04		---	5	ND	ND	ND	ND	ND	ND	---	ND	
	29-Jun-05		---	5	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-05		---	5	ND	ND	ND	ND	ND	ND	---	ND	
	28-Jun-06		---	5	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-06		---	3	ND	3.0	3.3	ND	ND	ND	---	ND	
	23-Feb-07		Resample >	---	3	---	3.2	3.3	---	---	---	---	ND
	12-Jul-07		---	1	ND	3.3	2.9	0.31	J	ND	ND	---	ND
	19-Dec-07		---	1	ND	3.0	2.7	ND	ND	ND	ND	ND	ND
	8-Jul-08		---	1	ND	3.0	2.4	ND	ND	ND	ND	---	ND
	17-Dec-08		0.33	1.0	ND	2.9	2.5	ND	ND	ND	ND	---	ND
	9-Jul-09		0.33	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
	16-Dec-09		0.33	1.0	ND	2.8	2.2	ND	ND	ND	ND	---	ND
24-Jun-10		0.33	1.0	ND	1.6	ND	ND	ND	ND	ND	---	ND	
13-Dec-10		0.33	1.0	ND	3.1	1.9	ND	ND	ND	ND	---	ND	
20-Jun-11		0.33	1.0	ND	2.7	1.6	ND	ND	ND	ND	---	ND	
5-Dec-11		0.33	1.0	ND	2.2	1.4	ND	ND	ND	ND	---	ND	
11-Jun-12		0.33	1.0	ND	1.8	1.4	ND	ND	ND	ND	ND	ND	
12-Dec-12		0.33	1.0	ND	2.4	1.3	ND	ND	ND	ND	---	ND	
1-May-13		0.33	1.0	ND	2.1	1.2	ND	ND	ND	ND	ND	ND	
5-Aug-13		0.33	1.0	ND	2.0	1.3	ND	ND	ND	ND	---	ND	
24-Feb-14		0.33	1.0	ND	2.2	1.8	ND	ND	ND	ND	ND	ND	
12-Aug-14	*	EPA 8260	0.33	1.0	ND	2.4	1.3	ND	ND	ND	ND	ND	
Trans-1,4-Dichloro-2-Butene	20-May-98		---	100	ND	ND	5.1	ND	ND	ND	---	---	
	19-Nov-98		---	100	ND	ND	ND	ND	ND	ND	---	---	
	21-Jul-99		---	100	ND	ND	ND	ND	ND	ND	---	---	
	16-Nov-99		---	100	ND	ND	ND	ND	ND	ND	---	---	
	10-May-00		---	100	ND	ND	ND	ND	ND	ND	---	---	
	26-Oct-00		---	100	ND	ND	ND	ND	ND	ND	---	---	
	18-Apr-01		---	100	ND	ND	ND	ND	ND	ND	---	---	
	27-Oct-01		---	100	ND	ND	ND	ND	ND	ND	---	---	
	19-Nov-02		---	100	ND	ND	ND	ND	ND	ND	---	---	
	27-Jun-03		---	100	ND	ND	ND	ND	ND	ND	---	---	
	30-Dec-03		---	100	ND	ND	ND	ND	ND	ND	---	ND	
	30-Jun-04		---	100	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-04		---	100	ND	ND	ND	ND	ND	ND	---	ND	
	29-Jun-05		---	100	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-05		---	100	ND	ND	ND	ND	ND	ND	---	ND	
	28-Jun-06		---	100	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-06		---	100	ND	ND	ND	ND	ND	ND	---	ND	
	12-Jul-07		---	100	ND	ND	ND	ND	ND	ND	---	ND	
	19-Dec-07		---	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	8-Jul-08		---	100	ND	ND	ND	ND	ND	ND	---	ND	
	17-Dec-08		1.0	100	ND	ND	ND	ND	ND	ND	---	ND	
	9-Jul-09		1.0	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	16-Dec-09		1.0	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	24-Jun-10		1.0	100	ND	ND	ND	ND	ND	ND	---	ND	
	13-Dec-10		1.0	100	ND	ND	ND	ND	ND	ND	---	ND	
	20-Jun-11		1.0	100	ND	ND	ND	ND	ND	ND	---	ND	
	5-Dec-11		1.0	100	ND	ND	ND	ND	ND	ND	---	ND	
11-Jun-12		1.0	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	
12-Dec-12		1.0	100	ND	ND	ND	ND	ND	ND	---	ND		
1-May-13		1.0	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	
5-Aug-13		1.0	100	ND	ND	ND	ND	ND	ND	---	ND		
24-Feb-14		1.0	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	
12-Aug-14	*	EPA 8260	1.0	100	ND	ND	ND	ND	ND	ND	ND	ND	

TABLE 1: HISTORICAL CONSTITUENTS IN GROUNDWATER

Analyte	Sample Date	Method	DL	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	NES-1S	Blanks	
1,1-Dichloroethane NC 2L = 70 ug/L (10/23/07) NC 2L = 6 ug/L (02/05/10)	1-Dec-97		---	5	ND	ND	1.0	ND	ND	ND	---	---	
	20-May-98		---	5	ND	ND	ND	ND	ND	ND	---	---	
	19-Nov-98		---	5	ND	ND	ND	ND	ND	ND	---	---	
	21-Jul-99		---	5	ND	ND	ND	ND	ND	ND	---	---	
	16-Nov-99		---	5	ND	ND	ND	ND	ND	ND	---	---	
	10-May-00		---	5	ND	ND	ND	ND	ND	ND	---	---	
	26-Oct-00		---	5	ND	ND	ND	ND	ND	ND	---	---	
	18-Apr-01		---	5	ND	ND	ND	ND	ND	ND	---	---	
	27-Oct-01		---	5	ND	ND	ND	ND	ND	ND	---	---	
	13-Jun-02		---	5	ND	ND	ND	ND	ND	ND	---	---	
	19-Nov-02		---	5	ND	ND	ND	ND	ND	ND	---	---	
	27-Jun-03		---	5	ND	ND	ND	ND	ND	ND	---	---	
	30-Dec-03		---	5	ND	ND	ND	ND	ND	ND	---	ND	
	30-Jun-04		---	5	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-04		---	5	ND	ND	ND	ND	ND	ND	---	ND	
	29-Jun-05		---	5	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-05		---	5	ND	ND	ND	ND	ND	ND	---	ND	
	28-Jun-06		---	5	ND	ND	ND	ND	ND	ND	---	ND	
	29-Dec-06		---	5	ND	ND	ND	ND	ND	ND	---	ND	
	12-Jul-07		---	5	ND	ND	0.36	J	0.52	J	ND	---	ND
	19-Dec-07		---	5	ND	ND	ND		0.57	J	ND	ND	ND
	8-Jul-08		---	5	ND	ND	ND		0.60	J	ND	---	ND
	17-Dec-08		0.32	5.0	ND	ND	ND		0.51	J	ND	---	ND
	9-Jul-09		0.32	5.0	ND	ND	ND		0.84	J	ND	ND	ND
	16-Dec-09		0.32	5.0	ND	ND	ND		0.73	J	ND	---	ND
	24-Jun-10		0.32	5.0	ND	ND	ND		0.53	J	ND	---	ND
	13-Dec-10		0.32	5.0	ND	ND	ND		0.60	J	ND	---	ND
	20-Jun-11		0.32	5.0	ND	ND	ND		0.63	J	ND	---	ND
	5-Dec-11		0.32	5.0	ND	ND	ND		0.67	J	ND	---	ND
	11-Jun-12		0.32	5.0	ND	ND	ND		ND		ND	ND	ND
	12-Dec-12		0.32	5.0	ND	ND	ND		0.61	J	ND	---	ND
	1-May-13		0.32	5.0	ND	ND	ND		0.62	J	ND	ND	ND
	8-May-13		0.32	5.0	ND	ND	ND		0.53	J	ND	---	ND
24-Feb-14		0.32	5.0	ND	ND	ND		0.50	J	ND	ND	ND	
12-Aug-14	EPA 8260	0.32	5.0	ND	ND	ND		0.47	J	ND	ND	ND	
1,2-Dichloroethane NC 2L = 0.38 ug/L (10/23/07) NC 2L = 0.4 ug/L (02/05/10)	17-Dec-08		0.12	1.0	ND	ND	0.15	J	ND	ND	---	ND	
	9-Jul-09		0.12	1.0	ND	ND	ND		ND	ND	ND	0.19	
	16-Dec-09		0.12	1.0	ND	ND	0.14	J	ND	ND	---	ND	
	24-Jun-10		0.12	1.0	ND	ND	ND		ND	ND	---	ND	
	13-Dec-10		0.12	1.0	ND	ND	ND		ND	ND	---	ND	
	20-Jun-11		0.12	1.0	ND	ND	ND		ND	ND	---	ND	
	5-Dec-11		0.12	1.0	ND	ND	ND		0.18	J	ND	---	ND
	11-Jun-12		0.12	1.0	ND	ND	ND		ND		ND	---	ND
	12-Dec-12		0.12	1.0	ND	ND	ND		-0.20	J	ND	---	0.20 (ND)
	1-May-13		0.12	1.0	ND	ND	ND		ND		ND	---	ND
	5-Aug-13		0.12	1.0	ND	ND	ND		ND		ND	---	ND
	24-Feb-14		0.12	1.0	ND	ND	ND		ND		ND	---	ND
12-Aug-14	EPA 8260	0.12	1.0	ND	ND	ND		ND		ND	---	ND	
Ethylbenzene NC 2L = 550 ug/L (10/23/07) NC 2L = 600 ug/L (02/05/10)	17-Dec-08		0.30	1.0	ND	0.31	J	ND	ND	ND	---	ND	
	9-Jul-09		0.30	1.0	ND	ND	ND		ND	ND	ND	ND	
	16-Dec-09		0.30	1.0	ND	ND	ND		ND	ND	---	ND	
	24-Jun-10		0.30	1.0	ND	ND	ND		ND	ND	---	ND	
	13-Dec-10		0.30	1.0	ND	ND	ND		ND	ND	---	ND	
	20-Jun-11		0.30	1.0	ND	ND	ND		ND	ND	---	ND	
	5-Dec-11		0.30	1.0	ND	ND	ND		ND	ND	---	ND	
	11-Jun-12		0.30	1.0	ND	ND	ND		ND	ND	ND	---	ND
	12-Dec-12		0.30	1.0	ND	ND	ND		ND	ND	---	ND	
	1-May-13		0.30	1.0	ND	ND	ND		ND	ND	ND	---	ND
	5-Aug-13		0.30	1.0	ND	ND	ND		ND	ND	---	ND	
	24-Feb-14		0.30	1.0	ND	ND	ND		ND	ND	ND	---	ND
12-Aug-14	EPA 8260	0.30	1.0	ND	ND	ND		ND	ND	ND	---	ND	
Isobutanol NC 2L = NE ug/L (02/05/10)	24-Jun-10		35.0	100	ND	59.0	J	ND	ND	ND	---	ND	
	13-Dec-10		---	---	---	---		---	---	---	---	---	
	20-Jun-11		35.0	100	ND	39.5	J	ND	ND	ND	---	ND	
	5-Dec-11		---	---	---	---		---	---	---	---	---	
	11-Jun-12		35.0	100.0	ND	---		---	---	---	ND	---	
	12-Dec-12		---	---	---	---		---	---	---	---	---	
	1-May-13		35.0	100	ND	---		---	---	---	---	---	
	5-Aug-13		---	---	---	---		---	---	---	---	---	
24-Feb-14		35.0	100	ND	---		---	---	---	---	---		
12-Aug-14		35.0	100	ND	---		---	---	---	---	---		
Methylene Chloride NC 2L = 4.3 ug/L (10/23/07) NC 2L = 5 ug/L (02/05/10) Resample >	9-Jul-09		0.97	2.0	ND	ND	ND	ND	ND	ND	ND	9.6	
	16-Dec-09		0.97	2.0	ND	ND	ND	ND	ND	ND	---	ND	
	24-Jun-10		0.97	1.0	ND	19.0	ND	ND	ND	ND	---	ND	
	12-Aug-10		0.97	1.0	---	---	---	---	---	---	---	---	
	13-Dec-10		0.97	1.0	ND	ND	ND	ND	ND	ND	---	---	
	20-Jun-11		0.97	1.0	ND	ND	ND	ND	ND	ND	---	---	
	5-Dec-11		0.97	1.0	ND	ND	ND	ND	ND	ND	---	---	
	11-Jun-12		0.97	1.0	ND	ND	ND	ND	ND	ND	ND	---	---
	12-Dec-12		0.97	1.0	ND	ND	ND	ND	ND	ND	---	---	
	1-May-13		0.97	1.0	ND	ND	ND	ND	ND	ND	ND	---	---
	5-Aug-13		0.97	1.0	ND	ND	ND	ND	ND	ND	---	---	
	24-Feb-14		0.97	1.0	1.0	ND	ND	ND	ND	ND	ND	---	---
	12-Aug-14	EPA 8260	0.97	1.0	ND	ND	ND	ND	ND	ND	ND	---	---
Naphthalene NC 2L = 21 ug/L (10/23/07) NC 2L = 6 ug/L (02/05/10)	8-Jul-08		---	10	ND	3.8	J	ND	ND	ND	---	ND	
	17-Dec-08		---	---	---	---		---	---	---	---	---	
	9-Jul-09		0.24	10.0	ND	2.4	J	ND	ND	ND	---	ND	
	16-Dec-09		---	---	---	---		---	---	---	---	---	
	24-Jun-10		0.24	10.0	ND	7.4	J	ND	ND	ND	---	ND	
	13-Dec-10		---	---	---	---		---	---	---	---	---	
	20-Jun-11		0.24	10.0	ND	4.6	J	ND	ND	ND	---	0.39	
	5-Dec-11		---	---	---	---		---	---	---	---	---	
	11-Jun-12		0.2	10.0	ND	4.6	J	ND	ND	ND	ND	---	---
	12-Dec-12		---	---	---	---		---	---	---	---	---	
	1-May-13		0.24	10.0	ND	5.1	J	ND	ND	ND	---	---	
	5-Aug-13		---	---	---	---		---	---	---	---	---	
24-Feb-14		0.24	10.0	ND	5.8	J	ND	ND	ND	---	---		
12-Aug-14		---	---	---	---		---	---	---	---	---		

TABLE 1: HISTORICAL CONSTITUENTS IN GROUNDWATER

Analyte	Sample Date	Method	DL	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	NES-1S	Blanks
<i>Dibenz(a,h)anthracene</i> NC 2L = 0.005 ug/L (2/5/10)	20-Jun-11		0.55	10.0	ND	ND	ND	ND	ND	1.5	J	ND
	5-Dec-11		---	---	---	---	---	---	---	---	---	---
	11-Jun-12		0.55	10.0	ND	ND	ND	ND	ND	ND	---	ND
	12-Dec-12		---	---	---	---	---	---	---	---	---	---
	1-May-13		0.55	10.0	ND	ND	ND	ND	ND	ND	---	ND
	5-Aug-13		---	---	---	---	---	---	---	---	---	---
	24-Feb-14		0.55	10.0	ND	ND	ND	ND	ND	ND	---	ND
	12-Aug-14		---	---	---	---	---	---	---	---	---	---
<i>Fluorene</i> NC 2L = 300 ug/L (2/5/10) Resample >	24-Jun-10		3.8	12.2	ND	4.3	J	ND	ND	ND	---	ND
	12-Aug-10		3.1	10.0	---	ND	---	---	---	---	---	ND
	13-Dec-10		---	---	---	---	---	---	---	---	---	---
	20-Jun-11		0.2	10.0	ND	ND	ND	ND	ND	ND	---	ND
	5-Dec-11		---	---	---	---	---	---	---	---	---	---
	11-Jun-12		0.21	10.0	ND	ND	ND	ND	ND	ND	---	ND
	12-Dec-12		---	---	---	---	---	---	---	---	---	---
	1-May-13		0.21	10.0	ND	ND	ND	ND	ND	ND	---	ND
5-Aug-13		---	---	---	---	---	---	---	---	---	---	
24-Feb-14		0.21	10.0	ND	ND	ND	ND	ND	ND	---	ND	
12-Aug-14		---	---	---	---	---	---	---	---	---	---	
<i>Indeno(1,2,3-cd)pyrene</i> NC 2L = 0.05 ug/L (2/5/10)	20-Jun-11		0.29	10.0	ND	ND	ND	ND	ND	1.3	J	ND
	5-Dec-11		---	---	---	---	---	---	---	---	---	---
	11-Jun-12		0.29	10.0	ND	ND	ND	ND	ND	ND	---	ND
	12-Dec-12		---	---	---	---	---	---	---	---	---	---
	1-May-13		0.29	10.0	ND	ND	ND	ND	ND	ND	---	ND
	5-Aug-13		---	---	---	---	---	---	---	---	---	---
	24-Feb-14		0.29	10.0	ND	ND	ND	ND	ND	ND	---	ND
	12-Aug-14		---	---	---	---	---	---	---	---	---	---
<i>2-Methylnaphthalene</i> NC 2L = 30 ug/L (02/05/10) Resample >	24-Jun-10		5.1	12.2	ND	38.9	ND	ND	ND	ND	---	ND
	12-Aug-10		4.2	10	---	ND	---	---	---	---	---	ND
	13-Dec-10		---	---	---	---	---	---	---	---	---	---
	20-Jun-11		0.3	10.0	ND	ND	ND	ND	ND	ND	---	ND
	5-Dec-11		---	---	---	---	---	---	---	---	---	---
	11-Jun-12		0.28	10.0	ND	ND	ND	ND	ND	ND	---	ND
	12-Dec-12		---	---	---	---	---	---	---	---	---	---
	1-May-13		0.28	10.0	ND	ND	ND	ND	ND	ND	---	ND
5-Aug-13		---	---	---	---	---	---	---	---	---	---	
24-Feb-14		0.28	10.0	ND	ND	ND	ND	ND	ND	---	ND	
12-Aug-14		---	---	---	---	---	---	---	---	---	---	
<i>Phorate</i> NC 2L = 1.4 ug/L (10/23/07) NC 2L = 1 ug/L (02/05/10)	18-Apr-01		---	10	---	3.2	ND	ND	ND	---	---	---
	27-Oct-01		---	5	ND	8.1	ND	ND	ND	ND	---	---
	27-Oct-01		---	0.5	---	8.1	1.3	ND	ND	---	---	---
	13-Jun-02		---	5	ND	ND	ND	ND	ND	ND	---	---
	13-Jun-02		---	0.5	---	ND	ND	ND	ND	---	---	---
	19-Nov-02		---	5	ND	ND	ND	ND	ND	ND	---	---
	27-Jun-03		---	5	ND	ND	ND	ND	ND	ND	---	ND
	30-Jun-04		---	10	ND	ND	ND	ND	ND	ND	---	ND
	29-Jun-05		---	10	ND	ND	ND	ND	ND	ND	---	ND
	29-Dec-05		---	---	---	---	---	---	---	---	---	---
	28-Jun-06		---	10	ND	ND	ND	ND	ND	ND	---	ND
	29-Dec-06		---	---	---	---	---	---	---	---	---	---
	12-Jul-07		---	10	ND	ND	ND	ND	ND	ND	---	ND
	19-Dec-07		---	---	---	---	---	---	---	---	ND	---
	8-Jul-08		---	10	ND	ND	ND	ND	ND	ND	---	ND
	17-Dec-08		---	---	---	---	---	---	---	---	---	---
	9-Jul-09		6.6	22.2	ND	ND	ND	ND	ND	ND	---	ND
	16-Dec-09		---	---	---	---	---	---	---	---	---	---
	24-Jun-10		6.5	24.1	ND	ND	ND	ND	ND	ND	---	ND
	13-Dec-10		---	---	---	---	---	---	---	---	---	---
	20-Jun-11		5.4	10.0	ND	ND	ND	ND	ND	ND	---	ND
	5-Dec-11		---	---	---	---	---	---	---	---	---	---
	11-Jun-12		5.4	10.0	ND	ND	ND	ND	ND	ND	---	ND
12-Dec-12		---	---	---	---	---	---	---	---	---	---	
1-May-13		5.4	10.0	ND	ND	ND	ND	ND	ND	---	ND	
5-Aug-13		---	---	---	---	---	---	---	---	---	---	
24-Feb-14		5.4	10.0	ND	ND	ND	ND	ND	ND	---	ND	
12-Aug-14		---	---	---	---	---	---	---	---	---	---	
<i>Beta-BHC</i> NC 2L = 0.019 ug/L (10/23/07)	11-Jun-12		0.050	0.050	ND	ND	0.16	ND	ND	ND	---	ND
	19-Jul-12		0.050	0.050	---	---	ND	---	---	---	---	---
	12-Dec-12		---	---	---	---	---	---	---	---	---	---
	1-May-13		0.050	0.050	ND	ND	ND	ND	ND	ND	---	ND
	5-Aug-13		---	---	---	---	---	---	---	---	---	---
	24-Feb-14		0.050	0.050	ND	0.052	ND	ND	ND	ND	---	ND
	15-Apr-14		0.050	0.050	---	---	---	---	---	---	---	ND
	12-Aug-14		---	---	---	---	---	---	---	---	---	---
<i>Delta-BHC</i> NC 2L = 0.019 ug/L (10/23/07)	11-Jun-12		0.050	0.050	ND	ND	0.090	ND	ND	ND	---	ND
	19-Jul-12		0.050	0.050	---	---	ND	---	---	---	---	---
	12-Dec-12		---	---	---	---	---	---	---	---	---	---
	1-May-13		0.050	0.050	ND	ND	ND	ND	ND	ND	---	ND
	5-Aug-13		---	---	---	---	---	---	---	---	---	---
	24-Feb-14		0.050	0.050	ND	ND	ND	ND	ND	ND	---	ND
	15-Apr-14		---	---	---	---	---	---	---	---	---	---
	12-Aug-14		---	---	---	---	---	---	---	---	---	---
<i>Gamma-BHC</i> NC 2L = 0.2 ug/L (10/23/07) NC 2L = 0.03 ug/L (02/05/10)	27-Jun-03		---	1.05	ND	0.085	ND	ND	ND	ND	---	ND
	30-Dec-03		---	0.05	ND	ND	ND	ND	ND	ND	---	ND
	30-Jun-04		---	0.05	ND	ND	ND	ND	ND	ND	---	ND
	29-Dec-04		---	0.05	ND	ND	ND	ND	ND	ND	---	ND
	29-Jun-05		---	0.05	ND	ND	ND	ND	ND	ND	---	ND
	29-Dec-05		---	0.05	ND	ND	ND	ND	ND	ND	---	ND
	28-Jun-06		---	0.05	ND	ND	ND	ND	ND	ND	---	ND
	29-Dec-06		---	0.05	ND	ND	ND	ND	ND	ND	---	ND
	12-Jul-07		---	0.05	ND	ND	ND	ND	ND	ND	---	ND
	19-Dec-07		---	0.05	ND	ND	ND	ND	ND	ND	---	ND
	8-Jul-08		---	0.50	ND	ND	ND	ND	ND	ND	---	ND
	17-Dec-08		0.050	0.050	ND	ND	ND	ND	ND	ND	---	ND
	9-Jul-09		0.050	0.050	ND	ND	ND	ND	ND	ND	---	ND
	16-Dec-09		0.01	0.1	ND	ND	ND	ND	ND	ND	---	ND
	24-Jun-10		0.00021	0.010	ND	ND	0.052	ND	ND	ND	---	ND
	12-Aug-10		0.00020	0.010	---	---	---	---	---	---	---	ND
	13-Dec-10		0.00020	0.050	ND	ND	0.013	J	ND	ND	---	ND
	20-Jun-11		0.00020	0.050	ND	ND	0.066	---	ND	ND	---	ND
	28-Jul-11		0.00020	0.010	---	---	---	---	---	---	---	ND
	5-Dec-11		0.050	0.050	ND	ND	ND	ND	ND	ND	---	ND
	11-Jun-12		0.050	0.050	ND	ND	ND	ND	ND	ND	---	ND
	12-Dec-12		0.050	0.050	ND	ND	ND	ND	ND	ND	---	ND
	1-May-13		0.050	0.050	ND	ND	ND	ND	ND	ND	---	ND
5-Aug-13		0.050	0.050	ND	ND	ND	ND	ND	ND	---	ND	
24-Feb-14		0.050	0.050	ND	ND	ND	ND	ND	ND	---	ND	
12-Aug-14		0.050	0.050	ND	ND	ND	---	---	---	---	ND	

TABLE 1: HISTORICAL CONSTITUENTS IN GROUNDWATER

Analyte	Sample Date	Method	DL	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	NES-1S	Blanks
<i>Heptachlor</i> NC 2L = 0.0078 ug/L (10/23/07) NC 2L = 0.008 ug/L (02/05/10) <i>Resample ></i>	27-Jun-03		---	1.05	ND	0.03	0.17	ND	ND	ND	---	ND
	30-Dec-03		---	0.05	ND	ND	ND	ND	ND	ND	---	ND
	30-Jun-04		---	0.05	ND	ND	ND	ND	ND	ND	---	ND
	29-Dec-04		---	0.05	ND	ND	ND	ND	ND	ND	---	ND
	29-Jun-05		---	0.05	ND	ND	ND	ND	ND	ND	---	ND
	29-Dec-05		---	0.05	ND	ND	ND	ND	ND	ND	---	ND
	28-Jun-06		---	0.05	ND	ND	ND	ND	ND	ND	---	ND
	29-Dec-06		---	0.05	ND	ND	ND	ND	ND	ND	---	ND
	12-Jul-07		---	0.05	ND	ND	ND	ND	ND	ND	---	ND
	19-Dec-07		---	0.05	ND	ND	ND	ND	ND	ND	ND	ND
	8-Jul-08		---	0.05	ND	ND	ND	ND	ND	ND	---	ND
	17-Dec-08		0.050	0.050	ND	ND	ND	ND	ND	ND	---	ND
	9-Jul-09		0.050	0.050	ND	ND	ND	ND	ND	ND	---	ND
	16-Dec-09		0.02	0.1	ND	ND	ND	ND	ND	ND	---	ND
	24-Jun-10		0.0015	0.010	ND	ND	ND	ND	ND	ND	---	ND
	13-Dec-10		0.0500	0.0015	ND	ND	ND	ND	ND	ND	---	ND
	20-Jun-11		0.050	0.0015	ND	ND	ND	ND	ND	ND	---	ND
	5-Dec-11		0.050	0.056	ND	0.062	ND	ND	ND	ND	---	ND
	25-Jan-12		0.050	0.0500	---	---	---	---	---	---	---	ND
	11-Jun-12		0.050	0.050	ND	ND	ND	ND	ND	ND	---	ND
	12-Dec-12		0.050	0.050	ND	ND	ND	ND	ND	ND	---	ND
	1-May-13		0.050	0.050	ND	ND	ND	ND	ND	ND	---	ND
5-Aug-13		0.050	0.050	ND	ND	ND	ND	ND	ND	---	ND	
24-Feb-14		0.050	0.050	ND	ND	ND	ND	ND	ND	---	ND	
12-Aug-14		0.050	0.050	ND	ND	ND	---	---	---	---	ND	
<i>2,4-D</i> NC 2L = 70 ug/L (10/23/07)	27-Jun-03		---	3	---	5.9	ND	ND	ND	---	---	---
	30-Dec-03		---	2	ND	ND	ND	ND	ND	ND	---	ND
	30-Jun-04		---	2	ND	ND	ND	ND	ND	ND	---	ND
	29-Dec-04		---	2	ND	ND	ND	ND	ND	ND	---	ND
	29-Jun-05		---	2	ND	ND	ND	ND	ND	ND	---	ND
	29-Dec-05		---	2	ND	ND	ND	ND	ND	ND	---	ND
	28-Jun-06		---	2	ND	ND	ND	ND	ND	ND	---	ND
	29-Dec-06		---	2	ND	ND	ND	ND	ND	ND	---	ND
	12-Jul-07		---	2	ND	ND	ND	ND	ND	ND	---	ND
	19-Dec-07		---	2	ND	ND	ND	ND	ND	ND	ND	ND
	8-Apr-08		---	2	ND	ND	ND	ND	ND	ND	---	ND
	17-Dec-08		---	2.0	ND	ND	ND	ND	ND	ND	---	ND
	9-Jul-09		---	2.0	ND	ND	ND	ND	ND	ND	---	ND
	16-Dec-09		0.11	5.0	ND	ND	ND	ND	ND	ND	---	ND
	24-Jun-10		0.23	2.1	ND	ND	ND	ND	ND	ND	---	ND
	10-Dec-10		0.22	2.0	ND	ND	ND	ND	ND	ND	---	ND
	20-Jun-11		0.22	2.0	ND	ND	ND	ND	ND	ND	---	ND
	5-Dec-11		0.22	2.0	ND	ND	ND	ND	ND	ND	---	ND
	11-Jun-12		0.22	2.0	ND	ND	ND	ND	ND	ND	---	ND
	12-Dec-12		0.22	2.0	ND	ND	ND	ND	ND	ND	---	ND
	1-May-13		0.22	2.0	ND	ND	ND	ND	ND	ND	---	ND
	5-Aug-13		0.22	2.0	ND	ND	ND	ND	ND	ND	---	ND
24-Feb-14		0.22	2.0	ND	ND	ND	ND	ND	ND	---	ND	
12-Aug-14		EPA 8151	0.22	2.0	ND	ND	ND	---	---	---	---	ND
<i>4,4'-DDD</i> NC 2L = 0.1 µg/L (2/5/10) <i>Resample ></i>	11-Jun-12		0.05	0.05	ND	ND	0.13	ND	ND	ND	---	ND
	19-Jul-12		0.05	0.10	---	---	---	---	---	---	---	---
	12-Dec-12		---	---	---	---	---	---	---	---	---	---
	1-May-13		0.050	0.10	ND	ND	ND	ND	ND	ND	---	ND
	5-Aug-13		---	---	---	---	---	---	---	---	---	---
	24-Feb-14		0.050	0.10	ND	ND	ND	ND	ND	ND	---	ND
12-Aug-14		---	---	---	---	---	---	---	---	---	---	
<i>4,4'-DDT</i> NC 2L = 0.1 µg/L (2/5/10) <i>Resample ></i>	11-Jun-12		0.05	0.05	ND	ND	0.10	ND	ND	ND	---	ND
	19-Jul-12		0.05	0.10	---	---	0.063 J	---	---	---	---	---
	12-Dec-12		---	---	---	---	---	---	---	---	---	---
	1-May-13		0.050	0.10	ND	ND	ND	ND	ND	ND	---	ND
	5-Aug-13		---	---	---	---	---	---	---	---	---	---
	24-Feb-14		0.050	0.10	ND	ND	ND	ND	ND	ND	---	ND
12-Aug-14		---	---	---	---	---	---	---	---	---	---	
<i>Endrin aldehyde</i> NC 2L= 2 (2/5/10)	11-Jun-12		0.050	0.050	ND	ND	0.14	ND	ND	ND	---	---
	12-Dec-12		0.050	0.10	ND	ND	ND	ND	ND	ND	---	---
	1-May-13		0.050	0.10	ND	ND	ND	ND	ND	ND	---	ND
	5-Aug-13		0.050	0.10	ND	ND	ND	ND	ND	ND	---	ND
	24-Feb-14		0.050	0.10	ND	ND	ND	ND	ND	ND	---	ND
	12-Aug-14		EPA 8081	0.050	0.10	ND	ND	ND	---	---	---	ND

Notes:
 All concentrations are in micrograms per liter (µg/L).
 NC 2L = North Carolina Groundwater Standards from 15 NCAC 2L.0202.
 GWPS = NC-DENR Solid Waste Section Groundwater Protection Standards for constituents with no listed NC 2L Standard.
 RL = Laboratory reporting limit (NC SWSL from October 2007 to present).
 DL = Laboratory detection limit.
 ND = Not detected above laboratory detection limit.
 J = Estimated value between the DL and the RL.
 B = Blank-qualified data; result is expected to be biased high based on concentrations in the blanks.
 --- = Not sampled and/or not reported.
 When results for a constituent are reported by both acceptable methods from the lab, the higher result is entered into the historical table.
 * MW-5 VOCs were sampled 8/20/14 due to a laboratory issue with the 8/12/14 sample.
Bold values for groundwater are above the NC 2L Standards or GWPS.

TABLE 2: HISTORICAL CONSTITUENTS IN SURFACE WATER

Analytes	Sample Date	Method	DL	RL	SW-1	SW-2	Blanks
INORGANICS							
Arsenic NC 2B = 10 ug/L (03/28/08)	06/24/10		2.7	10.00	4.30 J	2.90 J	ND
	12/13/10		2.7	10.0	ND	ND	ND
	06/20/11		5.0	10.0	ND	ND	ND
	12/05/11		5.0	10.0	ND	ND	ND
	06/11/12		5.0	10.0	ND	ND	ND
	12/12/12		5.0	10.0	ND	ND	ND
	05/01/13		5.0	10.0	ND	ND	ND
	08/05/13		5.0	10.0	ND	ND	ND
	02/24/14		5.0	10.0	ND	ND	ND
	08/12/14	EPA 6010	5.0	10.0	---	ND	ND
Barium NC 2B = 1,000 ug/L (03/28/08)	11/22/96		---	500	37.0	37.0	---
	06/17/97		---	500	37.0	62.0	---
	12/01/97		---	500	53.0	45.0	---
	05/20/98		---	500	24.0	69.0	---
	11/19/98		---	500	ND	100.0	---
	07/21/99		---	500	ND	ND	---
	11/16/99		---	500	ND	ND	---
	05/10/00		---	500	ND	ND	---
	10/26/00		---	500	ND	ND	---
	04/18/01		---	500	ND	ND	---
	10/27/01		---	500	ND	ND	---
	06/13/02		---	500	---	---	---
	11/19/02		---	500	ND	ND	---
	06/27/03		---	500	ND	ND	---
	12/30/03		---	500	ND	ND	ND
	06/30/04		---	500	ND	ND	ND
	12/29/04		---	500	ND	ND	ND
	12/29/04		---	500	ND	ND	ND
	06/29/05		---	500	ND	ND	ND
	12/29/05		---	500	ND	ND	ND
	06/28/06		---	500	ND	ND	ND
	12/29/06		---	100	37.5	40.6	0.20 J
	07/12/07		---	100	33.3	J	ND
	12/19/07		---	100	52.6	B	149.0
	07/08/08		---	100	33.8	J	161.0
	12/17/08		0.2	100	30.2	B	33.5 B
	07/09/09		0.2	100	36.8	B	78.4 B
	12/16/09		0.2	100	31.2	B	36.2 B
	06/24/10		0.2	100	34.5	B	71.3 B
	12/13/10		0.2	100	36.1	B	91.0 J
	06/20/11		5.0	100	40.3	J	93.0 J
	12/05/11		5.0	100	32.9	J	59.0 J
	06/11/12		5.0	100	40.0	J	95.6 J
	12/12/12		5.0	100	45.0	J	97.8 J
	05/01/13		5.0	100	32.7	J	43.1 J
	08/05/13		5.0	100	49.9	J	79.8 J
	02/24/14		5.0	100	29.0	J	30.4 J
	08/12/14	EPA 6010	5.0	100	---		121

TABLE 2: HISTORICAL CONSTITUENTS IN SURFACE WATER

Analytes	Sample Date	Method	DL	RL	SW-1	SW-2	Blanks
Beryllium NC 2B = 6.5 ug/L (02/05/10)	07/08/08		---	1.0	0.32 J	ND	ND
	12/17/08		0.1	1.0	ND	ND	ND
	07/09/09		0.1	1.0	ND	ND	ND
	12/16/09		0.1	1.0	0.12 J	ND	ND
	06/24/10		0.1	1.0	ND	ND	ND
	12/13/10		0.1	1.0	ND	ND	ND
	06/20/11		1.0	1.0	ND	ND	ND
	12/05/11		1.0	1.0	ND	ND	ND
	06/11/12		1.0	1.0	ND	ND	ND
	12/12/12		1.0	1.0	ND	ND	ND
	05/01/13		1.0	1.0	ND	ND	ND
	08/05/13		1.0	1.0	ND	ND	ND
	02/24/14		1.0	1.0	ND	ND	ND
	08/12/14	EPA 6010	1.0	1.0	---	ND	ND
	Chromium NC 2B = 50 ug/L (03/28/08)	06/17/97		---	10.0	ND	3.00
12/01/97			---	10.0	ND	ND	---
05/20/98			---	10.0	ND	ND	---
11/19/98			---	10.0	ND	ND	---
07/21/99			---	10.0	ND	ND	---
11/16/99			---	10.0	ND	ND	---
05/10/00			---	10.0	ND	ND	---
10/26/00			---	10.0	ND	ND	---
04/18/01			---	10.0	ND	ND	---
10/27/01			---	10.0	ND	ND	---
06/13/02			---	10.0	---	---	---
11/19/02			---	10.0	ND	ND	---
06/27/03			---	10.0	ND	ND	---
12/30/03			---	10.0	ND	ND	ND
06/30/04			---	10.0	ND	ND	ND
12/29/04			---	10.0	ND	ND	ND
06/29/05			---	10.0	ND	ND	ND
12/29/05			---	10.0	ND	ND	ND
06/28/06			---	10.0	ND	ND	ND
12/29/06			---	10.0	ND	ND	ND
07/12/07			---	10.0	ND	---	ND
12/19/07			---	10.0	2.20 B	2.60 B	1.40 J
07/08/08			---	10.0	2.50 J	2.20 J	ND
12/17/08			0.4	10.0	1.40 J	2.60 J	ND
07/09/09			0.4	10.0	2.6 J	1.2 J	ND
12/16/09			0.4	10.0	4.1 J	3.4 J	ND
06/24/10			0.4	10.0	3.3 B	7.3 J	0.71 J
12/13/10			0.4	10.0	1.4 J	1.5 J	ND
06/20/11			5.0	10.0	ND	ND	ND
12/05/11			5.0	10.0	ND	ND	ND
06/11/12			5.0	10.0	ND	7.2 J	ND
12/12/12			5.0	10.0	ND	8.2 J	ND
05/01/13			5.0	10.0	5.7 J	ND	ND
08/05/13		5.0	10.0	ND	ND	ND	
02/24/14		5.0	10.0	ND	ND	ND	
08/12/14	EPA 6010	5.0	10.0	---	ND	ND	

TABLE 2: HISTORICAL CONSTITUENTS IN SURFACE WATER

Analytes	Sample Date	Method	DL	RL	SW-1	SW-2	Blanks		
Cobalt	05/20/98		---	10	2.0	2.0	---		
	11/19/98		---	10	ND	3.0	---		
	07/21/99		---	10	ND	ND	---		
	11/16/99		---	10	ND	ND	---		
	05/10/00		---	10	ND	ND	---		
	10/26/00		---	10	ND	ND	---		
	04/18/01		---	10	ND	ND	---		
	10/27/01		---	10.0	ND	22.0	---		
	06/13/02		---	10.0	---	---	---		
	11/19/02		---	10.0	ND	ND	---		
	06/27/03		---	10.0	ND	10.0	---		
	12/30/03		---	10.0	ND	ND	ND		
	06/30/04		---	10.0	ND	ND	ND		
	12/29/04		---	10.0	ND	ND	ND		
	06/29/05		---	10.0	ND	ND	ND		
	12/29/05		---	10.0	ND	ND	ND		
	06/28/06		---	10.0	ND	ND	ND		
	12/29/06		---	10.0	ND	ND	ND		
	07/12/07		---	10.0	ND	---	ND		
	12/19/07		---	10.0	4.2	B 1.20	B 1.8	J	
	07/08/08		---	10.0	4.80	B 10.5	B 6.20	J	
	12/17/08		0.6	10.0	1.70	B 1.1	B 2.50	J	
	07/09/09		0.6	10.0	ND	ND	ND	ND	
	12/16/09		0.6	10.0	ND	1.0	J ND	ND	
	NC 2B = NE ug/L (03/24/10)	06/24/10		0.6	10.0	ND	ND	ND	
		12/13/10		0.6	10.0	{4.4}	B {ND}	1.6 {1.0 J}	J
		06/20/11		5.0	10.0	ND	ND	ND	
		12/05/11		5.0	10.0	ND	ND	ND	
	Resample >	01/25/12		5.0	10.0	---	---	ND	
		06/11/12		5.0	10.0	ND	5.10	J ND	
	12/12/12		5.0	10.0	ND	ND	ND		
	05/01/13		5.0	10.0	ND	ND	ND		
	08/05/13		5.0	10.0	ND	ND	ND		
	02/24/14		5.0	10.0	ND	ND	ND		
	08/12/14	EPA 6010	5.0	10.0	---	ND	ND		
Copper	12/29/06		---	10.0	1.3	B 1.10	B 0.60	J	
	07/12/07		---	10.0	ND	---	ND	ND	
	12/19/07		---	10.0	5.3	B ND	9.8	ND	
	NC 2B = 7 ug/L (03/28/08)	07/08/08		---	10.0	1.7	J 4.20	J ND	ND
		12/17/08		0.3	10.0	1.40	J 1.50	J ND	ND
		07/09/09		0.3	10.0	ND	ND	ND	ND
		12/16/09		0.3	10.0	1.90	J 2.00	J ND	ND
		06/24/10		0.3	10.0	ND	3.10	J ND	ND
		12/13/10		0.3	10.0	0.31	B ND	0.49	J
		06/20/11		5.0	10.0	ND	ND	ND	ND
		12/05/11		5.0	10.0	ND	ND	ND	ND
		06/11/12		5.0	10.0	ND	5.50	J ND	ND
		12/12/12		5.0	10.0	ND	ND	ND	ND
		05/01/13		5.0	10.0	ND	ND	ND	ND
		08/05/13		5.0	10.0	ND	ND	ND	ND
		02/24/14		5.0	10.0	ND	ND	ND	ND
	08/12/14	EPA 6010	5.0	10.0	---	ND	ND	ND	

TABLE 2: HISTORICAL CONSTITUENTS IN SURFACE WATER

Analytes	Sample Date	Method	DL	RL	SW-1	SW-2	Blanks			
Lead NC 2B = 25 ug/L (03/28/08)	05/20/98		---	10.0	ND	8.00	---			
	11/19/98		---	10.0	ND	ND	---			
	07/21/99		---	10.0	ND	10.0	---			
	11/16/99		---	10.0	ND	ND	---			
	05/10/00		---	10.0	ND	ND	---			
	10/26/00		---	10.0	ND	ND	---			
	04/18/01		---	10.0	ND	ND	---			
	10/27/01		---	10.0	ND	ND	---			
	06/13/02		---	10.0	---	---	---			
	11/19/02		---	10.0	ND	ND	---			
	06/27/03		---	10.0	ND	ND	---			
	12/30/03		---	10.0	ND	ND	ND			
	06/30/04		---	10.0	ND	ND	ND			
	12/29/04		---	10.0	ND	ND	ND			
	06/29/05		---	10.0	ND	ND	ND			
	12/29/05		---	10.0	ND	ND	ND			
	06/28/06		---	10.0	ND	ND	ND			
	12/29/06		---	10.0	ND	ND	ND			
	07/12/07		---	10.0	ND	---	ND			
	12/19/07		---	10.0	ND	ND	ND			
	07/08/08		---	10.0	ND	ND	ND			
	12/17/08		---	4.0	10.0	ND	ND	ND		
	07/09/09		---	4.0	10.0	ND	ND	ND		
	12/16/09		---	4.0	10.0	ND	ND	ND		
	06/24/10		---	4.0	10.0	ND	ND	ND		
	12/13/10		---	4.0	10.0	ND	ND	ND		
	06/20/11		---	5.0	10.0	ND	ND	ND		
	12/05/11		---	5.0	10.0	ND	ND	ND		
	06/11/12		---	5.0	10.0	ND	ND	ND		
	12/12/12		---	5.0	10.0	ND	ND	ND		
	05/01/13		---	5.0	10.0	ND	ND	ND		
	08/05/13		---	5.0	10.0	ND	ND	ND		
02/24/14		---	5.0	10.0	ND	ND	ND			
08/12/14		EPA 6010	5.0	10.0	---	ND	ND			
Nickel NC 2B = 25 ug/L (03/28/08)	12/29/04		---	50.0	ND	50.0 (ND)	ND			
	06/29/05		---	50.0	ND	ND	ND			
	12/29/05		---	50.0	ND	ND	ND			
	06/28/06		---	50.0	ND	ND	ND			
	12/29/06		---	50.0	ND	2.9	J	ND		
	07/12/07		---	50.0	3.8	J	---	ND		
	12/19/07		---	50.0	6.0		31.5	ND		
	07/08/08		---	50.0	3.2	J	29.8	J	ND	
	12/17/08		1.7	50.0	2.4	B	4.0	B	2.4	J
	07/09/09		1.7	50.0	4.1	J	12.3	J	ND	
	12/16/09		1.7	50.0	3.8	B	4.4	B	3.0	J
	06/24/10		1.7	50.0	ND		2.0	J	ND	
	12/13/10		1.7	50.0	ND		14.2	J	2.7	J
	06/20/11		5.0	50.0	ND		7.8	J	ND	
	12/05/11		5.0	50.0	ND		5.3	J	ND	
	06/11/12		5.0	50.0	ND		11.0	J	ND	
	12/12/12		5.0	50.0	ND		13.8	J	ND	
	05/01/13		5.0	50.0	ND		ND		ND	
	08/05/13		5.0	50.0	ND		5.6	J	ND	
	02/24/14		5.0	50.0	ND		ND		ND	
08/12/14		EPA 6010	5.0	50.0	---	20.3	J	ND		

TABLE 2: HISTORICAL CONSTITUENTS IN SURFACE WATER

Analytes	Sample Date	Method	DL	RL	SW-1	SW-2	Blanks
Silver NC 2B = 0.06 ug/L (03/28/08)	07/12/07	EPA 6010	---	10.0	2.20 J	---	ND
	12/19/07		---	10.0	ND	0.34 J	ND
	07/08/08		---	10.0	0.35 B	1.00 J	0.12 J
	12/17/08		0.1	10.0	ND	ND	ND
	07/09/09		0.1	10.0	ND	0.10 J	ND
	12/16/09		0.1	10.0	ND	0.16 J	ND
	06/24/10		0.1	10.0	ND	0.26 J	ND
	12/13/10		0.1	10.0	{ND}	{0.28} B	0.21 {0.19 J} J
	06/20/11		5.0	10.0	ND	ND	ND
	12/05/11		5.0	10.0	ND	ND	ND
	06/11/12		5.0	10.0	ND	ND	ND
	12/12/12		5.0	10.0	ND	ND	ND
	05/01/13		5.0	10.0	ND	ND	ND
	08/05/13		5.0	10.0	ND	ND	ND
	02/24/14		5.0	10.0	ND	ND	ND
	08/12/14		5.0	10.0	---	ND	ND
	Thallium NC 2B = NE (03/24/10)		12/29/04	EPA 6010	---	10.0	ND
06/29/05		---	10.0		ND	ND	ND
12/29/05		---	10.0		ND	ND	ND
06/28/06		---	10.0		ND	ND	ND
12/29/06		---	6.00		ND	ND	ND
07/12/07		---	5.50		ND	---	ND
12/19/07		---	5.50		3.60 J	ND	ND
07/08/08		---	5.50		3.40 J	ND	ND
12/17/08		3.0	5.50		ND	ND	ND
07/09/09		3.0	5.50		ND	ND	ND
12/16/09		3.0	5.50		ND	ND	ND
06/24/10		3.0	5.50		ND	ND	ND
12/13/10		3.0	5.50		3.80 J	ND	ND
06/20/11		5.4	5.50		ND	ND	ND
12/05/11		5.4	5.50		ND	ND	ND
06/11/12		5.4	5.50		ND	ND	ND
12/12/12		5.4	5.50		ND	ND	ND
05/01/13		5.4	5.50		ND	ND	ND
08/05/13		5.4	5.50		ND	ND	ND
02/24/14		5.4	5.50		ND	ND	ND
08/12/14	5.4	5.50	---	ND	ND		
Vanadium NC 2B = NE ug/L (03/28/08)	12/29/06	EPA 6010	---	25.0	1.60 J	2.00 J	ND
	07/12/07		---	25.0	4.60 J	---	ND
	12/19/07		---	25.0	3.30 J	1.40 B	0.62 J
	07/08/08		---	25.0	5.20 J	2.30 J	0.20 J
	12/17/08		0.2	25.0	1.80 B	2.70 B	0.76 J
	07/09/09		0.2	25.0	5.00 B	3.40 B	1.30 J
	12/16/09		0.2	25.0	3.60 J	3.50 J	0.53 J
	06/24/10		0.2	25.0	5.80 J	2.60 J	ND
	12/13/10		0.2	25.0	1.60 B	0.67 B	0.36 J
	06/20/11		5.0	25.0	ND	ND	ND
	12/05/11		5.0	25.0	ND	ND	ND
	06/11/12		5.0	25.0	ND	11.50 J	ND
	12/12/12		5.0	25.0	ND	ND	ND
	05/01/13		5.0	25.0	ND	ND	ND
	08/05/13		5.0	25.0	ND	ND	ND
	02/24/14		5.0	25.0	ND	ND	ND
	08/12/14		5.0	25.0	---	ND	ND

TABLE 2: HISTORICAL CONSTITUENTS IN SURFACE WATER

Analytes	Sample Date	Method	DL	RL	SW-1	SW-2	Blanks		
Zinc	11/22/96		---	50.0	11.0	ND	---		
	06/17/97		---	50.0	ND	ND	---		
	12/01/97		---	50.0	20.0	ND	---		
	05/20/98		---	50.0	20.0	28.0	---		
	11/19/98		---	50.0	ND	ND	---		
	07/21/99		---	50.0	ND	ND	---		
	11/16/99		---	50.0	ND	ND	---		
	05/10/00		---	50.0	ND	ND	---		
	10/26/00		---	50.0	ND	ND	---		
	04/18/01		---	50.0	ND	ND	---		
	10/27/01		---	50.0	ND	ND	---		
	06/13/02		---	50.0	---	---	---		
	11/19/02		---	50.0	ND	ND	---		
	06/27/03		---	50.0	ND	ND	---		
	12/30/03		---	50.0	ND	ND	ND		
	06/30/04		---	50.0	ND	ND	ND		
	12/29/04		---	50.0	ND	ND	ND		
	06/29/05		---	50.0	ND	ND	ND		
	12/29/05		---	50.0	ND	ND	ND		
	06/28/06		---	50.0	ND	ND	ND		
	12/29/06		---	50.0	ND	ND	ND		
	07/12/07		---	10.0	ND	---	ND		
	12/19/07		---	10.0	24.6	B	ND	102	
	NC 2B = 50 ug/L (03/28/08)	07/08/08		---	10.0	ND	ND	1.20 J	
		12/17/08		0.4	10.0	ND	0.89 B	0.49 J	
		07/09/09		0.4	10.0	ND	4.90 B	1.60 J	
		12/16/09		0.4	10.0	2.60	B	2.60 B	7.70 J
		06/24/10		0.4	10.0	ND	14.9	ND	
		12/13/10		0.4	10.0	ND	9.80	B	6.70 J
		06/20/11		10.0	10.0	ND	ND	ND	
		12/05/11		10.0	10.0	ND	ND	12.4	
		06/11/12		10.0	10.0	ND	ND	ND	
		12/12/12		10.0	10.0	ND	ND	ND	
	05/01/13		10.0	10.0	ND	16.80	ND		
	08/05/13		10.0	10.0	ND	ND	ND		
	02/24/14		10.0	10.0	ND	ND	ND		
	08/12/14	EPA 6010	10.0	10.0	---	ND	ND		
ORGANICS									
Acetone	10/27/01		---	100	168.0	B	337.0 B	479.0	
	06/13/02		---	100	---	---	---	---	
	06/13/02		---	100	---	---	---	---	
	11/19/02		---	100	ND	ND	ND	---	
	06/27/03		---	100	ND	ND	ND	---	
	12/30/03		---	100	ND	ND	ND	ND	
	06/30/04		---	100	ND	ND	ND	ND	
	12/29/04		---	100	ND	ND	ND	ND	
	06/29/05		---	100	ND	ND	ND	ND	
	12/29/05		---	100	ND	ND	ND	ND	
	06/28/06		---	100	ND	ND	ND	ND	
	12/29/06		---	100	ND	ND	ND	ND	
	07/12/07		---	100	ND	---	---	ND	
	12/19/07		---	100	12.70	B	ND	4.50 J	
	NC 2B = 2,000 ug/L (03/28/08)	07/08/08		---	100	ND	ND	ND	
		12/17/08		20	100	ND	ND	ND	
		07/09/09		20	100	ND	ND	ND	
	NC 2B = NE (03/24/10)	12/16/09		2.2	100	ND	ND	2.80 J	
		06/24/10		2.2	100	2.80	B	ND	7.70 J
		12/13/10		2.2	100	ND	3.00	J	ND
		06/20/11		2.2	100	ND	3.80	B	3.90 J
		12/05/11		2.2	100	ND	7.20	B	8.80 J
		06/11/12		2.2	100	ND	5.50	B	4.70 J
		12/12/12		10.0	100	ND	ND	ND	
		05/01/13		10.0	100	ND	ND	14.6 J	
		08/05/13		10.0	100	ND	ND	ND	
		02/24/14		10.0	100	ND	ND	25.7 J	
	08/12/14	EPA 8260	10.0	100	---	ND	22.0 J		

TABLE 2: HISTORICAL CONSTITUENTS IN SURFACE WATER

Analytes	Sample Date	Method	DL	RL	SW-1	SW-2	Blanks
Chlorobenzene NC 2B = 130 ug/L (03/28/08)	06/27/03		---	5.0	ND	7.20	ND
	12/30/03		---	5.0	ND	ND	ND
	06/30/04		---	5.0	ND	ND	ND
	12/29/04		---	5.0	ND	ND	ND
	06/29/05		---	5.0	ND	ND	ND
	12/29/05		---	5.0	ND	ND	ND
	06/28/06		---	5.0	ND	ND	ND
	12/29/06		---	3.0	ND	ND	ND
	07/12/07		---	3.0	ND	---	ND
	12/19/07		---	3.0	ND	ND	ND
	07/08/08		---	3.0	ND	ND	ND
	12/17/08			0.23	3.0	ND	ND
	07/09/09			0.23	3.0	ND	ND
	12/16/09			0.23	3.0	ND	ND
	06/24/10			0.23	3.0	ND	ND
	12/13/10			0.23	3.0	ND	ND
	06/20/11			0.23	3.0	ND	ND
	12/05/11			0.23	3.0	ND	ND
	06/11/12			0.23	3.0	ND	ND
	12/12/12			0.23	3.0	ND	ND
05/01/13			0.23	3.0	ND	ND	
08/05/13			0.23	3.0	ND	ND	
02/24/14			0.23	3.0	ND	ND	
08/12/14		EPA 8260	0.23	3.0	---	ND	ND
Chloromethane NC 2B = NE (03/24/10)	07/09/09		0.11	1.0	ND	0.19	ND
	12/16/09		0.11	1.0	ND	ND	ND
	06/24/10		0.11	1.0	ND	ND	ND
	12/13/10		0.11	1.0	ND	ND	ND
	06/20/11		0.11	1.0	ND	ND	ND
	12/05/11		0.11	1.0	ND	ND	ND
	06/11/12		0.11	1.0	ND	ND	ND
	12/12/12		0.11	1.0	ND	ND	ND
	05/01/13		0.11	1.0	ND	ND	ND
	08/05/13		0.11	1.0	ND	ND	ND
	02/24/14		0.11	1.0	ND	ND	ND
	08/12/14		EPA 8260	0.11	1.0	---	ND

Notes:

All concentrations are in micrograms per liter (µg/L).

NC 2B = North Carolina Surface Water Standards from 15 NCAC 2B.

NE = Not Established.

RL = Laboratory reporting limit (NC SWSL from October 2007 to present).

DL = Laboratory detection limit.

ND = Not detected above laboratory detection limit.

J = Estimated value between the DL and the RL

B = Blank-qualified data; result is expected to be biased high based on concentrations in the blanks.

--- = Not sampled and/or not reported.

Bold values for groundwater are above the NC 2L Standards or GWPS.

TABLE 3
Summary of Statistical Analyses

Analyte	Data Distribution	Statistical Method used to Establish Background	Background (µg/L)	GWPS (µg/L)	Point(s) Above Background	Point(s) above NC 2L or GWPS
Antimony	95% Truncated	Upper Poisson Prediction Limit	59	1	None	MW-2R and MW-3R
Cobalt	74% Truncated	Non-parametric Prediction Limit	130	1	None	MW-5

Notes:

GWPS = Groundwater Protection Standard (Soild Waste Section)

SWSL = NC Solid Waste Section Limit

TABLE 4: HISTORICAL GROUNDWATER ELEVATION DATA

Well ID:	Background	Downgradient					
	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	NES-1
Well TOC Elev.:	460.51	331.60	330.96	340.80	343.88	362.53	328.40
Well Depth:	56.00	18.85	35.83	31.43	23.52	32.63	32.80
21-Aug-99	418.68	329.13	328.06	330.50	330.83	352.10	NI
16-Nov-99	419.75	325.38	324.51	331.53	334.33	352.97	NI
10-May-00	424.53	329.60	328.83	334.15	334.49	355.72	NI
26-Oct-00	419.21	329.26	328.15	331.33	330.94	352.78	NI
18-Apr-01	418.76	329.42	328.63	333.57	334.36	354.22	NI
26-Oct-01	412.53	329.04	327.94	330.57	330.23	350.92	NI
13-Jun-02	413.70	328.38	327.41	330.21	330.29	351.04	NI
19-Nov-02	413.40	329.25	328.35	331.57	337.17	350.94	NI
27-Jun-03	423.61	329.57	328.93	334.24	333.99	355.21	NI
29-Dec-03	420.23	329.70	329.11	334.49	334.78	354.92	NI
30-Jun-04	418.81	329.38	328.48	332.26	331.39	353.10	NI
28-Dec-04	418.02	329.50	328.91	333.45	334.14	355.14	NI
29-Jun-05	418.81	329.10	329.26	331.62	330.90	352.76	NI
29-Dec-05	413.38	329.29	328.71	332.78	334.27	351.52	NI
27-Jun-06	414.75	329.17	328.40	332.18	333.56	353.43	NI
28-Dec-06	415.54	329.40	328.86	333.57	335.24	354.02	NI
12-Jul-07	438.64	328.69	327.97	331.31	330.52	352.30	NI
18-Dec-07	412.59	328.94	328.08	330.32	327.92	347.90	306.54
8-Jul-08	414.52	329.20	326.00	331.46	330.85	351.03	NM
17-Dec-08	412.79	329.39	328.84	333.15	335.03	350.82	NM
9-Jul-09	417.16	329.17	329.48	332.30	331.36	352.17	310.12
16-Dec-09	418.11	329.55	329.09	334.57	336.94	352.87	NM
24-Jun-10	422.42	329.41	328.77	333.65	333.15	353.62	NM
13-Dec-10	415.96	329.49	328.85	332.81	330.34	350.08	NM
20-Jun-11	416.00	328.95	328.18	336.77	331.38	351.83	NM
5-Dec-11	412.94	329.31	328.65	332.32	329.51	349.87	NM
11-Jun-12	414.56	329.10	328.35	332.52	331.33	351.75	312.50
12-Dec-12	412.83	329.19	328.36	331.67	330.35	349.48	NM
1-May-13	415.69	329.65	329.13	334.49	335.15	353.63	317.11
5-Aug-13	417.97	329.02	328.41	333.32	332.83	353.01	NM
24-Feb-14	415.81	329.68	329.17	334.48	331.63	351.78	316.15
11-Aug-14	416.23	329.38	328.48	332.04	329.08	350.08	310.93

Notes:

TOC = Top of casing.

NM = Water level not measured.

NI = Well not yet installed.

Groundwater levels and well depth are measured from TOC.

Groundwater elevations in feet above means sea level.

TABLE 5: ESTIMATED HYDRAULIC GRADIENTS AND GROUNDWATER FLOW VELOCITIES

August 11, 2014							
GRADIENT CALCULATION SEGMENT	FLOW LINE LENGTH (feet)	FLOW DIRECTION	GROUND-WATER ELEVATION (feet)	HORIZ. GRADIENT, i (ft/ft)	HYDRAULIC CONDUCTIVITY, K (ft/day)	EFFECTIVE POROSITY n_e	LINEAR VELOCITY, V (ft/year)
i_1	1325	ESE	410 340	0.0528	6.18E-02	0.18	6.63
i_2	1614	SE	400 320	0.0496	6.18E-02	0.18	6.22
i_3	1612	SSE	410 320	0.0558	6.18E-02	0.18	7.00
			Average	0.0527		Average	6.61

Notes:

Hydraulic conductivity (K) value is the average of results from slug-tests conducted in 1994 (GAI, 1994).

Effective Porosity based on average of 90% of reported Total Porosity (GAI, 1995) for soils, or 10% (estimated) for fractured rock.

Linear flow velocity = Ki/n (modified Darcy equation).

TABLE 6: MONITORED NATURAL ATTENUATION PARAMETERS

Parameter	Date	Units	DL	RL	Background MW-1R	Downgradient					Sentinel NES-1
						MW-2R	MW-3R	MW-4	MW-5	MW-6	
Temperature (FP)	12/30/03	°C	-	-	15.4	11.1	11.2	12.5	13.6	14.2	-
	12/19/07	°C	-	-	12.3	12.5	13.1	14.4	14.9	14.4	13.3
	05/01/13	°C	-	-	15.7	13.7	15.1	14.4	14.2	14.2	12.5
	08/14/14	°C	-	-	17.8	18.0	19.2	19.4	16.8	17.2	16.0
pH (FP)	12/30/03	SU	-	-	7.31	6.54	6.81	6.90	7.24	7.29	-
	12/19/07	SU	-	-	6.89	6.90	7.07	6.87	7.39	6.67	7.64
	05/01/13	SU	-	-	7.32	6.37	6.61	6.42	6.92	7.13	6.10
	08/14/14	SU	-	-	5.84	6.36	6.96	6.79	7.00	6.48	5.59
Conductivity (FP)	12/19/07	µS/m	-	-	96	1,964	1,591	1,245	-	-	510
	05/01/13	µS/m	-	-	111	1,587	1,357	1,150	195	594	69.6
	08/14/14	µS/m	-	-	231	1,897	1,534	1,413	522	565	172.6
Redox Potential ORP (FP)	12/30/03	mV	-	-	257.2	76.2	207.6	212.7	187.3	123.6	-
	12/19/07	mV	-	-	146	45.0	142	134	-	-	138
	05/01/13	mV	-	-	111.7	-26.7	55.2	120.5	-	-	227.1
	08/14/14	mV	-	-	115.8	-37.2	86.9	-	-	-	-
Dissolved Oxygen DO (FP)	12/30/03	mg/L	-	-	9.49	4.84	26.19	24.19	15.31	20.17	-
	12/19/07	mg/L	-	-	-	1.88	1.44	3.21	-	-	0.70
	05/01/13	mg/L	-	-	4.40	1.37	1.79	4.65	-	-	2.90
	08/14/14	mg/L	-	-	4.44	3.26	2.48	-	-	-	2.80
Dissolved CO ₂ (FP)	12/19/07	mg/L	-	-	25	365	175	295	-	-	60
	05/01/13	mg/L	-	-	30.0	245	125	225	-	-	45
	08/14/14	mg/L	-	-	60.0	390	185	-	-	-	75
Fe, Ferrous (+2) (FP)	12/30/03	mg/L	-	-	ND	1.5	ND	ND	0.22	ND	-
	12/19/07	mg/L	-	-	ND	7.2	ND	ND	-	-	0.2
	05/01/13	mg/L	-	-	0.0	1.0	0.0	0.0	-	-	0.0
	08/14/14	mg/L	-	-	0.0	2.5	0	-	-	-	0
Alkalinity (as CaCO ₃)	12/30/03	mg/L	9.00	10.0	37.0	800	690	640	68.0	350	-
	12/19/07	mg/L	-	5.00	39.0	763	726	619	-	-	190
	05/01/13	mg/L	1.00	5.00	43.4	757	660.0	645.0	-	-	10.4
	08/14/14	mg/L	1.00	5.00	41.1	784.0	661.0	-	-	-	14.5
Chloride	12/30/03	mg/L	0.200	1.00	3.50	280	170	82.0	13.0	44.0	-
	12/19/07	mg/L	-	5.00	ND	13.1	297	89.1	-	-	7.90
	05/01/13	mg/L	0.5	1.00	3.54	258	180	123	-	-	2.85
	08/14/14	mg/L	0.5	1.00	5.53	264	144	-	-	-	5.00
Dissolved Hydrogen	05/01/13	nM	0.074	0.60	0.400	0.630	0.610	0.500	-	-	0.470
	08/14/14	nM	0.13	0.60	1.4	1.6	5.4	-	-	-	1.4
Nitrate-N	12/30/03	mg/L	0.0200	0.0500	0.120	ND	ND	ND	ND	0.13	-
	12/19/07	mg/L	-	0.100	ND	ND	ND	ND	-	-	13.0
	05/01/13	mg/L	0.001	10.0	0.163	ND	ND	ND	-	-	3.58
	08/14/14	mg/L	0.001	10.0	0.115 J	ND	ND	-	-	-	2.02 J
Sulfate	12/30/03	mg/L	0.0600	2.00	ND	ND	ND	2.60	9.60	9.00	-
	12/19/07	mg/L	-	5.00	ND	ND	ND	ND	-	-	36.8
	05/01/13	mg/L	1	250	ND	ND	ND	4.69	-	-	10.7
	08/14/14	mg/L	1	250	1.08 J	1.2 J	ND	-	-	-	5.84 J
Sulfide	08/14/14	mg/L	0.05	1.00	ND	ND	ND	-	-	-	ND
Total Organic Carbon	12/19/07	mg/L	-	1.0 *	2.9	54.3	23.2	17.2	-	-	7.20
	05/01/13	mg/L		1.00	2.24	29.5	30.0	19.4	-	-	5.74
	08/14/14	mg/L	0.5	1.00	ND	229.0	25.5	-	-	-	8.39
Biochemical Oxygen Demand BOD	08/14/14	mg/L	2.0	2.00	ND	83.4	2.49	-	-	-	
Chemical Oxygen Demand COD	08/14/14	mg/L	12.5	25.0	ND	132.0	ND	-	-	-	50.00

TABLE 6: MONITORED NATURAL ATTENUATION PARAMETERS

Parameter	Date	Units	DL	RL	Background MW-1R	Downgradient					Sentinel NES-1
						MW-2R	MW-3R	MW-4	MW-5	MW-6	
Dissolved Ethane	12/30/03	mg/L	0.0002	0.0010	ND	ND	ND	ND	ND	ND	-
	12/19/07	mg/L	-	20.0	ND	ND	ND	ND	-	-	ND
	05/01/13	mg/L	0.0031	0.0062	ND	ND	ND	ND	-	-	ND
	08/14/14	mg/L	0.0031	0.0062	ND	ND	0.0036 J	-	-	-	-
Dissolved Ethene	12/01/03	mg/L	0.0003	0.0010	ND	ND	ND	ND	ND	ND	-
	12/19/07	mg/L	-	20.0	ND	ND	ND	ND	-	-	ND
	05/01/13	mg/L	0.0031	0.0062	ND	ND	0.0017	ND	-	-	ND
	08/14/14	mg/L	0.0031	0.0062	ND	ND	ND	-	-	-	ND
Dissolved Methane	12/30/03	mg/L	0.0002	0.0010	ND	0.660	0.130	0.0099	0.0010	ND	-
	12/19/07	mg/L	-	10.0	ND	0.116	0.186	ND	-	-	ND
	05/01/13	mg/L	0.0033	0.0066	ND	0.0379	0.100	0.0337	-	-	ND
	08/14/14	mg/L	0.0033	0.0066	ND	1.2900	0.284	-	-	-	ND
Pyruvic Acid	12/19/07	mg/L			2.50	ND	1.50	2.00	-	-	1.20
	05/01/13	mg/L	2	10	ND	ND	ND	ND	-	-	ND
	08/14/14	mg/L	0.77	10	ND	ND	ND	-	-	-	ND
Lactic Acid	12/19/07	mg/L			ND	5.40	11.9	3.10	-	-	ND
	05/01/13	mg/L	2.3	25	ND	ND	ND	ND	-	-	ND
	08/14/14	mg/L	2.5	25	4.2 J	ND	ND	-	-	-	ND
Acetic Acid	12/19/07	mg/L			ND	ND	ND	ND	-	-	ND
	05/01/13	mg/L	1.8	5	ND	ND	ND	ND	-	-	ND
	08/14/14	mg/L	0.81	5.0	ND	ND	ND	-	-	-	ND
Propionic Acid	12/19/07	mg/L			ND	63.7	38.3	12.8	-	-	ND
	05/01/13	mg/L	1	5	ND	ND	ND	ND	-	-	ND
	08/14/14	mg/L	0.66	5.0	ND	ND	ND	-	-	-	ND
Butyric Acid	12/19/07	mg/L			ND	ND	ND	ND	-	-	ND
	05/01/13	mg/L	0.87	5	ND	ND	ND	ND	-	-	ND
	08/14/14	mg/L	0.70	5.0	ND	ND	ND	-	-	-	ND
Total Volatile Fatty Acids (sum of above 5 acids)	12/19/07	mg/L			2.50	69.10	51.70	17.90	-	-	1.20
	05/01/13	mg/L			ND	ND	ND		-	-	ND
	08/14/14	mg/L			4.2 J	ND	ND	-	-	-	ND

NOTES:

DL = laboratory detection limit.
 RL = laboratory reporting limit.
 ND = not detected above detection limit.
 J = estimated concentration between the DL and the RL.
 - = not analyzed.

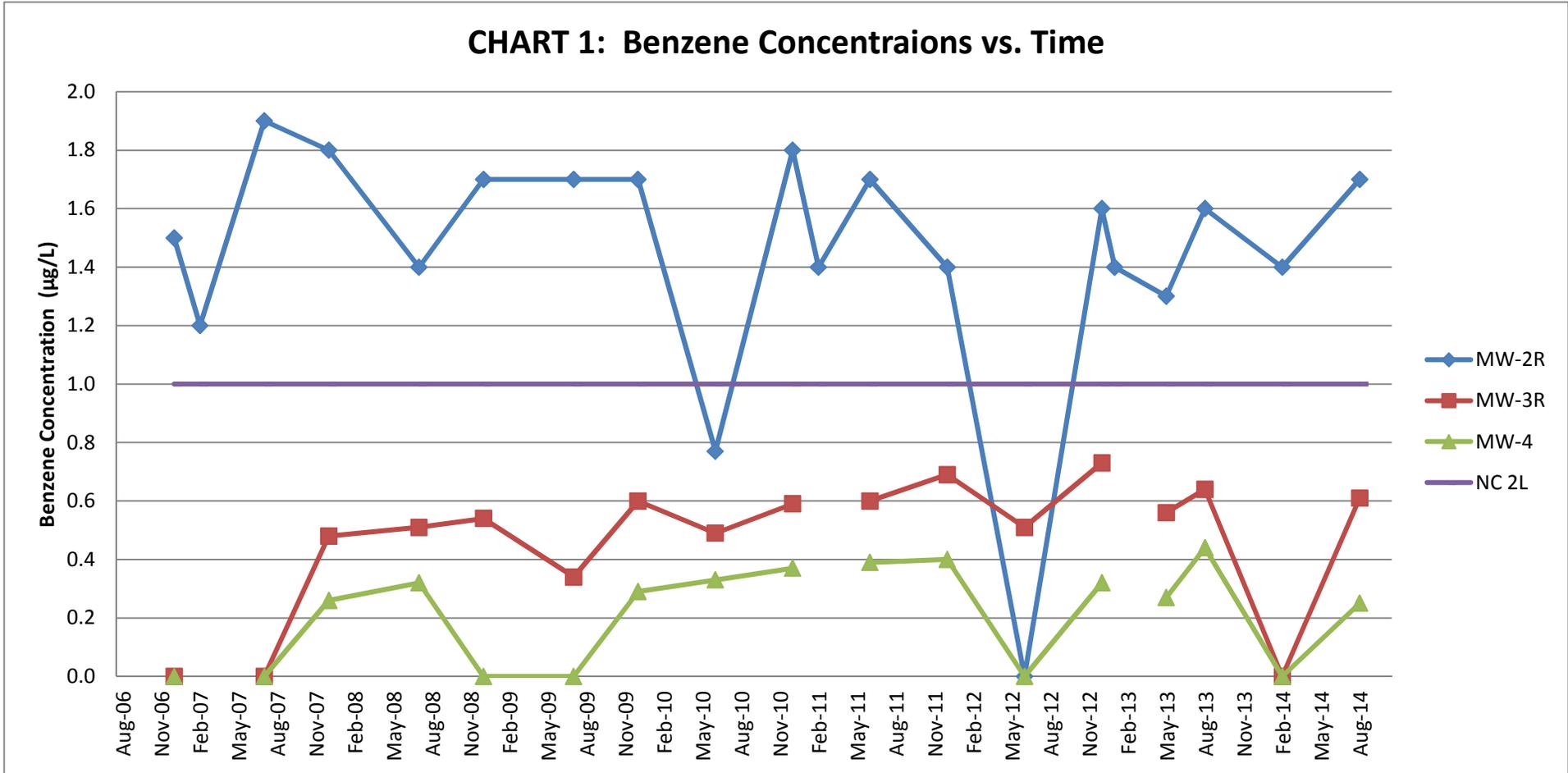
mg/L = milligrams per liter
 mV = millivolt
 SU = standard unit
 nM = nano-Molar

°C = degrees Celcius
 μS/m = microsiemen per meter
 ntu = nephelometric turbidity units

Chart

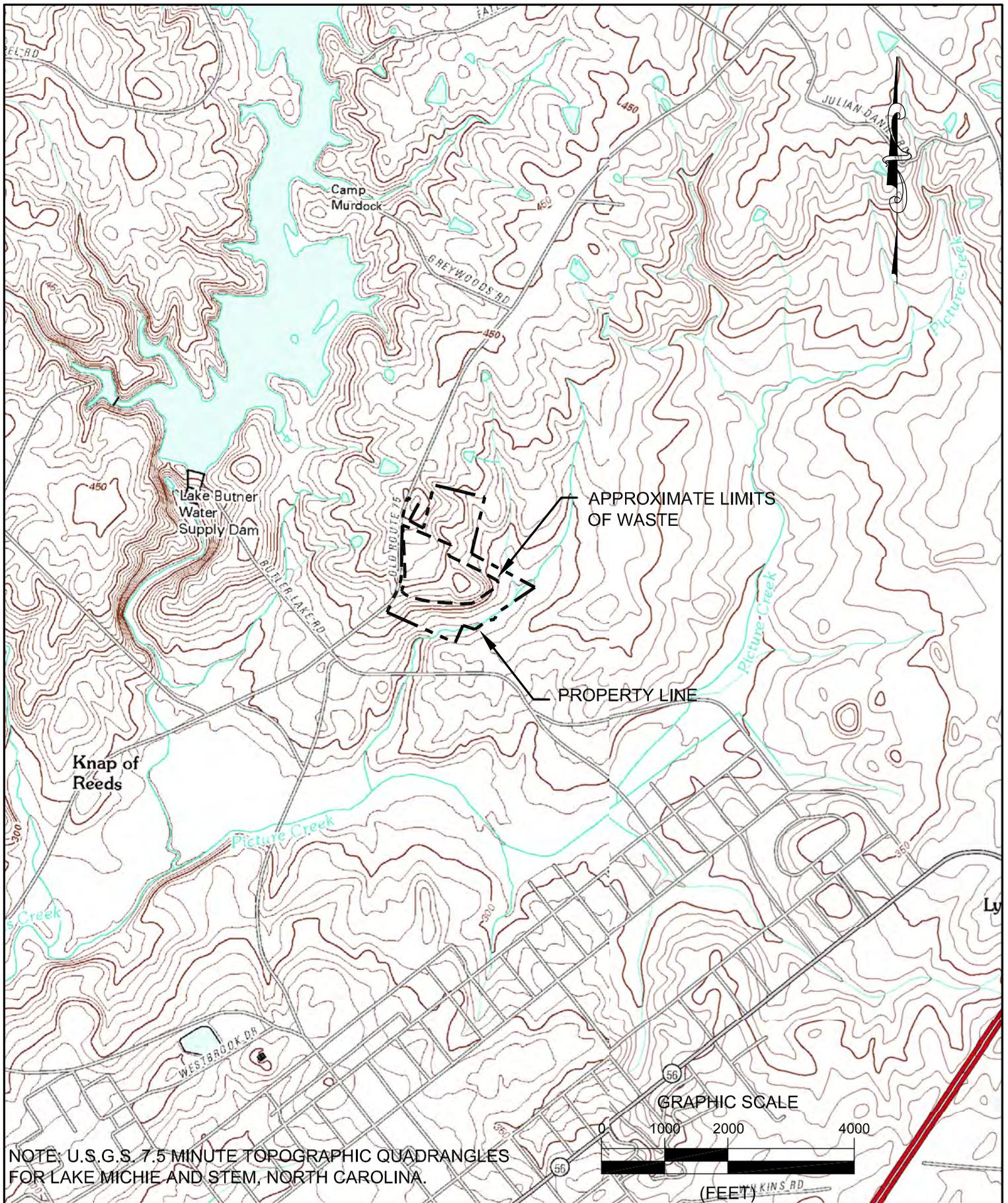
Chart 1 Benzene Vs Time

CHART 1: Benzene Concentraions vs. Time



FIGURE

Figure 1 Site Location Map



NOTE: U.S.G.S. 7.5 MINUTE TOPOGRAPHIC QUADRANGLES FOR LAKE MICHIE AND STEM, NORTH CAROLINA.

BUTNER LANDFILL
GRANVILLE COUNTY, NORTH CAROLINA

SITE LOCATION MAP

JOYCE
ENGINEERING

2211 W. MEADOWVIEW ROAD
 GREENSBORO, NC 27407
 PHONE: (336) 323-0092

DESIGNED HRW
 DRAWN HRW
 CHECKED ACE
 APPROVED GVB
 DATE 11/04/14

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SCALE
1" = 2000'

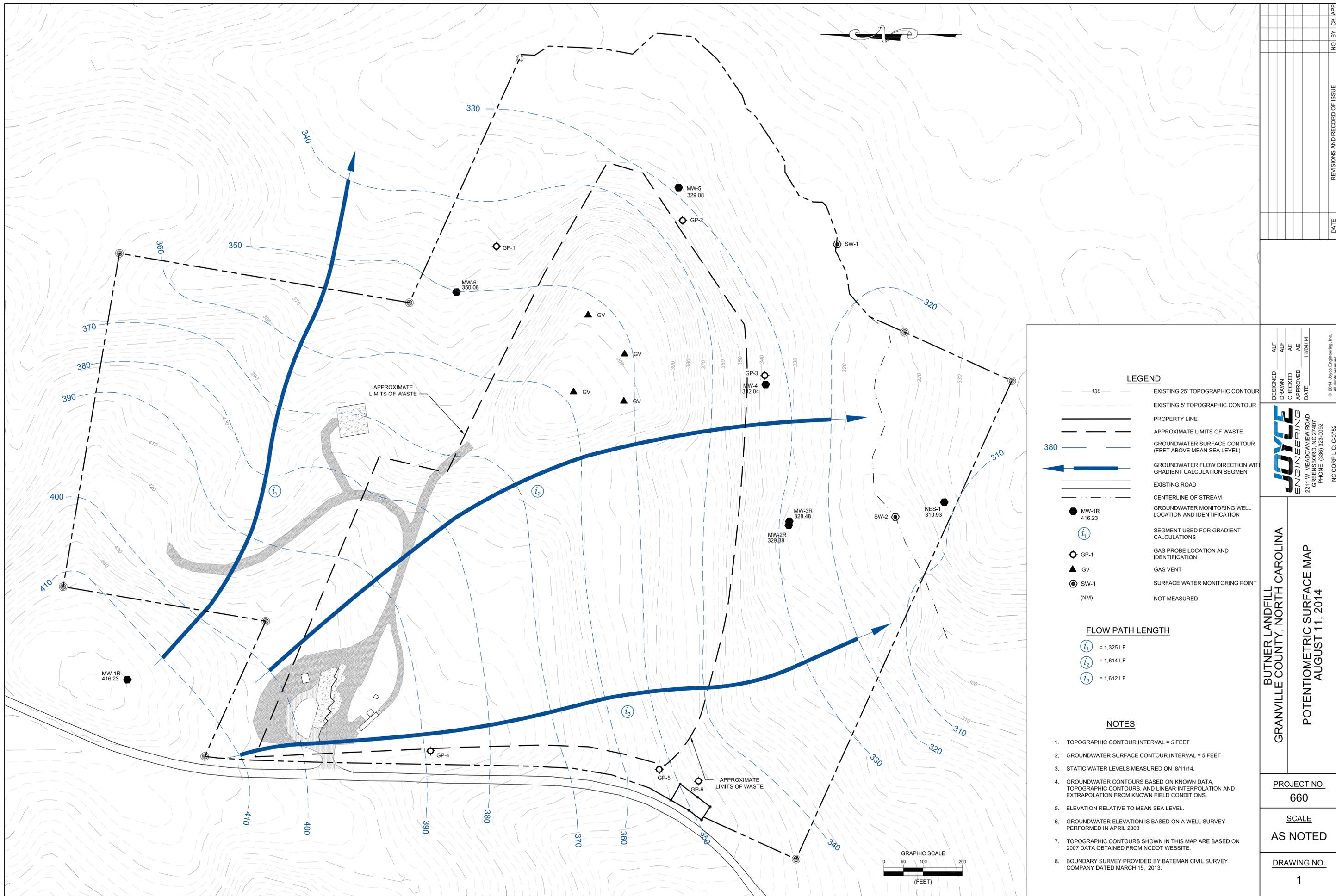
PROJECT NO.
660

FIGURE NO.
1

DRAWING

Drawing 1

Groundwater Potentiometric Surface Map



LEGEND

- 130 EXISTING 25' TOPOGRAPHIC CONTOUR
- EXISTING 5' TOPOGRAPHIC CONTOUR
- PROPERTY LINE
- APPROXIMATE LIMITS OF WASTE
- GROUNDWATER SURFACE CONTOUR (FEET ABOVE MEAN SEA LEVEL)
- GROUNDWATER FLOW DIRECTION WITH GRADIENT CALCULATION SEGMENT
- EXISTING ROAD
- CENTERLINE OF STREAM
- GROUNDWATER MONITORING WELL LOCATION AND IDENTIFICATION
- SEGMENT USED FOR GRADIENT CALCULATIONS
- GAS PROBE LOCATION AND IDENTIFICATION
- GAS VENT
- SURFACE WATER MONITORING POINT
- NOT MEASURED

FLOW PATH LENGTH

- = 1,325 LF
- = 1,614 LF
- = 1,612 LF

- NOTES**
1. TOPOGRAPHIC CONTOUR INTERVAL = 5 FEET
 2. GROUNDWATER SURFACE CONTOUR INTERVAL = 5 FEET
 3. STATIC WATER LEVELS MEASURED ON 8/11/14.
 4. GROUNDWATER CONTOURS BASED ON KNOWN DATA, TOPOGRAPHIC CONTOURS, AND LINEAR INTERPOLATION AND EXTRAPOLATION FROM KNOWN FIELD CONDITIONS.
 5. ELEVATION RELATIVE TO MEAN SEA LEVEL.
 6. GROUNDWATER ELEVATION IS BASED ON A WELL SURVEY PERFORMED IN APRIL 2008
 7. TOPOGRAPHIC CONTOURS SHOWN IN THIS MAP ARE BASED ON 2007 DATA OBTAINED FROM NCDOT WEBSITE.
 8. BOUNDARY SURVEY PROVIDED BY BATEMAN CIVIL SURVEY COMPANY DATED MARCH 15, 2013.

DESIGNED	ALF	
DRAWN	ALF	
CHECKED	AE	
APPROVED	AE	
DATE	11/08/14	
NO.	BY	CK APP
REVISIONS AND RECORD OF ISSUE		
DATE		
<p>BUTNER LANDFILL GRANVILLE COUNTY, NORTH CAROLINA</p> <p>POTENTIOMETRIC SURFACE MAP AUGUST 11, 2014</p>		
PROJECT NO. 660		
SCALE AS NOTED		
DRAWING NO. 1		

APPENDICES

Appendix A	Laboratory Analytical Reports and Field Data Logs
Appendix B	Statistical Analysis Worksheets
Appendix C	BIOSCREEN Input & Output

Appendix A

Laboratory Analytical Reports and Field Data Logs

August 29, 2014

Mr. Van Burbach
Joyce Engineering-NC
2211 West Meadowview Rd
Boone Bldg, Suite 101
Greensboro, NC 27407

RE: Project: BUTNER LANDFILL COMPLIANCE
Pace Project No.: 92213314

Dear Mr. Burbach:

Enclosed are the analytical results for sample(s) received by the laboratory between August 13, 2014 and August 21, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures

cc: Alex Everhart, Joyce Engineering-NC



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Arizona Certification #: AZ0735
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Massachusetts Certification #: M-FL1264
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New Hampshire Certification #: 2958
New Jersey Certification #: FL765
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Washington Certification #: C955
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627
Georgia Certification: Virginia/VELAP ID# 46022
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

Asheville Certification IDs

2225 Riverside Dr., Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92213314001	3902-MW1R	Water	08/12/14 09:10	08/13/14 16:10
92213314002	3902-MW2R	Water	08/12/14 11:58	08/13/14 16:10
92213314003	3902-MW3R	Water	08/12/14 11:40	08/13/14 16:10
92213314004	3902-MW4	Water	08/12/14 11:30	08/13/14 16:10
92213314005	3902-MW5	Water	08/12/14 11:20	08/13/14 16:10
92213314006	3902-MW6	Water	08/12/14 10:30	08/13/14 16:10
92213314007	3902-NES1	Water	08/12/14 12:58	08/13/14 16:10
92213314008	3902-SW2	Water	08/12/14 14:30	08/13/14 16:10
92213314009	3902-FIELD BLANK	Water	08/12/14 15:15	08/13/14 16:10
92213314010	3902-TRIP BLANK	Water	08/11/14 06:30	08/13/14 16:10
92213314011	3902-MW4	Water	08/20/14 11:30	08/21/14 16:35

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SAMPLE ANALYTE COUNT

Project: BUTNER LANDFILL COMPLIANCE
Pace Project No.: 92213314

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92213314001	3902-MW1R	EPA 8081	RES	5	PASI-C
		EPA 8151	LJM	2	PASI-O
		EPA 6010	JMW	16	PASI-A
		EPA 8260	MCK	50	PASI-C
92213314002	3902-MW2R	EPA 8081	RES	5	PASI-C
		EPA 8151	LJM	2	PASI-O
		EPA 6010	JMW	16	PASI-A
		EPA 8260	MCK	50	PASI-C
92213314003	3902-MW3R	EPA 8081	RES	5	PASI-C
		EPA 8151	LJM	2	PASI-O
		EPA 6010	JMW	16	PASI-A
		EPA 8260	MCK	50	PASI-C
92213314004	3902-MW4	EPA 6010	JMW	16	PASI-A
92213314005	3902-MW5	EPA 6010	JMW	16	PASI-A
		EPA 8260	MCK	50	PASI-C
92213314006	3902-MW6	EPA 6010	JMW	16	PASI-A
		EPA 8260	MCK	50	PASI-C
92213314007	3902-NES1	EPA 8260	MCK	50	PASI-C
92213314008	3902-SW2	EPA 6010	JMW	16	PASI-A
		EPA 8260	MCK	50	PASI-C
92213314009	3902-FIELD BLANK	EPA 8081	RES	5	PASI-C
		EPA 8151	LJM	2	PASI-O
		EPA 6010	JMW	16	PASI-A
		EPA 8260	MCK	50	PASI-C
92213314010	3902-TRIP BLANK	EPA 8260	MCK	50	PASI-C
92213314011	3902-MW4	EPA 8260	MCK	50	PASI-C

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SUMMARY OF DETECTION

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92213314002	3902-MW2R					
EPA 6010	Antimony	10.5	ug/L	6.0	08/21/14 17:19	
EPA 6010	Barium	125	ug/L	100	08/21/14 17:19	
EPA 6010	Cobalt	9.4J	ug/L	10.0	08/21/14 17:19	
EPA 6010	Nickel	97.9	ug/L	50.0	08/21/14 17:19	
EPA 6010	Tin	30.7J	ug/L	100	08/21/14 17:19	
EPA 8260	Benzene	1.7	ug/L	1.0	08/18/14 16:33	
EPA 8260	Chlorobenzene	15.6	ug/L	3.0	08/18/14 16:33	
EPA 8260	Chloroethane	1.1J	ug/L	10.0	08/18/14 16:33	
EPA 8260	1,2-Dichlorobenzene	1.2J	ug/L	5.0	08/18/14 16:33	
EPA 8260	1,4-Dichlorobenzene	2.4	ug/L	1.0	08/18/14 16:33	
92213314003	3902-MW3R					
EPA 6010	Antimony	8.0	ug/L	6.0	08/21/14 17:22	
EPA 6010	Barium	66.4J	ug/L	100	08/21/14 17:22	
EPA 6010	Copper	10.5	ug/L	10.0	08/21/14 17:22	
EPA 6010	Nickel	29.0J	ug/L	50.0	08/21/14 17:22	
EPA 6010	Tin	8.2J	ug/L	100	08/21/14 17:22	
EPA 8260	Benzene	0.61J	ug/L	1.0	08/18/14 16:49	
EPA 8260	Chlorobenzene	18.3	ug/L	3.0	08/18/14 16:49	
EPA 8260	Chloroethane	1.5J	ug/L	10.0	08/18/14 16:49	
EPA 8260	1,2-Dichlorobenzene	1.5J	ug/L	5.0	08/18/14 16:49	
EPA 8260	1,4-Dichlorobenzene	1.3	ug/L	1.0	08/18/14 16:49	
92213314004	3902-MW4					
EPA 6010	Nickel	12.9J	ug/L	50.0	08/21/14 17:25	
EPA 6010	Vanadium	18.6J	ug/L	25.0	08/21/14 17:25	
92213314005	3902-MW5					
EPA 6010	Barium	121	ug/L	100	08/21/14 17:28	
EPA 6010	Cobalt	46.3	ug/L	10.0	08/21/14 17:28	
EPA 6010	Nickel	13.2J	ug/L	50.0	08/21/14 17:28	
EPA 6010	Zinc	16.9	ug/L	10.0	08/21/14 17:28	
92213314008	3902-SW2					
EPA 6010	Barium	121	ug/L	100	08/21/14 17:44	
EPA 6010	Nickel	20.3J	ug/L	50.0	08/21/14 17:44	
92213314009	3902-FIELD BLANK					
EPA 8260	Acetone	22.0J	ug/L	100	08/18/14 18:09	
92213314010	3902-TRIP BLANK					
EPA 8260	Acetone	17.8J	ug/L	100	08/18/14 18:25	
92213314011	3902-MW4					
EPA 8260	Benzene	0.25J	ug/L	1.0	08/28/14 02:57	
EPA 8260	Chlorobenzene	3.6	ug/L	3.0	08/28/14 02:57	
EPA 8260	Chloroethane	1.1J	ug/L	10.0	08/28/14 02:57	
EPA 8260	1,1-Dichloroethane	0.47J	ug/L	5.0	08/28/14 02:57	

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ANALYTICAL RESULTS

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

Sample: 3902-MW1R		Lab ID: 92213314001		Collected: 08/12/14 09:10		Received: 08/13/14 16:10		Matrix: Water	
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8081 Organochlorine Pesticides		Analytical Method: EPA 8081		Preparation Method: EPA 3510					
gamma-BHC (Lindane)	ND ug/L		0.050	0.050	1	08/18/14 10:37	08/26/14 00:00	58-89-9	
Endrin aldehyde	ND ug/L		0.10	0.050	1	08/18/14 10:37	08/26/14 00:00	7421-93-4	
Heptachlor	ND ug/L		0.050	0.050	1	08/18/14 10:37	08/26/14 00:00	76-44-8	
Surrogates									
Tetrachloro-m-xylene (S)	68 %		20-130		1	08/18/14 10:37	08/26/14 00:00	877-09-8	
Decachlorobiphenyl (S)	52 %		20-130		1	08/18/14 10:37	08/26/14 00:00	2051-24-3	
8151 Chlorinated Herbicides		Analytical Method: EPA 8151		Preparation Method: EPA 8151					
2,4-D	ND ug/L		2.0	0.22	1	08/19/14 07:30	08/22/14 11:57	94-75-7	
Surrogates									
2,4-DCAA (S)	84 %		66-130		1	08/19/14 07:30	08/22/14 11:57	19719-28-9	
6010 ICP Groundwater		Analytical Method: EPA 6010		Preparation Method: EPA 3010					
Antimony	ND ug/L		6.0	5.0	1	08/15/14 15:25	08/21/14 17:10	7440-36-0	
Arsenic	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:10	7440-38-2	
Barium	ND ug/L		100	5.0	1	08/15/14 15:25	08/21/14 17:10	7440-39-3	
Beryllium	ND ug/L		1.0	1.0	1	08/15/14 15:25	08/21/14 17:10	7440-41-7	
Cadmium	ND ug/L		1.0	1.0	1	08/15/14 15:25	08/21/14 17:10	7440-43-9	
Chromium	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:10	7440-47-3	
Cobalt	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:10	7440-48-4	
Copper	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:10	7440-50-8	
Lead	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:10	7439-92-1	
Nickel	ND ug/L		50.0	5.0	1	08/15/14 15:25	08/21/14 17:10	7440-02-0	
Selenium	ND ug/L		10.0	10.0	1	08/15/14 15:25	08/21/14 17:10	7782-49-2	
Silver	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:10	7440-22-4	
Thallium	ND ug/L		5.5	5.4	1	08/15/14 15:25	08/21/14 17:10	7440-28-0	
Tin	ND ug/L		100	5.0	1	08/15/14 15:25	08/21/14 17:10	7440-31-5	
Vanadium	ND ug/L		25.0	5.0	1	08/15/14 15:25	08/21/14 17:10	7440-62-2	
Zinc	ND ug/L		10.0	10.0	1	08/15/14 15:25	08/21/14 17:10	7440-66-6	
8260 MSV Low Level Landfill		Analytical Method: EPA 8260							
Acetone	ND ug/L		100	10.0	1		08/18/14 16:17	67-64-1	
Acrylonitrile	ND ug/L		200	1.9	1		08/18/14 16:17	107-13-1	
Benzene	ND ug/L		1.0	0.25	1		08/18/14 16:17	71-43-2	
Bromochloromethane	ND ug/L		3.0	0.17	1		08/18/14 16:17	74-97-5	
Bromodichloromethane	ND ug/L		1.0	0.18	1		08/18/14 16:17	75-27-4	
Bromoform	ND ug/L		3.0	0.26	1		08/18/14 16:17	75-25-2	
Bromomethane	ND ug/L		10.0	0.29	1		08/18/14 16:17	74-83-9	
2-Butanone (MEK)	ND ug/L		100	0.96	1		08/18/14 16:17	78-93-3	
Carbon disulfide	ND ug/L		100	1.2	1		08/18/14 16:17	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	0.25	1		08/18/14 16:17	56-23-5	
Chlorobenzene	ND ug/L		3.0	0.23	1		08/18/14 16:17	108-90-7	
Chloroethane	ND ug/L		10.0	0.54	1		08/18/14 16:17	75-00-3	
Chloroform	ND ug/L		5.0	0.14	1		08/18/14 16:17	67-66-3	
Chloromethane	ND ug/L		1.0	0.11	1		08/18/14 16:17	74-87-3	
1,2-Dibromo-3-chloropropane	ND ug/L		13.0	2.0	1		08/18/14 16:17	96-12-8	

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ANALYTICAL RESULTS

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

Sample: 3902-MW1R **Lab ID: 92213314001** Collected: 08/12/14 09:10 Received: 08/13/14 16:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260 MSV Low Level Landfill		Analytical Method: EPA 8260							
Dibromochloromethane	ND ug/L		3.0	0.21	1		08/18/14 16:17	124-48-1	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	0.27	1		08/18/14 16:17	106-93-4	
Dibromomethane	ND ug/L		10.0	0.21	1		08/18/14 16:17	74-95-3	
1,2-Dichlorobenzene	ND ug/L		5.0	0.30	1		08/18/14 16:17	95-50-1	
1,4-Dichlorobenzene	ND ug/L		1.0	0.33	1		08/18/14 16:17	106-46-7	
trans-1,4-Dichloro-2-butene	ND ug/L		100	1.0	1		08/18/14 16:17	110-57-6	
1,1-Dichloroethane	ND ug/L		5.0	0.32	1		08/18/14 16:17	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	0.12	1		08/18/14 16:17	107-06-2	
1,1-Dichloroethene	ND ug/L		5.0	0.56	1		08/18/14 16:17	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		5.0	0.19	1		08/18/14 16:17	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		5.0	0.49	1		08/18/14 16:17	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	0.27	1		08/18/14 16:17	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	0.13	1		08/18/14 16:17	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	0.26	1		08/18/14 16:17	10061-02-6	
Ethylbenzene	ND ug/L		1.0	0.30	1		08/18/14 16:17	100-41-4	
2-Hexanone	ND ug/L		50.0	0.46	1		08/18/14 16:17	591-78-6	
Iodomethane	ND ug/L		10.0	0.32	1		08/18/14 16:17	74-88-4	
Methylene Chloride	ND ug/L		1.0	0.97	1		08/18/14 16:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		100	0.33	1		08/18/14 16:17	108-10-1	
Styrene	ND ug/L		1.0	0.26	1		08/18/14 16:17	100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L		5.0	0.33	1		08/18/14 16:17	630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L		3.0	0.40	1		08/18/14 16:17	79-34-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		08/18/14 16:17	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		08/18/14 16:17	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		08/18/14 16:17	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	0.29	1		08/18/14 16:17	79-00-5	
Trichloroethene	ND ug/L		1.0	0.47	1		08/18/14 16:17	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	0.20	1		08/18/14 16:17	75-69-4	
1,2,3-Trichloropropane	ND ug/L		1.0	0.41	1		08/18/14 16:17	96-18-4	
Vinyl acetate	ND ug/L		50.0	0.35	1		08/18/14 16:17	108-05-4	
Vinyl chloride	ND ug/L		1.0	0.62	1		08/18/14 16:17	75-01-4	
Xylene (Total)	ND ug/L		5.0	0.66	1		08/18/14 16:17	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101 %		70-130		1		08/18/14 16:17	460-00-4	
1,2-Dichloroethane-d4 (S)	100 %		70-130		1		08/18/14 16:17	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		08/18/14 16:17	2037-26-5	

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ANALYTICAL RESULTS

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

Sample: 3902-MW2R		Lab ID: 92213314002		Collected: 08/12/14 11:58		Received: 08/13/14 16:10		Matrix: Water	
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8081 Organochlorine Pesticides		Analytical Method: EPA 8081		Preparation Method: EPA 3510					
gamma-BHC (Lindane)	ND ug/L		0.050	0.050	1	08/18/14 10:37	08/26/14 00:18	58-89-9	
Endrin aldehyde	ND ug/L		0.10	0.050	1	08/18/14 10:37	08/26/14 00:18	7421-93-4	
Heptachlor	ND ug/L		0.050	0.050	1	08/18/14 10:37	08/26/14 00:18	76-44-8	
Surrogates									
Tetrachloro-m-xylene (S)	54 %		20-130		1	08/18/14 10:37	08/26/14 00:18	877-09-8	
Decachlorobiphenyl (S)	67 %		20-130		1	08/18/14 10:37	08/26/14 00:18	2051-24-3	
8151 Chlorinated Herbicides		Analytical Method: EPA 8151		Preparation Method: EPA 8151					
2,4-D	ND ug/L		2.0	0.22	1	08/19/14 07:30	08/22/14 12:27	94-75-7	
Surrogates									
2,4-DCAA (S)	106 %		66-130		1	08/19/14 07:30	08/22/14 12:27	19719-28-9	
6010 ICP Groundwater		Analytical Method: EPA 6010		Preparation Method: EPA 3010					
Antimony	10.5 ug/L		6.0	5.0	1	08/15/14 15:25	08/21/14 17:19	7440-36-0	
Arsenic	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:19	7440-38-2	
Barium	125 ug/L		100	5.0	1	08/15/14 15:25	08/21/14 17:19	7440-39-3	
Beryllium	ND ug/L		1.0	1.0	1	08/15/14 15:25	08/21/14 17:19	7440-41-7	
Cadmium	ND ug/L		1.0	1.0	1	08/15/14 15:25	08/21/14 17:19	7440-43-9	
Chromium	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:19	7440-47-3	
Cobalt	9.4J ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:19	7440-48-4	
Copper	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:19	7440-50-8	
Lead	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:19	7439-92-1	
Nickel	97.9 ug/L		50.0	5.0	1	08/15/14 15:25	08/21/14 17:19	7440-02-0	
Selenium	ND ug/L		10.0	10.0	1	08/15/14 15:25	08/21/14 17:19	7782-49-2	
Silver	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:19	7440-22-4	
Thallium	ND ug/L		5.5	5.4	1	08/15/14 15:25	08/21/14 17:19	7440-28-0	
Tin	30.7J ug/L		100	5.0	1	08/15/14 15:25	08/21/14 17:19	7440-31-5	
Vanadium	ND ug/L		25.0	5.0	1	08/15/14 15:25	08/21/14 17:19	7440-62-2	
Zinc	ND ug/L		10.0	10.0	1	08/15/14 15:25	08/21/14 17:19	7440-66-6	
8260 MSV Low Level Landfill		Analytical Method: EPA 8260							
Acetone	ND ug/L		100	10.0	1		08/18/14 16:33	67-64-1	
Acrylonitrile	ND ug/L		200	1.9	1		08/18/14 16:33	107-13-1	
Benzene	1.7 ug/L		1.0	0.25	1		08/18/14 16:33	71-43-2	
Bromochloromethane	ND ug/L		3.0	0.17	1		08/18/14 16:33	74-97-5	
Bromodichloromethane	ND ug/L		1.0	0.18	1		08/18/14 16:33	75-27-4	
Bromoform	ND ug/L		3.0	0.26	1		08/18/14 16:33	75-25-2	
Bromomethane	ND ug/L		10.0	0.29	1		08/18/14 16:33	74-83-9	
2-Butanone (MEK)	ND ug/L		100	0.96	1		08/18/14 16:33	78-93-3	
Carbon disulfide	ND ug/L		100	1.2	1		08/18/14 16:33	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	0.25	1		08/18/14 16:33	56-23-5	
Chlorobenzene	15.6 ug/L		3.0	0.23	1		08/18/14 16:33	108-90-7	
Chloroethane	1.1J ug/L		10.0	0.54	1		08/18/14 16:33	75-00-3	
Chloroform	ND ug/L		5.0	0.14	1		08/18/14 16:33	67-66-3	
Chloromethane	ND ug/L		1.0	0.11	1		08/18/14 16:33	74-87-3	
1,2-Dibromo-3-chloropropane	ND ug/L		13.0	2.0	1		08/18/14 16:33	96-12-8	

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ANALYTICAL RESULTS

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

Sample: 3902-MW2R **Lab ID: 92213314002** Collected: 08/12/14 11:58 Received: 08/13/14 16:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260 MSV Low Level Landfill		Analytical Method: EPA 8260							
Dibromochloromethane	ND	ug/L	3.0	0.21	1		08/18/14 16:33	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/18/14 16:33	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		08/18/14 16:33	74-95-3	
1,2-Dichlorobenzene	1.2J	ug/L	5.0	0.30	1		08/18/14 16:33	95-50-1	
1,4-Dichlorobenzene	2.4	ug/L	1.0	0.33	1		08/18/14 16:33	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		08/18/14 16:33	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		08/18/14 16:33	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/18/14 16:33	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		08/18/14 16:33	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		08/18/14 16:33	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		08/18/14 16:33	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/18/14 16:33	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/18/14 16:33	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/18/14 16:33	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/18/14 16:33	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		08/18/14 16:33	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		08/18/14 16:33	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		08/18/14 16:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		08/18/14 16:33	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		08/18/14 16:33	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		08/18/14 16:33	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		08/18/14 16:33	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/18/14 16:33	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/18/14 16:33	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/18/14 16:33	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/18/14 16:33	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/18/14 16:33	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/18/14 16:33	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		08/18/14 16:33	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		08/18/14 16:33	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/18/14 16:33	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		08/18/14 16:33	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101 %		70-130		1		08/18/14 16:33	460-00-4	
1,2-Dichloroethane-d4 (S)	99 %		70-130		1		08/18/14 16:33	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		08/18/14 16:33	2037-26-5	

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ANALYTICAL RESULTS

Project: BUTNER LANDFILL COMPLIANCE
Pace Project No.: 92213314

Sample: 3902-MW3R Lab ID: 92213314003 Collected: 08/12/14 11:40 Received: 08/13/14 16:10 Matrix: Water									
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8081 Organochlorine Pesticides Analytical Method: EPA 8081 Preparation Method: EPA 3510									
gamma-BHC (Lindane)	ND ug/L		0.050	0.050	1	08/18/14 10:37	08/26/14 00:36	58-89-9	
Endrin aldehyde	ND ug/L		0.10	0.050	1	08/18/14 10:37	08/26/14 00:36	7421-93-4	
Heptachlor	ND ug/L		0.050	0.050	1	08/18/14 10:37	08/26/14 00:36	76-44-8	
Surrogates									
Tetrachloro-m-xylene (S)	73 %		20-130		1	08/18/14 10:37	08/26/14 00:36	877-09-8	
Decachlorobiphenyl (S)	73 %		20-130		1	08/18/14 10:37	08/26/14 00:36	2051-24-3	
8151 Chlorinated Herbicides Analytical Method: EPA 8151 Preparation Method: EPA 8151									
2,4-D	ND ug/L		2.0	0.22	1	08/19/14 07:30	08/22/14 13:28	94-75-7	
Surrogates									
2,4-DCAA (S)	98 %		66-130		1	08/19/14 07:30	08/22/14 13:28	19719-28-9	
6010 ICP Groundwater Analytical Method: EPA 6010 Preparation Method: EPA 3010									
Antimony	8.0 ug/L		6.0	5.0	1	08/15/14 15:25	08/21/14 17:22	7440-36-0	
Arsenic	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:22	7440-38-2	
Barium	66.4J ug/L		100	5.0	1	08/15/14 15:25	08/21/14 17:22	7440-39-3	
Beryllium	ND ug/L		1.0	1.0	1	08/15/14 15:25	08/21/14 17:22	7440-41-7	
Cadmium	ND ug/L		1.0	1.0	1	08/15/14 15:25	08/21/14 17:22	7440-43-9	
Chromium	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:22	7440-47-3	
Cobalt	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:22	7440-48-4	
Copper	10.5 ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:22	7440-50-8	
Lead	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:22	7439-92-1	
Nickel	29.0J ug/L		50.0	5.0	1	08/15/14 15:25	08/21/14 17:22	7440-02-0	
Selenium	ND ug/L		10.0	10.0	1	08/15/14 15:25	08/21/14 17:22	7782-49-2	
Silver	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:22	7440-22-4	
Thallium	ND ug/L		5.5	5.4	1	08/15/14 15:25	08/21/14 17:22	7440-28-0	
Tin	8.2J ug/L		100	5.0	1	08/15/14 15:25	08/21/14 17:22	7440-31-5	
Vanadium	ND ug/L		25.0	5.0	1	08/15/14 15:25	08/21/14 17:22	7440-62-2	
Zinc	ND ug/L		10.0	10.0	1	08/15/14 15:25	08/21/14 17:22	7440-66-6	
8260 MSV Low Level Landfill Analytical Method: EPA 8260									
Acetone	ND ug/L		100	10.0	1		08/18/14 16:49	67-64-1	
Acrylonitrile	ND ug/L		200	1.9	1		08/18/14 16:49	107-13-1	
Benzene	0.61J ug/L		1.0	0.25	1		08/18/14 16:49	71-43-2	
Bromochloromethane	ND ug/L		3.0	0.17	1		08/18/14 16:49	74-97-5	
Bromodichloromethane	ND ug/L		1.0	0.18	1		08/18/14 16:49	75-27-4	
Bromoform	ND ug/L		3.0	0.26	1		08/18/14 16:49	75-25-2	
Bromomethane	ND ug/L		10.0	0.29	1		08/18/14 16:49	74-83-9	
2-Butanone (MEK)	ND ug/L		100	0.96	1		08/18/14 16:49	78-93-3	
Carbon disulfide	ND ug/L		100	1.2	1		08/18/14 16:49	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	0.25	1		08/18/14 16:49	56-23-5	
Chlorobenzene	18.3 ug/L		3.0	0.23	1		08/18/14 16:49	108-90-7	
Chloroethane	1.5J ug/L		10.0	0.54	1		08/18/14 16:49	75-00-3	
Chloroform	ND ug/L		5.0	0.14	1		08/18/14 16:49	67-66-3	
Chloromethane	ND ug/L		1.0	0.11	1		08/18/14 16:49	74-87-3	
1,2-Dibromo-3-chloropropane	ND ug/L		13.0	2.0	1		08/18/14 16:49	96-12-8	

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ANALYTICAL RESULTS

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

Sample: 3902-MW3R **Lab ID: 92213314003** Collected: 08/12/14 11:40 Received: 08/13/14 16:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260 MSV Low Level Landfill		Analytical Method: EPA 8260							
Dibromochloromethane	ND	ug/L	3.0	0.21	1		08/18/14 16:49	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/18/14 16:49	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		08/18/14 16:49	74-95-3	
1,2-Dichlorobenzene	1.5J	ug/L	5.0	0.30	1		08/18/14 16:49	95-50-1	
1,4-Dichlorobenzene	1.3	ug/L	1.0	0.33	1		08/18/14 16:49	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		08/18/14 16:49	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		08/18/14 16:49	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/18/14 16:49	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		08/18/14 16:49	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		08/18/14 16:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		08/18/14 16:49	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/18/14 16:49	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/18/14 16:49	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/18/14 16:49	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/18/14 16:49	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		08/18/14 16:49	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		08/18/14 16:49	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		08/18/14 16:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		08/18/14 16:49	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		08/18/14 16:49	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		08/18/14 16:49	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		08/18/14 16:49	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/18/14 16:49	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/18/14 16:49	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/18/14 16:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/18/14 16:49	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/18/14 16:49	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/18/14 16:49	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		08/18/14 16:49	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		08/18/14 16:49	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/18/14 16:49	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		08/18/14 16:49	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102 %		70-130		1		08/18/14 16:49	460-00-4	
1,2-Dichloroethane-d4 (S)	99 %		70-130		1		08/18/14 16:49	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		08/18/14 16:49	2037-26-5	

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ANALYTICAL RESULTS

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

Sample: 3902-MW4 **Lab ID: 92213314004** Collected: 08/12/14 11:30 Received: 08/13/14 16:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 ICP Groundwater		Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	6.0	5.0	1	08/15/14 15:25	08/21/14 17:25	7440-36-0	
Arsenic	ND	ug/L	10.0	5.0	1	08/15/14 15:25	08/21/14 17:25	7440-38-2	
Barium	ND	ug/L	100	5.0	1	08/15/14 15:25	08/21/14 17:25	7440-39-3	
Beryllium	ND	ug/L	1.0	1.0	1	08/15/14 15:25	08/21/14 17:25	7440-41-7	
Cadmium	ND	ug/L	1.0	1.0	1	08/15/14 15:25	08/21/14 17:25	7440-43-9	
Chromium	ND	ug/L	10.0	5.0	1	08/15/14 15:25	08/21/14 17:25	7440-47-3	
Cobalt	ND	ug/L	10.0	5.0	1	08/15/14 15:25	08/21/14 17:25	7440-48-4	
Copper	ND	ug/L	10.0	5.0	1	08/15/14 15:25	08/21/14 17:25	7440-50-8	
Lead	ND	ug/L	10.0	5.0	1	08/15/14 15:25	08/21/14 17:25	7439-92-1	
Nickel	12.9J	ug/L	50.0	5.0	1	08/15/14 15:25	08/21/14 17:25	7440-02-0	
Selenium	ND	ug/L	10.0	10.0	1	08/15/14 15:25	08/21/14 17:25	7782-49-2	
Silver	ND	ug/L	10.0	5.0	1	08/15/14 15:25	08/21/14 17:25	7440-22-4	
Thallium	ND	ug/L	5.5	5.4	1	08/15/14 15:25	08/21/14 17:25	7440-28-0	
Tin	ND	ug/L	100	5.0	1	08/15/14 15:25	08/21/14 17:25	7440-31-5	
Vanadium	18.6J	ug/L	25.0	5.0	1	08/15/14 15:25	08/21/14 17:25	7440-62-2	
Zinc	ND	ug/L	10.0	10.0	1	08/15/14 15:25	08/21/14 17:25	7440-66-6	

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ANALYTICAL RESULTS

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

Sample: 3902-MW5 **Lab ID: 92213314005** Collected: 08/12/14 11:20 Received: 08/13/14 16:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 ICP Groundwater		Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	6.0	5.0	1	08/15/14 15:25	08/21/14 17:28	7440-36-0	
Arsenic	ND	ug/L	10.0	5.0	1	08/15/14 15:25	08/21/14 17:28	7440-38-2	
Barium	121	ug/L	100	5.0	1	08/15/14 15:25	08/21/14 17:28	7440-39-3	
Beryllium	ND	ug/L	1.0	1.0	1	08/15/14 15:25	08/21/14 17:28	7440-41-7	
Cadmium	ND	ug/L	1.0	1.0	1	08/15/14 15:25	08/21/14 17:28	7440-43-9	
Chromium	ND	ug/L	10.0	5.0	1	08/15/14 15:25	08/21/14 17:28	7440-47-3	
Cobalt	46.3	ug/L	10.0	5.0	1	08/15/14 15:25	08/21/14 17:28	7440-48-4	
Copper	ND	ug/L	10.0	5.0	1	08/15/14 15:25	08/21/14 17:28	7440-50-8	
Lead	ND	ug/L	10.0	5.0	1	08/15/14 15:25	08/21/14 17:28	7439-92-1	
Nickel	13.2J	ug/L	50.0	5.0	1	08/15/14 15:25	08/21/14 17:28	7440-02-0	
Selenium	ND	ug/L	10.0	10.0	1	08/15/14 15:25	08/21/14 17:28	7782-49-2	
Silver	ND	ug/L	10.0	5.0	1	08/15/14 15:25	08/21/14 17:28	7440-22-4	
Thallium	ND	ug/L	5.5	5.4	1	08/15/14 15:25	08/21/14 17:28	7440-28-0	
Tin	ND	ug/L	100	5.0	1	08/15/14 15:25	08/21/14 17:28	7440-31-5	
Vanadium	ND	ug/L	25.0	5.0	1	08/15/14 15:25	08/21/14 17:28	7440-62-2	
Zinc	16.9	ug/L	10.0	10.0	1	08/15/14 15:25	08/21/14 17:28	7440-66-6	

8260 MSV Low Level Landfill

Analytical Method: EPA 8260

Acetone	ND	ug/L	100	10.0	1		08/18/14 17:05	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		08/18/14 17:05	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		08/18/14 17:05	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		08/18/14 17:05	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		08/18/14 17:05	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		08/18/14 17:05	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		08/18/14 17:05	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		08/18/14 17:05	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		08/18/14 17:05	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/18/14 17:05	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		08/18/14 17:05	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		08/18/14 17:05	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		08/18/14 17:05	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/18/14 17:05	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		08/18/14 17:05	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		08/18/14 17:05	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/18/14 17:05	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		08/18/14 17:05	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		08/18/14 17:05	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/18/14 17:05	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		08/18/14 17:05	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		08/18/14 17:05	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/18/14 17:05	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		08/18/14 17:05	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		08/18/14 17:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		08/18/14 17:05	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/18/14 17:05	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/18/14 17:05	10061-01-5	

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ANALYTICAL RESULTS

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

Sample: 3902-MW5 **Lab ID: 92213314005** Collected: 08/12/14 11:20 Received: 08/13/14 16:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260 MSV Low Level Landfill		Analytical Method: EPA 8260							
trans-1,3-Dichloropropene	ND ug/L		1.0	0.26	1		08/18/14 17:05	10061-02-6	
Ethylbenzene	ND ug/L		1.0	0.30	1		08/18/14 17:05	100-41-4	
2-Hexanone	ND ug/L		50.0	0.46	1		08/18/14 17:05	591-78-6	
Iodomethane	ND ug/L		10.0	0.32	1		08/18/14 17:05	74-88-4	
Methylene Chloride	ND ug/L		1.0	0.97	1		08/18/14 17:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		100	0.33	1		08/18/14 17:05	108-10-1	
Styrene	ND ug/L		1.0	0.26	1		08/18/14 17:05	100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L		5.0	0.33	1		08/18/14 17:05	630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L		3.0	0.40	1		08/18/14 17:05	79-34-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		08/18/14 17:05	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		08/18/14 17:05	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		08/18/14 17:05	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	0.29	1		08/18/14 17:05	79-00-5	
Trichloroethene	ND ug/L		1.0	0.47	1		08/18/14 17:05	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	0.20	1		08/18/14 17:05	75-69-4	
1,2,3-Trichloropropane	ND ug/L		1.0	0.41	1		08/18/14 17:05	96-18-4	
Vinyl acetate	ND ug/L		50.0	0.35	1		08/18/14 17:05	108-05-4	
Vinyl chloride	ND ug/L		1.0	0.62	1		08/18/14 17:05	75-01-4	
Xylene (Total)	ND ug/L		5.0	0.66	1		08/18/14 17:05	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102 %		70-130		1		08/18/14 17:05	460-00-4	
1,2-Dichloroethane-d4 (S)	101 %		70-130		1		08/18/14 17:05	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		08/18/14 17:05	2037-26-5	

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ANALYTICAL RESULTS

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

Sample: 3902-MW6 **Lab ID: 92213314006** Collected: 08/12/14 10:30 Received: 08/13/14 16:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 ICP Groundwater									
Analytical Method: EPA 6010 Preparation Method: EPA 3010									
Antimony	ND ug/L		6.0	5.0	1	08/15/14 15:25	08/21/14 17:31	7440-36-0	
Arsenic	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:31	7440-38-2	
Barium	ND ug/L		100	5.0	1	08/15/14 15:25	08/21/14 17:31	7440-39-3	
Beryllium	ND ug/L		1.0	1.0	1	08/15/14 15:25	08/21/14 17:31	7440-41-7	
Cadmium	ND ug/L		1.0	1.0	1	08/15/14 15:25	08/21/14 17:31	7440-43-9	
Chromium	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:31	7440-47-3	
Cobalt	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:31	7440-48-4	
Copper	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:31	7440-50-8	
Lead	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:31	7439-92-1	
Nickel	ND ug/L		50.0	5.0	1	08/15/14 15:25	08/21/14 17:31	7440-02-0	
Selenium	ND ug/L		10.0	10.0	1	08/15/14 15:25	08/21/14 17:31	7782-49-2	
Silver	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:31	7440-22-4	
Thallium	ND ug/L		5.5	5.4	1	08/15/14 15:25	08/21/14 17:31	7440-28-0	
Tin	ND ug/L		100	5.0	1	08/15/14 15:25	08/21/14 17:31	7440-31-5	
Vanadium	ND ug/L		25.0	5.0	1	08/15/14 15:25	08/21/14 17:31	7440-62-2	
Zinc	ND ug/L		10.0	10.0	1	08/15/14 15:25	08/21/14 17:31	7440-66-6	

8260 MSV Low Level Landfill

Analytical Method: EPA 8260

Acetone	ND ug/L		100	10.0	1		08/18/14 17:21	67-64-1	
Acrylonitrile	ND ug/L		200	1.9	1		08/18/14 17:21	107-13-1	
Benzene	ND ug/L		1.0	0.25	1		08/18/14 17:21	71-43-2	
Bromochloromethane	ND ug/L		3.0	0.17	1		08/18/14 17:21	74-97-5	
Bromodichloromethane	ND ug/L		1.0	0.18	1		08/18/14 17:21	75-27-4	
Bromoform	ND ug/L		3.0	0.26	1		08/18/14 17:21	75-25-2	
Bromomethane	ND ug/L		10.0	0.29	1		08/18/14 17:21	74-83-9	
2-Butanone (MEK)	ND ug/L		100	0.96	1		08/18/14 17:21	78-93-3	
Carbon disulfide	ND ug/L		100	1.2	1		08/18/14 17:21	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	0.25	1		08/18/14 17:21	56-23-5	
Chlorobenzene	ND ug/L		3.0	0.23	1		08/18/14 17:21	108-90-7	
Chloroethane	ND ug/L		10.0	0.54	1		08/18/14 17:21	75-00-3	
Chloroform	ND ug/L		5.0	0.14	1		08/18/14 17:21	67-66-3	
Chloromethane	ND ug/L		1.0	0.11	1		08/18/14 17:21	74-87-3	
1,2-Dibromo-3-chloropropane	ND ug/L		13.0	2.0	1		08/18/14 17:21	96-12-8	
Dibromochloromethane	ND ug/L		3.0	0.21	1		08/18/14 17:21	124-48-1	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	0.27	1		08/18/14 17:21	106-93-4	
Dibromomethane	ND ug/L		10.0	0.21	1		08/18/14 17:21	74-95-3	
1,2-Dichlorobenzene	ND ug/L		5.0	0.30	1		08/18/14 17:21	95-50-1	
1,4-Dichlorobenzene	ND ug/L		1.0	0.33	1		08/18/14 17:21	106-46-7	
trans-1,4-Dichloro-2-butene	ND ug/L		100	1.0	1		08/18/14 17:21	110-57-6	
1,1-Dichloroethane	ND ug/L		5.0	0.32	1		08/18/14 17:21	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	0.12	1		08/18/14 17:21	107-06-2	
1,1-Dichloroethene	ND ug/L		5.0	0.56	1		08/18/14 17:21	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		5.0	0.19	1		08/18/14 17:21	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		5.0	0.49	1		08/18/14 17:21	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	0.27	1		08/18/14 17:21	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	0.13	1		08/18/14 17:21	10061-01-5	

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ANALYTICAL RESULTS

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

Sample: 3902-MW6 **Lab ID: 92213314006** Collected: 08/12/14 10:30 Received: 08/13/14 16:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260 MSV Low Level Landfill		Analytical Method: EPA 8260							
trans-1,3-Dichloropropene	ND ug/L		1.0	0.26	1		08/18/14 17:21	10061-02-6	
Ethylbenzene	ND ug/L		1.0	0.30	1		08/18/14 17:21	100-41-4	
2-Hexanone	ND ug/L		50.0	0.46	1		08/18/14 17:21	591-78-6	
Iodomethane	ND ug/L		10.0	0.32	1		08/18/14 17:21	74-88-4	
Methylene Chloride	ND ug/L		1.0	0.97	1		08/18/14 17:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		100	0.33	1		08/18/14 17:21	108-10-1	
Styrene	ND ug/L		1.0	0.26	1		08/18/14 17:21	100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L		5.0	0.33	1		08/18/14 17:21	630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L		3.0	0.40	1		08/18/14 17:21	79-34-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		08/18/14 17:21	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		08/18/14 17:21	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		08/18/14 17:21	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	0.29	1		08/18/14 17:21	79-00-5	
Trichloroethene	ND ug/L		1.0	0.47	1		08/18/14 17:21	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	0.20	1		08/18/14 17:21	75-69-4	
1,2,3-Trichloropropane	ND ug/L		1.0	0.41	1		08/18/14 17:21	96-18-4	
Vinyl acetate	ND ug/L		50.0	0.35	1		08/18/14 17:21	108-05-4	
Vinyl chloride	ND ug/L		1.0	0.62	1		08/18/14 17:21	75-01-4	
Xylene (Total)	ND ug/L		5.0	0.66	1		08/18/14 17:21	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102 %		70-130		1		08/18/14 17:21	460-00-4	
1,2-Dichloroethane-d4 (S)	101 %		70-130		1		08/18/14 17:21	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		08/18/14 17:21	2037-26-5	

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ANALYTICAL RESULTS

Project: BUTNER LANDFILL COMPLIANCE

Sample Project No.: 92213314

Sample: 3902-NES1 **Lab ID: 92213314007** Collected: 08/12/14 12:58 Received: 08/13/14 16:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260 MSV Low Level Landfill		Analytical Method: EPA 8260							
Acetone	ND ug/L		100	10.0	1		08/18/14 17:37	67-64-1	
Acrylonitrile	ND ug/L		200	1.9	1		08/18/14 17:37	107-13-1	
Benzene	ND ug/L		1.0	0.25	1		08/18/14 17:37	71-43-2	
Bromochloromethane	ND ug/L		3.0	0.17	1		08/18/14 17:37	74-97-5	
Bromodichloromethane	ND ug/L		1.0	0.18	1		08/18/14 17:37	75-27-4	
Bromoform	ND ug/L		3.0	0.26	1		08/18/14 17:37	75-25-2	
Bromomethane	ND ug/L		10.0	0.29	1		08/18/14 17:37	74-83-9	
2-Butanone (MEK)	ND ug/L		100	0.96	1		08/18/14 17:37	78-93-3	
Carbon disulfide	ND ug/L		100	1.2	1		08/18/14 17:37	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	0.25	1		08/18/14 17:37	56-23-5	
Chlorobenzene	ND ug/L		3.0	0.23	1		08/18/14 17:37	108-90-7	
Chloroethane	ND ug/L		10.0	0.54	1		08/18/14 17:37	75-00-3	
Chloroform	ND ug/L		5.0	0.14	1		08/18/14 17:37	67-66-3	
Chloromethane	ND ug/L		1.0	0.11	1		08/18/14 17:37	74-87-3	
1,2-Dibromo-3-chloropropane	ND ug/L		13.0	2.0	1		08/18/14 17:37	96-12-8	
Dibromochloromethane	ND ug/L		3.0	0.21	1		08/18/14 17:37	124-48-1	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	0.27	1		08/18/14 17:37	106-93-4	
Dibromomethane	ND ug/L		10.0	0.21	1		08/18/14 17:37	74-95-3	
1,2-Dichlorobenzene	ND ug/L		5.0	0.30	1		08/18/14 17:37	95-50-1	
1,4-Dichlorobenzene	ND ug/L		1.0	0.33	1		08/18/14 17:37	106-46-7	
trans-1,4-Dichloro-2-butene	ND ug/L		100	1.0	1		08/18/14 17:37	110-57-6	
1,1-Dichloroethane	ND ug/L		5.0	0.32	1		08/18/14 17:37	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	0.12	1		08/18/14 17:37	107-06-2	
1,1-Dichloroethene	ND ug/L		5.0	0.56	1		08/18/14 17:37	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		5.0	0.19	1		08/18/14 17:37	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		5.0	0.49	1		08/18/14 17:37	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	0.27	1		08/18/14 17:37	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	0.13	1		08/18/14 17:37	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	0.26	1		08/18/14 17:37	10061-02-6	
Ethylbenzene	ND ug/L		1.0	0.30	1		08/18/14 17:37	100-41-4	
2-Hexanone	ND ug/L		50.0	0.46	1		08/18/14 17:37	591-78-6	
Iodomethane	ND ug/L		10.0	0.32	1		08/18/14 17:37	74-88-4	
Methylene Chloride	ND ug/L		1.0	0.97	1		08/18/14 17:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		100	0.33	1		08/18/14 17:37	108-10-1	
Styrene	ND ug/L		1.0	0.26	1		08/18/14 17:37	100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L		5.0	0.33	1		08/18/14 17:37	630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L		3.0	0.40	1		08/18/14 17:37	79-34-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		08/18/14 17:37	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		08/18/14 17:37	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		08/18/14 17:37	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	0.29	1		08/18/14 17:37	79-00-5	
Trichloroethene	ND ug/L		1.0	0.47	1		08/18/14 17:37	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	0.20	1		08/18/14 17:37	75-69-4	
1,2,3-Trichloropropane	ND ug/L		1.0	0.41	1		08/18/14 17:37	96-18-4	
Vinyl acetate	ND ug/L		50.0	0.35	1		08/18/14 17:37	108-05-4	
Vinyl chloride	ND ug/L		1.0	0.62	1		08/18/14 17:37	75-01-4	

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ANALYTICAL RESULTS

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

Sample: 3902-NES1		Lab ID: 92213314007		Collected: 08/12/14 12:58	Received: 08/13/14 16:10	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill		Analytical Method: EPA 8260							
Xylene (Total)	ND	ug/L	5.0	0.66	1		08/18/14 17:37	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100 %		70-130		1		08/18/14 17:37	460-00-4	
1,2-Dichloroethane-d4 (S)	99 %		70-130		1		08/18/14 17:37	17060-07-0	
Toluene-d8 (S)	99 %		70-130		1		08/18/14 17:37	2037-26-5	

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ANALYTICAL RESULTS

Project: BUTNER LANDFILL COMPLIANCE
 Pace Project No.: 92213314

Sample: 3902-SW2 **Lab ID: 92213314008** Collected: 08/12/14 14:30 Received: 08/13/14 16:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 ICP Groundwater									
Analytical Method: EPA 6010 Preparation Method: EPA 3010									
Antimony	ND	ug/L	6.0	5.0	1	08/15/14 15:25	08/21/14 17:44	7440-36-0	
Arsenic	ND	ug/L	10.0	5.0	1	08/15/14 15:25	08/21/14 17:44	7440-38-2	
Barium	121	ug/L	100	5.0	1	08/15/14 15:25	08/21/14 17:44	7440-39-3	
Beryllium	ND	ug/L	1.0	1.0	1	08/15/14 15:25	08/21/14 17:44	7440-41-7	
Cadmium	ND	ug/L	1.0	1.0	1	08/15/14 15:25	08/21/14 17:44	7440-43-9	
Chromium	ND	ug/L	10.0	5.0	1	08/15/14 15:25	08/21/14 17:44	7440-47-3	
Cobalt	ND	ug/L	10.0	5.0	1	08/15/14 15:25	08/21/14 17:44	7440-48-4	
Copper	ND	ug/L	10.0	5.0	1	08/15/14 15:25	08/21/14 17:44	7440-50-8	
Lead	ND	ug/L	10.0	5.0	1	08/15/14 15:25	08/21/14 17:44	7439-92-1	
Nickel	20.3J	ug/L	50.0	5.0	1	08/15/14 15:25	08/21/14 17:44	7440-02-0	
Selenium	ND	ug/L	10.0	10.0	1	08/15/14 15:25	08/21/14 17:44	7782-49-2	
Silver	ND	ug/L	10.0	5.0	1	08/15/14 15:25	08/21/14 17:44	7440-22-4	
Thallium	ND	ug/L	5.5	5.4	1	08/15/14 15:25	08/21/14 17:44	7440-28-0	
Tin	ND	ug/L	100	5.0	1	08/15/14 15:25	08/21/14 17:44	7440-31-5	
Vanadium	ND	ug/L	25.0	5.0	1	08/15/14 15:25	08/21/14 17:44	7440-62-2	
Zinc	ND	ug/L	10.0	10.0	1	08/15/14 15:25	08/21/14 17:44	7440-66-6	

8260 MSV Low Level Landfill

Analytical Method: EPA 8260

Acetone	ND	ug/L	100	10.0	1		08/18/14 17:53	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		08/18/14 17:53	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		08/18/14 17:53	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		08/18/14 17:53	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		08/18/14 17:53	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		08/18/14 17:53	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		08/18/14 17:53	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		08/18/14 17:53	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		08/18/14 17:53	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/18/14 17:53	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		08/18/14 17:53	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		08/18/14 17:53	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		08/18/14 17:53	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/18/14 17:53	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		08/18/14 17:53	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		08/18/14 17:53	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/18/14 17:53	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		08/18/14 17:53	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		08/18/14 17:53	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/18/14 17:53	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		08/18/14 17:53	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		08/18/14 17:53	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/18/14 17:53	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		08/18/14 17:53	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		08/18/14 17:53	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		08/18/14 17:53	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/18/14 17:53	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/18/14 17:53	10061-01-5	

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ANALYTICAL RESULTS

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

Sample: 3902-SW2 **Lab ID: 92213314008** Collected: 08/12/14 14:30 Received: 08/13/14 16:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill		Analytical Method: EPA 8260							
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/18/14 17:53	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/18/14 17:53	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		08/18/14 17:53	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		08/18/14 17:53	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		08/18/14 17:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		08/18/14 17:53	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		08/18/14 17:53	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		08/18/14 17:53	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		08/18/14 17:53	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/18/14 17:53	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/18/14 17:53	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/18/14 17:53	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/18/14 17:53	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/18/14 17:53	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/18/14 17:53	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		08/18/14 17:53	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		08/18/14 17:53	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/18/14 17:53	75-01-4	
Xylene (Total)	ND	ug/L	5.0	0.66	1		08/18/14 17:53	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102 %		70-130		1		08/18/14 17:53	460-00-4	
1,2-Dichloroethane-d4 (S)	101 %		70-130		1		08/18/14 17:53	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		08/18/14 17:53	2037-26-5	

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ANALYTICAL RESULTS

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

Sample: 3902-FIELD BLANK **Lab ID: 92213314009** Collected: 08/12/14 15:15 Received: 08/13/14 16:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8081 Organochlorine Pesticides Analytical Method: EPA 8081 Preparation Method: EPA 3510									
gamma-BHC (Lindane)	ND ug/L		0.050	0.050	1	08/18/14 10:37	08/26/14 01:28	58-89-9	
Endrin aldehyde	ND ug/L		0.10	0.050	1	08/18/14 10:37	08/26/14 01:28	7421-93-4	
Heptachlor	ND ug/L		0.050	0.050	1	08/18/14 10:37	08/26/14 01:28	76-44-8	
Surrogates									
Tetrachloro-m-xylene (S)	76 %		20-130		1	08/18/14 10:37	08/26/14 01:28	877-09-8	
Decachlorobiphenyl (S)	67 %		20-130		1	08/18/14 10:37	08/26/14 01:28	2051-24-3	
8151 Chlorinated Herbicides Analytical Method: EPA 8151 Preparation Method: EPA 8151									
2,4-D	ND ug/L		2.0	0.22	1	08/19/14 07:30	08/22/14 13:58	94-75-7	
Surrogates									
2,4-DCAA (S)	85 %		66-130		1	08/19/14 07:30	08/22/14 13:58	19719-28-9	
6010 ICP Groundwater Analytical Method: EPA 6010 Preparation Method: EPA 3010									
Antimony	ND ug/L		6.0	5.0	1	08/15/14 15:25	08/21/14 17:47	7440-36-0	
Arsenic	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:47	7440-38-2	
Barium	ND ug/L		100	5.0	1	08/15/14 15:25	08/21/14 17:47	7440-39-3	
Beryllium	ND ug/L		1.0	1.0	1	08/15/14 15:25	08/21/14 17:47	7440-41-7	
Cadmium	ND ug/L		1.0	1.0	1	08/15/14 15:25	08/21/14 17:47	7440-43-9	
Chromium	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:47	7440-47-3	
Cobalt	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:47	7440-48-4	
Copper	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:47	7440-50-8	
Lead	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:47	7439-92-1	
Nickel	ND ug/L		50.0	5.0	1	08/15/14 15:25	08/21/14 17:47	7440-02-0	
Selenium	ND ug/L		10.0	10.0	1	08/15/14 15:25	08/21/14 17:47	7782-49-2	
Silver	ND ug/L		10.0	5.0	1	08/15/14 15:25	08/21/14 17:47	7440-22-4	
Thallium	ND ug/L		5.5	5.4	1	08/15/14 15:25	08/21/14 17:47	7440-28-0	
Tin	ND ug/L		100	5.0	1	08/15/14 15:25	08/21/14 17:47	7440-31-5	
Vanadium	ND ug/L		25.0	5.0	1	08/15/14 15:25	08/21/14 17:47	7440-62-2	
Zinc	ND ug/L		10.0	10.0	1	08/15/14 15:25	08/21/14 17:47	7440-66-6	
8260 MSV Low Level Landfill Analytical Method: EPA 8260									
Acetone	22.0J ug/L		100	10.0	1		08/18/14 18:09	67-64-1	
Acrylonitrile	ND ug/L		200	1.9	1		08/18/14 18:09	107-13-1	
Benzene	ND ug/L		1.0	0.25	1		08/18/14 18:09	71-43-2	
Bromochloromethane	ND ug/L		3.0	0.17	1		08/18/14 18:09	74-97-5	
Bromodichloromethane	ND ug/L		1.0	0.18	1		08/18/14 18:09	75-27-4	
Bromoform	ND ug/L		3.0	0.26	1		08/18/14 18:09	75-25-2	
Bromomethane	ND ug/L		10.0	0.29	1		08/18/14 18:09	74-83-9	
2-Butanone (MEK)	ND ug/L		100	0.96	1		08/18/14 18:09	78-93-3	
Carbon disulfide	ND ug/L		100	1.2	1		08/18/14 18:09	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	0.25	1		08/18/14 18:09	56-23-5	
Chlorobenzene	ND ug/L		3.0	0.23	1		08/18/14 18:09	108-90-7	
Chloroethane	ND ug/L		10.0	0.54	1		08/18/14 18:09	75-00-3	
Chloroform	ND ug/L		5.0	0.14	1		08/18/14 18:09	67-66-3	
Chloromethane	ND ug/L		1.0	0.11	1		08/18/14 18:09	74-87-3	
1,2-Dibromo-3-chloropropane	ND ug/L		13.0	2.0	1		08/18/14 18:09	96-12-8	

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ANALYTICAL RESULTS

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

Sample: 3902-FIELD BLANK **Lab ID: 92213314009** Collected: 08/12/14 15:15 Received: 08/13/14 16:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260 MSV Low Level Landfill		Analytical Method: EPA 8260							
Dibromochloromethane	ND ug/L		3.0	0.21	1		08/18/14 18:09	124-48-1	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	0.27	1		08/18/14 18:09	106-93-4	
Dibromomethane	ND ug/L		10.0	0.21	1		08/18/14 18:09	74-95-3	
1,2-Dichlorobenzene	ND ug/L		5.0	0.30	1		08/18/14 18:09	95-50-1	
1,4-Dichlorobenzene	ND ug/L		1.0	0.33	1		08/18/14 18:09	106-46-7	
trans-1,4-Dichloro-2-butene	ND ug/L		100	1.0	1		08/18/14 18:09	110-57-6	
1,1-Dichloroethane	ND ug/L		5.0	0.32	1		08/18/14 18:09	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	0.12	1		08/18/14 18:09	107-06-2	
1,1-Dichloroethene	ND ug/L		5.0	0.56	1		08/18/14 18:09	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		5.0	0.19	1		08/18/14 18:09	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		5.0	0.49	1		08/18/14 18:09	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	0.27	1		08/18/14 18:09	78-87-5	
cis-1,3-Dichloropropene	ND ug/L		1.0	0.13	1		08/18/14 18:09	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	0.26	1		08/18/14 18:09	10061-02-6	
Ethylbenzene	ND ug/L		1.0	0.30	1		08/18/14 18:09	100-41-4	
2-Hexanone	ND ug/L		50.0	0.46	1		08/18/14 18:09	591-78-6	
Iodomethane	ND ug/L		10.0	0.32	1		08/18/14 18:09	74-88-4	
Methylene Chloride	ND ug/L		1.0	0.97	1		08/18/14 18:09	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		100	0.33	1		08/18/14 18:09	108-10-1	
Styrene	ND ug/L		1.0	0.26	1		08/18/14 18:09	100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L		5.0	0.33	1		08/18/14 18:09	630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L		3.0	0.40	1		08/18/14 18:09	79-34-5	
Tetrachloroethene	ND ug/L		1.0	0.46	1		08/18/14 18:09	127-18-4	
Toluene	ND ug/L		1.0	0.26	1		08/18/14 18:09	108-88-3	
1,1,1-Trichloroethane	ND ug/L		1.0	0.48	1		08/18/14 18:09	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	0.29	1		08/18/14 18:09	79-00-5	
Trichloroethene	ND ug/L		1.0	0.47	1		08/18/14 18:09	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	0.20	1		08/18/14 18:09	75-69-4	
1,2,3-Trichloropropane	ND ug/L		1.0	0.41	1		08/18/14 18:09	96-18-4	
Vinyl acetate	ND ug/L		50.0	0.35	1		08/18/14 18:09	108-05-4	
Vinyl chloride	ND ug/L		1.0	0.62	1		08/18/14 18:09	75-01-4	
Xylene (Total)	ND ug/L		5.0	0.66	1		08/18/14 18:09	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100 %		70-130		1		08/18/14 18:09	460-00-4	
1,2-Dichloroethane-d4 (S)	100 %		70-130		1		08/18/14 18:09	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		08/18/14 18:09	2037-26-5	

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ANALYTICAL RESULTS

Project: BUTNER LANDFILL COMPLIANCE

Sample Project No.: 92213314

Sample: 3902-TRIP BLANK **Lab ID: 92213314010** Collected: 08/11/14 06:30 Received: 08/13/14 16:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260 MSV Low Level Landfill		Analytical Method: EPA 8260							
Acetone	17.8J	ug/L	100	10.0	1		08/18/14 18:25	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		08/18/14 18:25	107-13-1	
Benzene	ND	ug/L	1.0	0.25	1		08/18/14 18:25	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		08/18/14 18:25	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		08/18/14 18:25	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		08/18/14 18:25	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		08/18/14 18:25	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		08/18/14 18:25	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		08/18/14 18:25	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/18/14 18:25	56-23-5	
Chlorobenzene	ND	ug/L	3.0	0.23	1		08/18/14 18:25	108-90-7	
Chloroethane	ND	ug/L	10.0	0.54	1		08/18/14 18:25	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		08/18/14 18:25	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/18/14 18:25	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		08/18/14 18:25	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		08/18/14 18:25	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/18/14 18:25	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		08/18/14 18:25	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		08/18/14 18:25	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/18/14 18:25	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		08/18/14 18:25	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	0.32	1		08/18/14 18:25	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/18/14 18:25	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		08/18/14 18:25	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		08/18/14 18:25	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		08/18/14 18:25	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/18/14 18:25	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/18/14 18:25	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/18/14 18:25	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/18/14 18:25	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		08/18/14 18:25	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		08/18/14 18:25	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		08/18/14 18:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		08/18/14 18:25	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		08/18/14 18:25	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		08/18/14 18:25	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		08/18/14 18:25	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/18/14 18:25	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/18/14 18:25	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/18/14 18:25	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/18/14 18:25	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/18/14 18:25	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/18/14 18:25	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		08/18/14 18:25	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		08/18/14 18:25	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/18/14 18:25	75-01-4	

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ANALYTICAL RESULTS

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

Sample: 3902-TRIP BLANK Lab ID: 92213314010 Collected: 08/11/14 06:30 Received: 08/13/14 16:10 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill Analytical Method: EPA 8260									
Xylene (Total)	ND	ug/L	5.0	0.66	1		08/18/14 18:25	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102 %		70-130		1		08/18/14 18:25	460-00-4	
1,2-Dichloroethane-d4 (S)	101 %		70-130		1		08/18/14 18:25	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		08/18/14 18:25	2037-26-5	

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ANALYTICAL RESULTS

Project: BUTNER LANDFILL COMPLIANCE

Sample Project No.: 92213314

Sample: 3902-MW4 Lab ID: 92213314011 Collected: 08/20/14 11:30 Received: 08/21/14 16:35 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260 MSV Low Level Landfill		Analytical Method: EPA 8260							
Acetone	ND	ug/L	100	10.0	1		08/28/14 02:57	67-64-1	
Acrylonitrile	ND	ug/L	200	1.9	1		08/28/14 02:57	107-13-1	
Benzene	0.25J	ug/L	1.0	0.25	1		08/28/14 02:57	71-43-2	
Bromochloromethane	ND	ug/L	3.0	0.17	1		08/28/14 02:57	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		08/28/14 02:57	75-27-4	
Bromoform	ND	ug/L	3.0	0.26	1		08/28/14 02:57	75-25-2	
Bromomethane	ND	ug/L	10.0	0.29	1		08/28/14 02:57	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	0.96	1		08/28/14 02:57	78-93-3	
Carbon disulfide	ND	ug/L	100	1.2	1		08/28/14 02:57	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.25	1		08/28/14 02:57	56-23-5	
Chlorobenzene	3.6	ug/L	3.0	0.23	1		08/28/14 02:57	108-90-7	
Chloroethane	1.1J	ug/L	10.0	0.54	1		08/28/14 02:57	75-00-3	
Chloroform	ND	ug/L	5.0	0.14	1		08/28/14 02:57	67-66-3	
Chloromethane	ND	ug/L	1.0	0.11	1		08/28/14 02:57	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	2.0	1		08/28/14 02:57	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	0.21	1		08/28/14 02:57	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.27	1		08/28/14 02:57	106-93-4	
Dibromomethane	ND	ug/L	10.0	0.21	1		08/28/14 02:57	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	0.30	1		08/28/14 02:57	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.33	1		08/28/14 02:57	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1.0	1		08/28/14 02:57	110-57-6	
1,1-Dichloroethane	0.47J	ug/L	5.0	0.32	1		08/28/14 02:57	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		08/28/14 02:57	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	0.56	1		08/28/14 02:57	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	0.19	1		08/28/14 02:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	0.49	1		08/28/14 02:57	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	0.27	1		08/28/14 02:57	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	0.13	1		08/28/14 02:57	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	0.26	1		08/28/14 02:57	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.30	1		08/28/14 02:57	100-41-4	
2-Hexanone	ND	ug/L	50.0	0.46	1		08/28/14 02:57	591-78-6	
Iodomethane	ND	ug/L	10.0	0.32	1		08/28/14 02:57	74-88-4	
Methylene Chloride	ND	ug/L	1.0	0.97	1		08/28/14 02:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	0.33	1		08/28/14 02:57	108-10-1	
Styrene	ND	ug/L	1.0	0.26	1		08/28/14 02:57	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	0.33	1		08/28/14 02:57	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	0.40	1		08/28/14 02:57	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.46	1		08/28/14 02:57	127-18-4	
Toluene	ND	ug/L	1.0	0.26	1		08/28/14 02:57	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.48	1		08/28/14 02:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.29	1		08/28/14 02:57	79-00-5	
Trichloroethene	ND	ug/L	1.0	0.47	1		08/28/14 02:57	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.20	1		08/28/14 02:57	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	0.41	1		08/28/14 02:57	96-18-4	
Vinyl acetate	ND	ug/L	50.0	0.35	1		08/28/14 02:57	108-05-4	
Vinyl chloride	ND	ug/L	1.0	0.62	1		08/28/14 02:57	75-01-4	

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ANALYTICAL RESULTS

Project: BUTNER LANDFILL COMPLIANCE
Pace Project No.: 92213314

Sample: 3902-MW4		Lab ID: 92213314011		Collected: 08/20/14 11:30		Received: 08/21/14 16:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill		Analytical Method: EPA 8260							
Xylene (Total)	ND	ug/L	5.0	0.66	1		08/28/14 02:57	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99 %		70-130		1		08/28/14 02:57	460-00-4	
1,2-Dichloroethane-d4 (S)	105 %		70-130		1		08/28/14 02:57	17060-07-0	
Toluene-d8 (S)	100 %		70-130		1		08/28/14 02:57	2037-26-5	

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QUALITY CONTROL DATA

Project: BUTNER LANDFILL COMPLIANCE
 Pace Project No.: 92213314

QC Batch: MPRP/16686 Analysis Method: EPA 6010
 QC Batch Method: EPA 3010 Analysis Description: 6010 MET NC Groundwater
 Associated Lab Samples: 92213314001, 92213314002, 92213314003, 92213314004, 92213314005, 92213314006, 92213314008, 92213314009

METHOD BLANK: 1265327 Matrix: Water
 Associated Lab Samples: 92213314001, 92213314002, 92213314003, 92213314004, 92213314005, 92213314006, 92213314008, 92213314009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	6.0	08/21/14 17:04	
Arsenic	ug/L	ND	10.0	08/21/14 17:04	
Barium	ug/L	ND	100	08/21/14 17:04	
Beryllium	ug/L	ND	1.0	08/21/14 17:04	
Cadmium	ug/L	ND	1.0	08/21/14 17:04	
Chromium	ug/L	ND	10.0	08/21/14 17:04	
Cobalt	ug/L	ND	10.0	08/21/14 17:04	
Copper	ug/L	ND	10.0	08/21/14 17:04	
Lead	ug/L	ND	10.0	08/21/14 17:04	
Nickel	ug/L	ND	50.0	08/21/14 17:04	
Selenium	ug/L	ND	10.0	08/21/14 17:04	
Silver	ug/L	ND	10.0	08/21/14 17:04	
Thallium	ug/L	ND	5.5	08/21/14 17:04	
Tin	ug/L	ND	100	08/21/14 17:04	
Vanadium	ug/L	ND	25.0	08/21/14 17:04	
Zinc	ug/L	ND	10.0	08/21/14 17:04	

LABORATORY CONTROL SAMPLE: 1265328

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	535	107	80-120	
Arsenic	ug/L	500	510	102	80-120	
Barium	ug/L	500	530	106	80-120	
Beryllium	ug/L	500	511	102	80-120	
Cadmium	ug/L	500	512	102	80-120	
Chromium	ug/L	500	517	103	80-120	
Cobalt	ug/L	500	523	105	80-120	
Copper	ug/L	500	524	105	80-120	
Lead	ug/L	500	524	105	80-120	
Nickel	ug/L	500	512	102	80-120	
Selenium	ug/L	500	520	104	80-120	
Silver	ug/L	250	254	102	80-120	
Thallium	ug/L	500	502	100	80-120	
Tin	ug/L	500	527	105	80-120	
Vanadium	ug/L	500	512	102	80-120	
Zinc	ug/L	500	504	101	80-120	

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QUALITY CONTROL DATA

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

Parameter	Units	1265329		1265330		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		92213314001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
Antimony	ug/L	ND	500	500	520	516	104	103	75-125	1	25	
Arsenic	ug/L	ND	500	500	498	496	99	99	75-125	0	25	
Barium	ug/L	ND	500	500	526	516	105	103	75-125	2	25	
Beryllium	ug/L	ND	500	500	504	502	101	100	75-125	0	25	
Cadmium	ug/L	ND	500	500	498	498	100	100	75-125	0	25	
Chromium	ug/L	ND	500	500	502	500	100	100	75-125	0	25	
Cobalt	ug/L	ND	500	500	508	507	102	101	75-125	0	25	
Copper	ug/L	ND	500	500	518	510	104	102	75-125	1	25	
Lead	ug/L	ND	500	500	505	502	101	100	75-125	1	25	
Nickel	ug/L	ND	500	500	497	495	99	99	75-125	0	25	
Selenium	ug/L	ND	500	500	504	512	101	102	75-125	2	25	
Silver	ug/L	ND	250	250	248	247	99	99	75-125	0	25	
Thallium	ug/L	ND	500	500	480	483	96	97	75-125	1	25	
Tin	ug/L	ND	500	500	517	514	103	103	75-125	1	25	
Vanadium	ug/L	ND	500	500	503	499	100	100	75-125	1	25	
Zinc	ug/L	ND	500	500	500	497	99	98	75-125	1	25	

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QUALITY CONTROL DATA

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

QC Batch: MSV/27989 Analysis Method: EPA 8260
 QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level Landfill
 Associated Lab Samples: 92213314001, 92213314002, 92213314003, 92213314005, 92213314006, 92213314007, 92213314008, 92213314009, 92213314010

METHOD BLANK: 1266231 Matrix: Water
 Associated Lab Samples: 92213314001, 92213314002, 92213314003, 92213314005, 92213314006, 92213314007, 92213314008, 92213314009, 92213314010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	08/18/14 15:14	
1,1,1-Trichloroethane	ug/L	ND	1.0	08/18/14 15:14	
1,1,2,2-Tetrachloroethane	ug/L	ND	3.0	08/18/14 15:14	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/18/14 15:14	
1,1-Dichloroethane	ug/L	ND	5.0	08/18/14 15:14	
1,1-Dichloroethene	ug/L	ND	5.0	08/18/14 15:14	
1,2,3-Trichloropropane	ug/L	ND	1.0	08/18/14 15:14	
1,2-Dibromo-3-chloropropane	ug/L	ND	13.0	08/18/14 15:14	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	08/18/14 15:14	
1,2-Dichlorobenzene	ug/L	ND	5.0	08/18/14 15:14	
1,2-Dichloroethane	ug/L	ND	1.0	08/18/14 15:14	
1,2-Dichloropropane	ug/L	ND	1.0	08/18/14 15:14	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/18/14 15:14	
2-Butanone (MEK)	ug/L	ND	100	08/18/14 15:14	
2-Hexanone	ug/L	ND	50.0	08/18/14 15:14	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	08/18/14 15:14	
Acetone	ug/L	ND	100	08/18/14 15:14	
Acrylonitrile	ug/L	ND	200	08/18/14 15:14	
Benzene	ug/L	ND	1.0	08/18/14 15:14	
Bromochloromethane	ug/L	ND	3.0	08/18/14 15:14	
Bromodichloromethane	ug/L	ND	1.0	08/18/14 15:14	
Bromoform	ug/L	ND	3.0	08/18/14 15:14	
Bromomethane	ug/L	ND	10.0	08/18/14 15:14	
Carbon disulfide	ug/L	ND	100	08/18/14 15:14	
Carbon tetrachloride	ug/L	ND	1.0	08/18/14 15:14	
Chlorobenzene	ug/L	ND	3.0	08/18/14 15:14	
Chloroethane	ug/L	ND	10.0	08/18/14 15:14	
Chloroform	ug/L	ND	5.0	08/18/14 15:14	
Chloromethane	ug/L	ND	1.0	08/18/14 15:14	
cis-1,2-Dichloroethene	ug/L	ND	5.0	08/18/14 15:14	
cis-1,3-Dichloropropene	ug/L	ND	1.0	08/18/14 15:14	
Dibromochloromethane	ug/L	ND	3.0	08/18/14 15:14	
Dibromomethane	ug/L	ND	10.0	08/18/14 15:14	
Ethylbenzene	ug/L	ND	1.0	08/18/14 15:14	
Iodomethane	ug/L	ND	10.0	08/18/14 15:14	
Methylene Chloride	ug/L	ND	1.0	08/18/14 15:14	
Styrene	ug/L	ND	1.0	08/18/14 15:14	
Tetrachloroethene	ug/L	ND	1.0	08/18/14 15:14	
Toluene	ug/L	ND	1.0	08/18/14 15:14	
trans-1,2-Dichloroethene	ug/L	ND	5.0	08/18/14 15:14	

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QUALITY CONTROL DATA

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

METHOD BLANK: 1266231

Matrix: Water

Associated Lab Samples: 92213314001, 92213314002, 92213314003, 92213314005, 92213314006, 92213314007, 92213314008, 92213314009, 92213314010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,3-Dichloropropene	ug/L	ND	1.0	08/18/14 15:14	
trans-1,4-Dichloro-2-butene	ug/L	ND	100	08/18/14 15:14	
Trichloroethene	ug/L	ND	1.0	08/18/14 15:14	
Trichlorofluoromethane	ug/L	ND	1.0	08/18/14 15:14	
Vinyl acetate	ug/L	ND	50.0	08/18/14 15:14	
Vinyl chloride	ug/L	ND	1.0	08/18/14 15:14	
Xylene (Total)	ug/L	ND	5.0	08/18/14 15:14	
1,2-Dichloroethane-d4 (S)	%	97	70-130	08/18/14 15:14	
4-Bromofluorobenzene (S)	%	103	70-130	08/18/14 15:14	
Toluene-d8 (S)	%	98	70-130	08/18/14 15:14	

LABORATORY CONTROL SAMPLE: 1266232

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	51.8	104	80-125	
1,1,1-Trichloroethane	ug/L	50	48.3	97	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	50.2	100	79-124	
1,1,2-Trichloroethane	ug/L	50	52.3	105	85-125	
1,1-Dichloroethane	ug/L	50	46.6	93	73-126	
1,1-Dichloroethene	ug/L	50	52.3	105	66-135	
1,2,3-Trichloropropane	ug/L	50	52.4	105	75-130	
1,2-Dibromo-3-chloropropane	ug/L	50	49.5	99	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	51.3	103	83-124	
1,2-Dichlorobenzene	ug/L	50	50.6	101	80-133	
1,2-Dichloroethane	ug/L	50	47.6	95	67-128	
1,2-Dichloropropane	ug/L	50	50.7	101	75-132	
1,4-Dichlorobenzene	ug/L	50	51.3	103	78-130	
2-Butanone (MEK)	ug/L	100	100	100	61-144	
2-Hexanone	ug/L	100	100	100	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	98.2J	98	72-135	
Acetone	ug/L	100	93.4J	93	48-146	
Acrylonitrile	ug/L	250	239	96	40-160	
Benzene	ug/L	50	50.8	102	80-125	
Bromochloromethane	ug/L	50	52.2	104	71-125	
Bromodichloromethane	ug/L	50	56.0	112	78-124	
Bromoform	ug/L	50	60.6	121	71-128	
Bromomethane	ug/L	50	48.1	96	40-160	
Carbon disulfide	ug/L	50	48.1J	96	50-160	
Carbon tetrachloride	ug/L	50	54.2	108	69-131	
Chlorobenzene	ug/L	50	51.4	103	81-122	
Chloroethane	ug/L	50	45.5	91	39-148	
Chloroform	ug/L	50	54.9	110	73-127	
Chloromethane	ug/L	50	44.3	89	44-146	

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QUALITY CONTROL DATA

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

LABORATORY CONTROL SAMPLE: 1266232

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	50	52.2	104	74-124	
cis-1,3-Dichloropropene	ug/L	50	52.1	104	72-132	
Dibromochloromethane	ug/L	50	60.3	121	78-125	
Dibromomethane	ug/L	50	55.0	110	82-120	
Ethylbenzene	ug/L	50	51.7	103	79-121	
Iodomethane	ug/L	100	87.8	88	39-154	
Methylene Chloride	ug/L	50	48.3	97	64-133	
Styrene	ug/L	50	54.1	108	84-126	
Tetrachloroethene	ug/L	50	54.6	109	78-122	
Toluene	ug/L	50	51.0	102	80-121	
trans-1,2-Dichloroethene	ug/L	50	52.0	104	71-127	
trans-1,3-Dichloropropene	ug/L	50	51.4	103	69-141	
trans-1,4-Dichloro-2-butene	ug/L	50	54.0J	108	40-160	
Trichloroethene	ug/L	50	51.9	104	78-122	
Trichlorofluoromethane	ug/L	50	50.6	101	53-137	
Vinyl acetate	ug/L	100	108	108	40-160	
Vinyl chloride	ug/L	50	46.6	93	58-137	
Xylene (Total)	ug/L	150	155	103	81-126	
1,2-Dichloroethane-d4 (S)	%			92	70-130	
4-Bromofluorobenzene (S)	%			104	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1266233 1266234

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		92213505008 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
1,1-Dichloroethene	ug/L	ND	50	50	44.4	44.5	89	89	70-166	0	30	
Benzene	ug/L	ND	50	50	49.3	48.6	99	97	70-148	2	30	
Chlorobenzene	ug/L	ND	50	50	49.8	49.1	100	98	70-146	1	30	
Toluene	ug/L	ND	50	50	47.8	47.5	96	95	70-155	1	30	
Trichloroethene	ug/L	ND	50	50	53.0	53.6	106	107	69-151	1	30	
1,2-Dichloroethane-d4 (S)	%						95	94	70-130			
4-Bromofluorobenzene (S)	%						103	103	70-130			
Toluene-d8 (S)	%						99	99	70-130			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

QC Batch:	MSV/28102	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV Low Level Landfill
Associated Lab Samples:	92213314011		

METHOD BLANK: 1273164 Matrix: Water

Associated Lab Samples: 92213314011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	08/28/14 02:26	
1,1,1-Trichloroethane	ug/L	ND	1.0	08/28/14 02:26	
1,1,2,2-Tetrachloroethane	ug/L	ND	3.0	08/28/14 02:26	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/28/14 02:26	
1,1-Dichloroethane	ug/L	ND	5.0	08/28/14 02:26	
1,1-Dichloroethene	ug/L	ND	5.0	08/28/14 02:26	
1,2,3-Trichloropropane	ug/L	ND	1.0	08/28/14 02:26	
1,2-Dibromo-3-chloropropane	ug/L	ND	13.0	08/28/14 02:26	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	08/28/14 02:26	
1,2-Dichlorobenzene	ug/L	ND	5.0	08/28/14 02:26	
1,2-Dichloroethane	ug/L	ND	1.0	08/28/14 02:26	
1,2-Dichloropropane	ug/L	ND	1.0	08/28/14 02:26	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/28/14 02:26	
2-Butanone (MEK)	ug/L	ND	100	08/28/14 02:26	
2-Hexanone	ug/L	ND	50.0	08/28/14 02:26	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	08/28/14 02:26	
Acetone	ug/L	ND	100	08/28/14 02:26	
Acrylonitrile	ug/L	ND	200	08/28/14 02:26	
Benzene	ug/L	ND	1.0	08/28/14 02:26	
Bromochloromethane	ug/L	ND	3.0	08/28/14 02:26	
Bromodichloromethane	ug/L	ND	1.0	08/28/14 02:26	
Bromoform	ug/L	ND	3.0	08/28/14 02:26	
Bromomethane	ug/L	ND	10.0	08/28/14 02:26	
Carbon disulfide	ug/L	ND	100	08/28/14 02:26	
Carbon tetrachloride	ug/L	ND	1.0	08/28/14 02:26	
Chlorobenzene	ug/L	ND	3.0	08/28/14 02:26	
Chloroethane	ug/L	ND	10.0	08/28/14 02:26	
Chloroform	ug/L	ND	5.0	08/28/14 02:26	
Chloromethane	ug/L	ND	1.0	08/28/14 02:26	
cis-1,2-Dichloroethene	ug/L	ND	5.0	08/28/14 02:26	
cis-1,3-Dichloropropene	ug/L	ND	1.0	08/28/14 02:26	
Dibromochloromethane	ug/L	ND	3.0	08/28/14 02:26	
Dibromomethane	ug/L	ND	10.0	08/28/14 02:26	
Ethylbenzene	ug/L	ND	1.0	08/28/14 02:26	
Iodomethane	ug/L	ND	10.0	08/28/14 02:26	
Methylene Chloride	ug/L	ND	1.0	08/28/14 02:26	
Styrene	ug/L	ND	1.0	08/28/14 02:26	
Tetrachloroethene	ug/L	ND	1.0	08/28/14 02:26	
Toluene	ug/L	ND	1.0	08/28/14 02:26	
trans-1,2-Dichloroethene	ug/L	ND	5.0	08/28/14 02:26	
trans-1,3-Dichloropropene	ug/L	ND	1.0	08/28/14 02:26	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

METHOD BLANK: 1273164

Matrix: Water

Associated Lab Samples: 92213314011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,4-Dichloro-2-butene	ug/L	ND	100	08/28/14 02:26	
Trichloroethene	ug/L	ND	1.0	08/28/14 02:26	
Trichlorofluoromethane	ug/L	ND	1.0	08/28/14 02:26	
Vinyl acetate	ug/L	ND	50.0	08/28/14 02:26	
Vinyl chloride	ug/L	ND	1.0	08/28/14 02:26	
Xylene (Total)	ug/L	ND	5.0	08/28/14 02:26	
1,2-Dichloroethane-d4 (S)	%	103	70-130	08/28/14 02:26	
4-Bromofluorobenzene (S)	%	100	70-130	08/28/14 02:26	
Toluene-d8 (S)	%	99	70-130	08/28/14 02:26	

LABORATORY CONTROL SAMPLE: 1273165

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	50.6	101	80-125	
1,1,1-Trichloroethane	ug/L	50	51.1	102	71-129	
1,1,2,2-Tetrachloroethane	ug/L	50	49.5	99	79-124	
1,1,2-Trichloroethane	ug/L	50	52.1	104	85-125	
1,1-Dichloroethane	ug/L	50	51.8	104	73-126	
1,1-Dichloroethene	ug/L	50	50.8	102	66-135	
1,2,3-Trichloropropane	ug/L	50	52.1	104	75-130	
1,2-Dibromo-3-chloropropane	ug/L	50	49.6	99	71-133	
1,2-Dibromoethane (EDB)	ug/L	50	51.7	103	83-124	
1,2-Dichlorobenzene	ug/L	50	50.7	101	80-133	
1,2-Dichloroethane	ug/L	50	51.4	103	67-128	
1,2-Dichloropropane	ug/L	50	49.9	100	75-132	
1,4-Dichlorobenzene	ug/L	50	50.3	101	78-130	
2-Butanone (MEK)	ug/L	100	102	102	61-144	
2-Hexanone	ug/L	100	100	100	68-143	
4-Methyl-2-pentanone (MIBK)	ug/L	100	104	104	72-135	
Acetone	ug/L	100	100	100	48-146	
Acrylonitrile	ug/L	250	254	102	40-160	
Benzene	ug/L	50	48.5	97	80-125	
Bromochloromethane	ug/L	50	50.3	101	71-125	
Bromodichloromethane	ug/L	50	56.4	113	78-124	
Bromoform	ug/L	50	55.6	111	71-128	
Bromomethane	ug/L	50	56.4	113	40-160	
Carbon disulfide	ug/L	50	45.6J	91	50-160	
Carbon tetrachloride	ug/L	50	51.5	103	69-131	
Chlorobenzene	ug/L	50	49.9	100	81-122	
Chloroethane	ug/L	50	51.6	103	39-148	
Chloroform	ug/L	50	53.8	108	73-127	
Chloromethane	ug/L	50	57.0	114	44-146	
cis-1,2-Dichloroethene	ug/L	50	53.1	106	74-124	
cis-1,3-Dichloropropene	ug/L	50	51.6	103	72-132	

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QUALITY CONTROL DATA

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

LABORATORY CONTROL SAMPLE: 1273165

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromochloromethane	ug/L	50	58.3	117	78-125	
Dibromomethane	ug/L	50	51.8	104	82-120	
Ethylbenzene	ug/L	50	49.7	99	79-121	
Iodomethane	ug/L	100	96.6	97	39-154	
Methylene Chloride	ug/L	50	51.4	103	64-133	
Styrene	ug/L	50	51.8	104	84-126	
Tetrachloroethene	ug/L	50	52.6	105	78-122	
Toluene	ug/L	50	49.1	98	80-121	
trans-1,2-Dichloroethene	ug/L	50	52.0	104	71-127	
trans-1,3-Dichloropropene	ug/L	50	50.9	102	69-141	
trans-1,4-Dichloro-2-butene	ug/L	50	53.8J	108	40-160	
Trichloroethene	ug/L	50	50.2	100	78-122	
Trichlorofluoromethane	ug/L	50	50.5	101	53-137	
Vinyl acetate	ug/L	100	123	123	40-160	
Vinyl chloride	ug/L	50	54.9	110	58-137	
Xylene (Total)	ug/L	150	148	99	81-126	
1,2-Dichloroethane-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Toluene-d8 (S)	%			100	70-130	

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QUALITY CONTROL DATA

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

QC Batch: OEXT/29462 Analysis Method: EPA 8081
 QC Batch Method: EPA 3510 Analysis Description: 8081A GCS Pesticides
 Associated Lab Samples: 92213314001, 92213314002, 92213314003, 92213314009

METHOD BLANK: 1266102 Matrix: Water
 Associated Lab Samples: 92213314001, 92213314002, 92213314003, 92213314009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Endrin aldehyde	ug/L	ND	0.10	08/25/14 23:25	
gamma-BHC (Lindane)	ug/L	ND	0.050	08/25/14 23:25	
Heptachlor	ug/L	ND	0.050	08/25/14 23:25	
Decachlorobiphenyl (S)	%	86	20-130	08/25/14 23:25	
Tetrachloro-m-xylene (S)	%	73	20-130	08/25/14 23:25	

LABORATORY CONTROL SAMPLE: 1266103

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Endrin aldehyde	ug/L	.25	0.23	92	20-150	
gamma-BHC (Lindane)	ug/L	.25	0.24	98	20-150	
Heptachlor	ug/L	.25	0.21	86	20-150	
Decachlorobiphenyl (S)	%			83	20-130	
Tetrachloro-m-xylene (S)	%			81	20-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1266104 1266105

Parameter	Units	92213314003 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result						
Endrin aldehyde	ug/L	ND	.5	0.39	.5	0.44	79	89	20-150	12	30	
gamma-BHC (Lindane)	ug/L	ND	.5	0.32	.5	0.34	65	69	20-150	6	30	
Heptachlor	ug/L	ND	.5	0.31	.5	0.38	62	76	20-150	20	30	
Decachlorobiphenyl (S)	%						87	85	20-130			
Tetrachloro-m-xylene (S)	%						73	78	20-130			

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QUALITY CONTROL DATA

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

QC Batch: OEXT/18531 Analysis Method: EPA 8151
 QC Batch Method: EPA 8151 Analysis Description: 8151A GCS Herbicides
 Associated Lab Samples: 92213314001, 92213314002, 92213314003, 92213314009

METHOD BLANK: 981253 Matrix: Water
 Associated Lab Samples: 92213314001, 92213314002, 92213314003, 92213314009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2,4-D	ug/L	ND	2.0	08/19/14 12:58	
2,4-DCAA (S)	%	86	66-130	08/19/14 12:58	

LABORATORY CONTROL SAMPLE: 981254

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4-D	ug/L	6	6.3	104	40-137	
2,4-DCAA (S)	%			147	66-130	S0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 981985 981986

Parameter	Units	35150473001 Result	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Result	% Rec	% Rec							
2,4-D	ug/L	1290U	12	12	23200	9520	193000	79400	40-137	83	40	M1,R1		
2,4-DCAA (S)	%					81400	72000	66-130				S0		

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BUTNER LANDFILL COMPLIANCE
Pace Project No.: 92213314

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-A Pace Analytical Services - Asheville
PASI-C Pace Analytical Services - Charlotte
PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1 RPD value was outside control limits.
S0 Surrogate recovery outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BUTNER LANDFILL COMPLIANCE

Pace Project No.: 92213314

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92213314001	3902-MW1R	EPA 3510	OEXT/29462	EPA 8081	GCSV/18661
92213314002	3902-MW2R	EPA 3510	OEXT/29462	EPA 8081	GCSV/18661
92213314003	3902-MW3R	EPA 3510	OEXT/29462	EPA 8081	GCSV/18661
92213314009	3902-FIELD BLANK	EPA 3510	OEXT/29462	EPA 8081	GCSV/18661
92213314001	3902-MW1R	EPA 8151	OEXT/18531	EPA 8151	GCSV/12169
92213314002	3902-MW2R	EPA 8151	OEXT/18531	EPA 8151	GCSV/12169
92213314003	3902-MW3R	EPA 8151	OEXT/18531	EPA 8151	GCSV/12169
92213314009	3902-FIELD BLANK	EPA 8151	OEXT/18531	EPA 8151	GCSV/12169
92213314001	3902-MW1R	EPA 3010	MPRP/16686	EPA 6010	ICP/15067
92213314002	3902-MW2R	EPA 3010	MPRP/16686	EPA 6010	ICP/15067
92213314003	3902-MW3R	EPA 3010	MPRP/16686	EPA 6010	ICP/15067
92213314004	3902-MW4	EPA 3010	MPRP/16686	EPA 6010	ICP/15067
92213314005	3902-MW5	EPA 3010	MPRP/16686	EPA 6010	ICP/15067
92213314006	3902-MW6	EPA 3010	MPRP/16686	EPA 6010	ICP/15067
92213314008	3902-SW2	EPA 3010	MPRP/16686	EPA 6010	ICP/15067
92213314009	3902-FIELD BLANK	EPA 3010	MPRP/16686	EPA 6010	ICP/15067
92213314001	3902-MW1R	EPA 8260	MSV/27989		
92213314002	3902-MW2R	EPA 8260	MSV/27989		
92213314003	3902-MW3R	EPA 8260	MSV/27989		
92213314005	3902-MW5	EPA 8260	MSV/27989		
92213314006	3902-MW6	EPA 8260	MSV/27989		
92213314007	3902-NES1	EPA 8260	MSV/27989		
92213314008	3902-SW2	EPA 8260	MSV/27989		
92213314009	3902-FIELD BLANK	EPA 8260	MSV/27989		
92213314010	3902-TRIP BLANK	EPA 8260	MSV/27989		
92213314011	3902-MW4	EPA 8260	MSV/28102		

REPORT OF LABORATORY ANALYSIS

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Document Name:
Sample Condition Upon Receipt (SCUR)

Document Revised: April 07, 2014

Page 1 of 2

Document Number:
F-CHR-CS-003-rev.14

Issuing Authority:
Pace Huntersville Quality Office

Client Name: Joyce Eng

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used: IR Gun T1102 T1401 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Temp Correction Factor **T1102: No Correction** **T1301: No Correction**

Corrected Cooler Temp.: 4.6 °C

Biological Tissue is Frozen: Yes No N/A

Date and Initials of person examining contents: CE 8-13-14

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	8. # 4 missing 3 vials
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix:		
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Samples checked for dechlorination:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: Amanda Frechen Date/Time: 8/14/14

Comments/ Resolution: PM informed of missing 8260 vials for 3902-MW, KG.

SCURF Review:

[Signature]

Date:

8/13/14

SRF Review:

[Signature]

Date:

8/14/14

WO# : 92213314



92213314

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)



Document Name:
Sample Condition Upon Receipt (SCUR)

Document Revised: April 07, 2014
Page 1 of 2

Document Number:
F-CHR-CS-003-rev.14

Issuing Authority:
Pace Huntersville Quality Office

Client Name: Joyce Engineering

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used: IR Gun T1102 **(T1401)** Type of Ice: **(Wet)** Blue None Samples on ice, cooling process has begun

Temp Correction Factor T1102: No Correction T1301: No Correction

Corrected Cooler Temp.: 1.9 °C Biological Tissue is Frozen: Yes No **(N/A)**

Temp should be above freezing to 6°C

Date and Initials of person examining contents: gno 8/21/14

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix:		
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review:

JL
AMB

Date:

8/21/14
8-22-14

Place label here

922133/4

OR

Handwrite project number
(if no label available)

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

August 27, 2014

Mr. Van Burbach
Joyce Engineering-NC
2211 West Meadowview Rd
Boone Bldg, Suite 101
Greensboro, NC 27407

RE: Project: Butner Landfill MNA
Pace Project No.: 92213127

Dear Mr. Burbach:

Enclosed are the analytical results for sample(s) received by the laboratory on August 13, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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August 27, 2014
Page 2

cc: Alex Everhart, Joyce Engineering-NC



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Butner Landfill MNA

Pace Project No.: 92213127

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alabama Certification #40770

Alabama Certification #40770

Alaska Certification #: UST-078

Alaska Certification #MN00064

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #: Pace

Georgia Certification #: 959

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nebraska Certification #: Pace

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

Wisconsin Certification #: 999407970

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Asheville Certification IDs

2225 Riverside Dr., Asheville, NC 28804

Florida/NELAP Certification #: E87648

Massachusetts Certification #: M-NC030

North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40

South Carolina Certification #: 99030001

West Virginia Certification #: 356

Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: Butner Landfill MNA

Pace Project No.: 92213127

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92213127001	3902-MW1R	Water	08/12/14 09:10	08/13/14 10:30
92213127002	3902-MW2R	Water	08/12/14 11:58	08/13/14 10:30
92213127003	3902-MW3R	Water	08/12/14 11:40	08/13/14 10:30
92213127004	3902-NES1	Water	08/12/14 12:58	08/13/14 10:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Butner Landfill MNA

Pace Project No.: 92213127

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92213127001	3902-MW1R	RSK 175	JRB	3	PASI-M
		SM 2320B	MDW	1	PASI-A
		SM 4500-S2D	SAE	1	PASI-A
		SM 5210B	JTJ	1	PASI-A
		EPA 300.0	SAE	1	PASI-A
		EPA 353.2	DMN	1	PASI-A
		SM 4500-CI-E	SMW	1	PASI-A
		SM 5220D	SMW	1	PASI-A
		SM 5310B	SAE	1	PASI-A
92213127002	3902-MW2R	RSK 175	JRB	3	PASI-M
		SM 2320B	MDW	1	PASI-A
		SM 4500-S2D	SAE	1	PASI-A
		SM 5210B	JTJ	1	PASI-A
		EPA 300.0	SAE	1	PASI-A
		EPA 353.2	DMN	1	PASI-A
		SM 4500-CI-E	SMW	1	PASI-A
		SM 5220D	SMW	1	PASI-A
		SM 5310B	SAE	1	PASI-A
92213127003	3902-MW3R	RSK 175	JRB	3	PASI-M
		SM 2320B	MDW	1	PASI-A
		SM 4500-S2D	SAE	1	PASI-A
		SM 5210B	JTJ	1	PASI-A
		EPA 300.0	SAE	1	PASI-A
		EPA 353.2	DMN	1	PASI-A
		SM 4500-CI-E	SMW	1	PASI-A
		SM 5220D	SMW	1	PASI-A
		SM 5310B	SAE	1	PASI-A
92213127004	3902-NES1	RSK 175	JRB	3	PASI-M
		SM 2320B	MDW	1	PASI-A
		SM 4500-S2D	SAE	1	PASI-A
		SM 5210B	JTJ	1	PASI-A
		EPA 300.0	SAE	1	PASI-A
		EPA 353.2	DMN	1	PASI-A
		SM 4500-CI-E	SMW	1	PASI-A
		SM 5220D	SMW	1	PASI-A
		SM 5310B	SAE	1	PASI-A

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Butner Landfill MNA
Pace Project No.: 92213127

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92213127001	3902-MW1R					
SM 2320B	Alkalinity, Total as CaCO ₃	41100	ug/L	5000	08/14/14 14:25	
EPA 300.0	Sulfate	1080J	ug/L	250000	08/25/14 13:32	
EPA 353.2	Nitrogen, Nitrate	115J	ug/L	10000	08/13/14 20:42	
SM 4500-Cl-E	Chloride	5530	ug/L	1000	08/22/14 22:34	
SM 5310B	Total Organic Carbon	3140	ug/L	1000	08/19/14 12:48	
92213127002	3902-MW2R					
RSK 175	Methane	1290	ug/L	6.6	08/15/14 14:08	
SM 2320B	Alkalinity, Total as CaCO ₃	784000	ug/L	5000	08/14/14 14:36	
SM 5210B	BOD, 5 day	83400	ug/L	2000	08/18/14 11:40	
EPA 300.0	Sulfate	1200J	ug/L	250000	08/25/14 19:11	M1
SM 4500-Cl-E	Chloride	264000	ug/L	15000	08/22/14 22:36	M6
SM 5220D	Chemical Oxygen Demand	132000	ug/L	25000	08/25/14 19:38	
SM 5310B	Total Organic Carbon	229000	ug/L	10000	08/19/14 14:45	
92213127003	3902-MW3R					
RSK 175	Ethane	3.6J	ug/L	6.2	08/15/14 14:20	
RSK 175	Methane	284	ug/L	6.6	08/15/14 14:20	
SM 2320B	Alkalinity, Total as CaCO ₃	661000	ug/L	5000	08/14/14 15:01	
SM 5210B	BOD, 5 day	2490	ug/L	2000	08/18/14 11:40	
SM 4500-Cl-E	Chloride	144000	ug/L	10000	08/22/14 22:38	
SM 5310B	Total Organic Carbon	25500	ug/L	1000	08/19/14 14:00	
92213127004	3902-NES1					
SM 2320B	Alkalinity, Total as CaCO ₃	14500	ug/L	5000	08/14/14 15:23	
EPA 300.0	Sulfate	5840J	ug/L	250000	08/25/14 20:06	
EPA 353.2	Nitrogen, Nitrate	2020J	ug/L	10000	08/13/14 20:55	
SM 4500-Cl-E	Chloride	5000	ug/L	1000	08/22/14 22:39	
SM 5220D	Chemical Oxygen Demand	50000	ug/L	25000	08/25/14 19:38	
SM 5310B	Total Organic Carbon	8390	ug/L	1000	08/19/14 14:13	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Butner Landfill MNA

Pace Project No.: 92213127

Sample: 3902-MW1R		Lab ID: 92213127001		Collected: 08/12/14 09:10	Received: 08/13/14 10:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Ethane	ND	ug/L	6.2	3.1	1		08/15/14 13:57	74-84-0		
Ethene	ND	ug/L	6.2	3.1	1		08/15/14 13:57	74-85-1		
Methane	ND	ug/L	6.6	3.3	1		08/15/14 13:57	74-82-8		
2320B Alkalinity		Analytical Method: SM 2320B								
Alkalinity, Total as CaCO3	41100	ug/L	5000	1000	1		08/14/14 14:25			
4500S2D Sulfide Water		Analytical Method: SM 4500-S2D								
Sulfide	ND	ug/L	1000	50.0	1		08/19/14 15:58	18496-25-8		
5210B BOD, 5 day		Analytical Method: SM 5210B								
BOD, 5 day	ND	ug/L	2000	2000	1	08/13/14 17:29	08/18/14 11:40			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0								
Sulfate	1080J	ug/L	250000	1000	1		08/25/14 13:32	14808-79-8		
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2								
Nitrogen, Nitrate	115J	ug/L	10000	10.0	1		08/13/14 20:42			
4500 Chloride		Analytical Method: SM 4500-Cl-E								
Chloride	5530	ug/L	1000	500	1		08/22/14 22:34	16887-00-6		
5220D COD		Analytical Method: SM 5220D								
Chemical Oxygen Demand	ND	ug/L	25000	12500	1		08/25/14 19:38			
5310B TOC		Analytical Method: SM 5310B								
Total Organic Carbon	3140	ug/L	1000	500	1		08/19/14 12:48	7440-44-0		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Butner Landfill MNA

Pace Project No.: 92213127

Sample: 3902-MW2R		Lab ID: 92213127002		Collected: 08/12/14 11:58		Received: 08/13/14 10:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Ethane	ND	ug/L	6.2	3.1	1		08/15/14 14:08	74-84-0	
Ethene	ND	ug/L	6.2	3.1	1		08/15/14 14:08	74-85-1	
Methane	1290	ug/L	6.6	3.3	1		08/15/14 14:08	74-82-8	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	784000	ug/L	5000	1000	1		08/14/14 14:36		
4500S2D Sulfide Water		Analytical Method: SM 4500-S2D							
Sulfide	ND	ug/L	1000	50.0	1		08/19/14 15:58	18496-25-8	
5210B BOD, 5 day		Analytical Method: SM 5210B							
BOD, 5 day	83400	ug/L	2000	2000	1	08/13/14 17:29	08/18/14 11:40		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Sulfate	1200J	ug/L	250000	1000	1		08/25/14 19:11	14808-79-8	M1
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	ug/L	10000	10.0	1		08/13/14 20:54		
4500 Chloride		Analytical Method: SM 4500-Cl-E							
Chloride	264000	ug/L	15000	7500	15		08/22/14 22:36	16887-00-6	M6
5220D COD		Analytical Method: SM 5220D							
Chemical Oxygen Demand	132000	ug/L	25000	12500	1		08/25/14 19:38		
5310B TOC		Analytical Method: SM 5310B							
Total Organic Carbon	229000	ug/L	10000	5000	10		08/19/14 14:45	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Butner Landfill MNA

Pace Project No.: 92213127

Sample: 3902-MW3R		Lab ID: 92213127003		Collected: 08/12/14 11:40		Received: 08/13/14 10:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Ethane	3.6J	ug/L	6.2	3.1	1		08/15/14 14:20	74-84-0	
Ethene	ND	ug/L	6.2	3.1	1		08/15/14 14:20	74-85-1	
Methane	284	ug/L	6.6	3.3	1		08/15/14 14:20	74-82-8	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	661000	ug/L	5000	1000	1		08/14/14 15:01		
4500S2D Sulfide Water		Analytical Method: SM 4500-S2D							
Sulfide	ND	ug/L	1000	50.0	1		08/19/14 15:58	18496-25-8	
5210B BOD, 5 day		Analytical Method: SM 5210B							
BOD, 5 day	2490	ug/L	2000	2000	1	08/13/14 17:29	08/18/14 11:40		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Sulfate	ND	ug/L	250000	1000	1		08/25/14 19:52	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	ug/L	10000	10.0	1		08/13/14 20:49		
4500 Chloride		Analytical Method: SM 4500-Cl-E							
Chloride	144000	ug/L	10000	5000	10		08/22/14 22:38	16887-00-6	
5220D COD		Analytical Method: SM 5220D							
Chemical Oxygen Demand	ND	ug/L	25000	12500	1		08/25/14 19:38		
5310B TOC		Analytical Method: SM 5310B							
Total Organic Carbon	25500	ug/L	1000	500	1		08/19/14 14:00	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Butner Landfill MNA

Pace Project No.: 92213127

Sample: 3902-NES1		Lab ID: 92213127004		Collected: 08/12/14 12:58	Received: 08/13/14 10:30	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Ethane	ND	ug/L	6.2	3.1	1		08/15/14 14:31	74-84-0	
Ethene	ND	ug/L	6.2	3.1	1		08/15/14 14:31	74-85-1	
Methane	ND	ug/L	6.6	3.3	1		08/15/14 14:31	74-82-8	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	14500	ug/L	5000	1000	1		08/14/14 15:23		
4500S2D Sulfide Water		Analytical Method: SM 4500-S2D							
Sulfide	ND	ug/L	1000	50.0	1		08/19/14 15:58	18496-25-8	
5210B BOD, 5 day		Analytical Method: SM 5210B							
BOD, 5 day	ND	ug/L	2000	2000	1	08/13/14 17:29	08/18/14 11:40		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Sulfate	5840J	ug/L	250000	1000	1		08/25/14 20:06	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2							
Nitrogen, Nitrate	2020J	ug/L	10000	10.0	1		08/13/14 20:55		
4500 Chloride		Analytical Method: SM 4500-Cl-E							
Chloride	5000	ug/L	1000	500	1		08/22/14 22:39	16887-00-6	
5220D COD		Analytical Method: SM 5220D							
Chemical Oxygen Demand	50000	ug/L	25000	12500	1		08/25/14 19:38		
5310B TOC		Analytical Method: SM 5310B							
Total Organic Carbon	8390	ug/L	1000	500	1		08/19/14 14:13	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Butner Landfill MNA

Pace Project No.: 92213127

QC Batch: AIR/21058

Analysis Method: RSK 175

QC Batch Method: RSK 175

Analysis Description: RSK 175 AIR HEADSPACE

Associated Lab Samples: 92213127001, 92213127002, 92213127003, 92213127004

METHOD BLANK: 1762118

Matrix: Water

Associated Lab Samples: 92213127001, 92213127002, 92213127003, 92213127004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethane	ug/L	ND	6.2	08/15/14 12:19	
Ethene	ug/L	ND	6.2	08/15/14 12:19	
Methane	ug/L	ND	6.6	08/15/14 12:19	

LABORATORY CONTROL SAMPLE & LCSD: 1762119

1762120

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	118	117	104	103	85-115	1	20	
Ethene	ug/L	106	110	109	104	103	85-115	1	20	
Methane	ug/L	60.7	62.5	61.6	103	102	85-115	1	20	

SAMPLE DUPLICATE: 1762121

Parameter	Units	35149905031 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	3.1U	ND		20	
Ethene	ug/L	3.1U	ND		20	
Methane	ug/L	711	745	5	20	

SAMPLE DUPLICATE: 1762491

Parameter	Units	10277755002 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	ND		20	
Ethene	ug/L	ND	ND		20	
Methane	ug/L	99.1	90.7	9	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Butner Landfill MNA

Pace Project No.: 92213127

QC Batch: WET/32646 Analysis Method: SM 2320B
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
 Associated Lab Samples: 92213127001, 92213127002, 92213127003, 92213127004

METHOD BLANK: 1263764 Matrix: Water
 Associated Lab Samples: 92213127001, 92213127002, 92213127003, 92213127004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	ug/L	ND	5000	08/14/14 10:13	

LABORATORY CONTROL SAMPLE: 1263765

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	ug/L	50000	49300	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1263766 1263767

Parameter	Units	92212961001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result						
Alkalinity, Total as CaCO3	ug/L	63.9 mg/L	50000	110000	50000	109000	91	90	90-110	0	4	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1263768 1263769

Parameter	Units	92212961004 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result						
Alkalinity, Total as CaCO3	ug/L	188 mg/L	50000	230000	50000	231000	84	86	90-110	0	4	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Butner Landfill MNA

Pace Project No.: 92213127

QC Batch: WET/32727

Analysis Method: SM 4500-S2D

QC Batch Method: SM 4500-S2D

Analysis Description: 4500S2D Sulfide Water

Associated Lab Samples: 92213127001, 92213127002, 92213127003, 92213127004

METHOD BLANK: 1266624

Matrix: Water

Associated Lab Samples: 92213127001, 92213127002, 92213127003, 92213127004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	ug/L	ND	1000	08/19/14 15:58	

LABORATORY CONTROL SAMPLE: 1266625

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	ug/L	500	498J	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1266626 1266627

Parameter	Units	92212859002 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Sulfide	ug/L	ND	500	500	531J	531J	106	106	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1266628 1266629

Parameter	Units	92213127004 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Sulfide	ug/L	ND	500	500	531J	531J	106	106	90-110	0	10	

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QUALITY CONTROL DATA

Project: Butner Landfill MNA

Pace Project No.: 92213127

QC Batch: WET/32632

Analysis Method: SM 5210B

QC Batch Method: SM 5210B

Analysis Description: 5210B BOD, 5 day

Associated Lab Samples: 92213127001, 92213127002, 92213127003, 92213127004

METHOD BLANK: 1263167

Matrix: Water

Associated Lab Samples: 92213127001, 92213127002, 92213127003, 92213127004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	ug/L	ND	2000	08/18/14 11:40	

LABORATORY CONTROL SAMPLE: 1263168

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	ug/L	198000	207000	105	84.5-115.4	

SAMPLE DUPLICATE: 1263169

Parameter	Units	92212950001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	ug/L	37.1 mg/L	35900	3	10	

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QUALITY CONTROL DATA

Project: Butner Landfill MNA
Pace Project No.: 92213127

QC Batch: WETA/19955 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 92213127001

METHOD BLANK: 1267257 Matrix: Water
Associated Lab Samples: 92213127001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	ug/L	ND	250000	08/25/14 11:30	

LABORATORY CONTROL SAMPLE: 1267258

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	ug/L	20000	18500J	93	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1267990 1267991

Parameter	Units	92213493001 Result	MS	MSD	MS	MSD	MS	MSD	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec				
Sulfate	ug/L	22.1 mg/L	20000	20000	22200J	22200J	0	0	90-110	0	10	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1267992 1267993

Parameter	Units	92213496002 Result	MS	MSD	MS	MSD	MS	MSD	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec				
Sulfate	ug/L	190 mg/L	20000	20000	164000J	172000J	-132	-90	90-110	5	10	M6

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QUALITY CONTROL DATA

Project: Butner Landfill MNA
Pace Project No.: 92213127

QC Batch: WETA/19956 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 92213127002, 92213127003, 92213127004

METHOD BLANK: 1267271 Matrix: Water
Associated Lab Samples: 92213127002, 92213127003, 92213127004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	ug/L	ND	250000	08/25/14 18:44	

LABORATORY CONTROL SAMPLE: 1267272

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	ug/L	20000	18200J	91	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1267273 1267274

Parameter	Units	92213127002		92213127003		92213127004		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.				
Sulfate	ug/L	1200J	20000	1220J	20000	1240J	20000	0	0	90-110	10 M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1267275 1267276

Parameter	Units	92213494001		92213494002		92213494003		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.				
Sulfate	ug/L	6.3 mg/L	20000	6570J	20000	6520J	20000	1	1	90-110	1 10 M1

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QUALITY CONTROL DATA

Project: Butner Landfill MNA

Pace Project No.: 92213127

QC Batch: WETA/19899

Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2

Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Associated Lab Samples: 92213127001, 92213127002, 92213127003, 92213127004

METHOD BLANK: 1263682

Matrix: Water

Associated Lab Samples: 92213127001, 92213127002, 92213127003, 92213127004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	ug/L	ND	10000	08/13/14 20:38	

LABORATORY CONTROL SAMPLE: 1263683

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	ug/L	2500	2430J	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1263684 1263685

Parameter	Units	1263684		1263685		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		92213127001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Nitrogen, Nitrate	ug/L	115J	2500	2500	2360J	2360J	90	90	90-110	0	10	

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QUALITY CONTROL DATA

Project: Butner Landfill MNA
Pace Project No.: 92213127

QC Batch: WETA/20010 Analysis Method: SM 4500-Cl-E
QC Batch Method: SM 4500-Cl-E Analysis Description: 4500 Chloride
Associated Lab Samples: 92213127001, 92213127002, 92213127003, 92213127004

METHOD BLANK: 1270764 Matrix: Water
Associated Lab Samples: 92213127001, 92213127002, 92213127003, 92213127004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	ug/L	ND	1000	08/22/14 22:23	

LABORATORY CONTROL SAMPLE: 1270765

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	ug/L	20000	19900	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1270766 1270767

Parameter	Units	92213493001 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Chloride	ug/L	37.5 mg/L	20000	20000	53700	46700	81	46	90-110	14	10	M1,R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1270768 1270769

Parameter	Units	92213127002 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Chloride	ug/L	264000	20000	20000	274000	270000	47	26	90-110	2	10	M6

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QUALITY CONTROL DATA

Project: Butner Landfill MNA

Pace Project No.: 92213127

QC Batch: WETA/20027 Analysis Method: SM 5220D
 QC Batch Method: SM 5220D Analysis Description: 5220D COD
 Associated Lab Samples: 92213127001, 92213127002, 92213127003, 92213127004

METHOD BLANK: 1271097 Matrix: Water
 Associated Lab Samples: 92213127001, 92213127002, 92213127003, 92213127004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	ug/L	ND	25000	08/25/14 19:38	

LABORATORY CONTROL SAMPLE: 1271098

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	ug/L	750000	750000	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1271099 1271100

Parameter	Units	92213424001 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Chemical Oxygen Demand	ug/L	215 mg/L	750000	750000	425000	428000	28	28	90-110	1	3	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1271101 1271102

Parameter	Units	92213952001 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Chemical Oxygen Demand	ug/L	859 mg/L	750000	750000	752000	750000	-14	-15	90-110	0	3	M1

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QUALITY CONTROL DATA

Project: Butner Landfill MNA

Pace Project No.: 92213127

QC Batch: WETA/19889 Analysis Method: SM 5310B
 QC Batch Method: SM 5310B Analysis Description: 5310B TOC
 Associated Lab Samples: 92213127001, 92213127002, 92213127003, 92213127004

METHOD BLANK: 1263118 Matrix: Water
 Associated Lab Samples: 92213127001, 92213127002, 92213127003, 92213127004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	ug/L	ND	1000	08/15/14 17:56	

LABORATORY CONTROL SAMPLE: 1263119

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	ug/L	25000	24300	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1263120 1263121

Parameter	Units	92212961001 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Total Organic Carbon	ug/L	8.1 mg/L	25000	25000	17600	19400	38	45	90-110	9	5	M1,R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1263122 1263123

Parameter	Units	92213137001 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Total Organic Carbon	ug/L	2.4 mg/L	25000	25000	25100	25400	91	92	90-110	1	5	

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QUALIFIERS

Project: Butner Landfill MNA

Pace Project No.: 92213127

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-A Pace Analytical Services - Asheville

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Butner Landfill MNA
Pace Project No.: 92213127

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92213127001	3902-MW1R	RSK 175	AIR/21058		
92213127002	3902-MW2R	RSK 175	AIR/21058		
92213127003	3902-MW3R	RSK 175	AIR/21058		
92213127004	3902-NES1	RSK 175	AIR/21058		
92213127001	3902-MW1R	SM 2320B	WET/32646		
92213127002	3902-MW2R	SM 2320B	WET/32646		
92213127003	3902-MW3R	SM 2320B	WET/32646		
92213127004	3902-NES1	SM 2320B	WET/32646		
92213127001	3902-MW1R	SM 4500-S2D	WET/32727		
92213127002	3902-MW2R	SM 4500-S2D	WET/32727		
92213127003	3902-MW3R	SM 4500-S2D	WET/32727		
92213127004	3902-NES1	SM 4500-S2D	WET/32727		
92213127001	3902-MW1R	SM 5210B	WET/32632	SM 5210B	WET/32635
92213127002	3902-MW2R	SM 5210B	WET/32632	SM 5210B	WET/32635
92213127003	3902-MW3R	SM 5210B	WET/32632	SM 5210B	WET/32635
92213127004	3902-NES1	SM 5210B	WET/32632	SM 5210B	WET/32635
92213127001	3902-MW1R	EPA 300.0	WETA/19955		
92213127002	3902-MW2R	EPA 300.0	WETA/19956		
92213127003	3902-MW3R	EPA 300.0	WETA/19956		
92213127004	3902-NES1	EPA 300.0	WETA/19956		
92213127001	3902-MW1R	EPA 353.2	WETA/19899		
92213127002	3902-MW2R	EPA 353.2	WETA/19899		
92213127003	3902-MW3R	EPA 353.2	WETA/19899		
92213127004	3902-NES1	EPA 353.2	WETA/19899		
92213127001	3902-MW1R	SM 4500-CI-E	WETA/20010		
92213127002	3902-MW2R	SM 4500-CI-E	WETA/20010		
92213127003	3902-MW3R	SM 4500-CI-E	WETA/20010		
92213127004	3902-NES1	SM 4500-CI-E	WETA/20010		
92213127001	3902-MW1R	SM 5220D	WETA/20027		
92213127002	3902-MW2R	SM 5220D	WETA/20027		
92213127003	3902-MW3R	SM 5220D	WETA/20027		
92213127004	3902-NES1	SM 5220D	WETA/20027		
92213127001	3902-MW1R	SM 5310B	WETA/19889		
92213127002	3902-MW2R	SM 5310B	WETA/19889		
92213127003	3902-MW3R	SM 5310B	WETA/19889		
92213127004	3902-NES1	SM 5310B	WETA/19889		

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Document Name: **Sample Condition Upon Receipt (SCUR)**

Document Revised: June 10, 2014

Page 1 of 2

Document No.: F-ASV-CS-003-rev.14

Issuing Authorities: Pace Asheville Quality Office

Client Name: Joyce Engineering

Courier (Circle): Fed Ex UPS USPS Client Commercial Pace Other

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used: IR Gun #3 -130265963 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

IR Gun #4 SN:140290366 Other:

Temp Correction Factor: Add / Subtract 0.1 C

Corrected Cooler Temp.: 3.1 C Biological Tissue is Frozen: Yes No N/A

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 8/13/14 AC

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7. <u>10 day</u>
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>WT</u>		
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Samples checked for dechlorination:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: <u>JJB</u>	Date: <u>8/13/14</u>
SRF Review: <u>JJB</u>	Date: <u>8/13/14</u>

Place label here

OR

Handwrite project number (if no label available)

92213127



Microseeps/Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

August 26, 2014

Kevin Godwin
Pace Analytical Services, Inc.
9800 Kincey Avenue
Suite 100
Huntersville, NC 28078

RE: **Butner Landfill MNA / 92213127**

Microseeps Workorder: 13031

Dear Kevin Godwin:

Enclosed are the analytical results for sample(s) received by the laboratory on Thursday, August 14, 2014. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Robbin Robl
rrobl@microseeps.com

08/26/2014

RW
8/27/14

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.
Please email info@microseeps.com.

Total Number of Pages 19

Report ID: 13031 - 560530

Page 1 of 15



CERTIFICATE OF ANALYSIS

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LABORATORY ACCREDITATIONS & CERTIFICATIONS

Accreditor:	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
Accreditation ID:	02-00538
Scope:	NELAP Non-Potable Water and Solid & Hazardous Waste
Accreditor:	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
Accreditation ID:	89009003
Scope:	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: State of Louisiana, Department of Environmental Quality
Accreditation ID:	04104
Scope:	Solid and Chemical Materials; Non-Potable Water
Accreditor:	NELAP: New Jersey, Department of Environmental Protection
Accreditation ID:	PA026
Scope:	Non-Potable Water; Solid and Chemical Materials
Accreditor:	NELAP: New York, Department of Health Wadsworth Center
Accreditation ID:	11815
Scope:	Non-Potable Water; Solid and Hazardous Waste
Accreditor:	State of Connecticut, Department of Public Health, Division of Environmental Health
Accreditation ID:	PH-0263
Scope:	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: Texas, Commission on Environmental Quality
Accreditation ID:	T104704453-09-TX
Scope:	Non-Potable Water
Accreditor:	State of New Hampshire
Accreditation ID:	299409
Scope:	Non-potable water
Accreditor:	State of Georgia
Accreditation ID:	Chapter 391-3-26
Scope:	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, Microseeps is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).



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SAMPLE SUMMARY

Workorder: 13031 Butner Landfill MNA / 92213127

Lab ID	Sample ID	Matrix	Date Collected	Date Received
130310001	3902-MW1R	Water	8/12/2014 09:10	8/14/2014 12:44
130310002	3902-MW1R	Bubble Strip	8/12/2014 09:10	8/14/2014 12:44
130310003	3902-MW2R	Water	8/12/2014 11:58	8/14/2014 12:44
130310004	3902-MW2R	Bubble Strip	8/12/2014 11:58	8/14/2014 12:44
130310005	3902-MW3R	Water	8/12/2014 11:40	8/14/2014 12:44
130310006	3902-MW3R	Bubble Strip	8/12/2014 11:40	8/14/2014 12:44
130310007	3902-NES1	Water	8/12/2014 12:58	8/14/2014 12:44
130310008	3902-NES2	Bubble Strip	8/12/2014 12:58	8/14/2014 12:44



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ANALYTICAL RESULTS

Workorder: 13031 Butner Landfill MNA / 92213127

Lab ID: **130310001** Date Received: 8/14/2014 12:44 Matrix: Water
 Sample ID: **3902-MW1R** Date Collected: 8/12/2014 09:10

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
EDonors - MICR										
Analysis Desc: AM21G Analytical Method: AM21G										
Acetic Acid	0.81U	mg/l	5.0	0.81	1			8/19/2014 15:11	BW	
Propionic Acid	0.66U	mg/l	5.0	0.66	1			8/19/2014 15:11	BW	
Pyruvic Acid	0.77U	mg/l	10	0.77	1			8/19/2014 15:11	BW	
Butyric Acid	0.70U	mg/l	5.0	0.70	1			8/19/2014 15:11	BW	
Lactic Acid	4.2J	mg/l	25	2.5	1			8/19/2014 15:11	BW	



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ANALYTICAL RESULTS

Workorder: 13031 Butner Landfill MNA / 92213127

Lab ID: 130310002 Date Received: 8/14/2014 12:44 Matrix: Bubble Strip
 Sample ID: 3902-MW1R Date Collected: 8/12/2014 09:10

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Hydrogen	1.4	nM	0.60	0.13	1			8/23/2014 08:15	TD	



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ANALYTICAL RESULTS

Workorder: 13031 Butner Landfill MNA / 92213127

Lab ID: **130310003** Date Received: 8/14/2014 12:44 Matrix: Water
 Sample ID: **3902-MW2R** Date Collected: 8/12/2014 11:58

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
------------	---------	-------	-----	-----	----	----------	----	----------	----	------

EDonors - MICR

Analysis Desc: AM21G

Analytical Method: AM21G

Acetic Acid	0.81U	mg/l	5.0	0.81	1			8/19/2014 17:01	BW	
Propionic Acid	0.66U	mg/l	5.0	0.66	1			8/19/2014 17:01	BW	
Pyruvic Acid	0.77U	mg/l	10	0.77	1			8/19/2014 17:01	BW	
Butyric Acid	0.70U	mg/l	5.0	0.70	1			8/19/2014 17:01	BW	
Lactic Acid	2.5U	mg/l	25	2.5	1			8/19/2014 17:01	BW	



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ANALYTICAL RESULTS

Workorder: 13031 Butner Landfill MNA / 92213127

Lab ID: 130310004 Date Received: 8/14/2014 12:44 Matrix: Bubble Strip
 Sample ID: 3902-MW2R Date Collected: 8/12/2014 11:58

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Hydrogen	1.6	nM	0.60	0.13	1			8/23/2014 08:28	TD	



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ANALYTICAL RESULTS

Workorder: 13031 Butner Landfill MNA / 92213127

Lab ID: 130310005 Date Received: 8/14/2014 12:44 Matrix: Water
 Sample ID: 3902-MW3R Date Collected: 8/12/2014 11:40

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
EDonors - MICR										
Analysis Desc: AM21G			Analytical Method: AM21G							
Acetic Acid	0.81U	mg/l	5.0	0.81	1			8/19/2014 17:23	BW	
Propionic Acid	0.66U	mg/l	5.0	0.66	1			8/19/2014 17:23	BW	
Pyruvic Acid	0.77U	mg/l	10	0.77	1			8/19/2014 17:23	BW	
Butyric Acid	0.70U	mg/l	5.0	0.70	1			8/19/2014 17:23	BW	
Lactic Acid	2.5U	mg/l	25	2.5	1			8/19/2014 17:23	BW	



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ANALYTICAL RESULTS

Workorder: 13031 Butner Landfill MNA / 92213127

Lab ID: 130310006 Date Received: 8/14/2014 12:44 Matrix: Bubble Strip
 Sample ID: 3902-MW3R Date Collected: 8/12/2014 11:40

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Hydrogen	5.4	nM	0.60	0.13	1			8/23/2014 08:42	TD	



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ANALYTICAL RESULTS

Workorder: 13031 Butner Landfill MNA / 92213127

Lab ID: 130310007 Date Received: 8/14/2014 12:44 Matrix: Water
 Sample ID: 3902-NES1 Date Collected: 8/12/2014 12:58

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
EDonors - MICR										
Analysis Desc: AM21G			Analytical Method: AM21G							
Acetic Acid	0.81U	mg/l	5.0	0.81	1			8/19/2014 17:45	BW	
Propionic Acid	0.66U	mg/l	5.0	0.66	1			8/19/2014 17:45	BW	
Pyruvic Acid	0.77U	mg/l	10	0.77	1			8/19/2014 17:45	BW	
Butyric Acid	0.70U	mg/l	5.0	0.70	1			8/19/2014 17:45	BW	
Lactic Acid	2.5U	mg/l	25	2.5	1			8/19/2014 17:45	BW	



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ANALYTICAL RESULTS

Workorder: 13031 Butner Landfill MNA / 92213127

Lab ID: 130310008 Date Received: 8/14/2014 12:44 Matrix: Bubble Strip
 Sample ID: 3902-NES2 Date Collected: 8/12/2014 12:58

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
RISK - MICR										
Analysis Desc: AM20GAX			Analytical Method: AM20GAX							
Hydrogen	1.4	nM	0.60	0.13	1			8/23/2014 08:54	TD	



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ANALYTICAL RESULTS QUALIFIERS

Workorder: 13031 Butner Landfill MNA / 92213127

DEFINITIONS/QUALIFIERS

Disclaimer : The Pennsylvania Department of Environmental Protection (PADEP) has decided to no longer recognize analyses that do not produce data for primary compliance, for NELAP accreditation. The methods affected by this decision are AM20GAX, AM21G, SW846 7199 and AM4.02. The laboratory shall continue to administer the NELAP/TNI standard requirements in the performance of these methods.

- MDL Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
- PQL Practical Quantitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
- ND Not detected at or above reporting limit.
- DF Dilution Factor.
- S Surrogate.
- RPD Relative Percent Difference.
- % Rec Percent Recovery.
- U Indicates the compound was analyzed for, but not detected at or above the noted concentration.
- J Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).



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QUALITY CONTROL DATA

Workorder: 13031 Butner Landfill MNA / 92213127

QC Batch: EDON/2229 Analysis Method: AM21G
 QC Batch Method: AM21G
 Associated Lab Samples: 130310001, 130310003, 130310005, 130310007

METHOD BLANK: 29762

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
EDonors				
Acetic Acid	mg/l	0.81U	0.81	
Propionic Acid	mg/l	0.66U	0.66	
Pyruvic Acid	mg/l	0.77U	0.77	
Butyric Acid	mg/l	0.70U	0.70	
Lactic Acid	mg/l	2.5U	2.5	

LABORATORY CONTROL SAMPLE: 29763

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
EDonors						
Acetic Acid	mg/l	100	100	104	70-130	
Propionic Acid	mg/l	100	100	105	70-130	
Pyruvic Acid	mg/l	100	98	98	70-130	
Butyric Acid	mg/l	100	100	102	70-130	
Lactic Acid	mg/l	100	85	85	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 29764 29765 Original: 130310001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
EDonors											
Acetic Acid	mg/l	0	100	100	100	103	103	70-130	0	20	
Propionic Acid	mg/l	0	100	100	100	105	105	70-130	0	20	
Pyruvic Acid	mg/l	0	100	97	98	97	98	70-130	1	20	
Butyric Acid	mg/l	0	100	100	100	103	102	70-130	0.98	20	
Lactic Acid	mg/l	4.2	100	100	110	100	108	70-130	7.7	20	



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QUALITY CONTROL DATA

Workorder: 13031 Butner Landfill MNA / 92213127

QC Batch: DISG/3991 Analysis Method: AM20GAX
 QC Batch Method: AM20GAX
 Associated Lab Samples: 130310002, 130310004, 130310006, 130310008

METHOD BLANK: 29875

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK Hydrogen	nM	0.13U	0.13	

LABORATORY CONTROL SAMPLE & LCSD: 29878 29881

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK Hydrogen	nM	24	22	22	90	91	80-120	1.1	20	



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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 13031 Butner Landfill MNA / 92213127

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
130310001	3902-MW1R			AM21G	EDON/2229
130310003	3902-MW2R			AM21G	EDON/2229
130310005	3902-MW3R			AM21G	EDON/2229
130310007	3902-NES1			AM21G	EDON/2229
130310002	3902-MW1R			AM20GAX	DISG/3991
130310004	3902-MW2R			AM20GAX	DISG/3991
130310006	3902-MW3R			AM20GAX	DISG/3991
130310008	3902-NES2			AM20GAX	DISG/3991



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Chain of Custody

13031



Workorder: 92213127

Workorder Name: Butner Landfill MNA

Results Requested 8/27/2014

Report / Invoice To	Subcontract To	Requested Analysis									
---------------------	----------------	--------------------	--	--	--	--	--	--	--	--	--

Kevin Godwin
 Pace Analytical Charlotte
 9800 Kinsey Ave. Suite 100
 Huntersville, NC 28078
 Phone (704)875-9092
 Email: kevin.godwin@pacelabs.com

Microseeps P.O. *RR6 13848*

Preserved Containers

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Unpreserved	Preserved Containers										LAB USE ONLY								
						1	2	3	4	5	6	7	8	9	10		11	12						
1	3902-MW1R	8/12/2014 09:10	92213127001	Water	2																			
2	3902-MW2R	8/12/2014 11:58	92213127002	Water	2																			
3	3902-MW3R	8/12/2014 11:40	92213127003	Water	2																			
4	3902-NES1	8/12/2014 12:58	92213127004	Water	2																			
5																								

Hydrogen VFA Am2LG

Comments

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	<i>J. Godwin</i>	<i>8/13/14 17:00</i>	<i>R. Welch</i>	<i>8/14/14 10:55</i>	<i>* please report m-DL + J- P/eg S * us/L units.</i>
2					
3					

Cooler Temperature on Receipt	°C	Custody Seal Y or N	Received on Ice Y or N	Samples Intact Y or N
-------------------------------	----	---------------------	------------------------	-----------------------

NON-CONFORMANCE FORM

Microseeps Project Number: 13031

Date: 8-14-14 Time of Receipt: 1055 Receiver: R. Welsh

Client: PACE

REASON FOR NON-CONFORMANCE:

Only 1 vial for VFA analyses for all samples
except 3902-MW3P

ACTION TAKEN:

Client name: Kevin Godwin Date: 8/14/14 Time: email

Client notified.

OK to proceed.

Customer Service Initials: RL

Date: 8/14/14

From: Robbin Robl
Sent: Thursday, August 14, 2014 1:15 PM
To: 'Kevin Godwin'
Subject: 92213127

Importance: High

Hey Kevin,

We received samples today for your project 92213127. I received a non-conformance as we received 1 vial per sample for VFA's for all samples with the exception of 3902-MW3R.

We can run these samples with 1 vial, however will not have a backup should one be needed.

Thank you!
Robbin

Robbin Robl
Pace Analytical Energy Services, LLC
220 William Pitt Way
Pittsburgh, PA 15238
Direct: 412-826-4483
Fax: 412-826-3433
Main: 412-826-5245

Disclaimer: This message contains confidential information and is intended only for the individual(s) named. If you are not the named addressee, you should permanently delete this e-mail from your system and should not disseminate, distribute or copy this e-mail. E-mail transmission cannot be guaranteed to be secure or error-free as information delivered over the internet could be corrupted, lost, destroyed, delayed, or contain viruses.

Cooler Receipt Form

Client Name: Paee Project: Butner Landfill Lab Work Order: 13031

A. Shipping/Container Information (circle appropriate response)

Courier: FedEx UPS USPS Client Other: _____ Air bill Present: Yes No

Tracking Number: 2708 2743 8454

Custody Seal on Cooler/Box Present: Yes No Seals Intact: Yes No

Cooler/Box Packing Material: Bubble Wrap Absorbent Foam Other: _____

Type of Ice: Wet Blue None Ice Intact: Yes Melted

Cooler Temperature: 1.0 Radiation Screened: Yes No Chain of Custody Present: Yes No

Comments: _____

B. Laboratory Assignment/Log-in (check appropriate response)

	YES	NO	N/A	Comment Reference non-Conformance
Chain of Custody properly filled out	✓			
Chain of Custody relinquished	✓			
Sampler Name & Signature on COC			✓	
Containers intact	✓			
Were samples in separate bags	✓			
Sample container labels match COC Sample name/date and time collected	✓			
Sufficient volume provided	✓			
Microseeps containers used		✓		
Are containers properly preserved for the requested testing? (as labeled)		✓		
If an unknown preservation state, were containers checked? Exception: VOA's coliform			✓	If yes, see pH form.
Was volume for dissolved testing field filtered, as noted on the COC? Was volume received in a preserved container?			✓	

Comments: _____

Cooler contents examined/received by: ew Date: 8-14-14

Project Manager Review: RR Date: 8/14/14

DATE: 8/11-12/14



GROUND WATER SAMPLING LOG

Project Name: BUTNER, Granville Co. Project No./Task No.: 00660.1501.12.04

Well ID: 3902-MW-1R Sampler(s): A. Freeman / D. Girdner

Well Location: North of the entrance at the tree line under the tower

Well Diameter: 2 inches
Initial Depth to Water (DTW): 44.28 feet
Depth to Bottom (DTB): 56.00 feet
Water Column Thickness (WCT): 11.72 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 1.9 gallons
For 4" Well: WCT X 0.653 = gallons

For THREE Well Volumes: WV X 3 = 5.7 gallons

Actual Amount Purged/Bailed: 3.5 gallons

Purged with: disposable bailer

Sampled with: disposable bailer

Depth to Water before Sampling: 44.19 feet

Gallons	Time	Temp. °C	pH	Cond. m.s.	Turb. ntu	Initials
0	1025	17.2	6.01	216	6.04	AF
1.9	1030	16.7	5.48	141.8	139	AF
Dry @ 3.5						
	8/12/14					
Before Sampling	0910	17.8	5.84	230.8	15.11	AF

Comments (weather conditions, odor, color, silt, etc.): The weather was cloudy with temperatures in the 70s on 8/11/14 and partly cloudy with temperatures in the 80s on 8/12/14.

Fe2+: 0 mg/L, Dissolved CO2: 60 mg/L, DO: 4.44 mg/L, ORP: 115.8 mv

Signature: *Amelia Freeman* Date: 8/12/14

QA/QC Sign Off: *M L h t* Date: 9/12/14

DATE: 8/11-12/14



GROUND WATER SAMPLING LOG

Project Name: BUTNER, Granville Co. Project No./Task No.: 00660.1501.12.04

Well ID: 3902-MW-2R Sampler(s): A. Freeman / D. Girdner

Well Location: South side of fill, inside tree line and next to MW-3R

Well Diameter: 2 inches
Initial Depth to Water (DTW): 2.22 feet
Depth to Bottom (DTB): 18.85 feet
Water Column Thickness (WCT): 16.63 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 2.7 gallons
For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 8.1 gallons

Actual Amount Purged/Bailed: 7.4 gallons

Purged with: disposable bailer

Sampled with: disposable bailer

Depth to Water before Sampling: 2.21 feet

Gallons	Time	Temp. °C	pH	Cond. m.s.	Turb. ntu	Initials
0	1158	20.0	6.33	1507	4.61	AF
2.7	1201	17.4	6.08	1617	21.5	AF
5.4	1205	16.8	6.15	1563	26.4	AF
Dry @ 7.4						
	8/12/14					
Before Sampling	1158	18.0	6.36	1897	11.18	AF

Comments (weather conditions, odor, color, silt, etc.): The weather was partly cloudy with temperatures in the 80s on 8/11/14 and partly cloudy with temperatures in the 80s on 8/12/14.

Fe2+: 2.5 mg/L, Dissolved CO2: 390 mg/L, DO: 3.26 mg/L, ORP: -37.2 mv

Signature: *Amelia Freeman* Date: 8/12/14

QA/QC Sign Off: *My 2ht* Date: 9/12/14

DATE: 8/11-12/14



GROUND WATER SAMPLING LOG

Project Name: BUTNER, Granville Co. Project No./Task No.: 00660.1501.12.04

Well ID: 3902-MW-3R Sampler(s): D. Girdner / A. Freeman

Well Location: Next to MW-2R, inside tree line

Well Diameter: 2 inches
Initial Depth to Water (DTW): 2.48 feet
Depth to Bottom (DTB): 35.83 feet
Water Column Thickness (WCT): 33.35 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 5.4 gallons
For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 16.2 gallons

Actual Amount Purged/Bailed: 9.5 gallons

Purged with: disposable bailer

Sampled with: disposable bailer

Depth to Water before Sampling: 2.47 feet

Gallous	Time	Temp. °C	pH	Cond. m.s.	Turb. ntu	Initials
0	1155	18.3	8.35	1179	2.78	AF
5.4	1210	15.8	6.24	1278	37.4	AF
Dry @ 9.0						
	8/12/14					
Before Sampling	1140	19.2	6.96	1534	3.85	AF

Comments (weather conditions, odor, color, silt, etc.): The weather was partly cloudy with temperatures in the 80s on 8/11/14 and partly cloudy with temperatures in the 80s on 8/12/14.

Fe2+: 0 mg/L, Dissolved CO2: 185 mg/L, DO: 2.48 mg/L, ORP: 86.9 mv

Signature: *Amanda Freeman* Date: 8/12/14

QA/QC Sign Off: *MJ* Date: 9/12/14

DATE: 8/11-12/14



GROUND WATER SAMPLING LOG

Project Name: BUTNER, Granville Co. Project No./Task No.: 00660.1501.12.04

Well ID: 3902-MW-4 Sampler(s): D. Girdner / A. Freeman

Well Location: south of fill, just inside tree line

Well Diameter: 2 inches
Initial Depth to Water (DTW): 8.76 feet
Depth to Bottom (DTB): 31.43 feet
Water Column Thickness (WCT): 22.70 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 3.7 gallons
For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 11.2 gallons

Actual Amount Purged/Bailed: 4.6 gallons

Purged with: disposable bailer

Sampled with: disposable bailer

Depth to Water before Sampling: - feet

Gallons	Time	Temp. °C	pH	Cond. m.s.	Turb. ntu	Initials
0	1136	18.6	6.07	1235	7.33	AF
3.7	1138	16.9	6.07	1279	8.64	AF
Dry @ 4.6						
	8/12/14					
Before Sampling	1130	19.4	6.79	1413	6.27	AF

Comments (weather conditions, odor, color, silt, etc.): The weather was cloudy with temperatures in the 70s on 8/11/14 and partly cloudy with temperatures in the 80s on 8/12/14.

Signature: *Amanda Freeman* Date: 8/12/14
QA/QC Sign Off: *[Signature]* Date: 9/12/14

DATE: 8/11-12/14



GROUND WATER SAMPLING LOG

Project Name: BUTNER, Granville Co. Project No./Task No.: 00660.1501.12.04

Well ID: 3902-MW-5 Sampler(s): D. Girdner / A. Freeman

Well Location: South side of old SED. pond, Basin in the woods

Well Diameter: 2 inches
Initial Depth to Water (DTW): 14.80 feet
Depth to Bottom (DTB): 23.52 feet
Water Column Thickness (WCT): 8.72 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 1.4 gallons
For 4" Well: WCT X 0.653 = _____ gallons

For THREE Well Volumes: WV X 3 = 4.2 gallons

Actual Amount Purged/Bailed: 3.5 gallons

Purged with: disposable Bailer

Sampled with: disposable Bailer

Depth to Water before Sampling: 15.64 feet

Gallons	Time	Temp. °C	pH	Cond. m.s.	Turb. ntu	Initials
0	1116	16.1	6.50	701	75.5	AF
1.4	1119	15.8	6.76	622	178	AF
2.8	1121	15.6	6.36	547	>1000	AF
Dry @ 3.5						
	8/12/14					
Before Sampling	1120	16.8	7.00	522	8.51	AF

Comments (weather conditions, odor, color, silt, etc.): The weather was cloudy with temperatures in the 70s on 8/11/14 and partly cloudy with temperatures in the 80s on 8/12/14.

Signature: *Amanda Freeman* Date: 8/12/14

QA/QC Sign Off: *M. E. H.* Date: 8/12/14

DATE: 8/11-12/14



GROUND WATER SAMPLING LOG

Project Name: BUTNER, Granville Co. Project No./Task No.: 00660.1501.12.04

Well ID: 3902-MW-6 Sampler(s): D. Girdner / A. Freeman

Well Location: other side of large mulch pile

Well Diameter: 2 inches
Initial Depth to Water (DTW): 12.45 feet
Depth to Bottom (DTB): 32.63 feet
Water Column Thickness (WCT): 20.18 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 3.3 gallons
For 4" Well: WCT X 0.653 = gallons

For THREE Well Volumes: WV X 3 = 9.9 gallons

Actual Amount Purged/Bailed: 6.0 gallons

Purged with: disposable Bailer

Sampled with: disposable Bailer

Depth to Water before Sampling: 12.42 feet

Gallons	Time	Temp. °C	pH	Cond. m.s.	Turb. ntu	Initials
0	1051	16.6	6.15	626	5.64	AF
3.3	1054	15.9	6.17	630	6.12	AF
Dry @ 6.0						
	8/12/14					
Before Sampling	1030	17.2	6.48	565	5.29	AF

Comments (weather conditions, odor, color, silt, etc.): The weather was cloudy
with temperatures in the 70s on 8/11/14 and cloudy with temperatures in the 70s on
8/12/14.

Signature: Amanda Freeman Date: 8/12/14

QA/QC Sign Off: [Signature] Date: 9/12/14

DATE: 8/11-12/14



GROUND WATER SAMPLING LOG

Project Name: BUTNER, Granville Co. Project No./Task No.: 00660.1501.12.04

Well ID: 3902-NES-1 Sampler(s): D. Girdner / A. Freeman

Well Location: South of landfill, access through Wildlife Area hunt camp

Well Diameter: 2 inches
Initial Depth to Water (DTW): 17.47 feet
Depth to Bottom (DTB): 36.10 feet
Water Column Thickness (WCT): 18.63 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 3.0 gallons
For 4" Well: WCT X 0.653 = gallons

For THREE Well Volumes: WV X 3 = 9.0 gallons

Actual Amount Purged/Bailed: 9.0 gallons

Purged with: disposable bailer

Sampled with: disposable bailer

Depth to Water before Sampling: - feet

Gallons	Time	Temp. °C	pH	Cond. m.s.	Turb. ntu	Initials
0	1258	15.3	5.50	145.1	4.66	AF
3.0	1304	15.0	5.85	137.6	>1000	AF
6.0	1309	15.0	4.91	125.1	>1000	AF
9.0	1312	14.6	4.57	119.9	>1000	AF
	8/12/14					
Before Sampling	1258	16.0	5.59	172.6	5.41	AF

Comments (weather conditions, odor, color, silt, etc.): The weather was partly cloudy with temperatures in the 80s on 8/11/14 and partly cloudy with temperatures in the 80s on 8/12/14. The field blank was taken at 1515 on 8/12/14.

Fe2+: 0 mg/L, Dissolved CO2: 75 mg/L, DO: 2.80 mg/L

Signature: *Annalisa Freeman* Date: 8/12/14

QA/QC Sign Off: *[Signature]* Date: 9/12/14

DATE: 8/12/14



SURFACE WATER MONITORING LOG

Project Name: BUTNER, Granville Co. Project/Task No.: 00660.1501.12.04

Surface Point ID: 3902-SW-2 Sampler(s): D. Girdner / A. Freeman

Location: Down from MW-2R & MW-3R

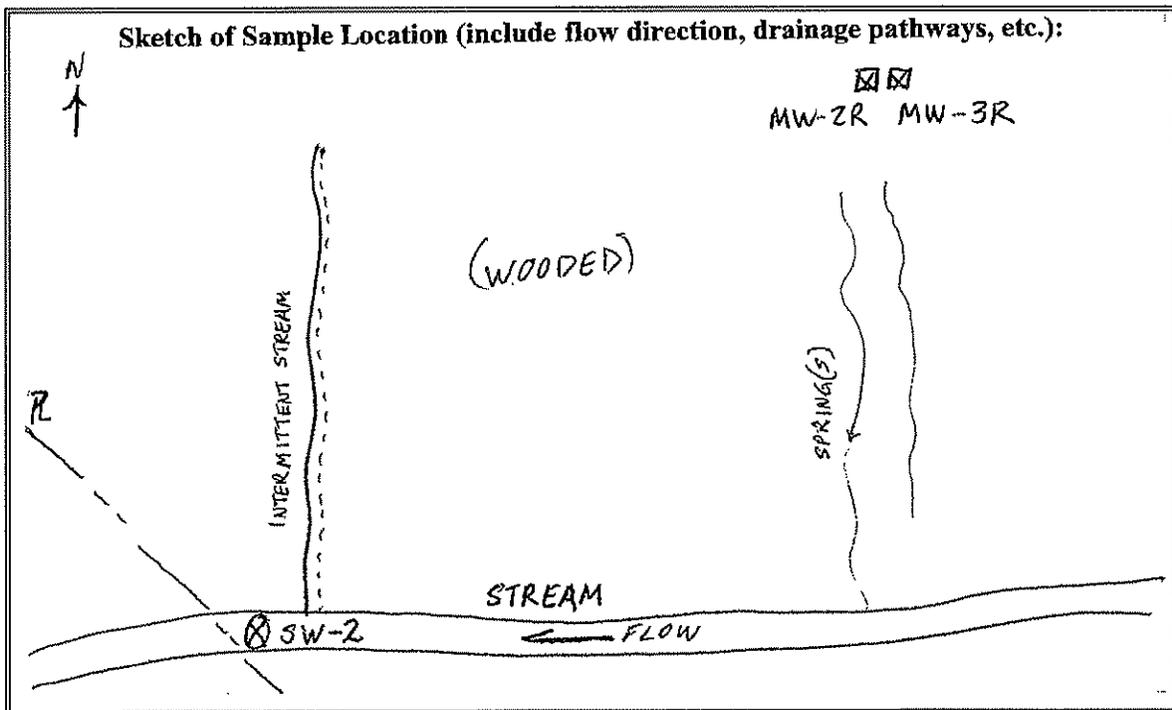
Field Parameters:

Time of Sampling:	<u>1430</u>	
pH:	<u>7.53</u>	
Temperature:	<u>19.8</u>	(°C)
Conductivity:	<u>1428</u>	(µS)
Turbidity:	<u>12.72</u>	(ntu)

Comments/Sample Description (weather conditions, odor, color, silt, etc.): _____

The weather was partly cloudy with temperatures in the 80s on 8/12/14.

DO: 4.38 mg/L, ORP: 56.5 RmV



Signature: *Amanda Freeman* Date: 8/12/14

QA/QC Sign Off: *M E A* Date: 9/12/14

Appendix B

Statistical Analysis Worksheets

JOYCE Project: **Granville County - Butner Landfill**
 Project No: **660.1501.12**
 Date: **12-Aug-14**

Analyte:	Antimony				Quantitation	
Sample No.	Sample Date	Location	Concentration (µg/L)	Notes	Limit (µg/L)	Sorted Concentration
1	8-Sep-94	MW-1R	ND		30	8.8
2	1-Dec-94	MW-1R	ND		30	30.0
3	9-Feb-95	MW-1R	ND		30	
4	2-Mar-95	MW-1R	ND		30	
5	15-Nov-95	MW-1R	ND		30	
6	28-May-96	MW-1R	ND		30	
7	22-Nov-96	MW-1R	ND		30	
8	17-Jun-97	MW-1R	ND		30	
9	1-Dec-97	MW-1R	ND		30	
10	20-May-98	MW-1R	ND		30	
11	19-Nov-98	MW-1R	ND		30	
12	21-Jul-99	MW-1R	ND		30	
13	16-Nov-99	MW-1R	ND		30	
14	10-May-00	MW-1R	ND		30	
15	26-Oct-00	MW-1R	30.0		30	
16	18-Apr-01	MW-1R	ND		30	
17	27-Oct-01	MW-1R	ND		30	
18	13-Jun-02	MW-1R	ND		30	
19	19-Nov-02	MW-1R	ND		30	
20	27-Jun-03	MW-1R	ND		30	
21	30-Dec-03	MW-1R	ND		30	
22	30-Jun-04	MW-1R	ND		30	
23	29-Dec-04	MW-1R	ND		30	
24	29-Jun-05	MW-1R	ND		30	
25	29-Dec-05	MW-1R	ND		30	
26	28-Jun-06	MW-1R	ND		30	
27	29-Dec-06	MW-1R	ND		6	
28	12-Jul-07	MW-1R	ND		6	
29	19-Dec-07	MW-1R	ND		6	
30	8-Jul-08	MW-1R	ND		6	
31	17-Dec-08	MW-1R	ND		6.0	
32	9-Jul-09	MW-1R	ND		6.0	
33	16-Dec-09	MW-1R	ND		6.0	
34	24-Jun-10	MW-1R	ND		6.0	
35	13-Dec-10	MW-1R	ND		6.0	
36	20-Jun-11	MW-1R	ND		6.0	
37	5-Dec-11	MW-1R	ND		6.0	
38	11-Jun-12	MW-1R	ND		6.0	
39	12-Dec-12	MW-1R	ND		6.0	
40	1-May-13	MW-1R	ND		6.0	
41	5-Aug-13	MW-1R	ND		6.0	
42	24-Feb-14	MW-1R	8.8		6.0	
43	12-Aug-14	MW-1R	ND		6.0	

Number of Data: 43
 Number of Truncated Data: 41
 Percentage of Truncated Data: 95%

Upper Poisson Prediction Limit: 59 µg/L

All concentrations in micrograms per liter (µg/L).
 ND - Not Detected (Truncated)

JOYCE Project: **Granville County - Butner Landfill**
 Project No: **660.1501.12**
 Task No: **41863**
 Date: **0-Jan-00**

Upper Poisson Prediction Limit

Analyte: **Antimony**

Background Data

Sample No.	Sample Date	Location	Concentration (µg/l)	Quantitation Limit (µg/l)	Half Quantitation Limit	Discrete Poisson Count
1	Sep-94	MW-1R	ND	30	15	150
2	Dec-94	MW-1R	ND	30	15	150
3	Feb-95	MW-1R	ND	30	15	150
4	Mar-95	MW-1R	ND	30	15	150
5	Nov-95	MW-1R	ND	30	15	150
6	May-96	MW-1R	ND	30	15	150
7	Nov-96	MW-1R	ND	30	15	150
8	Jun-97	MW-1R	ND	30	15	150
9	Dec-97	MW-1R	ND	30	15	150
10	May-98	MW-1R	ND	30	15	150
11	Nov-98	MW-1R	ND	30	15	150
12	Jul-99	MW-1R	ND	30	15	150
13	Nov-99	MW-1R	ND	30	15	150
14	May-00	MW-1R	ND	30	15	150
15	Oct-00	MW-1R	30	30	30	300
16	Apr-01	MW-1R	ND	30	15	150
17	Oct-01	MW-1R	ND	30	15	150
18	Jun-02	MW-1R	ND	30	15	150
19	Nov-02	MW-1R	ND	30	15	150
20	Jun-03	MW-1R	ND	30	15	150
21	Dec-03	MW-1R	ND	30	15	150
22	Jun-04	MW-1R	ND	30	15	150
23	Dec-04	MW-1R	ND	30	15	150
24	Jun-05	MW-1R	ND	30	15	150
25	Dec-05	MW-1R	ND	30	15	150
26	Jun-06	MW-1R	ND	30	15	150
27	Dec-06	MW-1R	ND	6	3	30
28	Jul-07	MW-1R	ND	6	3	30
29	Dec-07	MW-1R	ND	6	3	30
30	Dec-08	MW-1R	ND	6	3	30
31	Jul-09	MW-1R	ND	6	3	30
32	Dec-09	MW-1R	ND	6	3	30
33	Jun-10	MW-1R	ND	6	3	30
34	Dec-10	MW-1R	ND	6	3	30
35	Jun-11	MW-1R	ND	6	3	30
36	Dec-11	MW-1R	ND	6	3	30
37	Jun-12	MW-1R	ND	6	3	30
38	Dec-12	MW-1R	ND	6	3	30
39	May-13	MW-1R	ND	6	3	30
40	Aug-13	MW-1R	ND	6	3	30
41	Feb-14	MW-1R	8.8	6	8.8	88
42	Aug-14	MW-1R	ND	6	3	30

Poisson Discrete Distribution Adjustment Factor: 10

Note: All sample concentrations are micrograms per liter

Using the background data, the upper Poisson Prediction Limit, y^* , is determined by:

$$y^* = c y + [(t^2) c / 2] + t c [y (1 + (1/c)) + ((t^2) / 4)]^{0.5}$$

where:

- c = k / n
- y = Poisson count
- t = $t(n-1, 0.95)$, Student's t-distribution
- n-1 = degrees of freedom (number of samples - 1)
- k = number of downgradient samples per event
- .95 = confidence interval
- n = number of background samples

For:

- c = 0.119
- y = 4588
- t = 1.683
- k = 5
- n = 42

$y^* = 587.97$
Adjusted $y^* = 58.80$ µg/L

JOYCE Project: **Granville County - Butner Landfill**

Project No: 660.1501.12

Date: 12-Aug-14

Analyte: **Cobalt**

Sample No.	Sample Date	Location	Concentration	Sorted
1	Sep-94	MW-1R	ND	130
2	Dec-94	MW-1R	11	108
3	Feb-95	MW-1R	20	32.0
4	Mar-95	MW-1R	16	30.0
5	Nov-95	MW-1R	20	21.0
6	May-96	MW-1R	30	20.0
7	Nov-96	MW-1R	6	20.0
8	Jun-97	MW-1R	130	16.0
9	Dec-97	MW-1R	32	15.0
10	May-98	MW-1R	15	11.0
11	Nov-98	MW-1R	21	6.0
12	Jul-99	MW-1R	ND	
13	Nov-99	MW-1R	ND	
14	May-00	MW-1R	ND	
15	Oct-00	MW-1R	ND	
16	Apr-01	MW-1R	ND	
17	Oct-01	MW-1R	ND	
18	Jun-02	MW-1R	ND	
19	Nov-02	MW-1R	ND	
20	Jun-03	MW-1R	ND	
21	Dec-03	MW-1R	ND	
22	Jun-04	MW-1R	ND	
23	Dec-04	MW-1R	ND	
24	Jun-05	MW-1R	ND	
25	Dec-05	MW-1R	ND	
26	28-Jun-06	MW-1R	ND	
27	29-Dec-06	MW-1R	ND	
28	12-Jul-07	MW-1R	ND	
29	19-Dec-07	MW-1R	2.5	B
30	08-Jul-08	MW-1R	10.3	B
31	17-Dec-08	MW-1R	2.1	B
32	09-Jul-09	MW-1R	ND	
33	16-Dec-09	MW-1R	ND	
34	24-Jun-10	MW-1R	ND	
35	13-Dec-10	MW-1R	2.5	B
36	20-Jun-11	MW-1R	108	
37	05-Dec-11	MW-1R	ND	
38	11-Jun-12	MW-1R	ND	
39	12-Dec-12	MW-1R	ND	
40	01-May-13	MW-1R	ND	
41	08-May-13	MW-1R	ND	
42	24-Feb-14	MW-1R	ND	
43	12-Aug-14	MW-1R	ND	

Number of Samples: 39
 Number of truncated data (ND): 29
 Percent Truncated: 74%

Non-parametric Prediction Limit: 130 µg/L

Notes:

All concentrations in micrograms per liter (µg/L).

J = Estimated value below RL (included in statistical calculations).

B = Blank-qualified data (excluded from statistical calculations).

ND = Not Detected (Truncated).

Appendix C

BIOSCREEN Input & Output

Butner Landfill - BioScreen Input (August 2014 Sampling Event)

BIOSCREEN Natural Attenuation Decision Support System

Air Force Center for Environmental Excellence

Version 1.4

Butner Landfill
Granville County
Run Name

Data Input Instructions:

- 1. Enter value directly...or
- 2. Calculate by filling in grey cells below. (To restore formulas, hit button below).
- Variable* → Data used directly in model.
- Value calculated by model. (Don't enter any data).

1. HYDROGEOLOGY

Seepage Velocity*	Vs	<input type="text" value="6.6"/>	(ft/yr)
		<input type="text" value="↑"/> or	
Hydraulic Conductivity	K	<input type="text" value="2.2E-05"/>	(cm/sec)
Hydraulic Gradient	i	<input type="text" value="0.0526"/>	(ft/ft)
Porosity	n	<input type="text" value="0.18"/>	(-)

2. DISPERSION

Longitudinal Dispersivity*	alpha x	<input type="text" value="21.0"/>	(ft)
Transverse Dispersivity*	alpha y	<input type="text" value="2.1"/>	(ft)
Vertical Dispersivity*	alpha z	<input type="text" value="0.0"/>	(ft)
		<input type="text" value="↑"/> or	
Estimated Plume Length	Lp	<input type="text" value="700"/>	(ft)

3. ADSORPTION

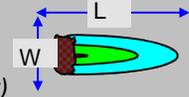
Retardation Factor*	R	<input type="text" value="1.0"/>	(-)
		<input type="text" value="↑"/> or	
Soil Bulk Density	rho	<input type="text" value="1.7"/>	(kg/l)
Partition Coefficient	Koc	<input type="text" value="2.13"/>	(L/kg)
Fraction Organic Carbon	foc	<input type="text" value="5.7E-5"/>	(-)

4. BIODEGRADATION

1st Order Decay Coeff*	lambda	<input type="text" value="4.6E+0"/>	(per yr)
		<input type="text" value="↑"/> or	
Solute Half-Life	t-half	<input type="text" value="0.15"/>	(year)
or Instantaneous Reaction Model			
Delta Oxygen*	DO	<input type="text" value="-1.18"/>	(mg/L)
Delta Nitrate*	NO3	<input type="text" value="-1.15"/>	(mg/L)
Observed Ferrous Iron*	Fe2+	<input type="text" value="1"/>	(mg/L)
Delta Sulfate*	SO4	<input type="text" value="0.12"/>	(mg/L)
Observed Methane*	CH4	<input type="text" value="1.29"/>	(mg/L)

5. GENERAL

Modeled Area Length*	<input type="text" value="1200"/>	(ft)
Modeled Area Width*	<input type="text" value="2000"/>	(ft)
Simulation Time*	<input type="text" value="7"/>	(yr)



6. SOURCE DATA

Source Thickness in Sat.Zone* (ft)

Source Zones:

Width* (ft)	Conc. (mg/L)*
1000	0
500	0.0010
0	0.0020
500	0.0010
1000	0

Source Halflife (see Help):

<input type="text" value="<1"/>	<input type="text" value=">1000"/>	(yr)
Inst. React. <input type="text" value="↑"/>	<input type="text" value="↑"/>	1st Order
Soluble Mass	<input type="text" value="1"/>	(Kg)

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)	<input type="text" value="0.0017"/>	<input type="text" value="0.0000"/>	<input type="text" value="0.0000"/>	<input type="text" value=""/>						
Dist. from Source (ft)	<input type="text" value="270"/>	<input type="text" value="800"/>	<input type="text" value="1060"/>	<input type="text" value=""/>						

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN

View Output

RUN ARRAY

View Output

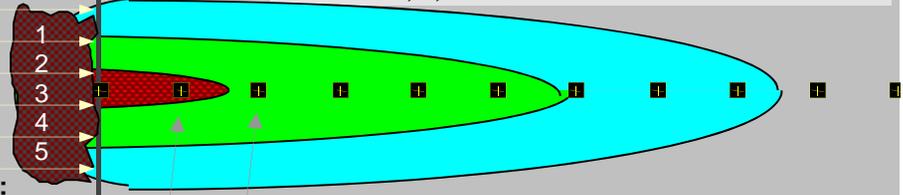
Help

Recalculate

Paste Example Dataset

Restore Formulas for Vs,

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

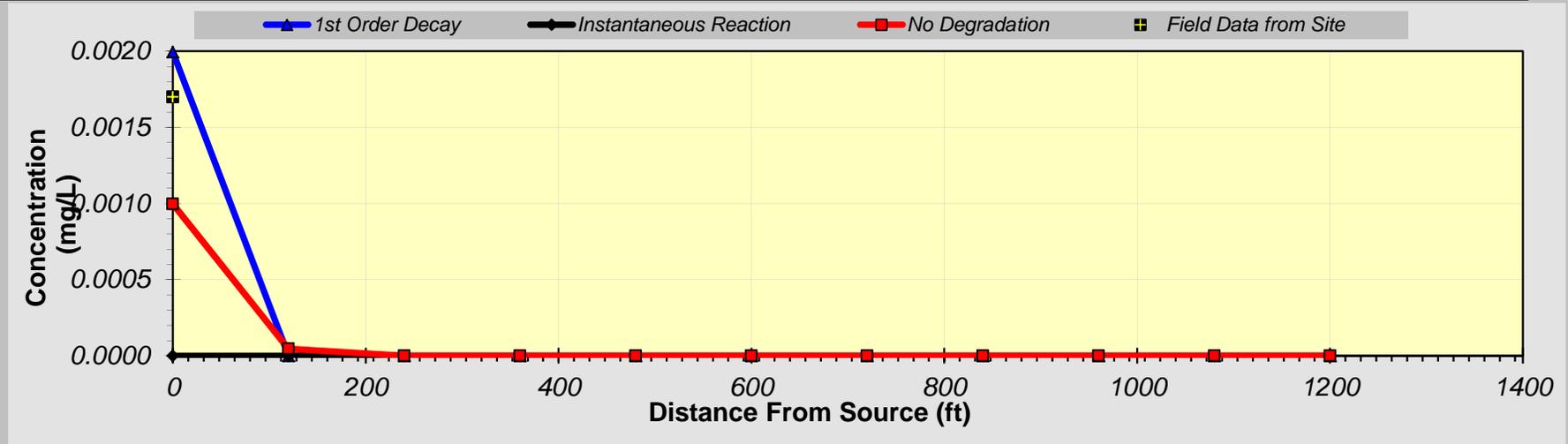
Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

Butner Landfill - BioScreen Output - Centerline (August 2014 Sampling Event)

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

Distance from Source (ft)

TYPE OF MODEL	0	120	240	360	480	600	720	840	960	1080	1200
No Degradation	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1st Order Decay	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Inst. Reaction	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Field Data from Site	0.0017										



Calculate

Time:

7 Years

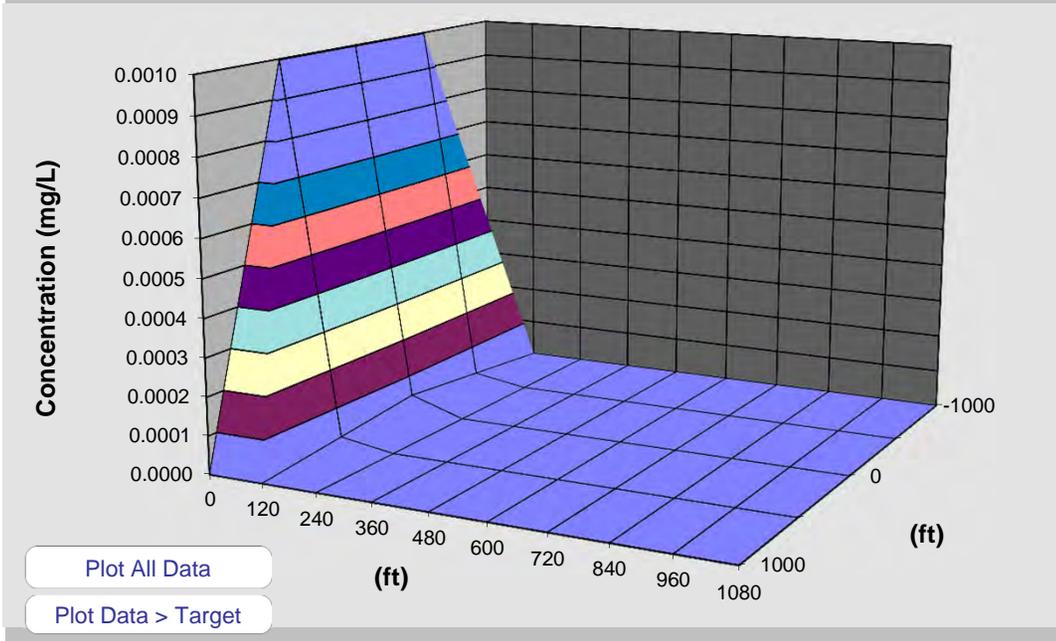
Return to

Recalculate This

Butner Landfill - BioScreen Output - No Degradation

Transverse Distance (ft)	DISSOLVED HYDROCARBON CONCENTRATIONS IN PLUME (mg/L at Z=0)											Model to Display:
↓	Distance from Source (ft)											
	0	120	240	360	480	600	720	840	960	1080	1200	
1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	<input type="button" value="No Degradation"/>
500	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	<input type="button" value="1st Order Decay"/>
0	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
-500	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
-1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	<input type="button" value="Instantaneous"/>
MASS FLUX (mg/day)	9.2E-1	4.3E-2	4.8E-6	4.4E-13	0.0E+0							

Time:
 Target Level: mg/L
 Displayed Model:



Plume and Source Masses (Order-of-Magnitude Accuracy)

Plume Mass if No Biodegradation (Kg)

- Actual Plume Mass (Kg)

= Plume Mass Removed by Biodeg (Kg)

Change in Electron Acceptor/Byproduct Masses:

Oxygen	Nitrate	Iron II	Sulfate	Methane	
na	na	na	na	na	(Kg)

Contam. Mass in Source (t=0 Years) (Kg)

Contam. Mass in Source Now (t=7Years) (Kg)

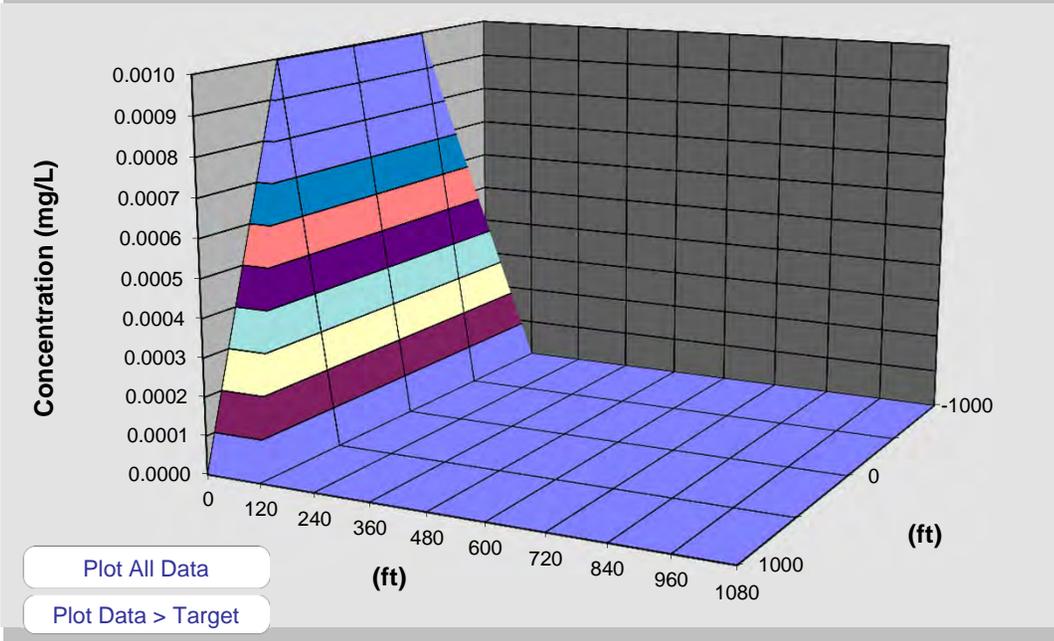
Current Volume of Groundwater in Plume (ac-ft)

Flowrate of Water Through Source Zone (ac-ft/yr)

Butner Landfill - BioScreen Output - 1st Order Decay

Transverse Distance (ft)	DISSOLVED HYDROCARBON CONCENTRATIONS IN PLUME (mg/L at Z=0)											Model to Display:
↓	Distance from Source (ft)											
	0	120	240	360	480	600	720	840	960	1080	1200	
1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	<input type="button" value="No Degradation"/>
500	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	<input type="button" value="1st Order Decay"/>
0	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
-500	0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
-1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	<input type="button" value="Instantaneous"/>
MASS FLUX (mg/day)	9.2E-1	4.0E-9	1.7E-17	3.4E-26	0.0E+0							

Time:
 Target Level: mg/L
 Displayed Model:



Plume and Source Masses (Order-of-Magnitude Accuracy)

Plume Mass if No Biodegradation	<input style="width: 80px;" type="text" value="Can't Calc."/>	(Kg)				
- Actual Plume Mass	<input style="width: 80px;" type="text" value="Can't Calc."/>	(Kg)				
= Plume Mass Removed by Biodeg						
	<input style="width: 80px;" type="text" value="-"/>	(Kg)				
Change in Electron Acceptor/Byproduct Masses:						
Oxygen	Nitrate	Iron II	Sulfate	Methane		
na	na	na	na	na	(Kg)	
Contam. Mass in Source (t=0 Years)					<input style="width: 80px;" type="text" value="1.0"/>	(Kg)
Contam. Mass in Source Now (t=7Years)					<input style="width: 80px;" type="text" value="1.0"/>	(Kg)
Current Volume of Groundwater in Plume					<input style="width: 80px;" type="text" value="Can't Calc."/>	(ac-ft)
Flowrate of Water Through Source Zone					<input style="width: 80px;" type="text" value="Can't Calc."/>	(ac-ft/yr)