FLORIDA DEPARTMENT OF HEALTH

Florida Onsite Sewage Nitrogen Reduction Strategies Study

Task C.25

C-HS3 Monitoring Data Summary Report No. 2

Progress Report

January 2013

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In association with

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AET
Applied Environmental Technology

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Florida Onsite Sewage Nitrogen Reduction Strategies Study

TASK C.25
PROGRESS REPORT

C-HS3 Monitoring
Data Summary Report No. 2

Prepared for:

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Division of Disease Control and Health Protection
Bureau of Environmental Health
Onsite Sewage Programs
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C-HS3 Monitoring
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1.0 Background

Task C of the Florida Onsite Sewage Nitrogen Reduction Strategies Study includes monitoring at field sites in Florida to evaluate nitrogen reduction in soil and groundwater, to assess groundwater impacts from various onsite wastewater systems, and to provide data for parameter estimation, verification, and validation of models developed in Task D. The Task C.5 QAPP documents the objectives, monitoring framework, sample frequency and duration, and analytical methods to be used at the field sites. The Task C.23 instrumentation report for the C-HS3 OSTDS system and plume documents the test area design, number and location of monitoring points, and preliminary field parameters from monitoring points for this Polk County, Florida field site, and also includes preliminary sample collection and analyses.

2.0 Purpose

This report documents data that was collected in the second C-HS3 monitoring and sampling event which was conducted November 26 through November 30, 2012. The corresponding sample event report was submitted as C-HS3 Sample Event Report No. 2, December 2012, as a deliverable under Task C.24. The monitoring event consisted of water use measurement from the household water meter, groundwater elevation measured within the standpipe piezometers, measurement of field parameters, and collection of effluent and groundwater samples and their analyses in a NELAC certified laboratory.

3.0 Materials and Methods

3.1 Project Site

The C-HS3 field site is located in Polk County, FL adjacent to Big Gum Lake in a rural area surrounded by commercial orange groves. The onsite sewage treatment and disposal system (OSTDS) for the residence consists of an old 750 gallon single compartment septic tank with most likely no outlet filter, and it is unknown whether an outlet tee is present. The septic tank is located adjacent to the soil treatment unit, which is a gravity fed standard bed drainfield, 10 ft by 20 ft in area.

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3.2 Monitoring and Sampling Locations and Identification

A sampling grid for groundwater screening was developed downgradient of the soil treatment unit as depicted in Figure 1. A 6-foot by 5-foot grid spacing was staked. Transect lines A through U run east-west, roughly perpendicular to the groundwater flow direction and increase (higher letter identification) moving northward from the drainfield. Transect lines 0 through 7 run north-south, roughly parallel to the groundwater flow direction and increase moving from the east to west. Based on initial screening data, 22 monitoring locations were chosen within the grid for standpipe piezometer installation. Groundwater monitoring points were installed on June 2012. One type of monitoring point was installed using either hand or drilling methods (standpipe piezometer). Standpipe piezometers consist of either ¾-inch or 1-inch diameter PVC with a 1-foot or 5-foot screen (0.010-inch slots) and riser extending to the ground surface (refer to the Task C QAPP and Task C.23 C-HS3 Instrumentation Report for additional detail).

Each monitoring location was assigned a unique identification indicating grid location (self explanatory), and depth below ground surface (bottom of the well screen in feet). For example A03-15 is a standpipe piezometer sampler located on the grid at A03 at 15 feet below ground surface. A schematic of the C-HS3 monitoring network is shown in Figure 1. A complete list of all installed standpipe piezometers and sample identification is included in Appendix A.

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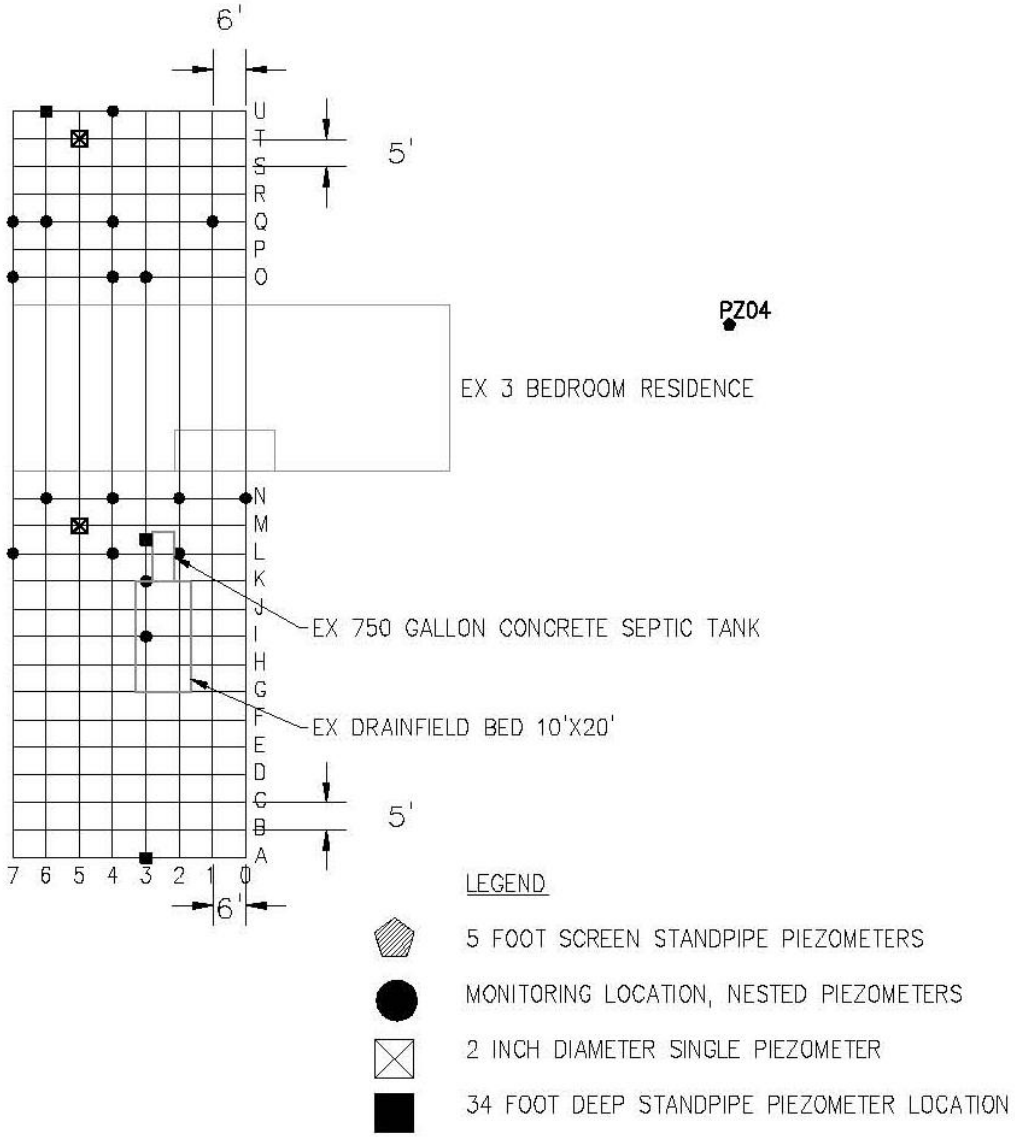

Figure 1
C-HS3 Monitoring Network

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3.3 Operational Monitoring

A water meter for the house site was installed October 30, 2012. The water meter for the house site was read and recorded. A weather station (Ben Hill Griffin Elementary School in Frostproof, FL) is located approximately 17 miles from the site. Data from this weather station is available at the following website: http://fawn.ifas.ufl.edu/.

3.4 Soil Characteristics

Continuous soil samples were collected using the direct push method at grid locations ML0 and O03 during the groundwater monitoring network instrumentation. Soil samples were collected using hand methods at locations PZ01 and PZ03. The soil descriptions are provided in Appendix B, Table B.1. The soil samples were submitted to the University of Florida IFAS Analytical Services Laboratory and University of Florida SWS Mineralogy Core Laboratory for analysis. The soil samples were analyzed for particle size distribution (see Table B.2), pH, organic matter, cation exchange capacity (CEC), ammonia, nitrate, TKN, phosphorus, potassium, calcium, magnesium, and sodium concentrations (see Table B.3). The complete soil data set is included in Appendix B.

3.5 Groundwater Elevation Measurements

Groundwater level measurements are used to determine hydraulic gradients and directions of groundwater flow. Groundwater levels were measured by inserting into monitoring wells a hand-cranked steel tape graduated in feet, to the nearest 0.01 ft. These measurements are then converted to groundwater surface elevations by using the surveyed elevation of the top of the monitoring well casing. The groundwater level within all the sampled standpipe piezometers was measured for this sampling event.

3.6 Water Quality Sample Collection and Analyses

Groundwater and septic tank effluent (STE samples) were collected November 26 through November 30, 2012 for water quality analysis. A sample was collected from the septic tank to represent the effluent delivered to the drainfield. A peristaltic pump was used to collect STE directly into the analysis-specific containers. Groundwater samples were obtained using a peristaltic pump, which was attached directly to dedicated standpipe piezometer tubing. Samples were collected after sufficient purging (the sample was clear and pH and conductivity readings had stabilized) had occurred. Field parameters were then recorded.

The analysis-specific containers were supplied by the analytical laboratory and contained appropriate preservatives. The analysis-specific containers were labeled, placed in coolers and transported on ice to the analytical laboratory. Each sample container was secured in packing material as appropriate to prevent damage and spills, and was rec-

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orded on chain-of-custody forms supplied by the laboratory. Chain of custody forms were used to document the transfer of samples from field personnel to the analytical laboratory.

In addition, field sample duplicates were collected immediately subsequent to the regular samples. The field duplicate samples taken include:

- C-HS3-STE
- C-HS3-PZ-03A-17
- C-HS3-PZ-03ML-17
- C-HS3-PZ-04N-15
- C-HS3-PZ-04O-17
- C-HS3-PZ-06Q-15
- C-HS3-PZ-06U-14

Field parameters (pH, specific conductance, temperature (Temp), and dissolved oxygen (DO)) were measured using portable electronic probes with probe tips placed in an overflowing plastic beaker as groundwater was being pumped. All samples were analyzed by the laboratory for: total alkalinity, total Kjeldahl nitrogen (TKN-N), ammonia nitrogen (NH_3-N), nitrate/nitrite nitrogen (NO_X-N), and chloride (CL). At some of the locations, chemical oxygen demand (COD), total phosphorus (TP), anions, cations, total organic carbon (TOC), dissolved organic carbon (DOC) and sucralose were included. Additionally, for the STE sample, carbonaceous biological oxygen demand ($CBOD_5$), total solids (TS), total suspended solids (TSS), and fecal coliform (fecal) were included. All analyses were performed by an independent and fully certified analytical laboratory (Southern Analytical Laboratory and FDEP). Table 1 lists the analytical parameters, analytical methods, and detection limits for these analyses.

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Table 1
Analytical Parameters, Method of Analysis, and Detection Limits

Analytical Parameter	Method of Analysis	Method Detection Limit (mg/L)
Total Alkalinity as $CaCO_3$	SM 2320B	2 mg/L
Chemical Oxygen Demand (COD)	EPA 410.4	10 mg/L
Carbonaceous BOD ($CBOD_5$)	SM 5210B	2 mg/L
Total Kjeldahl Nitrogen (TKN-N)	EPA 351.2	0.05 mg/L
Ammonia Nitrogen (NH_3-N)	EPA 350.1	0.005 mg/L
Nitrate/Nitrite Nitrogen (NO_X-N)	EPA 300.0	0.02 mg/L
Total Phosphorus	SM 4500P-E	0.01 mg/L
Dissolved Organic Carbon (DOC)	SM 5310B	0.5 mg/L
Total Organic Carbon (TOC)	SM 5310B	0.5 mg/L
Total Solids (TS)	EPA 160.3	0.01% by wt
Total Suspended Solids (TSS)	SM 2540D	1 mg/L
Fecal Coliform (fecal)	SM9222D	1 ct/100mL
Anions		
Fluoride	EPA 300.0	0.01 mg/L
Chloride	EPA 300.0	0.05 mg/L
Nitrate-N	EPA 300.0	0.01 mg/L
Nitrite-N	EPA 300.0	0.01 mg/L
Orthophosphate-P	EPA 300.0	0.01 mg/L
Sulfate	EPA 300.0	0.20 mg/L
Cations		
Boron	EPA 200.7	0.05 mg/L
Calcium	EPA 200.7	0.01 mg/L
Iron	EPA 200.7	0.02 mg/L
Magnesium	EPA 200.7	0.01 mg/L
Manganese	EPA 200.7	0.001 mg/L
Potassium	EPA 200.7	0.01 mg/L
Sodium	EPA 200.7	0.01 mg/L
Sucralose	EPA 8321B	0.01 µg/L

3.7 Data Management

To allow for a better visualization of the data collected at the site the mapping program **Surfer** was utilized. **Surfer** is a grid-based mapping program that interpolates irregularly spaced XYZ data into a regularly spaced grid. Although there are several methods used in Surfer to fill in areas where data is missing, the “natural neighbor” gridding method was used as the output gave the most informative graphs.

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4.0 Results

4.1 Operational Data and Site Conditions

Table 2 summarizes the water meter readings and average daily water use for the residence at site C-HS3.

Table 2
Water Meter Readings and Water Usage for C-HS3

Residence	Date and Time Read	Meter Reading	Gallons/day
C-HS3 Residence	10/30/12 10:00	6,358.20	
	11/26/12 9:00	8,800.91	90.61

Daily recorded meteorological data is provided in Appendix C. Table 3 provides the daily averages leading up to and during the sample event.

Table 3
Meteorological Data Daily Averages Measured November 26 through November 30, 2012

Date	Temp Avg 60 cm (°F)	Temp Avg 2m (°F)	Temp Avg 10 m (°F)	Temp Soil Avg -10 cm (°F)	Dewpoint Avg 2m (°F)	Relative Humidity Avg 2m (%)	Rain Total 2m (in)	2m Rain max over 15min (in)	10m Wind avg (mph)
24-Nov-12	59.27	59.70	60.05	67.89	51.68	77	0	0	6.21
25-Nov-12	56.18	56.84	57.94	67.44	43.19	65	0	0	5.22
26-Nov-12	63.01	63.26	63.38	67.73	55.74	79	0	0	4.67
27-Nov-12	67.31	67.85	68.37	69.63	62.09	84	0.02	0.02	4.54
28-Nov-12	62.91	63.30	63.39	69.62	59.38	88	0.01	0.01	6.71
29-Nov-12	62.96	63.00	62.30	69.24	56.71	82	0	0	8.51
30-Nov-12	65.33	65.69	65.30	69.77	56.82	76	0	0	7.87

4.2 Groundwater Levels

Water levels were measured within the standpipe piezometers on November 26 for this sampling event as summarized in Table 4. Figures 2 and 3 illustrate the surficial groundwater contours as measured within the standpipe piezometers on August 28, 2012 (Figure 2) and November 26, 2012 (Figure 3) during each of the sample events. A

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summary of all recorded groundwater elevations taken at the standpipe piezometers is presented in Appendix D. As depicted, the groundwater elevations have been found to fluctuate due to periods of dry weather and/or heavy precipitation. For example, the August contours (SE No. 1) were during the rainy season and in a week where over 5 inches of rain fell in the area, whereas the November contours (SE No. 2) were during a week of very low rainfall, and a period of less than 0.10 inches of rain in the preceding 30 days.

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Table 4
Standpipe Piezometer Groundwater Levels November 26, 2012

Identification	Water Table El[1] (ft)	Identification	Water Table El[1] (ft)
PZ01	95.33	PZ-04N-21	95.14
PZ02	94.78	PZ-06N-15	95.11
PZ03	93.97	PZ-06N-17	95.10
PZ04	95.07	PZ-06N-21	95.10
PZ05	94.76	PZ-03O-15	95.03
PZ-03A-15	95.27	PZ-03O-17	95.02
PZ-03A-17	95.27	PZ-03O-21	95.03
PZ-03A-21	95.27	PZ-04O-15	95.02
PZ-03A-34	95.21	PZ-04O-17	95.04
PZ-03I-15	95.18	PZ-04O-21	95.06
PZ-03I-17	95.17	PZ-07O-15	95.01
PZ-03I-21	95.23	PZ-07O-17	94.87[2]
PZ-03K-15	95.56	PZ-07O-20	95.00
PZ-03K-17	95.57	PZ-01Q-13	94.99
PZ-03K-21	95.61	PZ-01Q-15	95.00
PZ-02L-15	95.12	PZ-01Q-19	94.99
PZ-02L-17	95.12	PZ-04Q-13	94.99
PZ-02L-21	95.14	PZ-04Q-15	94.99
PZ-04L-15	95.13	PZ-04Q-19	95.00
PZ-04L-17	95.14	PZ-06Q-13	94.98
PZ-04L-21	95.14	PZ-06Q-15	94.99
PZ-07L-15	95.12	PZ-06Q-19	94.94
PZ-07L-17	95.12	PZ-07Q-13	95.01
PZ-07L-21	95.13	PZ-07Q-15	94.99
PZ-03ML-15	95.13	PZ-07Q-19	95.02
PZ-03ML-17	95.18	PZ-04U-12	94.96
PZ-03ML-21	95.13	PZ-04U-14	94.96
PZ-00N-15	95.12	PZ-04U-18	94.96
PZ-00N-17	95.13	PZ-06U-12	94.95
PZ-00N-21	95.12	PZ-06U-14	94.93
PZ-04N-15	95.12	PZ-06U-34	94.99
PZ-04N-17	95.12	Staff gauge	94.82

[1]Elevation above mean sea level based on NGVD 1929
[2]Most likely erroneous instrument reading

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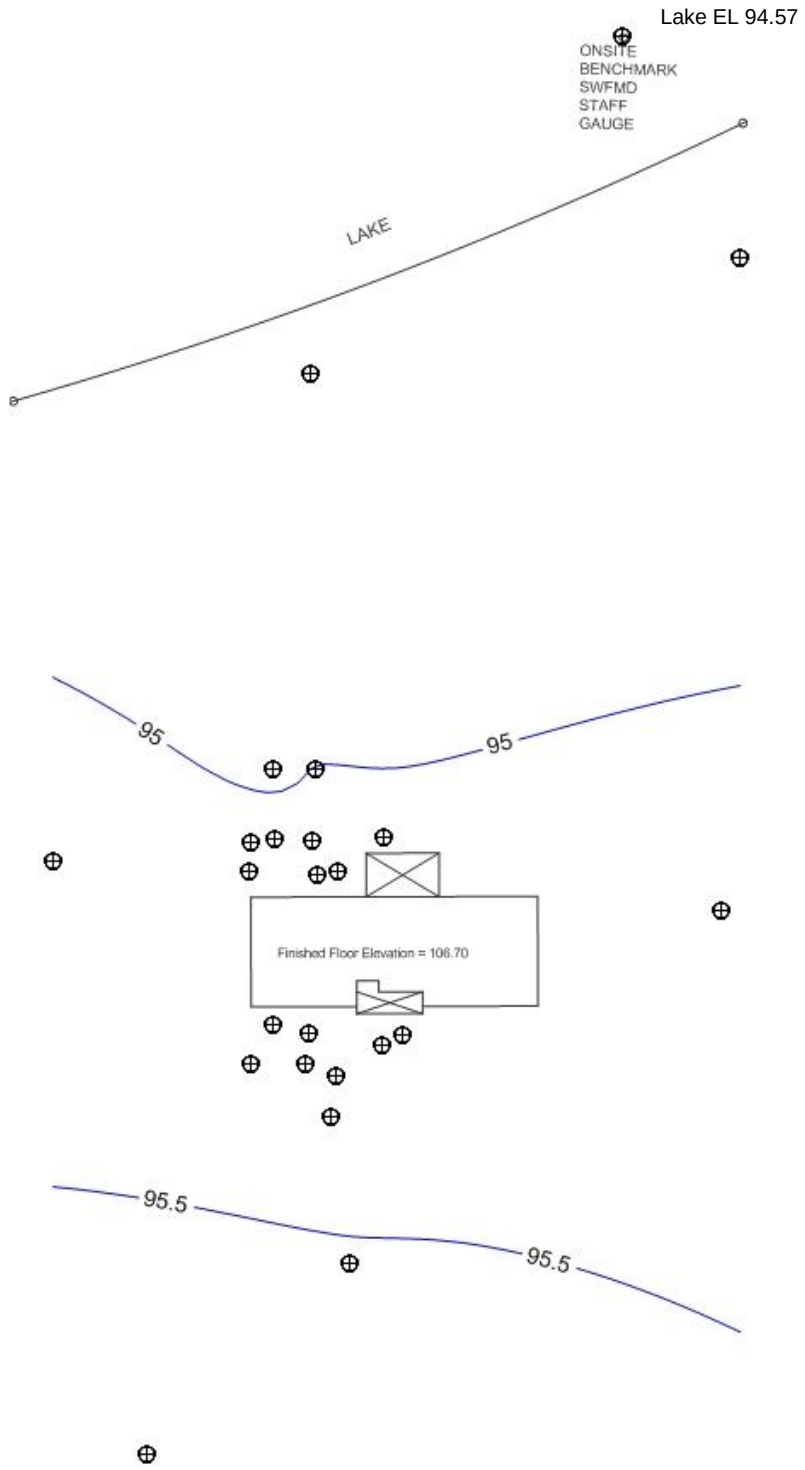

Figure 2
Surficial Groundwater Contours August 28, 2012

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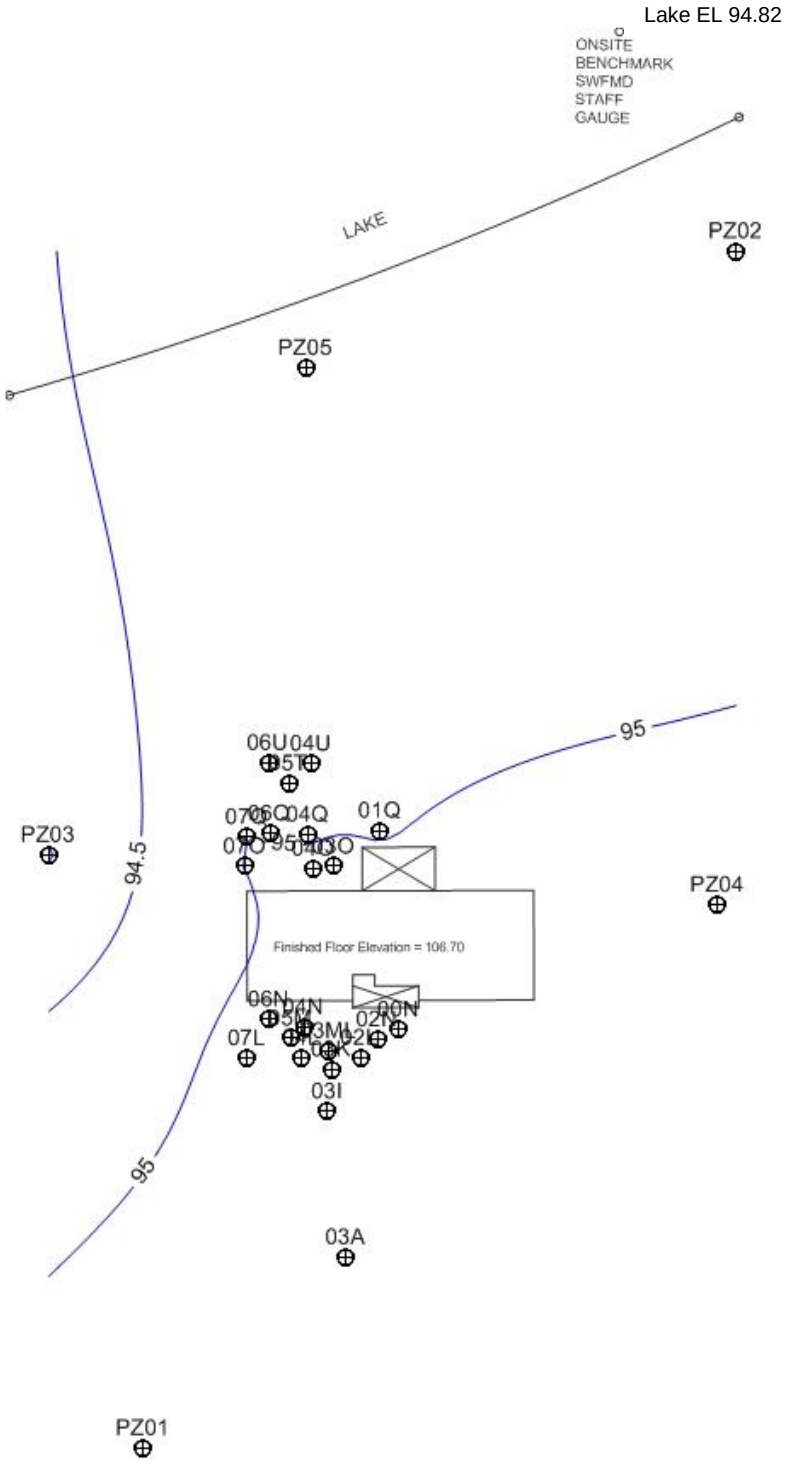

Figure 3
Surficial Groundwater Contours November 26, 2012

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4.3 Water Quality Analyses

4.3.1 Field Parameters

Field parameters (temperature, pH, dissolved oxygen (DO), and specific conductivity) were measured at all the sampling locations prior to sample collection and are provided in Appendix E. Variations in measured values between monitoring points were expected as the chemical composition of the groundwater varied due to the discharge of STE.

4.3.2 Correlations

Correlations between nitrogen parameters were investigated to determine if simple to measure field parameters could continue to be used to locate contaminant plumes. Figures 4 and 5 show scatter plots of nitrogen vs conductivity and chloride, respectively, for groundwater samples. The graphs show that increasing groundwater conductivity and chloride is generally associated with increased groundwater nitrogen concentrations. A stronger linear correlation is observed for conductivity (Figure 4).

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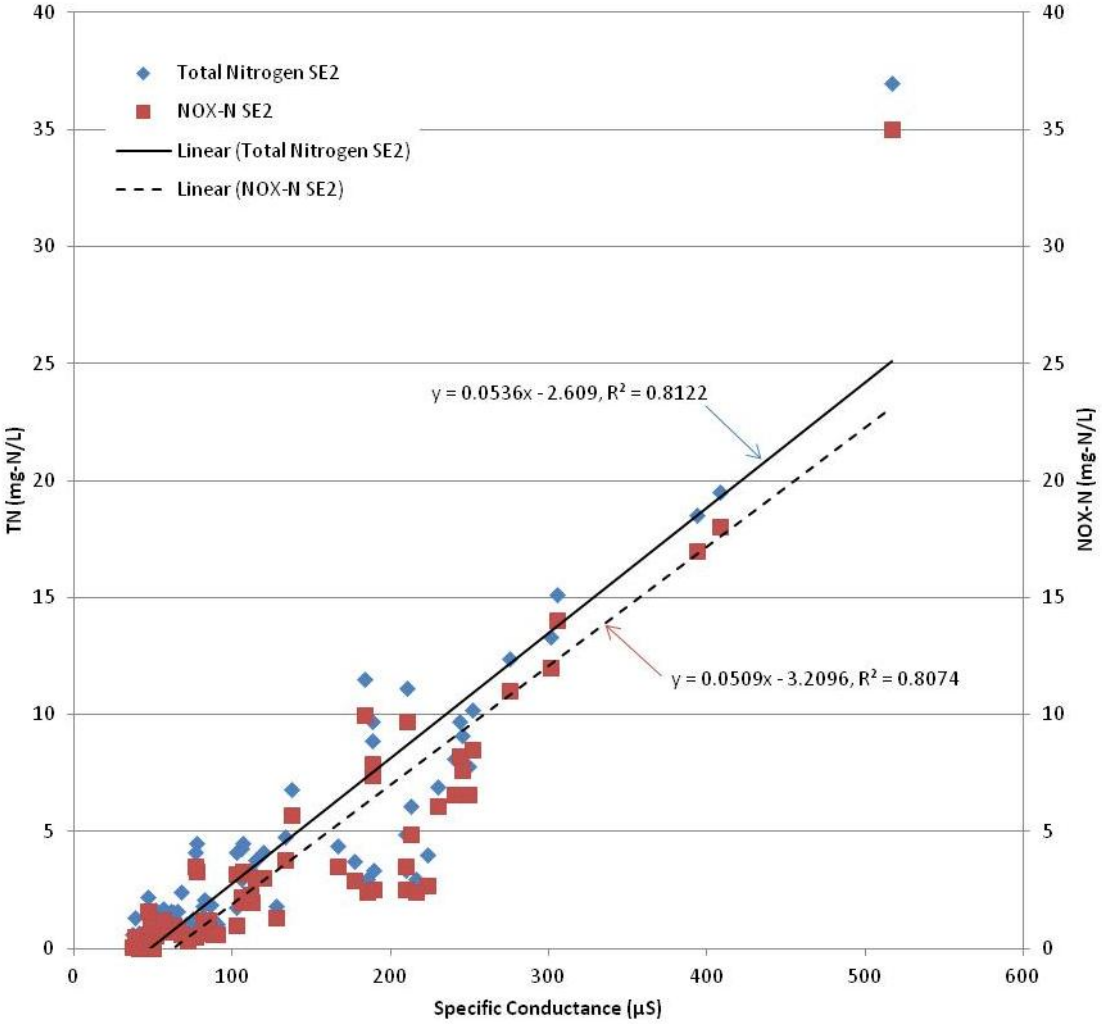

Figure 4
Correlation Between the Specific Conductance (uS) and the Concentrations of Total Nitrogen (mg-N/L) and NOX (mg-N/L)

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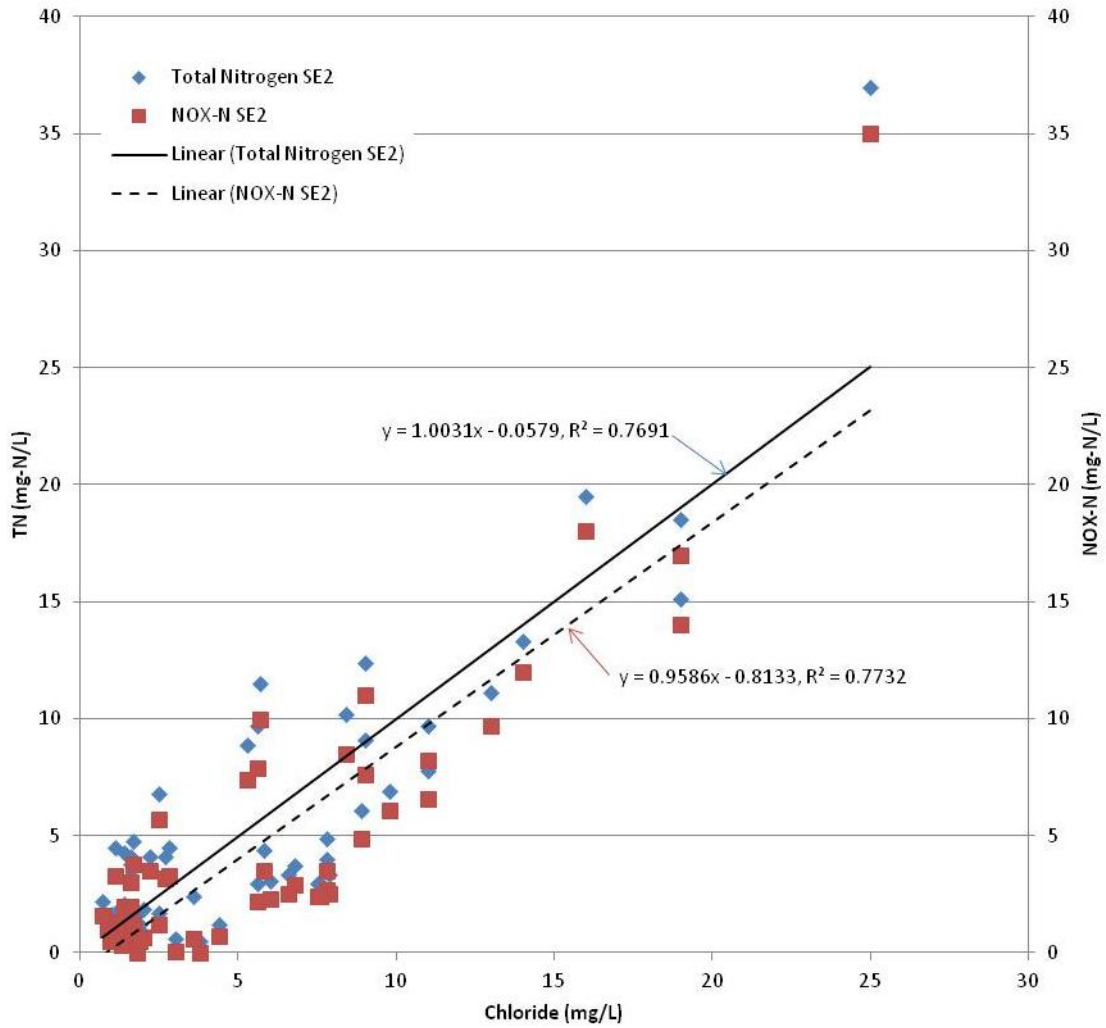

Figure 5
Correlation Between Chloride (mg/L) and
the Concentrations of Total Nitrogen (mg-N/L) and NOX (mg-N/L)

4.3.3 Analytical Parameters

In addition to measuring field parameters, all samples were analyzed for total alkalinity (as $CaCO_3$), total Kjeldahl nitrogen (TKN-N), ammonia nitrogen (NH3-N), nitrate/nitrite nitrogen (NOX-N), and chloride (CL). At some of the locations, chemical oxygen demand (COD), total phosphorus (TP), anions, cations, total organic carbon (TOC) and dissolved organic carbon (DOC) were included. Additionally, for the STE sample, carbo-

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naceous biological oxygen demand ($CBOD_5$), total solids (TS), total suspended solids (TSS), and fecal coliform (fecal) were included. By analyzing for the different nitrogen species, a clearer picture is gained on the transformation of nitrogen within the plume. The complete water quality analytical results for Sample Event No. 2 are listed in Table E.1 of Appendix E. The summary of the water quality is presented in Table F.1 of Appendix F. The laboratory report containing the raw analytical data is included in Appendix G.

4.3.4 Nitrate/Nitrite Concentrations with Groundwater Depth

The general trend of the nitrogen plume at the site can be determined with the data collected to date. The 65 piezometers installed at different locations and depths below the ground surface were mapped in **Surfer**. Although **Surfer** is an informative tool for mapping the information from the site, it cannot project a 3-dimensional view of concentrations with depth. The concentrations of NOX at all locations where groundwater samples were obtained are illustrated in Figures 6, 7, 8, and 9. Based on the distribution of points with depth, three "slices" were chosen for the groundwater data surrounding the system. The three slices were separated by elevation above sea level (NGVD29 datum). A **Surfer** schematic illustrating the "slices" of NOX concentration with depth from November 2012 are presented in Figures 6 through 8. The maps show contours of the concentrations as estimated using the "natural neighbor" gridding method in **Surfer™**. This method was used because it did not extend results past data points, as was noted on previous project results. In addition, Figure 9 presents the contours of the concentrations for the shallow piezometers across the site (including the background piezometers).

The shallow piezometer NOX results near the system (Figure 6) appear to show the plume to be confined in a northwesterly direction from the drainfield. The middle piezometers (Figure 7) again seem to indicate a high NOX concentration northwest of the system, downgradient from the house. This cannot be explained at this time and will be investigated further in subsequent monitoring events; however the **Surfer** plot is basing the high concentration at location 06U on the NOX results from only one data point, the PZ-06U-14 middle piezometer sample. The deeper piezometers (Figure 8) indicate relatively low NOX concentrations at this point in time, similar to background levels.

Similar slices of specific conductivity concentration with depth were created. The maps showed very similar trends as the NOX concentrations. For comparative purposes, Figure 10 presents the contours of the concentrations for the shallow piezometers across the site (including the background piezometers), and shows a plume similar to the shallow NOX data.

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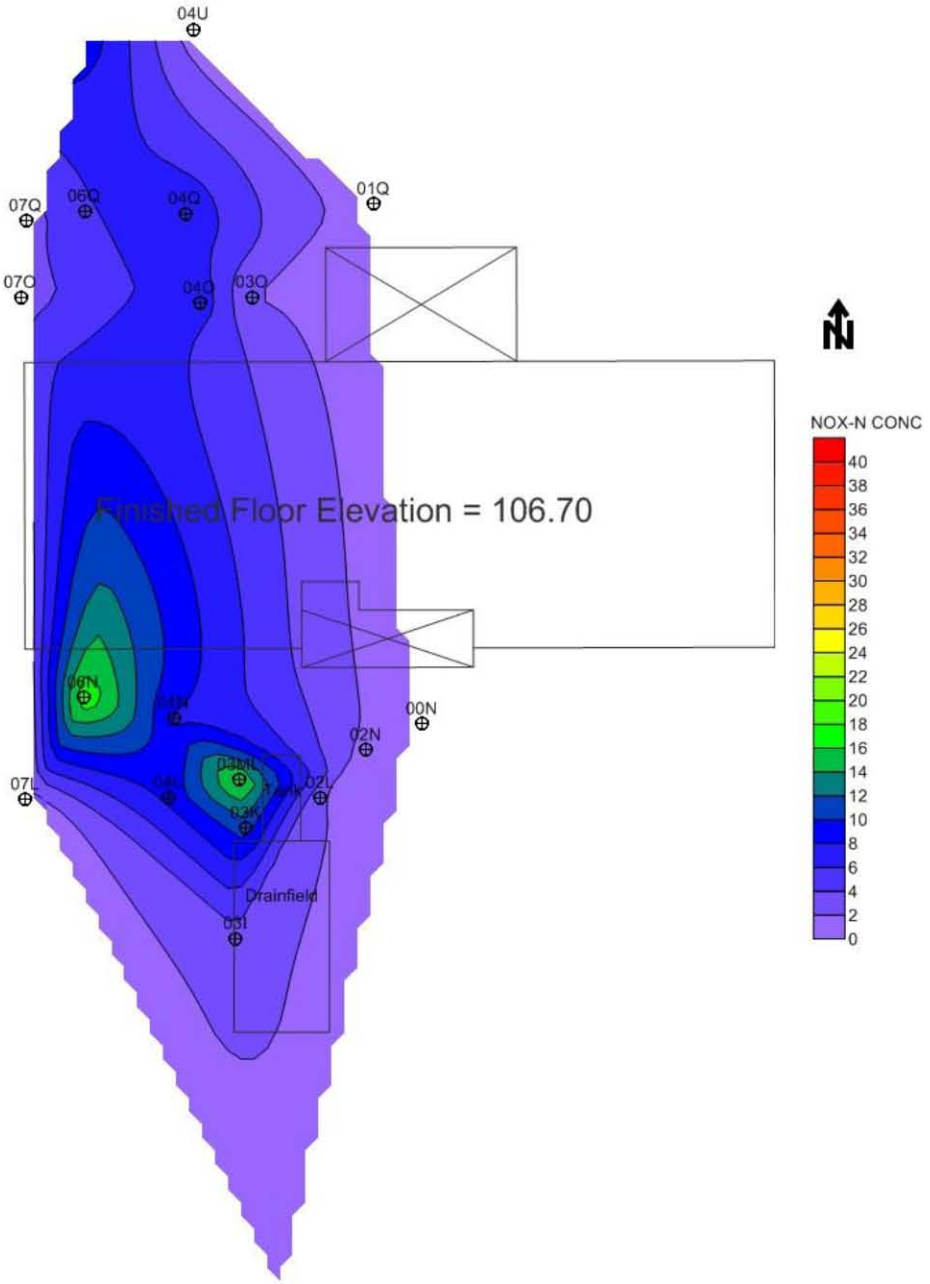

Figure 6
Shallow Elev 90-95.6 ft above MSL (November 2012 Sample Event)
Schematic (using Surfer) illustrating NOX concentrations in the subsurface

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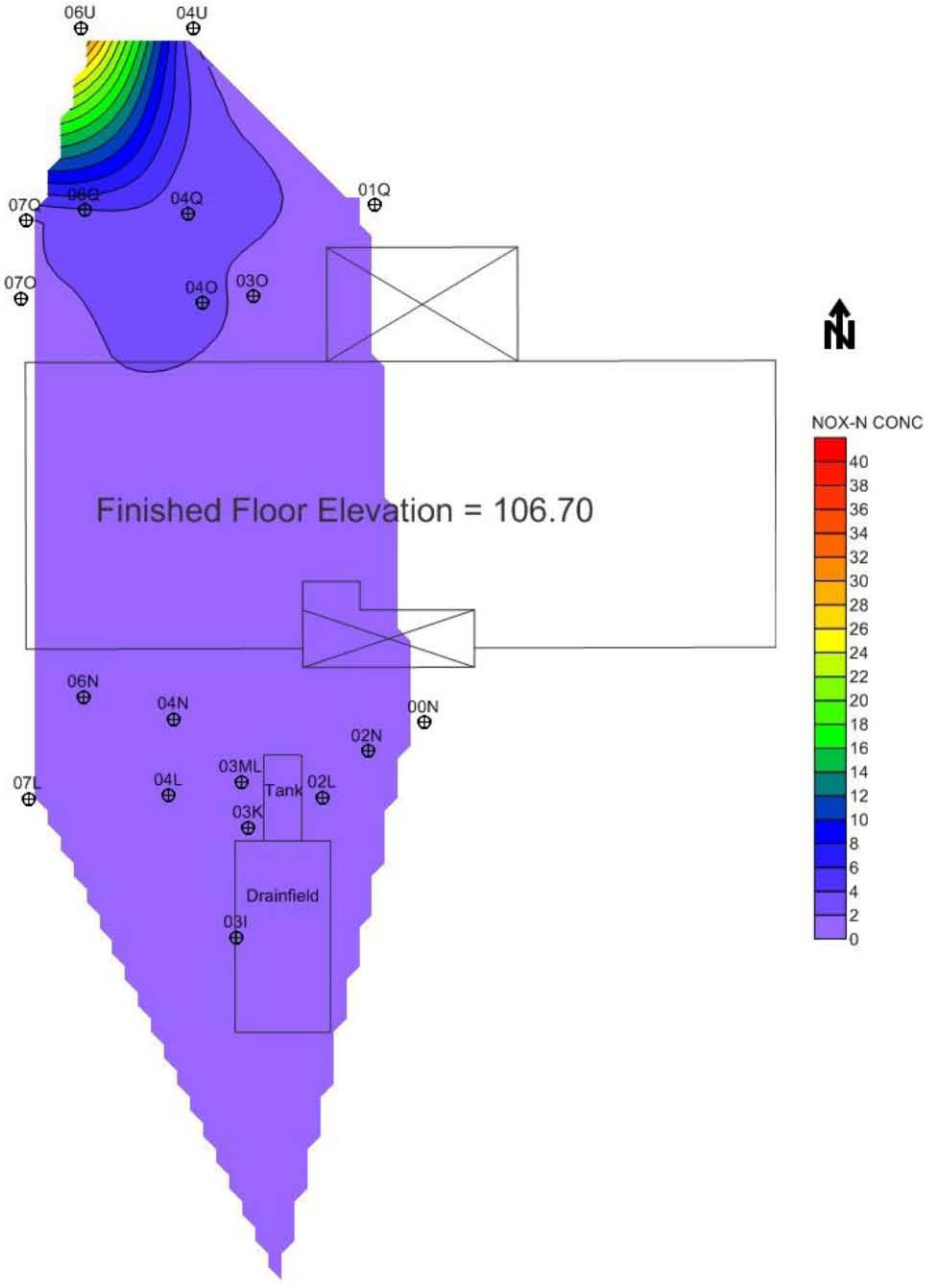

Figure 7
Elev 87-90 ft above MSL (November 2012 Sample Event)
Schematic (using Surfer) illustrating NOX concentrations in the subsurface

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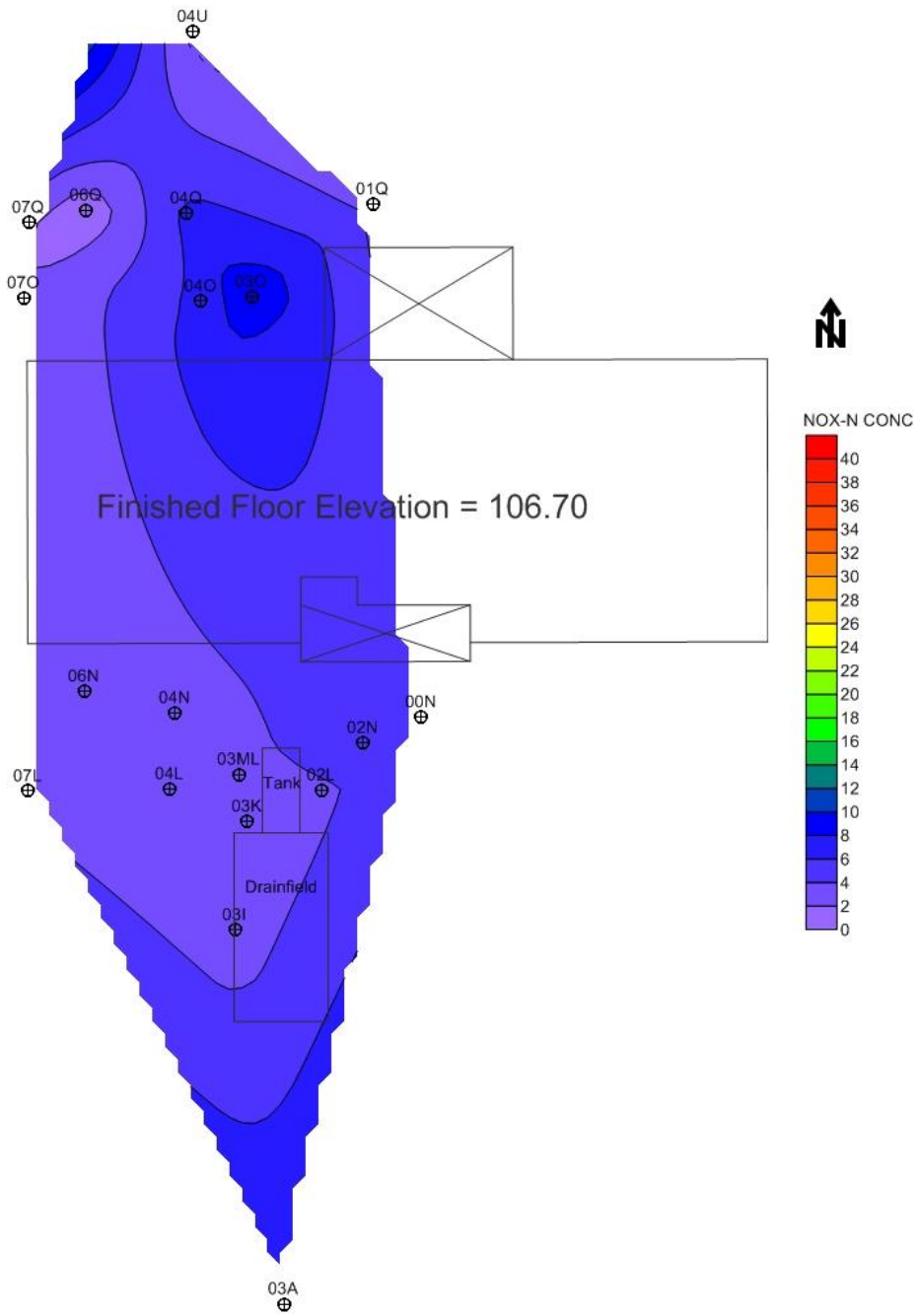

Figure 8
Elev 83-87 ft above MSL (November 2012 Sample Event)
Schematic (using Surfer) illustrating NOX concentrations in the subsurface

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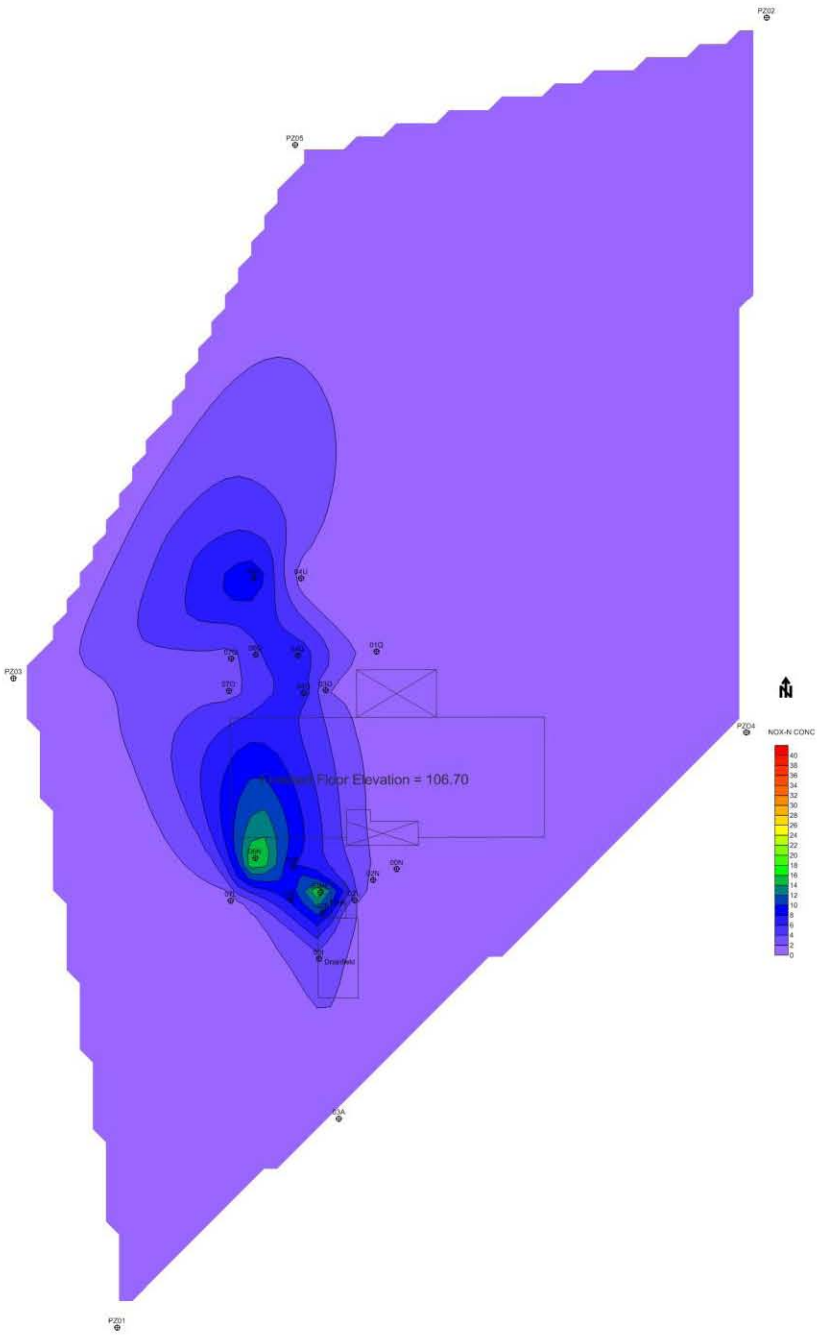

Figure 9
Shallow including Background Elev 90-95.6 ft above MSL
(November 2012 Sample Event)
Schematic (using Surfer) illustrating NOX concentrations in the subsurface

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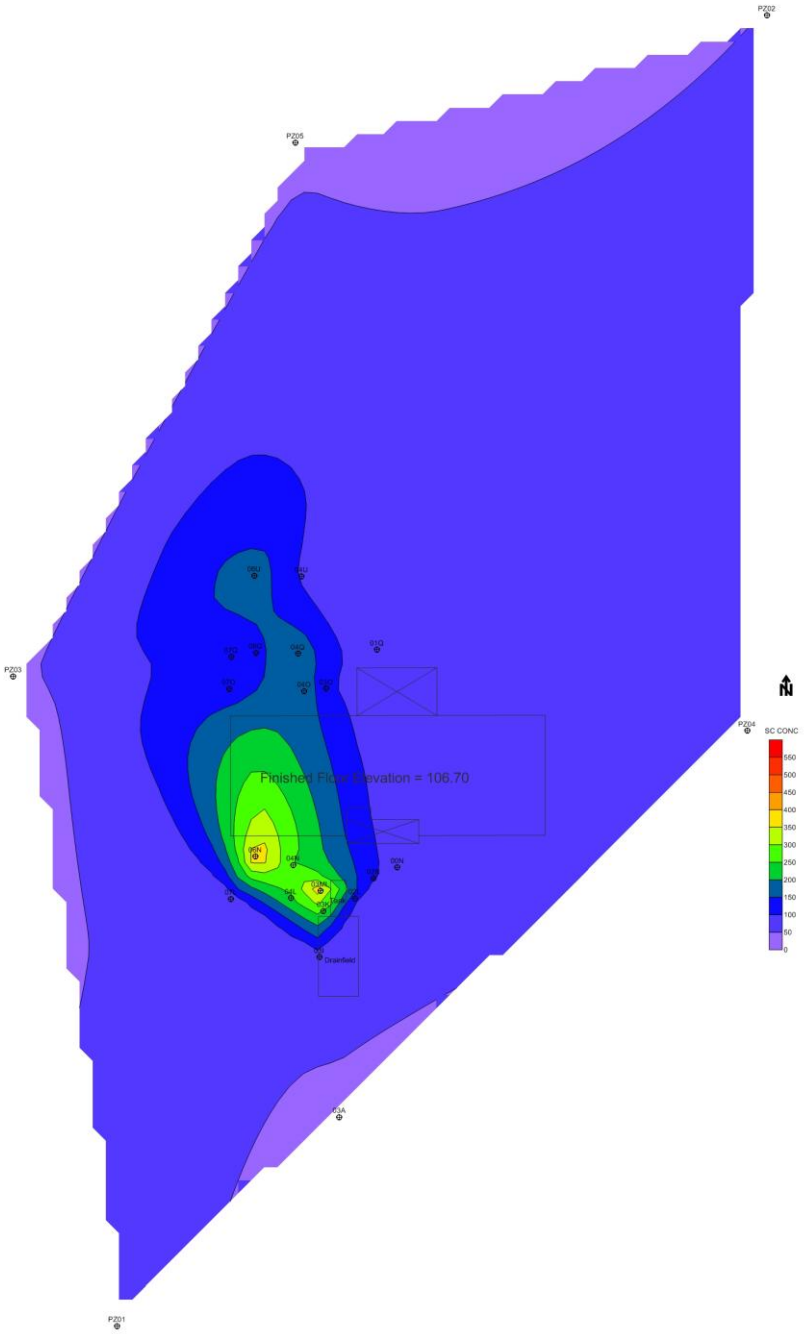

Figure 10
Shallow including Background Elev 90-95.6 ft above MSL
(November 2012 Sample Event)
Schematic (using Surfer) illustrating Specific Conductance concentrations in the subsurface

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5.0 C-HS3 Data Summary Report No. 2: Summary and Recommendations

5.1 Summary

The results of this second sampling event served to identify the general trend of the NOX plume and provide the basis upon which to make adjustments and modifications to future monitoring locations. Results of Sample Event No. 2 indicate that:

- The nitrogen plume appears to be flowing in a north-northwest direction and similar to the groundwater contours.

5.2 Conclusions

The project team will continue to evaluate all results including those that result from implementation of the recommendations and make further adaptations as needed (observational method). Following is a list with select recommendations which the next sample event will address:

- Additional analyses of field parameters will give a better understanding of if and how they may correlate to nitrogen occurrence and reduction.
- Additional groundwater level monitoring will provide information needed to determine the necessary parameters for model development.
- Further sampling of all locations will provide a snapshot of the site needed for plume identification and for nitrogen fate and transport determination.

5.2.1 High NOX Northwest of System

As discussed in Section 4.3.4, the middle depth piezometers appear to indicate a high NOX concentration northwest of the system, downgradient from the house. However, this indication is based on the results from only one piezometer PZ-06U-14. To better determine whether the nitrogen is wastewater derived within these piezometers, sucralose (Splenda) analyses is recommended to be included in subsequent sample events. The influent wastewater (C-HS3-STE) sucralose concentration was 8.3 µg/L (November 29, 2012) and 0.30 µg/L (August 28, 2012), which indicates the source wastewater contains sucralose. The sucralose concentration was below the method detection limit for all four background piezometers analyzed for sucralose at grid location 03A which include: PZ-03A-34 (sampled November 29, 2012), PZ-03A-15, PZ-03A-17 and PZ-03A-21 (sampled August 28, 2012).

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Appendix A: C-HS3 Sample Identification

Table 3

Site C-HS3 Sample Identification

	Identification	Type of Monitoring Point	Top Elevation[1] (feet)	Bottom Elevation[1] (feet)
1	C-HS3-STE	Wastewater	N/A	N/A
2	PZ01	1" Standpipe Piezometer, 5' screen	108.53	92.73
3	PZ02	1" Standpipe Piezometer, 5' screen	98.08	91.80
4	PZ03	1" Standpipe Piezometer, 5' screen	102.84	92.04
5	PZ04	1" Standpipe Piezometer, 5' screen	104.35	92.45
6	PZ05	1" Standpipe Piezometer, 5' screen	98.68	91.08
7	PZ-03A-15	1" Standpipe Piezometer, 5' screen	106.84	91.84
8	PZ-03A-17	3/4" Standpipe Piezometer, 1' screen	106.75	89.75
9	PZ-03A-21	3/4" Standpipe Piezometer, 1' screen	106.84	85.84
10	PZ-03A-34	2" Standpipe Piezometer, 5' screen	107.12	73.12
11	PZ-03I-15	1" Standpipe Piezometer, 5' screen	106.46	91.46
12	PZ-03I-17	3/4" Standpipe Piezometer, 1' screen	106.35	89.35
13	PZ-03I-21	3/4" Standpipe Piezometer, 1' screen	106.44	85.44
14	PZ-03K-15	1" Standpipe Piezometer, 5' screen	106.12	91.12
15	PZ-03K-17	3/4" Standpipe Piezometer, 1' screen	106.11	89.11
16	PZ-03K-21	3/4" Standpipe Piezometer, 1' screen	106.13	85.13
17	PZ-02L-15	1" Standpipe Piezometer, 5' screen	106.02	91.02
18	PZ-02L-17	3/4" Standpipe Piezometer, 1' screen	105.90	88.90
19	PZ-02L-21	3/4" Standpipe Piezometer, 1' screen	105.95	84.95
20	PZ-04L-15	1" Standpipe Piezometer, 5' screen	105.86	90.86
21	PZ-04L-17	3/4" Standpipe Piezometer, 1' screen	105.84	88.84
22	PZ-04L-21	3/4" Standpipe Piezometer, 1' screen	105.78	84.78
23	PZ-07L-15	1" Standpipe Piezometer, 5' screen	105.97	90.97
24	PZ-07L-17	3/4" Standpipe Piezometer, 1' screen	105.93	88.93
25	PZ-07L-21	3/4" Standpipe Piezometer, 1' screen	105.98	84.98
26	PZ-03ML-15	1" Standpipe Piezometer, 5' screen	106.00	91.00
27	PZ-03ML-17	3/4" Standpipe Piezometer, 1' screen	106.03	89.03
28	PZ-03ML-21	3/4" Standpipe Piezometer, 1' screen	105.93	84.93
29	PZ-05M-25	2" Standpipe Piezometer, 5' screen	106.01	81.01
30	PZ-00N-15	1" Standpipe Piezometer, 5' screen	105.78	90.78
31	PZ-00N-17	3/4" Standpipe Piezometer, 1' screen	105.74	88.74

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Table 3
Site C-HS3 Sample Identification

	Identification	Type of Monitoring Point	Top Elevation[1] (feet)	Bottom Elevation[1] (feet)
32	PZ-00N-21	3/4" Standpipe Piezometer, 1' screen	105.72	84.72
33	PZ-02N-15	1" Standpipe Piezometer, 5' screen	105.90	90.90
34	PZ-02N-17	3/4" Standpipe Piezometer, 1' screen	105.87	88.87
35	PZ-02N-21	3/4" Standpipe Piezometer, 1' screen	105.86	84.86
36	PZ-04N-15	1" Standpipe Piezometer, 5' screen	105.60	90.60
37	PZ-04N-17	3/4" Standpipe Piezometer, 1' screen	105.61	88.61
38	PZ-04N-21	3/4" Standpipe Piezometer, 1' screen	105.64	84.64
39	PZ-06N-15	1" Standpipe Piezometer, 5' screen	105.73	90.73
40	PZ-06N-17	3/4" Standpipe Piezometer, 1' screen	105.70	88.70
41	PZ-06N-21	3/4" Standpipe Piezometer, 1' screen	105.80	84.80
42	PZ-03O-15	1" Standpipe Piezometer, 5' screen	104.59	89.59
43	PZ-03O-17	3/4" Standpipe Piezometer, 1' screen	104.54	87.54
44	PZ-03O-21	3/4" Standpipe Piezometer, 1' screen	104.58	83.58
45	PZ-04O-15	1" Standpipe Piezometer, 5' screen	104.10	89.10
46	PZ-04O-17	3/4" Standpipe Piezometer, 1' screen	104.09	87.09
47	PZ-04O-21	3/4" Standpipe Piezometer, 1' screen	104.11	83.11
48	PZ-07O-15	1" Standpipe Piezometer, 5' screen	103.83	88.83
49	PZ-07O-17	3/4" Standpipe Piezometer, 1' screen	103.75	86.75
50	PZ-07O-20	3/4" Standpipe Piezometer, 1' screen	103.91	83.91
51	PZ-01Q-13	1" Standpipe Piezometer, 5' screen	104.19	91.19
52	PZ-01Q-15	3/4" Standpipe Piezometer, 1' screen	104.18	89.18
53	PZ-01Q-19	3/4" Standpipe Piezometer, 1' screen	104.24	85.24
54	PZ-04Q-13	1" Standpipe Piezometer, 5' screen	103.58	90.58
55	PZ-04Q-15	3/4" Standpipe Piezometer, 1' screen	103.54	88.54
56	PZ-04Q-19	3/4" Standpipe Piezometer, 1' screen	103.60	84.60
57	PZ-06Q-13	1" Standpipe Piezometer, 5' screen	103.66	90.66
58	PZ-06Q-15	3/4" Standpipe Piezometer, 1' screen	103.66	88.66
59	PZ-06Q-19	3/4" Standpipe Piezometer, 1' screen	103.71	84.71
60	PZ-07Q-13	1" Standpipe Piezometer, 5' screen	103.56	90.56
61	PZ-07Q-15	3/4" Standpipe Piezometer, 1' screen	103.64	88.64
62	PZ-07Q-19	3/4" Standpipe Piezometer, 1' screen	103.62	84.62
63	PZ-05T-25	2" Standpipe Piezometer, 5' screen	102.73	77.73
64	PZ-04U-12	1" Standpipe Piezometer, 5' screen	102.61	90.61
65	PZ-04U-14	3/4" Standpipe Piezometer, 1' screen	102.64	88.64

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Table 3
Site C-HS3 Sample Identification

	Identification	Type of Monitoring Point	Top Elevation[1] (feet)	Bottom Elevation[1] (feet)
66	PZ-04U-18	3/4" Standpipe Piezometer, 1' screen	102.61	84.61
67	PZ-06U-12	1" Standpipe Piezometer, 5' screen	102.07	90.07
68	PZ-06U-14	3/4" Standpipe Piezometer, 1' screen	101.96	87.96
69	PZ-06U-34	3/4" Standpipe Piezometer, 1' screen	101.94	67.94

[1]Elevation above mean sea level based on NGVD 1929

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Appendix B: C-HS3 Soil Samples

Table B.1
Site C-HS3 Soil Sample Descriptions

ID#	Location	Depth (ft bgs)	Munsell Soil Color	Description
1	PZ01	0-1'	10 YR 3/2	Very dark grayish brown fine sand
2		1-3.8'	10 YR 5/4	Yellowish brown fine sand
3		3.8-6.85'	10 YR 5/6	Yellowish brown fine sand
4	PZ03	9"-1.7'	10 YR 3/3	Dark brown fine sand
5		1.7-4.2'	10 YR 4/3	Brown fine sand
6		4.2-6.5'	10 YR 5/4	Yellowish brown fine sand
7	03ML	5'-14'3"	10 YR 5/6	Yellowish brown fine sand
8		14'3"-15'	10 YR 7/3	Very pale brown fine sand
9		15-18'	10 YR 6/3	Pale brown fine sand
10		18-20'	10 YR 2/1	Black fine sand
11		20-25'	10 YR 3/1	Very dark gray fine sand
12		25-30'	10 YR 5/3	Brown fine sand
13		30-35'	10 YR 7/2	Light gray fine sand
14		35-40'	10 YR 8/2	Very pale brown fine sand
15	03O	5-9'6"	10 YR 6/6	Brownish yellow fine sand
16		9'6"-10'	10 YR 6/3	Pale brown fine sand
17		10-19'4"	10 YR 6/3	Pale brown fine sand
18		19'4"-20'	10 YR 2/1	Black fine sand
19		20-25'	10 YR 3/2	Very dark grayish brown fine sand
20		25-29'	10 YR 5/3	Brown fine sand
21		29-30'	10 YR 6/3	Pale brown fine sand
22		30-35'	10 YR 8/2	Very pale brown fine sand
23		40-45'	10 YR 8/1	White loamy sand
24	04O	~18'	10 YR 2/2	Very dark brown fine sand

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Table B.2
Site C-HS3 Soil Particle Size Distribution

ID #	Location	Depth	Particle Size Ditribution (% <2mm)								Textural Class
			Sand Fractions (%)					Total (%)			
			Very Coarse	Coarse	Medium	Fine	Very Fine	Sand	Silt	Clay	
			2.0-1.0 mm	1.0-0.5 mm	0.5-0.25 mm	0.25-0.10 mm	0.10-0.05 mm	2.0-0.05 mm	0.05-0.002 mm	<0.002 mm	
1	PZ01	0-1'	0.3	18.1	57.6	18.8	2.1	97.9	0.1	2.1	Sand
2		1-3.8'	0.0	15.3	56.8	23.0	2.2	98.1	BDL	2.4	Sand
3		3.8-6.85'	0.2	13.4	52.6	26.9	4.2	97.9	0.6	1.4	Sand
4	PZ03	9"-1.7'	0.1	13.4	57.0	24.4	2.1	97.9	BDL	2.3	Sand
5		1.7-4.2'	0.1	12.1	52.8	27.8	4.1	97.4	0.3	2.4	Sand
6		4.2-6.5'	0.1	12.8	54.8	26.8	2.9	98.2	BDL	2.6	Sand
7	03ML	5'-14'3"	0.1	12.9	54.4	27.1	3.3	98.4	0.5	1.2	Sand
7 Duplicate			0.0	11.7	53.9	26.9	2.7	95.7	4.3	BDL	Sand
8		14'3"-15'	0.5	14.2	55.0	26.9	1.8	99.4	BDL	1.1	Sand
9		15-18'	0.0	7.2	59.4	30.6	1.5	98.9	BDL	1.7	Sand
10		18-20'	0.4	12.0	48.3	31.8	3.6	96.9	1.5	1.6	Sand
11		20-25'	1.0	12.0	38.7	42.5	2.6	97.5	0.2	2.3	Sand
12		25-30'	0.9	12.3	36.4	47.1	1.4	98.4	0.1	1.4	Sand
13		30-35'	0.3	2.8	15.5	75.9	2.5	97.4	0.6	2.0	Fine Sand
14		35-40'	0.1	0.7	12.9	77.7	3.3	95.2	2.6	2.1	Fine Sand
15	03O	5-9'6"	0.2	16.5	59.9	20.0	1.4	98.6	0.4	1.0	Sand
16		9'6"-10'	0.4	17.7	55.5	23.1	1.7	99.0	0.4	0.6	Sand
17		10-19'4"	0.1	8.0	55.2	33.4	2.2	97.9	1.3	0.8	Sand
18		19'4"-20'	0.3	11.9	61.4	21.1	1.7	97.1	0.4	2.5	Sand
19		20-25'	1.2	12.4	43.6	35.4	1.1	94.0	3.9	2.1	Sand
20		25-29'	0.9	10.3	37.4	47.6	1.3	97.8	BDL	2.4	Sand
21		29-30'	1.0	11.2	33.8	47.4	1.2	94.8	2.4	2.8	Sand
21 Duplicate			0.1	10.8	36.3	47.4	1.3	97.4	0.2	2.5	Sand
22		30-35'	0.2	1.6	18.7	72.2	2.8	95.7	0.9	3.3	Fine Sand
23		40-45'	0.1	0.3	6.1	76.3	9.1	93.0	1.1	6.0	Fine Sand
24	04O	~18'	0.3	10.3	54.8	30.2	1.6	98.1	0.4	1.5	Sand
Ref Std			0.8	17.8	26.8	16.1	4.9	69.1	7.2	23.7	Sandy Clay Loam

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Table B.3
Site C-HS3 Soil Sample Parameters

ID#	Location	Depth	TN (mg/kg)[1]	TKN (mg/kg)	Organic N (mg/kg)[2]	NH3-N (mg/kg)	NOx-N (mg/kg)	TIN (mg/kg)[3]	P (mg/kg)	K (mg/kg)	Ca (mg/kg)	Mg (mg/kg)	Na (mg/kg)	BufpH	OrgMt (%)	CEC (calculated)	C (% , calculated)
1	PZ01	0-1'	488.20	486.0	483.86	2.18	2.16	4.34	68.46	34.99	277.0	51.03	13.07	7.87	1.46	4.32	0.98
2		1-3.8'	163.56	162.8	161.76	1.05	0.74	1.79	24.02	10.32	106.8	25.71	11.11	7.91	0.77	2.22	0.52
3		3.8-6.85'	65.18	64.35	63.86	0.49	0.83	1.32	17.67	5.88	67.80	22.26	10.27	7.94	0.44	1.60	0.29
4	PZ03	9"-1.7'	174.50	171.9	170.70	1.15	2.64	3.80	53.32	11.65	93.89	15.86	10.95	7.83	0.96	2.74	0.64
5		1.7-4.2'	140.77	139.2	138.80	0.41	1.56	1.97	49.08	9.79	66.22	11.93	9.35	7.86	0.67	2.21	0.45
6		4.2-6.5'	103.61	102.8	102.44	0.40	0.77	1.17	34.49	4.49	44.85	13.40	9.90	7.92	0.45	1.52	0.30
7	03ML	5'-14'3"	61.48	60.86	60.44	0.41	0.62	1.04	53.69	5.87	116.9	14.98	10.25	7.97	0.30	1.55	0.20
8		14'3"-15'	46.81	45.59	45.27	0.32	1.22	1.54	65.39	2.78	54.89	8.26	11.79	7.97	0.17	1.17	0.11
9		15-18'	41.31	36.14	35.79	0.35	5.17	5.52	80.97	5.17	80.26	12.89	15.54	7.98	0.24	1.48	0.16
10		18-20'	191.80	190.1	189.76	0.36	1.68	2.04	710.2	14.06	811.7	51.14	18.34	7.84	1.52	6.92	1.02
11		20-25'	148.74	147.4	147.07	0.33	1.35	1.67	218.0	13.45	244.6	19.30	17.84	7.73	1.33	4.66	0.89
12		25-30'	679.79	677.3	676.99	0.31	2.49	2.80	103.7	7.21	29.88	6.81	14.46	7.89	0.59	1.90	0.40
13		30-35'	65.97	63.19	62.70	0.49	2.77	3.27	82.83	7.66	29.26	7.76	23.57	7.92	0.63	2.07	0.42
14		35-40'	62.84	60.14	59.55	0.59	2.70	3.29	43.18	5.83	25.60	7.30	14.40	7.97	0.58	1.20	0.39
15	03O	5-9'6"	54.66	54.08	53.67	0.41	0.58	0.99	34.17	3.36	32.25	11.61	10.64	7.95	0.35	1.21	0.23
16		9'6"-10'	79.52	78.96	78.57	0.39	0.57	0.95	24.44	2.40	27.63	8.06	9.10	7.96	0.23	0.98	0.15
17		10-19'4"	46.33	45.82	45.63	0.19	0.50	0.70	17.93	1.88	38.90	7.45	9.44	7.99	0.17	0.80	0.11
18		19'4"-20'	295.78	295.1	294.67	0.46	0.65	1.11	203.6	8.57	640.1	55.27	20.27	7.78	1.61	6.52	1.08
19		20-25'	119.45	116.9	116.41	0.52	2.52	3.04	126.0	4.17	34.04	6.72	15.29	7.77	0.99	2.84	0.66
20		25-29'	75.55	72.43	71.85	0.58	3.12	3.70	126.9	7.87	24.36	5.70	15.66	7.90	0.89	1.85	0.60
21		29-30'	63.59	59.86	59.31	0.55	3.73	4.28	114.5	11.69	30.35	7.88	20.67	7.85	0.79	2.62	0.53
22		30-35'	22.59	19.32	18.88	0.44	3.27	3.71	62.99	5.97	29.06	8.17	20.22	7.93	0.78	1.81	0.52
23		40-45'	79.24	74.77	74.06	0.71	4.47	5.18	5.08	17.69	51.95	15.21	24.10	7.94	1.11	2.37	0.74
24	04O	~18'	140.54	140.0	139.72	0.31	0.50	0.82	124.3	5.45	313.3	24.70	15.23	7.87	0.92	3.61	0.62

Notes:

[1]Total Nitrogen (TN) is a calculated value equal to the sum of TKN and NO_X.

[2]Organic Nitrogen (ON) is a calculated value equal to the difference of TKN and NH_3.

[3]Total Inorganic Nitrogen (TIN) is a calculated value equal to the sum of NH_3 and NO_X.

D.O. - Dissolved oxygen

Gray-shaded data points indicate values below method detection level (mdl), mdl value used for statistical analyses.

Yellow-shaded data points indicate the reported value is between the laboratory method detection limit and the laboratory practical quantitation limit, value used for statistical analysis.

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Appendix C: Weather Station Data

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Table C.1
Daily Recorded Meteorological Data
Frostproof, FL

Period	60cm Temp avg (F)	60cm Temp min (F)	60cm Temp max (F)	2m Temp avg (F)	2m Temp min (F)	2m Temp max (F)	10m Temp avg (F)	10m Temp min (F)	10m Temp max (F)	Tsoil avg - 10cm (F)	Tsoil min (avg) - 10cm (F)	Tsoil max (avg) - 10cm (F)	2m DewPt avg (F)	Rel Hum avg 2m (%)	2m Rain tot (in)	2m Rain max over 15min (in)	10m Wind avg (mph)	10m Wind min (mph)	10m Wind max (mph)	WDir avg 10m (deg)
1-Sep-12	81.62	71.92	92.30	81.83	74.43	91.09	80.64	74.61	88.36	84.33	82.83	86.11	73.89	79	0	0	6.25	1.07	18.63	56
2-Sep-12	79.00	66.94	90.97	79.51	69.26	89.33	78.96	71.98	86.79	83.67	81.77	85.51	69.02	74	0	0	5.40	1.20	19.57	60
3-Sep-12	79.57	66.74	91.54	79.74	68.23	89.31	79.31	70.97	87.46	83.60	81.48	85.96	70.19	75	0	0	4.46	0.20	14.37	105
4-Sep-12	81.20	70.81	96.37	80.83	72.50	93.25	79.74	72.72	91.00	84.31	82.29	86.61	72.06	77	0	0	4.98	0.33	23.07	177
5-Sep-12	78.26	70.00	93.33	78.23	71.73	91.33	77.08	71.74	88.75	84.02	82.83	85.95	72.54	84	0.54	0.36	6.55	0.20	21.10	194
6-Sep-12	77.57	70.21	92.84	77.52	71.02	90.68	76.44	70.75	88.29	83.23	81.77	84.94	72.34	85	0	0	5.76	0.00	30.07	200
7-Sep-12	79.62	69.42	93.88	79.37	70.81	92.10	78.31	70.99	89.42	83.59	81.63	85.91	73.14	83	0	0	4.75	0.47	15.87	194
8-Sep-12	81.43	71.80	92.80	81.59	73.27	91.67	80.45	73.26	89.10	84.28	82.56	86.18	73.06	78	0	0	6.46	1.20	18.83	210
9-Sep-12	77.68	74.30	84.09	78.07	75.09	83.62	77.09	74.59	81.86	83.71	83.17	84.61	75.65	92	0.13	0.06	7.18	0.70	21.47	233
10-Sep-12	77.60	71.47	91.42	77.40	71.55	88.95	76.41	71.33	85.78	83.35	82.45	84.70	74.89	93	0.24	0.14	4.14	0.00	19.60	282
11-Sep-12	78.98	73.63	89.17	79.28	74.50	87.62	78.06	74.01	84.96	83.08	81.93	84.56	73.25	83	0	0	8.50	2.37	23.07	50
12-Sep-12	78.02	71.29	86.92	78.26	72.14	85.80	77.12	71.78	82.87	82.74	81.43	84.04	72.24	82	0	0	8.95	2.30	25.03	54
13-Sep-12	78.93	72.12	90.23	79.25	72.97	88.90	78.15	72.66	86.34	82.89	81.63	84.42	72.74	82	0	0	7.92	1.93	26.87	54
14-Sep-12	77.14	72.72	89.53	77.29	73.65	87.62	76.13	73.22	84.36	82.81	81.81	84.00	74.39	91	0.23	0.10	6.86	1.03	23.30	43
15-Sep-12	76.72	72.12	86.97	76.98	73.17	85.32	76.09	72.81	83.23	82.50	81.66	83.28	73.62	90	0.43	0.25	5.44	0.83	22.50	69
16-Sep-12	78.52	72.55	90.66	78.65	73.58	88.14	77.61	73.20	85.14	82.63	81.25	84.31	73.62	85	0	0	6.12	1.60	19.80	95
17-Sep-12	78.80	70.99	92.35	78.88	72.25	89.89	77.78	72.12	87.30	83.01	81.46	84.90	73.12	84	0	0	6.15	0.00	21.70	131
18-Sep-12	75.86	71.47	90.16	76.20	72.09	89.02	75.38	71.82	86.45	82.33	81.37	83.39	74.02	93	1.02	0.55	7.14	0.77	25.00	200
19-Sep-12	77.60	72.00	91.18	77.50	72.70	89.51	76.49	71.94	86.86	82.31	80.83	84.27	73.86	90	0.01	0.01	5.36	0.33	16.23	197
20-Sep-12	78.52	71.01	92.71	78.10	71.80	88.79	77.21	71.82	87.58	82.57	81.36	83.98	73.23	86	0.07	0.04	4.09	0.07	18.47	53
21-Sep-12	76.36	70.56	90.93	76.20	70.95	88.18	75.60	70.56	86.11	82.03	81.07	83.68	72.80	90	0.59	0.14	4.31	0.00	23.03	43
22-Sep-12	76.53	70.52	87.35	76.72	71.53	85.42	75.98	71.62	83.19	81.55	80.53	82.76	73.35	90	0.01	0.01	4.08	0.20	12.17	61
23-Sep-12	79.29	69.93	92.16	79.42	71.53	89.71	78.97	71.47	88.25	81.80	80.46	83.35	71.06	79	0	0	4.52	0.07	16.20	13
24-Sep-12	74.91	68.58	84.97	75.67	70.43	83.82	75.49	70.79	82.00	80.88	80.15	81.90	66.39	75	0	0	5.56	0.20	24.33	24
25-Sep-12	74.87	67.08	88.79	75.21	68.54	85.21	75.12	69.21	83.50	80.26	79.02	81.72	66.92	76	0	0	4.74	0.13	10.13	33
26-Sep-12	75.07	65.19	90.18	75.27	67.71	88.05	75.17	69.67	85.82	80.29	78.82	81.79	71.94	90	0.03	0.01	3.91	0.07	23.23	57
27-Sep-12	79.57	70.65	93.43	79.48	71.85	90.41	78.62	71.83	88.45	81.03	79.77	82.56	72.57	82	0	0	5.07	0.20	16.60	27
28-Sep-12	79.40	70.77	93.83	79.40	72.45	91.00	78.35	72.12	88.84	81.64	80.37	83.17	72.66	82	0	0	5.04	0.33	21.13	44
29-Sep-12	79.73	70.86	94.32	79.43	72.39	90.70	78.50	72.34	88.93	82.26	80.60	84.25	73.50	84	0	0	4.35	0.00	15.43	85
30-Sep-12	79.71	68.88	95.54	79.59	70.75	91.81	78.90	71.83	89.60	82.67	81.01	84.42	73.44	83	0	0	4.25	0.00	154.50	148

Table C.1 (continued)
Daily Recorded Meteorological Data
Frostproof, FL

Period	60cm Temp avg (F)	60cm Temp min (F)	60cm Temp max (F)	2m Temp avg (F)	2m Temp min (F)	2m Temp max (F)	10m Temp avg (F)	10m Temp min (F)	10m Temp max (F)	Tsoil avg - 10cm (F)	Tsoil min (avg) - 10cm (F)	Tsoil max (avg) - 10cm (F)	2m DewPt avg (F)	Rel Hum avg 2m (%)	2m Rain tot (in)	2m Rain max over 15min (in)	10m Wind avg (mph)	10m Wind min (mph)	10m Wind max (mph)	WDir avg 10m (deg)
1-Oct-12	80.30	72.23	91.98	80.63	73.67	90.03	79.52	73.78	87.17	82.96	81.73	84.27	74.61	83	0	0	6.52	0.27	21.60	172
2-Oct-12	76.10	70.99	88.63	76.32	71.80	85.84	75.34	71.47	83.77	82.20	81.07	83.23	74.02	93	1.18	0.44	7.54	0.30	29.70	182
3-Oct-12	77.47	71.02	93.54	77.46	71.76	90.82	76.47	71.47	88.92	81.35	80.65	83.34	74.51	92	1.27	0.56	5.56	0.00	21.07	153
4-Oct-12	77.08	71.71	94.14	76.79	72.21	90.99	75.95	71.60	88.16	81.31	80.10	83.10	74.28	93	0.07	0.02	5.12	0.33	24.37	38
5-Oct-12	78.75	71.96	94.68	78.05	72.36	91.18	77.00	71.76	88.72	81.71	80.35	83.80	74.55	90	0.50	0.12	5.05	0.00	22.63	37
6-Oct-12	78.62	70.83	91.35	78.21	71.71	88.56	77.28	71.47	86.99	82.04	80.87	83.46	74.15	89	0	0	4.10	0.00	27.17	50
7-Oct-12	76.24	68.99	89.67	76.32	70.32	87.57	75.60	71.04	85.17	81.43	80.31	82.63	72.46	89	0	0	4.90	0.20	24.07	72
8-Oct-12	77.06	70.88	90.86	76.96	71.87	86.90	76.37	71.82	85.30	81.48	80.46	83.07	73.95	91	0.18	0.09	4.09	0.00	15.80	59
9-Oct-12	77.30	69.33	91.63	76.98	70.54	87.84	76.27	71.10	85.50	81.08	79.74	82.53	73.08	89	0.01	0.01	4.91	0.00	17.70	12
10-Oct-12	76.09	68.18	89.08	75.99	69.37	86.90	75.17	69.73	84.38	80.82	79.66	82.09	69.54	82	0	0	6.45	0.73	14.40	28
11-Oct-12	74.43	65.48	86.41	74.51	66.45	85.06	73.69	66.78	82.72	79.82	78.64	80.98	67.51	80	0	0	7.28	2.13	18.77	40
12-Oct-12	73.91	65.70	86.50	74.11	66.34	84.83	73.32	66.43	82.29	79.24	78.10	80.42	65.19	76	0	0	7.52	1.80	20.60	27
13-Oct-12	74.98	65.86	85.53	75.16	67.08	84.40	74.21	67.50	81.84	79.02	77.79	80.24	67.41	79	0	0	8.78	2.17	28.47	45
14-Oct-12	77.16	68.88	87.98	77.46	69.66	86.74	76.50	69.71	84.07	79.63	78.49	80.82	70.27	80	0	0	7.85	2.43	20.17	55
15-Oct-12	77.38	69.37	90.18	77.49	70.99	87.58	76.73	71.46	85.62	80.37	79.50	81.61	72.57	86	0.01	0.01	4.71	0.30	15.27	44
16-Oct-12	75.99	67.62	90.27	75.88	68.70	86.61	75.21	68.79	84.24	80.05	78.89	81.21	69.07	81	0	0	4.88	0.13	12.03	21
17-Oct-12	73.59	65.97	84.58	73.78	67.60	81.77	73.30	68.16	80.37	79.79	78.69	80.89	69.77	88	0	0	4.34	0.23	46.63	131
18-Oct-12	77.00	67.21	90.77	76.45	67.91	87.57	75.79	68.23	85.87	80.23	78.85	81.97	71.61	86	0.21	0.12	4.04	0.00	17.23	190
19-Oct-12	76.86	65.77	91.31	76.74	67.35	88.43	76.59	68.07	86.18	79.91	78.49	81.19	68.90	80	0.01	0.01	4.16	0.00	12.70	276
20-Oct-12	73.47	58.62	87.53	73.91	61.68	84.16	73.45	63.48	82.02	79.09	78.19	79.99	61.13	68	0	0	5.35	0.00	17.87	345
21-Oct-12	70.03	56.43	84.60	70.38	59.13	82.53	69.84	60.40	79.90	77.25	75.81	78.58	56.95	65	0	0	7.19	0.90	17.20	35
22-Oct-12	73.77	64.08	86.40	73.88	64.89	84.97	72.75	64.94	82.09	77.62	76.33	79.05	64.03	73	0	0	9.25	1.70	25.07	42
23-Oct-12	72.64	65.41	82.09	73.16	66.45	81.14	72.41	66.72	78.73	77.72	76.93	78.35	66.10	79	0.06	0.06	8.31	3.00	21.73	47
24-Oct-12	76.04	67.15	87.84	76.20	68.04	86.88	74.94	67.80	83.82	78.19	77.05	79.68	68.70	80	0	0	9.22	2.43	22.80	44
25-Oct-12	74.43	70.11	82.17	74.80	70.90	82.02	73.82	70.54	79.61	78.52	78.10	79.18	71.38	90	0.40	0.38	8.70	2.80	25.00	34
26-Oct-12	74.47	68.59	84.22	74.99	69.19	84.31	74.08	68.74	81.81	77.78	77.27	78.33	68.30	81	0.07	0.04	12.69	2.87	31.93	3
27-Oct-12	69.69	65.55	75.49	70.16	66.11	75.24	69.41	65.73	73.58	76.24	75.70	77.23	63.03	78	0	0	11.53	2.27	27.70	314
28-Oct-12	68.20	60.33	78.44	68.21	61.12	77.04	67.19	61.09	74.01	75.60	74.91	76.46	60.66	78	0	0	9.82	1.87	25.67	299
29-Oct-12	58.76	49.68	71.82	58.61	51.01	70.23	57.75	50.70	67.46	73.59	72.45	75.09	44.26	62	0	0	10.47	2.47	25.13	301
30-Oct-12	57.38	44.87	70.21	57.35	46.40	68.88	56.73	47.12	66.25	71.84	70.56	72.88	42.08	59	0	0	8.41	1.30	26.77	286

Table C.1 (continued)
Daily Recorded Meteorological Data
Frostproof, FL

Period	60cm Temp avg (F)	60cm Temp min (F)	60cm Temp max (F)	2m Temp avg (F)	2m Temp min (F)	2m Temp max (F)	10m Temp avg (F)	10m Temp min (F)	10m Temp max (F)	Tsoil avg - 10cm (F)	Tsoil min (avg) - 10cm (F)	Tsoil max (avg) - 10cm (F)	2m DewPt avg (F)	Rel Hum avg 2m (%)	2m Rain tot (in)	2m Rain max over 15min (in)	10m Wind avg (mph)	10m Wind min (mph)	10m Wind max (mph)	WDir avg 10m (deg)
1-Nov-12	65.74	53.46	79.39	65.93	55.47	77.68	65.56	56.84	75.61	71.86	70.50	73.51	59.62	82	0	0	5.71	1.30	17.27	256
2-Nov-12	65.22	51.57	82.11	65.10	53.38	78.96	65.08	54.81	77.27	72.27	70.92	73.72	53.69	71	0	0	5.05	0.33	12.63	314
3-Nov-12	67.28	52.21	85.62	67.33	54.12	81.86	68.16	56.08	80.40	72.49	70.77	74.59	59.20	78	0	0	4.38	0.13	12.00	274
4-Nov-12	68.59	54.72	85.17	68.97	56.70	82.58	70.14	59.77	80.60	73.17	71.38	75.13	59.91	76	0	0	3.88	0.03	13.10	241
5-Nov-12	68.14	59.76	81.18	68.16	61.20	78.96	67.87	61.50	77.04	73.72	72.82	74.89	63.13	85	0	0	4.04	0.43	13.43	274
6-Nov-12	64.77	57.18	76.42	65.17	58.32	75.07	65.23	59.18	73.02	73.41	72.70	74.19	62.29	91	0.03	0.01	4.59	0.10	20.60	278
7-Nov-12	57.63	44.85	69.44	57.99	47.73	67.98	58.18	53.04	65.62	71.66	70.56	73.08	50.40	78	0.01	0.01	7.76	1.83	21.63	309
8-Nov-12	56.54	45.30	69.93	56.89	48.34	67.53	56.75	48.40	66.06	69.86	68.88	70.90	44.31	66	0	0	6.88	0.43	20.20	358
9-Nov-12	59.99	45.63	75.60	60.33	47.91	73.54	60.09	50.67	71.29	69.50	68.04	71.11	47.99	67	0	0	6.67	1.37	14.93	26
10-Nov-12	64.04	53.92	77.97	64.20	54.77	76.15	63.58	55.00	73.17	70.28	68.99	71.73	54.44	72	0	0	7.46	2.20	22.00	39
11-Nov-12	66.28	56.79	77.63	66.71	58.23	77.47	66.40	59.14	75.85	71.17	70.11	72.30	60.77	82	0	0	6.84	0.80	20.10	50
12-Nov-12	69.23	58.73	83.75	69.75	60.67	82.04	69.38	61.52	79.34	71.90	70.57	73.44	64.53	85	0	0	5.53	0.57	20.27	58
13-Nov-12	69.39	61.56	80.67	69.65	62.29	79.11	69.26	62.64	77.20	72.68	71.62	73.92	64.70	86	0	0	5.09	0.93	11.63	25
14-Nov-12	68.38	62.98	81.86	68.65	63.93	79.18	68.04	63.34	76.80	73.02	72.19	74.03	65.28	90	0	0	6.16	2.10	14.03	21
15-Nov-12	65.80	60.85	78.35	65.75	61.20	74.82	64.88	60.80	71.92	73.15	72.59	73.92	63.80	94	0	0	6.03	1.20	13.47	7
16-Nov-12	62.05	58.60	70.21	62.12	58.75	69.12	61.42	58.01	67.78	72.46	71.92	73.26	58.67	89	0	0	7.32	2.13	17.00	12
17-Nov-12	67.96	59.49	80.44	67.74	59.92	78.62	66.70	59.58	76.30	72.64	71.60	74.10	61.44	82	0	0	7.79	1.00	30.43	35
18-Nov-12	64.88	53.40	76.39	64.97	55.13	74.80	64.15	55.92	72.41	72.87	72.18	73.72	60.19	85	0	0	8.63	2.40	20.63	21
19-Nov-12	56.44	51.62	60.64	56.62	52.86	59.92	56.23	53.35	58.89	71.14	70.63	72.66	54.35	92	0	0	6.61	1.83	14.93	2
20-Nov-12	63.39	54.27	76.32	63.14	55.58	74.48	62.31	55.98	72.30	71.02	70.11	72.32	57.25	82	0	0	7.30	1.73	19.33	359
21-Nov-12	61.09	50.16	73.96	61.26	51.78	72.45	60.79	52.81	70.50	70.64	69.73	71.49	51.15	73	0	0	7.22	1.10	33.60	352
22-Nov-12	57.90	46.29	73.74	58.62	48.70	72.46	58.41	49.42	70.03	69.43	68.41	70.39	43.90	63	0	0	8.15	0.50	22.83	354
23-Nov-12	58.07	46.20	75.25	58.79	49.17	73.13	59.92	50.47	70.93	68.33	67.12	69.71	40.06	54	0	0	6.33	0.77	18.57	350
24-Nov-12	59.27	44.31	79.84	59.70	47.57	77.18	60.05	49.53	74.48	67.89	66.22	69.78	51.68	77	0	0	6.21	0.30	17.53	300
25-Nov-12	56.18	42.82	75.38	56.84	44.87	71.76	57.94	46.99	70.45	67.44	65.95	68.88	43.19	65	0	0	5.22	0.13	10.47	10
26-Nov-12	63.01	46.72	81.09	63.26	49.89	78.19	63.38	51.71	76.26	67.73	65.97	69.76	55.74	79	0	0	4.67	0.33	11.60	72
27-Nov-12	67.31	56.08	80.91	67.85	59.40	79.20	68.37	61.00	77.85	69.63	68.16	71.42	62.09	84	0.02	0.02	4.54	0.70	15.37	178
28-Nov-12	62.91	55.22	75.43	63.30	55.56	73.60	63.39	55.44	70.99	69.62	68.79	70.43	59.38	88	0.01	0.01	6.71	0.00	16.07	11
29-Nov-12	62.96	52.11	78.48	63.00	52.57	76.87	62.30	52.61	74.21	69.24	68.02	70.50	56.71	82	0	0	8.51	2.63	22.57	33
30-Nov-12	65.33	53.44	80.60	65.69	56.68	78.75	65.30	57.36	75.96	69.77	68.59	71.20	56.82	76	0	0	7.87	2.57	17.97	45

Appendix D: Groundwater Elevations

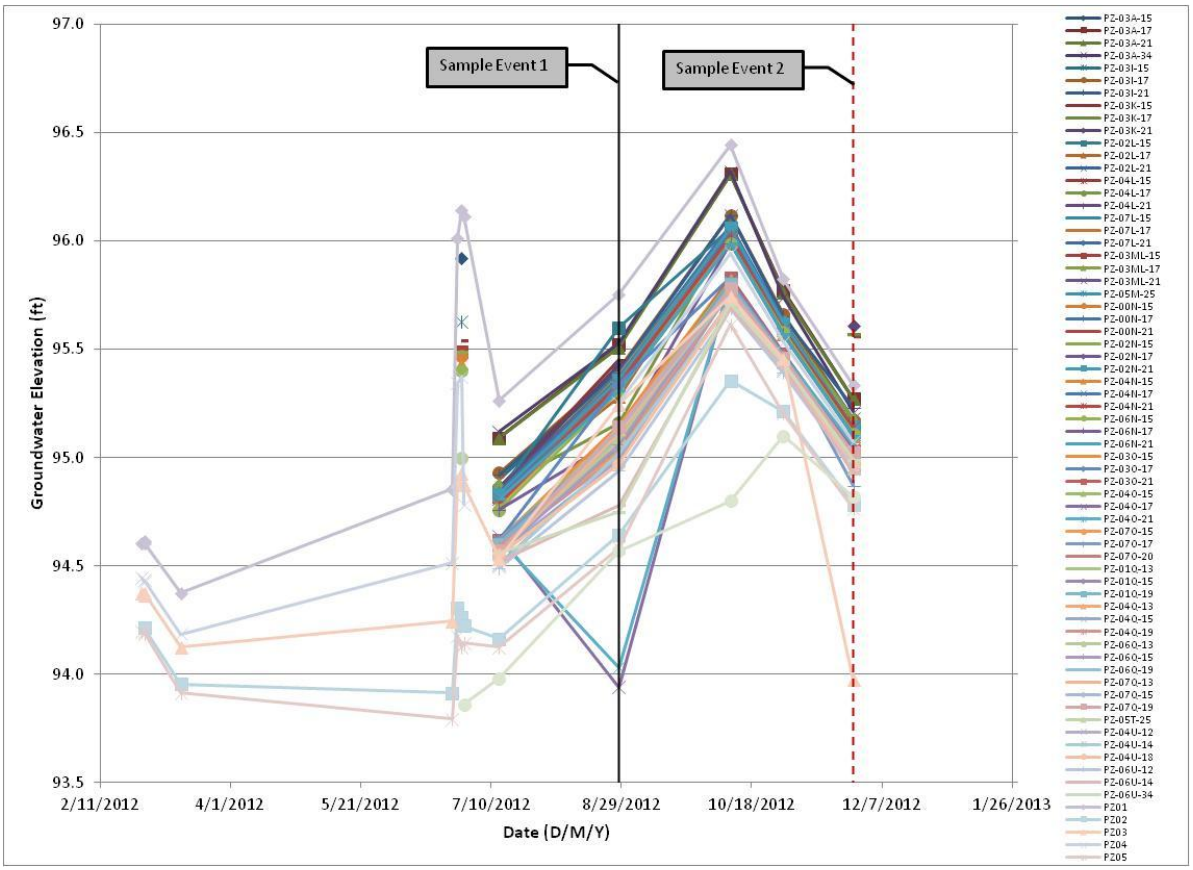

Figure D.1
Groundwater Elevations

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Table D.1
Groundwater Elevations

Date	PZ-03A-15	PZ-03A-17	PZ-03A-21	PZ-03A-34	PZ-03I-15	PZ-03I-17	PZ-03I-21	PZ-03K-15	PZ-03K-17	PZ-03K-21	PZ-02L-15	PZ-02L-17	PZ-02L-21	PZ-04L-15	PZ-04L-17	PZ-04L-21	PZ-07L-15	PZ-07L-17	PZ-07L-21	PZ-03ML-15	PZ-03ML-17	PZ-03ML-21
2/27/2012																						
2/28/2012																						
2/28/2012																						
3/13/2012																						
6/25/2012																						
6/27/2012																						
6/28/2012	95.92				95.63			95.54												95.49		
6/29/2012																						
7/13/2012	95.09	95.09	95.09	95.12	94.90	94.93	94.92	94.86	94.86	94.86	94.84	94.84	94.84	94.81	94.86	94.86				94.82	94.88	94.82
8/28/2012	95.52	95.52	95.51	95.53	95.40	95.41	95.40	95.45	95.39	95.43	95.60	95.28	95.37	95.36	95.16	95.38	95.35	95.31	95.34			
10/10/2012	96.31	96.31	96.31	96.32	96.12	96.12	96.12				96.06	96.07	96.06	96.05	96.06	96.06	96.03	96.05	96.04	96.05	96.06	96.06
10/30/2012	95.77	95.77	95.76	95.74	95.66	95.66	95.65				95.61	95.61	95.61	95.60	95.63	95.61	95.60	95.62	95.60	95.61	95.62	95.62
11/26/2012	95.27	95.27	95.27	95.21	95.18	95.17	95.23	95.56	95.57	95.61	95.12	95.12	95.14	95.13	95.14	95.14	95.12	95.12	95.13	95.13	95.18	95.13

Elevation above mean sea level based on NGVD 1929

Table D.1 (con't)
Groundwater Elevations

Date	PZ-05M-25	PZ-00N-15	PZ-00N-17	PZ-00N-21	PZ-02N-15	PZ-02N-17	PZ-02N-21	PZ-04N-15	PZ-04N-17	PZ-04N-21	PZ-06N-15	PZ-06N-17	PZ-06N-21	PZ-03O-15	PZ-03O-17	PZ-03O-21	PZ-04O-15	PZ-04O-17	PZ-04O-21	PZ-07O-15	PZ-07O-17	PZ-07O-20
2/27/2012																						
2/28/2012																						
2/28/2012																						
3/13/2012																						
6/25/2012																						
6/27/2012																						
6/28/2012	95.44	95.47			95.49			95.43			95.40											
6/29/2012																						
7/13/2012		94.81	94.84	94.80	94.81	94.82	94.83	94.78	94.81	94.79	94.76	94.76	94.81	94.62	94.62	94.62	94.62	94.64	94.62	94.60	94.62	94.59
8/28/2012		95.37	95.39	95.32	95.38	95.37	95.36	95.33	95.33	95.34	95.31	95.09	95.31	95.15	95.34	95.10	95.12	93.94	94.03	95.03	95.10	95.08
10/10/2012		96.02	96.07	96.02	96.05	96.05	96.06	96.01	96.03	96.02	95.99	95.99	95.99	95.83	95.83	95.83	95.82	95.82	95.81	95.80	95.81	95.80
10/30/2012		95.59	95.63	95.58	95.61	95.62	95.62	95.57	95.59	95.59	95.58	95.57	95.57	95.48	95.47	95.48	95.47	95.48	95.47	95.46	95.47	95.46
11/26/2012	95.12	95.12	95.13	95.12	95.12	95.12	95.14	95.10	95.11	95.14	95.11	95.10	95.10	95.03	95.02	95.03	95.02	95.04	95.06	95.01	94.87	95.00

Elevation above mean sea level based on NGVD 1929

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Table D.1 (con't)
Groundwater Elevations

Date	PZ-01Q-13	PZ-01Q-15	PZ-01Q-19	PZ-04Q-15	PZ-04Q-19	PZ-06Q-13	PZ-06Q-15	PZ-06Q-19	PZ-07Q-13	PZ-07Q-15	PZ-07Q-19	PZ-05T-25	PZ-04U-12	PZ-04U-14	PZ-04U-18	PZ-06U-12	PZ-06U-14	PZ-06U-34	PZ01	PZ02	PZ03	PZ04	PZ05	Lake SG
2/27/2012																			94.60		94.37	94.44	94.19	
2/28/2012																			94.61	94.21	94.36	94.42	94.18	
2/28/2012																			94.60	94.21	94.37	94.43	94.19	
3/13/2012																			94.37	93.95	94.12	94.18	93.91	
6/25/2012																			94.85	93.91	94.24	94.51	93.79	
6/27/2012																			96.01	94.30	94.89	95.34	94.17	
6/28/2012						95.00													96.14	94.26	94.92	95.37	94.12	
6/29/2012																			96.11	94.22	94.87	94.78	94.14	93.86
7/13/2012	94.58	94.59	94.60	94.56	94.59	94.56	94.56	94.56	94.56	94.57	94.57		94.51	94.50	94.55	94.49	94.52	94.56	95.26	94.16	94.53		94.12	93.98
8/28/2012	95.06	95.05	95.09	94.99	95.01	95.08	95.06	95.11	95.11	95.13	95.14		95.01	95.02	94.97	94.94	94.78	94.75	95.75	94.64	95.24	95.25	94.58	94.57
10/10/2012	95.78	95.80	95.80	95.77	95.77	95.77	95.78	95.76	95.77	95.77	95.78		95.72	95.71	95.72	95.69	95.69	95.71	96.44	95.35	95.74	95.94	95.61	94.80
10/30/2012	95.44	95.45	95.46	95.45	95.45	95.43	95.45	95.45	95.45	95.44	95.46		95.40	95.41	95.43	95.39	95.42	95.44	95.82	95.21	95.45	95.53	95.20	95.10
11/26/2012	94.99	95.00	94.99	94.99	95.00	94.98	94.99	94.94	95.01	94.99	95.02	94.95	94.96	94.96	94.96	94.95	94.93	94.99	95.33	94.78	93.97	95.07	94.76	94.82

Elevation above mean sea level based on NGVD 1929

Appendix E: Water Quality Analytical Results

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Table E.1
Water Quality Analytical Results
(November 26 through 30, 2012)

Sample ID	Sample Date/Time	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	TDS (mg/L)	TSS (mg/L)	$CBOD_5$ (mg/L)	COD (mg/L)	TN (mg/L N)[1]	TKN (mg/L N)	Organic N (mg/L N)[2]	NH_3-N (mg/L N)	NOx (mg/L N)	TIN (mg/L N)[3]	TP (mg/L)	Fecal (Ct/100 mL)	TOC (mg/L)	DOC (mg/L)	Anions						Cations							Hydrogen Sulfide (Unionized) (mg/L)	Sulfide (mg/L)	TS (mg/L)	Sucralose (ug/L)
																					F^-	Cl^-	NO_3-N^-	NO_2-N^-	PO_4-P	SO_4^-	B	Ca	Fe	Mg	Mn	K	Na				
STE Sample																																					
STE	12/4/12 8:20	25.6	7.42	280	1.75	818		10	38		53.03	53.00	7.00	46.00	0.03	46.03	4.70	900.00			0.13	30.00	0.03	0.01	2.90	8.00	0.05	42.00	0.12	11.00	0.01	12.00	23.00			390.00	8.30
STE DUP	12/4/12 8:25	25.6	7.42	270	1.75	818		12	42		53.02	53.00	7.00	46.00	0.02	46.02	4.70	900.00			0.15	31.00	0.01	0.01	8.90	7.50	0.05	40.00	0.11	10.00	0.01	11.00	22.00			420.00	
Groundwater Samples																																					
PZ-01BKG	11/29/12 11:03	26.6	5.85	12	7.55	60				10	1.21	0.52	0.51	0.01	0.69	0.70	0.28					4.40	0.69	0.01												
PZ-02BKG	11/29/12 12:36	26.8	4.66	5.3	1.16	50				10	0.50	0.47	0.46	0.01	0.03	0.04	0.05					3.80	0.03	0.01												
PZ-03BKG	11/29/12 8:08	23.8	5.70	5.3	6.70	37				13	0.63	0.55	0.54	0.01	0.08	0.09	0.33					3.00	0.08	0.01												
PZ-04BKG	11/29/12 12:22	25.2	5.00	7.4	0.55	68				38	2.40	1.80	1.43	0.37	0.60	0.97	0.67					3.60	0.60	0.01												
PZ-05BKG	11/29/12 12:49	24.5	4.85	12	0.35	41				22	0.64	0.62	0.60	0.02	0.02	0.04	0.19					1.80	0.02	0.01												
PZ-03A-15	11/29/12 10:02	26.7	6.62	11	7.56	38				10	1.30	0.78	0.71	0.07	0.52	0.59	0.82		5.00	3.60	0.01	0.94	0.52	0.01	0.08	2.40	0.05	3.40	0.16	1.50	0.01	0.98	0.86				
PZ-03A-17	11/29/12 10:26	26.3	6.27	25	7.11	76				10	1.05	0.51	0.50	0.01	0.54	0.55	0.18					1.50	0.54	0.01												
PZ-03A-17-DUP	11/29/12 10:31	26.3	6.27	25	7.11	76				10	1.16	0.56	0.55	0.01	0.60	0.61	0.18					1.50	0.60	0.01												
PZ-03A-21	11/29/12 10:43	26.8	5.71	15	3.03	244				10	9.70	1.50	1.49	0.01	8.20	8.21	0.04					11.00	8.20	0.01												
PZ-03A-34	11/29/12 9:00	25.6	4.80	2	2.21	305				10	15.10	1.10	1.09	0.01	14.00	14.01	0.18					19.00	14.00	0.01												0.01
PZ-03I-15	11/28/12 8:49	25.8	6.15	9.5	6.17	78				15	4.50	1.20	1.17	0.03	3.30	3.33	0.44					1.10	3.30	0.01												
PZ-03I-17	11/28/12 9:08	25.9	6.27	2.1	6.89	51					1.64	1.10	0.97	0.13	0.54	0.67						1.80	0.54	0.01												
PZ-03I-21	11/28/12 9:26	25.9	5.13	3.2	3.72	177					3.71	0.81	0.78	0.03	2.90	2.93						6.80	2.90	0.01												
PZ-03K-15	11/29/12 11:29	27.5	6.77	41	5.79	275				10	12.40	1.40	1.39	0.01	11.00	11.01	4.30					9.00	11.00	0.01												
PZ-03K-17	11/29/12 11:48	27.4	6.13	15	6.32	77					1.00	0.49	0.48	0.01	0.51	0.52						1.90	0.51	0.01												
PZ-03K-21	11/29/12 12:09	27.5	5.95	17	3.63	185					2.95	0.55	0.54	0.01	2.40	2.41						7.50	2.40	0.01												
PZ-02L-15	11/27/12 9:21	26.6	6.80	27	6.90	105				24	4.30	2.30	2.29	0.01	2.00	2.01	1.10					1.40	2.00	0.01												
PZ-02L-17	11/27/12 9:40	26.1	6.80	16	5.49	63					1.51	0.51	0.48	0.03	1.00	1.03						1.30	1.00	0.01												
PZ-02L-21	11/27/12 9:51	26.2	5.38	6.3	3.18	209					4.90	1.40	1.39	0.01	3.50	3.51						7.80	3.50	0.01												
PZ-04L-15	11/27/12 11:21	27.5	5.38	41	5.85	252				24	10.20	1.70	1.67	0.03	8.50	8.53	1.10					8.40	8.50	0.01												
PZ-04L-17	11/27/12 11:40	27.3	6.47	21	5.50	71					1.04	0.49	0.48	0.01	0.55	0.56						1.20	0.55	0.01												
PZ-04L-21	11/27/12 11:55	27.6	5.42	6.3	2.50	190					3.34	0.84	0.83	0.01	2.50	2.51						6.60	2.50	0.01												
PZ-07L-15	11/28/12 9:45	25.7	6.45	20	6.72	65				10	1.61	0.80	0.79	0.01	0.81	0.82	0.18					1.00	0.81	0.01												
PZ-07L-17	11/28/12 10:03	25.5	6.34	24	6.26	85					1.90	0.70	0.69	0.01	1.20	1.21						1.70	1.20	0.01												
PZ-07L-21	11/28/12 10:21	25.9	5.42	6.3	3.94	166					4.37	0.87	0.86	0.01	3.50	3.51						5.80	3.50	0.01												
PZ-03ML-15	11/27/12 10:10	27.1	6.32	30	5.32	394				13	18.50	1.50	1.49	0.01	17.00	17.01	5.30		3.50	3.30	0.03	19.00	17.00	0.01	3.00	27.00	0.05	38.00	0.11	6.10	0.02	6.30	18.00				
PZ-03ML-17	11/27/12 10:31	26.4	6.58	17	6.54	63				42	1.51	0.81	0.78	0.03	0.70	0.73	3.60		8.40	3.70	0.01	1.60	0.70	0.01	1.80	4.40	0.05	8.80	0.19	1.80	0.00	1.60	1.10				
PZ-03ML-17-DUP	11/27/12 10:36	26.4	6.58	16	6.54	63				44	1.65	0.97	0.94	0.03	0.68	0.71	3.60		7.80	3.80	0.02	1.50	0.68	0.01	1.70	4.30	0.05	8.70	0.17	1.80	0.00	1.60	1.10				
PZ-03ML-21	11/27/12 10:58	27.0	6.16	20	2.99	223				17	4.00	1.30	1.29	0.01	2.70	2.71	0.87		2.10	1.50	0.01	7.80	2.70	0.01	0.37	44.00	0.05	24.00	0.04	4.80	0.00	5.30	3.50				
PZ-00N-15	11/26/12 10:43	26.6	6.47	21	6.47	75				29	1.24	0.67	0.63	0.04	0.57	0.61	0.94					1.20	0.57	0.01												
PZ-00N-17	11/26/12 12:55	27.0	5.91	15	5.14	61					1.60	0.60	0.59	0.01	1.00	1.01						0.88	1.00	0.01												
PZ-00N-21	11/26/12 10:05	26.1	5.97	2.1	4.50	213					6.10	1.20	1.19	0.01	4.90	4.91						8.90	4.90	0.01												
PZ-02N-15	11/26/12 13:22	26.9	6.64	32	6.94	102				20	1.76	0.76	0.75	0.01	1.00	1.01	1.40					1.50	1.00	0.01												
PZ-02N-17	11/26/12 13:41	26.8	6.12	12	6.10	47					1.34	0.72	0.70	0.02	0.62	0.64						1.40	0.62	0.01												
PZ-02N-21	11/26/12 14:00	26.4	4.77	2.1	2.81	230					6.93	0.83	0.82	0.01	6.10	6.11						9.80	6.10	0.01												
PZ-04N-15	11/27/12 12:11	28.3	6.62	42	5.58	245				26	9.10	1.50	1.49	0.02	7.60	7.62	0.89					9.00	7.60	0.01												
PZ-04N-15-DUP	11/27/12 12:16	28.3	6.62	42	5.58	245				26	9.80	1.60	1.59	0.01	8.20	8.21	0.86					9.70	8.20	0.01												
PZ-04N-17	11/27/12 12:32	26.9	6.52	24	3.75	87				56	1.84	1.20	1.02	0.18	0.64	0.82	1.70					2.00	0.64	0.01												
PZ-04N-21	11/27/12 12:51	26.6	5.75	15	5.24	210					3.37	0.87	0.81	0.06	2.50	2.56						7.90	2.50	0.01												
PZ-06N-15	11/27/12 13:08	26.7	6.09	34	3.54	408					19.50	1.50	1.48	0.02	18.00	18.02						16.00	18.00	0.01												

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Table E.1 (con't)
Water Quality Analytical Results
(November 26 through 30, 2012)

Sample ID	Sample Date/Time	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	TDS (mg/L)	TSS (mg/L)	$CBOD_5$ (mg/L)	COD (mg/L)	TN (mg/L N)[1]	TKN (mg/L N)	Organic N (mg/L N)[2]	NH_3-N (mg/L N)	NOx (mg/L N)	TIN (mg/L N)[3]	TP (mg/L)	Fecal (Ct/100 mL)	TOC (mg/L)	DOC (mg/L)	Anions						Cations							Hydrogen Sulfide (Unionized) (mg/L)	Sulfide (mg/L)	TS (mg/L)	Sucralose (ug/L)
																					F^-	Cl^-	NO_3-N^-	NO_2-N^-	PO_4-P^-	SO_4^-	B	Ca	Fe	Mg	Mn	K	Na				
PZ-06N-17	11/27/12 13:26	26.8	6.47	24	4.26	88					1.21	0.61	0.52	0.09	0.60	0.69						1.90	0.60	0.01													
PZ-06N-21	11/27/12 13:44	26.8	5.80	13	2.53	216					2.98	0.58	0.57	0.02	2.40	2.42						7.60	2.40	0.01													
PZ-03O-15	11/30/12 11:39	24.4	7.55	35	7.00	113					3.30	1.30	1.29	0.01	2.00	2.01						1.60	2.00	0.01													
PZ-03O-17	11/30/12 11:57	24.7	6.90	15	4.47	56					1.54	0.71	0.70	0.01	0.83	0.84						1.00	0.83	0.01													
PZ-03O-21	11/30/12 12:16	25.1	5.52	2.1	2.62	210					11.10	1.40	1.39	0.01	9.70	9.71						13.00	9.70	0.01													
PZ-04O-15	11/30/12 9:52	24.5	7.04	32	6.10	188				10	8.90	1.50	1.49	0.01	7.40	7.41	1.80		5.30	4.70	0.15	5.30	7.40	0.01	1.80	6.70	0.05	20.00	0.03	3.00	0.00	4.80	7.50				
PZ-04O-17	11/30/12 10:18	24.9	7.25	19	2.64	102				10	4.13	0.93	0.92	0.01	3.20	3.21						2.70	3.20	0.01													
PZ-04O-17-DUP	11/30/12 10:23	24.9	7.25	20	2.64	102				10	4.03	0.73	0.72	0.01	3.30	3.31						2.70	3.30	0.01													
PZ-04O-21	11/30/12 10:36	25.1	5.81	5.3	3.85	240				10	8.10	1.50	1.49	0.01	6.60	6.61						11.00	6.60	0.01													
PZ-07O-15	11/28/12 10:37	24.7	6.30	30	5.17	120				10	4.10	1.10	1.09	0.01	3.00	3.01	0.43					1.60	3.00	0.01													
PZ-07O-17	11/28/12 11:01	24.7	6.71	27	2.15	82					1.80	0.60	0.56	0.04	1.20	1.24						1.40	1.20	0.01													
PZ-07O-20	11/28/12 11:13	24.8	5.70	7.4	3.56	106					2.94	0.74	0.73	0.01	2.20	2.21						5.60	2.20	0.01													
PZ-01Q-13	11/29/12 13:10	24.7	6.21	17	6.86	48				10	1.67	0.74	0.69	0.05	0.93	0.98	0.33					1.00	0.93	0.01													
PZ-01Q-15	11/29/12 13:28	25.0	6.03	8.4	6.51	46				10	2.17	0.57	0.56	0.01	1.60	1.61	0.24					0.71	1.60	0.01													
PZ-01Q-19	11/29/12 13:48	25.1	5.22	2.1	4.11	76					4.12	0.62	0.61	0.01	3.50	3.51						2.20	3.50	0.01													
PZ-04Q-13	11/30/12 10:49	24.4	6.98	32	5.89	189				15	9.70	1.80	1.79	0.01	7.90	7.91	1.80		5.10	5.10	0.23	5.60	7.90	0.01	1.80	7.20	0.05	20.00	0.02	3.00	0.00	4.80	7.40				
PZ-04Q-15	11/30/12 11:08	24.0	7.35	19	2.35	107				10	4.50	1.20	1.19	0.01	3.30	3.31	0.30		3.30	3.00	0.35	2.80	3.30	0.01	0.25	6.00	0.05	11.00	0.02	2.40	0.00	3.10	1.60				
PZ-04Q-19	11/30/12 11:23	24.8	5.86	5.3	2.02	249					7.80	1.20	1.19	0.01	6.60	6.61						11.00	6.60	0.01													
PZ-06Q-13	11/28/12 12:13	25.3	6.58	25	7.06	137				10	6.80	1.10	1.09	0.01	5.70	5.71	0.17					2.50	5.70	0.01													
PZ-06Q-15	11/28/12 12:31	25.7	6.85	30	2.91	133				10	4.79	0.99	0.98	0.01	3.80	3.81	4.80					1.70	3.80	0.01													
PZ-06Q-15-DUP	11/28/12 12:36	25.7	6.85	30	2.91	133				10	4.69	0.99	0.96	0.03	3.70	3.73	4.40					1.70	3.70	0.01													
PZ-06Q-19	11/28/12 12:48	26.1	6.85	25	0.28	72				10	0.92	0.58	0.56	0.02	0.34	0.36	0.17					1.30	0.34	0.08													
PZ-07Q-13	11/28/12 11:28	24.5	6.52	31	5.07	115				10	3.79	0.79	0.76	0.03	3.00	3.03	0.34					1.60	3.00	0.01													
PZ-07Q-15	11/28/12 11:46	25.0	6.54	26	2.47	82					2.11	0.91	0.90	0.01	1.20	1.21						1.40	1.20	0.01													
PZ-07Q-19	11/28/12 11:58	25.0	5.65	7.4	3.67	112					3.07	0.77	0.75	0.02	2.30	2.32						6.00	2.30	0.01													
PZ-04U-12	11/30/12 9:00	24.8	7.20	34	4.67	90				10	1.07	0.48	0.45	0.03	0.59	0.62	0.20					1.10	0.59	0.01													
PZ-04U-14	11/30/12 9:18	25.1	7.32	46	6.18	127					1.79	0.49	0.48	0.01	1.30	1.31						1.20	1.30	0.01													
PZ-04U-18	11/30/12 9:36	25.3	6.28	5.3	4.26	57					1.68	0.48	0.47	0.01	1.20	1.21						2.50	1.20	0.01													
PZ-06U-12	11/30/12 8:07	24.5	7.18	25	5.85	184					11.50	1.50	1.49	0.01	10.00	10.01						5.70	10.00	0.01													
PZ-06U-14	11/30/12 8:15	24.6	6.22	14	3.15	517					37.00	2.00	1.98	0.02	35.00	35.02						25.00	35.00	0.01													
PZ-06U-14-DUP	11/30/12 8:20	24.6	6.22	13	3.15	517					37.40	2.40	2.38	0.02	35.00	35.02						26.00	35.00	0.01													
PZ-06U-34	11/30/12 8:38	25.1	5.36	2.1	1.33	301					13.30	1.30	1.29	0.01	12.00	12.01						14.00	12.00	0.01													
Blanks																																					
FB-DI	11/28/12 12:55	21.4	7.02	2	10.03	2		1	2	10	0.06	0.05	0.04	0.01	0.01	0.02	0.01	1.00	0.50	0.50	0.01	0.05	0.01	0.01	0.01	0.20	0.05	0.04	0.02	0.02	0.00	0.01	0.13			10.00	
FB-TAP	11/28/12 12:50	23.1	7.51	93	5.44	330		1	2	10	0.61	0.26	0.25	0.01	0.35	0.36	0.04	1.00	0.50	0.50	0.02	12.00	0.35	0.01	0.01	38.00	0.05	39.00	0.02	10.00	0.00	3.70	7.20			260.00	
EB	11/28/12 13:00	21.4	7.02	2	10.03	2		1	2	10	0.08	0.07	0.05	0.02	0.01	0.03	0.01	1.00	0.50	0.50	0.01	0.05	0.01	0.01	0.01	0.20	0.05	0.04	0.02	0.02	0.00	0.01	0.13			10.00	

Notes:
[1]Total Nitrogen (TN) is a calculated value equal to the sum of TKN and NO_x
[2]Organic Nitrogen (ON) is a calculated value equal to the difference of TKN and NH_3
[3]Total Inorganic Nitrogen (TIN) is a calculated value equal to the sum of NH_3 and NO_x
D.O. - Dissolved oxygen
Gray-shaded data points indicate values below method detection level (mdl), mdl value used for statistical analyses.
Yellow-shaded data points indicate the reported value is between the laboratory method detection limit and the laboratory practical quantitation limit, value used for statistical analysis.

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Appendix F: Summary of Water Quality Data

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Table F.1
Summary of Water Quality Data

Sample ID	Sample Date/Time	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS/cm)	TDS (mg/L)	TSS (mg/L)	$CBOD_5$ (mg/L)	COD (mg/L)	TN (mg/L N)[1]	TKN (mg/L N)	Organic N (mg/L N)[2]	NH_3-N (mg/L N)	NOx (mg/L N)	TIN (mg/L N)[3]	TP (mg/L)	Fecal (Ct/100 mL)	TOC (mg/L)	DOC (mg/L)	Anions						Cations							Hydrogen Sulfide (Unionized) (mg/L)	Sulfide (mg/L)	TS (mg/L)	Sucralose (ug/L)
																					F^-	Cl^-	NO_3-N^-	NO_2-N^-	PO_4-P^-	SO_4^-	B	Ca	Fe	Mg	Mn	K	Na				
STE samples																																					
STE	n	2	2	2	2	2	0	2	2	0	2	2	2	2	2	2	2	2	0	0	1	2	2	2	1	1	1	1	1	1	1	1	1	0	0	2	2
	MEAN	28.00	7.31	295.00	1.68	755.50		16.50	31.50		48.31	48.00	5.50	42.50	0.31	42.81	4.20	2,100.00			0.13	30.00	0.31	0.01	2.90	8.00	0.05	42.00	0.12	11.00	0.01	12.00	23.00			365.00	4.30
	STD. DEV.	3.39	0.16	21.21	0.11	88.39		9.19	9.19		6.68	7.07	2.12	4.95	0.39	4.56	0.71	1,697.06				0.00	0.39	0.00												35.36	0.00
	MIN	25.60	7.20	280.00	1.60	693.00		10.00	25.00		43.58	43.00	4.00	39.00	0.03	39.58	3.70	900.00			0.13	30.00	0.03	0.01	2.90	8.00	0.05	42.00	0.12	11.00	0.01	12.00	23.00			340.00	0.30
	MAX	30.40	7.42	310.00	1.75	818.00		23.00	38.00		53.03	53.00	7.00	46.00	0.58	46.03	4.70	3,300.00			0.13	30.00	0.58	0.01	2.90	8.00	0.05	42.00	0.12	11.00	0.01	12.00	23.00			390.00	8.30
Groundwater samples																																					
PZ-01BKG	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.95	5.93	11.50	6.23	49.05				17.00	0.90	0.40	0.38	0.02	0.50	0.52	0.31					3.00	0.50	0.01													
	STD. DEV.	0.49	0.11	0.71	1.87	15.63				9.90	0.44	0.17	0.18	0.01	0.27	0.26	0.04					1.98	0.27	0.00													
	MIN	26.60	5.85	11.00	4.90	38.00				10.00	0.59	0.28	0.26	0.01	0.31	0.33	0.28					1.60	0.31	0.01													
	MAX	27.30	6.00	12.00	7.55	60.10				24.00	1.21	0.52	0.51	0.02	0.69	0.70	0.34					4.40	0.69	0.01													
PZ-02BKG	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2					2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	27.45	4.98	4.75	2.18	47.60				17.00	0.48	0.43	0.42	0.01	0.05	0.06	0.07					3.70	0.05	0.01													
	STD. DEV.	0.92	0.45	0.78	1.44	3.68				9.90	0.03	0.06	0.06	0.00	0.03	0.03	0.03					0.14	0.03	0.00													
	MIN	26.80	4.66	4.20	1.16	45.00				10.00	0.46	0.39	0.38	0.01	0.03	0.04	0.05					3.60	0.03	0.01													
	MAX	28.10	5.30	5.30	3.20	50.20				24.00	0.50	0.47	0.46	0.01	0.07	0.08	0.09					3.80	0.07	0.01													
PZ-03BKG	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.15	5.60	4.75	5.95	47.55				25.50	0.65	0.49	0.48	0.01	0.16	0.17	0.23					5.45	0.16	0.01													
	STD. DEV.	3.32	0.14	0.78	1.06	14.78				17.68	0.02	0.09	0.09	0.00	0.11	0.11	0.15					3.46	0.11	0.00													
	MIN	23.80	5.50	4.20	5.20	37.10				13.00	0.63	0.42	0.41	0.01	0.08	0.09	0.12					3.00	0.08	0.01													
	MAX	28.50	5.70	5.30	6.70	58.00				38.00	0.66	0.55	0.54	0.01	0.24	0.25	0.33					7.90	0.24	0.01													
PZ-04BKG	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.70	5.00	5.80	1.38	60.75				43.50	2.92	2.20	1.95	0.25	0.72	0.97	1.94					3.90	0.72	0.01													
	STD. DEV.	0.71	0.00	2.26	1.17	9.55				7.78	0.74	0.57	0.74	0.17	0.17	0.00	1.79					0.42	0.17	0.00													
	MIN	25.20	5.00	4.20	0.55	54.00				38.00	2.40	1.80	1.43	0.13	0.60	0.97	0.67					3.60	0.60	0.01													
	MAX	26.20	5.00	7.40	2.20	67.50				49.00	3.44	2.60	2.47	0.37	0.84	0.97	3.20					4.20	0.84	0.01													
PZ-05BKG	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.65	5.13	10.70	0.38	38.50				33.00	0.88	0.86	0.83	0.03	0.02	0.05	0.26					1.55	0.02	0.01													
	STD. DEV.	3.04	0.39	1.84	0.04	3.54				15.56	0.34	0.34	0.33	0.01	0.00	0.01	0.10					0.35	0.01	0.00													
	MIN	24.50	4.85	9.40	0.35	36.00				22.00	0.64	0.62	0.60	0.02	0.02	0.04	0.19					1.30	0.01	0.01													
	MAX	28.80	5.40	12.00	0.40	41.00				44.00	1.12	1.10	1.06	0.04	0.02	0.06	0.33					1.80	0.02	0.01													
PZ-O3A-15	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	1
	MEAN	27.35	6.31	12.00	7.48	46.20				10.00	1.45	0.69	0.65	0.04	0.76	0.80	0.54		4.30	3.25	0.01	1.17	0.76	0.01	0.04	2.85	0.05	3.75	0.93	1.85	0.00	1.89	1.48				0.01
	STD. DEV.	0.92	0.44	1.41	0.11	11.03				0.00	0.21	0.13	0.08	0.04	0.34	0.30	0.40		0.99	0.49	0.00	0.33	0.34	0.00	0.05	0.64	0.00	0.49	1.09	0.49	0.00	1.29	0.88				
	MIN	26.70	6.00	11.00	7.40	38.40				10.00	1.30	0.60	0.59	0.01	0.52	0.59	0.25		3.60	2.90	0.01	0.94	0.52	0.01	0.01	2.40	0.05	3.40	0.16	1.50	0.00	0.98	0.86				0.01
	MAX	28.00	6.62	13.00	7.56	54.00				10.00	1.60	0.78	0.71	0.07	1.00	1.01	0.82		5.00	3.60	0.01	1.40	1.00	0.01	0.08	3.30	0.05	4.10	1.70	2.20	0.01	2.80	2.10				0.01
PZ-O3A-17	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	0	0	1	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0	1
	MEAN	27.25	6.04	22.00	6.81	77.80				10.00	1.12	0.50	0.49	0.01	0.63	0.64	0.14				0.01	1.70	0.63	0.01	0.01	8.10											0.01
	STD. DEV.	1.34	0.33	4.24	0.43	3.11				0.00	0.10	0.02	0.02	0.00	0.12	0.12	0.06					0.28	0.12	0.00													
	MIN	26.30	5.80	19.00	6.50	75.60				10.00	1.05	0.48	0.47	0.01	0.54	0.55	0.10				0.01	1.50	0.54	0.01	0.01	8.10											0.01
	MAX	28.20	6.27	25.00	7.11	80.00				10.00	1.19	0.51	0.50	0.01	0.71	0.72	0.18				0.01	1.90	0.71	0.01	0.01	8.10											0.01

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Table F.1 (con't)
Summary of Water Quality Data

Sample ID	Sample Date/Time	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS/cm)	TDS (mg/L)	TSS (mg/L)	$CBOD_5$ (mg/L)	COD (mg/L)	TN (mg/L N)[1]	TKN (mg/L N)	Organic N (mg/L N)[2]	NH_3-N (mg/L N)	NOx (mg/L N)	TIN (mg/L N)[3]	TP (mg/L)	Fecal (Ct/100 mL)	TOC (mg/L)	DOC (mg/L)	Anions						Cations							Hydrogen Sulfide (Unionized) (mg/L)	Sulfide (mg/L)	TS (mg/L)	Sucralose (ug/L)
																					F^-	Cl^-	NO_3-N^-	NO_2-N^-	PO_4-P^-	SO_4^-	B	Ca	Fe	Mg	Mn	K	Na				
PZ-O3A-21	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	0	0	1	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0	1
	MEAN	27.60	5.66	15.50	2.52	255.50				10.00	7.70	1.50	1.49	0.01	6.20	6.21	0.07				0.01	10.15	6.20	0.01	0.01	63.00											0.01
	STD. DEV.	1.13	0.08	0.71	0.73	16.26				0.00	2.83	0.00	0.00	0.00	2.83	2.83	0.04					1.20	2.83	0.00													
	MIN	26.80	5.60	15.00	2.00	244.00				10.00	5.70	1.50	1.49	0.01	4.20	4.21	0.04				0.01	9.30	4.20	0.01	0.01	63.00											0.01
	MAX	28.40	5.71	16.00	3.03	267.00				10.00	9.70	1.50	1.49	0.01	8.20	8.21	0.10				0.01	11.00	8.20	0.01	0.01	63.00											0.01
PZ-O3A-34	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	0	0	1	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0	1
	MEAN	26.30	4.50	2.00	1.46	299.00				12.50	15.70	1.70	1.63	0.07	14.00	14.07	1.34				0.08	20.00	14.00	0.01	0.01	25.00											0.01
	STD. DEV.	0.99	0.42	0.00	1.07	8.49				3.54	0.85	0.85	0.76	0.09	0.00	0.09	1.64					1.41	0.00	0.00													
	MIN	25.60	4.20	2.00	0.70	293.00				10.00	15.10	1.10	1.09	0.01	14.00	14.01	0.18				0.08	19.00	14.00	0.01	0.01	25.00											0.01
	MAX	27.00	4.80	2.00	2.21	305.00				15.00	16.30	2.30	2.16	0.14	14.00	14.14	2.50				0.08	21.00	14.00	0.01	0.01	25.00											0.01
PZ-O3I-15	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	0	0	1	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	27.10	5.93	7.35	6.29	79.40				13.00	4.00	1.25	1.20	0.05	2.75	2.80	0.72				0.55	1.40	2.75	0.01	0.16	14.00											
	STD. DEV.	1.84	0.32	3.04	0.16	2.26				2.83	0.71	0.07	0.04	0.03	0.78	0.75	0.40					0.42	0.78	0.00													
	MIN	25.80	5.70	5.20	6.17	77.80				11.00	3.50	1.20	1.17	0.03	2.20	2.27	0.44				0.55	1.10	2.20	0.01	0.16	14.00											
	MAX	28.40	6.15	9.50	6.40	81.00				15.00	4.50	1.30	1.23	0.07	3.30	3.33	1.00				0.55	1.70	3.30	0.01	0.16	14.00											
PZ-O3I-17	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	1	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	27.85	6.14	6.05	6.80	53.65					1.92	1.30	1.13	0.18	0.62	0.80					0.01	1.85	0.62	0.01	0.01	7.30											
	STD. DEV.	2.76	0.19	5.59	0.13	3.32					0.40	0.28	0.22	0.06	0.11	0.18						0.07	0.11	0.00													
	MIN	25.90	6.00	2.10	6.70	51.30					1.64	1.10	0.97	0.13	0.54	0.67					0.01	1.80	0.54	0.01	0.01	7.30											
	MAX	29.80	6.27	10.00	6.89	56.00					2.20	1.50	1.28	0.22	0.70	0.92					0.01	1.90	0.70	0.01	0.01	7.30											
PZ-O3I-21	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	1	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	27.65	4.92	3.20	4.01	178.60					3.50	0.75	0.73	0.02	2.75	2.77					0.01	7.70	2.75	0.01	0.01	39											
	STD. DEV.	2.47	0.30	0.00	0.41	1.98					0.30	0.08	0.07	0.02	0.21	0.23						1.27	0.21	0.00													
	MIN	25.90	4.70	3.20	3.72	177.20					3.29	0.69	0.68	0.01	2.60	2.61					0.01	6.8	2.6	0.01	0.01	39											
	MAX	29.40	5.13	3.20	4.30	180.00					3.71	0.81	0.78	0.03	2.90	2.93					0.01	8.6	2.9	0.01	0.01	39											
PZ-O3K-15	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	27.75	6.54	42.00	5.45	304.00				10.00	15.40	1.90	1.89	0.02	13.50	13.52	4.35					9.50	13.50	0.01													
	STD. DEV.	0.35	0.33	1.41	0.49	41.01				0.00	4.24	0.71	0.70	0.01	3.54	3.54	0.07					0.71	3.54	0.00													
	MIN	27.50	6.30	41.00	5.10	275.00				10.00	12.40	1.40	1.39	0.01	11.00	11.01	4.30					9.00	11.00	0.01													
	MAX	28.00	6.77	43.00	5.79	333.00				10.00	18.40	2.40	2.38	0.02	16.00	16.02	4.40					10.00	16.00	0.01													
PZ-O3K-17	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	27.40	6.22	18.50	5.46	64.90					1.61	1.05	0.85	0.19	0.57	0.76						1.60	0.57	0.01													
	STD. DEV.	0.00	0.12	4.95	1.22	16.83					0.86	0.78	0.52	0.26	0.08	0.34						0.42	0.08	0.00													
	MIN	27.40	6.13	15.00	4.60	53.00					1.00	0.49	0.48	0.01	0.51	0.52						1.3	0.51	0.01													
	MAX	27.40	6.30	22.00	6.32	76.80					2.22	1.60	1.22	0.38	0.62	1.00						1.9	0.62	0.01													
PZ-O3K-21	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	27.50	5.88	19.50	3.22	179.65					3.73	0.78	0.77	0.01	2.95	2.96						8.60	2.95	0.01													
	STD. DEV.	0.00	0.11	3.54	0.59	7.99					1.10	0.32	0.32	0.00	0.78	0.78						1.56	0.78	0.00													
	MIN	27.50	5.80	17.00	2.80	174.00					2.95	0.55	0.54	0.01	2.40	2.41						7.50	2.40	0.01													
	MAX	27.50	5.95	22.00	3.63	185.30					4.50	1.00	0.99	0.01	3.50	3.51						9.70	3.50	0.01													
PZ-O2L-15	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.90	6.50	29.50	5.70	140.70				17.00	4.85	1.70	1.68	0.02	3.15	3.17	1.20					2.35	3.10	0.01													
	STD. DEV.	0.42	0.42	3.54	1.70	49.92				9.90	0.78	0.85	0.85	0.00	1.63	1.63	0.14					1.34	1.56	0.00													
	MIN	26.60	6.20	27.00	4.50	105.40				10.00	4.30	1.10	1.08	0.01	2.00	2.01	1.10					1.40	2	0.01													
	MAX	27.20	6.80	32.00	6.90	176.00				24.00	5.40	2.30	2.29	0.02	4.30	4.32	1.30					3.30	4.2	0.01													

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Table F.1 (con't)
Summary of Water Quality Data

Sample ID	Sample Date/Time	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS/cm)	TDS (mg/L)	TSS (mg/L)	$CBOD_5$ (mg/L)	COD (mg/L)	TN (mg/L N)[1]	TKN (mg/L N)	Organic N (mg/L N)[2]	NH_3-N (mg/L N)	NOx (mg/L N)	TIN (mg/L N)[3]	TP (mg/L)	Fecal (Ct/100 mL)	TOC (mg/L)	DOC (mg/L)	Anions						Cations							Hydrogen Sulfide (Unionized) (mg/L)	Sulfide (mg/L)	TS (mg/L)	Sucralose (ug/L)
																					F^-	Cl^-	NO_3-N^-	NO_2-N^-	PO_4-P^-	SO_4^-	B	Ca	Fe	Mg	Mn	K	Na				
PZ-O2L-17	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.40	6.55	19.00	5.20	60.45					1.64	0.59	0.55	0.05	1.05	1.10						1.25	1.05	0.01													
	STD. DEV.	0.42	0.35	4.24	0.42	3.46					0.18	0.11	0.09	0.02	0.07	0.09						0.07	0.07	0.00													
	MIN	26.10	6.30	16.00	4.90	58.00					1.51	0.51	0.48	0.03	1.00	1.03						1.20	1.00	0.01													
	MAX	26.70	6.80	22.00	5.49	62.90					1.77	0.67	0.61	0.06	1.10	1.16						1.30	1.10	0.01													
PZ-O2L-21	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.35	5.34	5.75	2.84	195.60					5.85	1.60	1.58	0.02	4.25	4.27						8.90	4.25	0.01													
	STD. DEV.	0.21	0.06	0.78	0.48	19.23					1.34	0.28	0.26	0.02	1.06	1.08						1.56	1.06	0.00													
	MIN	26.20	5.30	5.20	2.50	182.00					4.90	1.40	1.39	0.01	3.50	3.51						7.8	3.5	0.01													
	MAX	26.50	5.38	6.30	3.18	209.20					6.80	1.80	1.77	0.04	5.00	5.04						10	5	0.01													
PZ-O4L-15	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	27.40	5.79	36.50	5.48	206.50				32.00	7.75	1.75	1.68	0.08	6.00	6.08	1.35					4.95	6.00	0.01													
	STD. DEV.	0.14	0.58	6.36	0.53	64.35				11.31	3.46	0.07	0.01	0.06	3.54	3.47	0.35					4.88	3.54	0.00													
	MIN	27.30	5.38	32.00	5.10	161.00				24.00	5.30	1.70	1.67	0.03	3.50	3.62	1.10					1.50	3.50	0.01													
	MAX	27.50	6.20	41.00	5.85	252.00				40.00	10.20	1.80	1.68	0.12	8.50	8.53	1.60					8.40	8.50	0.01													
PZ-O4L-17	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	27.05	6.39	21.50	4.75	64.80					1.51	0.90	0.77	0.12	0.62	0.74						1.10	0.62	0.01													
	STD. DEV.	0.35	0.12	0.71	1.06	8.20					0.66	0.57	0.42	0.15	0.09	0.25						0.14	0.09	0.00													
	MIN	26.80	6.30	21.00	4.00	59.00					1.04	0.49	0.48	0.01	0.55	0.56						1.00	0.55	0.01													
	MAX	27.30	6.47	22.00	5.50	70.60					1.98	1.30	1.07	0.23	0.68	0.91						1.20	0.68	0.01													
PZ-O4L-21	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	27.05	5.36	8.65	2.50	190.85					4.07	0.97	0.96	0.01	3.10	3.11						8.00	3.10	0.01													
	STD. DEV.	0.78	0.08	3.32	0.00	1.63					1.03	0.18	0.18	0.00	0.85	0.85						1.98	0.85	0.00													
	MIN	26.50	5.30	6.30	2.50	189.70					3.34	0.84	0.83	0.01	2.50	2.51						6.60	2.50	0.01													
	MAX	27.60	5.42	11.00	2.50	192.00					4.80	1.10	1.09	0.01	3.70	3.71						9.40	3.70	0.01													
PZ-O7L-15	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.65	6.28	20.50	6.26	79.10				16.00	2.61	1.25	1.15	0.10	1.36	1.46	0.94					1.10	1.36	0.01													
	STD. DEV.	1.34	0.25	0.71	0.65	19.66				8.49	1.41	0.64	0.50	0.14	0.77	0.91	1.07					0.14	0.77	0.00													
	MIN	25.70	6.10	20.00	5.80	65.20				10.00	1.61	0.80	0.79	0.01	0.81	0.82	0.18					1.00	0.81	0.01													
	MAX	27.60	6.45	21.00	6.72	93.00				22.00	3.60	1.70	1.50	0.20	1.90	2.10	1.70					1.20	1.90	0.01													
PZ-O7L-17	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.25	6.27	23.00	5.53	72.25					1.70	0.75	0.71	0.04	0.95	0.99						1.40	0.95	0.01													
	STD. DEV.	1.06	0.10	1.41	1.03	17.32					0.28	0.07	0.03	0.04	0.35	0.31						0.42	0.35	0.00													
	MIN	25.50	6.20	22.00	4.80	60.00					1.50	0.70	0.69	0.01	0.70	0.77						1.10	0.70	0.01													
	MAX	27.00	6.34	24.00	6.26	84.50					1.90	0.80	0.74	0.07	1.20	1.21						1.70	1.20	0.01													
PZ-O7L-21	n	2	2	2	2	2	0	0	0	0	2	2	2	1	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.30	5.26	5.75	3.37	147.15					4.07	0.77	0.76	0.01	3.30	3.31						5.95	3.30	0.01													
	STD. DEV.	0.57	0.23	0.78	0.81	27.08					0.42	0.14	0.14	0.00	0.28	0.28						0.21	0.28	0.00													
	MIN	25.90	5.10	5.20	2.80	128.00					3.77	0.67	0.66	0.01	3.10	3.11						5.80	3.10	0.01													
	MAX	26.70	5.42	6.30	3.94	166.30					4.37	0.87	0.86	0.01	3.50	3.51						6.10	3.50	0.01													
PZ-03ML-15	n	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
	MEAN	27.10	6.32	30.00	5.32	394.00				13.00	18.50	1.50	1.49	0.01	17.00	17.01	5.30		3.50	3.30	0.03	19.00	17.00	0.01	3.00	27.00	0.05	38.00	0.11	6.10	0.02	6.30	18.00				
	STD. DEV.																																				
	MIN	27.10	6.32	30.00	5.32	394.00				13.00	18.50	1.50	1.49	0.01	17.00	17.01	5.30		3.50	3.30	0.03	19.00	17.00	0.01	3.00	27.00	0.05	38.00	0.11	6.10	0.02	6.30	18.00				
	MAX	27.10	6.32	30.00	5.32	394.00				13.00	18.50	1.50	1.49	0.01	17.00	17.01	5.30		3.50	3.30	0.03	19.00	17.00	0.01	3.00	27.00	0.05	38.00	0.11	6.10	0.02	6.30	18.00				

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Table F.1 (con't)
Summary of Water Quality Data

Sample ID	Sample Date/Time	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS/cm)	TDS (mg/L)	TSS (mg/L)	$CBOD_5$ (mg/L)	COD (mg/L)	TN (mg/LN)[1]	TKN (mg/LN)	Organic N (mg/LN)[2]	NH_3-N (mg/LN)	NOx (mg/LN)	TIN (mg/LN)[3]	TP (mg/L)	Fecal (Ct/100 mL)	TOC (mg/L)	DOC (mg/L)	Anions						Cations							Hydrogen Sulfide (Unionized) (mg/L)	Sulfide (mg/L)	TS (mg/L)	Sucralose (ug/L)
																					F^-	Cl^-	NO_3-N^-	NO_2-N^-	PO_4-P^-	SO_4^-	B	Ca	Fe	Mg	Mn	K	Na				
PZ-03ML-17	n	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
	MEAN	26.40	6.58	17.00	6.54	62.90				42.00	1.51	0.81	0.78	0.03	0.70	0.73	3.60		8.40	3.70	0.01	1.60	0.70	0.01	1.80	4.40	0.05	8.80	0.19	1.80	0.00	1.60	1.10				
	STD. DEV.																																				
	MIN	26.40	6.58	17.00	6.54	62.90				42.00	1.51	0.81	0.78	0.03	0.70	0.73	3.60		8.40	3.70	0.01	1.60	0.70	0.01	1.80	4.40	0.05	8.80	0.19	1.80	0.00	1.60	1.10				
	MAX	26.40	6.58	17.00	6.54	62.90				42.00	1.51	0.81	0.78	0.03	0.70	0.73	3.60		8.40	3.70	0.01	1.60	0.70	0.01	1.80	4.40	0.05	8.80	0.19	1.80	0.00	1.60	1.10				
PZ-03ML-21	n	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
	MEAN	27.00	6.16	20.00	2.99	223.00				17.00	4.00	1.30	1.29	0.01	2.70	2.71	0.87		2.10	1.50	0.01	7.80	2.70	0.01	0.37	44.00	0.05	24.00	0.04	4.80	0.00	5.30	3.50				
	STD. DEV.																																				
	MIN	27.00	6.16	20.00	2.99	223.00				17.00	4.00	1.30	1.29	0.01	2.70	2.71	0.87		2.10	1.50	0.01	7.80	2.70	0.01	0.37	44.00	0.05	24.00	0.04	4.80	0.00	5.30	3.50				
	MAX	27.00	6.16	20.00	2.99	223.00				17.00	4.00	1.30	1.29	0.01	2.70	2.71	0.87		2.10	1.50	0.01	7.80	2.70	0.01	0.37	44.00	0.05	24.00	0.04	4.80	0.00	5.30	3.50				
PZ-OON-15	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	27.05	6.34	21.50	6.24	81.45				19.50	3.17	0.94	0.91	0.02	2.24	2.26	0.69					1.25	2.24	0.01													
	STD. DEV.	0.64	0.19	0.71	0.33	9.26				13.44	2.73	0.37	0.39	0.02	2.35	2.34	0.36					0.07	2.35	0.00													
	MIN	26.60	6.20	21.00	6.00	74.90				10.00	1.24	0.67	0.63	0.01	0.57	0.61	0.43					1.20	0.57	0.01													
	MAX	27.50	6.47	22.00	6.47	88.00				29.00	5.10	1.20	1.19	0.04	3.90	3.91	0.94					1.30	3.90	0.01													
PZ-OON-17	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	27.05	6.06	13.00	4.87	59.10					1.60	0.60	0.59	0.01	1.00	1.01						0.80	1.00	0.01													
	STD. DEV.	0.07	0.21	2.83	0.38	2.97					0.00	0.00	0.00	0.00	0.00	0.00						0.12	0.00	0.00													
	MIN	27.00	5.91	11.00	4.60	57.00					1.60	0.60	0.59	0.01	1.00	1.01						0.71	1.00	0.01													
	MAX	27.10	6.20	15.00	5.14	61.20					1.60	0.60	0.59	0.02	1.00	1.02						0.88	1.00	0.01													
PZ-OON-21	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.45	5.29	2.10	3.70	183.25					6.00	1.25	1.24	0.01	4.75	4.76						9.45	4.75	0.01													
	STD. DEV.	0.49	0.97	0.00	1.13	41.37					0.14	0.07	0.07	0.00	0.21	0.21						0.78	0.21	0.00													
	MIN	26.10	4.60	2.10	2.90	154.00					5.90	1.20	1.19	0.01	4.60	4.61						8.90	4.60	0.01													
	MAX	26.80	5.97	2.10	4.50	212.50					6.10	1.30	1.29	0.01	4.90	4.91						10.00	4.90	0.01													
PZ-O2N-15	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	27.25	6.52	27.00	6.57	106.20				16.50	2.35	0.75	0.73	0.01	1.60	1.61	1.45					1.60	1.60	0.01													
	STD. DEV.	0.49	0.17	7.07	0.52	5.37				4.95	0.83	0.02	0.03	0.00	0.85	0.85	0.07					0.14	0.85	0.00													
	MIN	26.90	6.40	22.00	6.20	102.40				13.00	1.76	0.73	0.72	0.01	1.00	1.01	1.40					1.50	1.00	0.01													
	MAX	27.60	6.64	32.00	6.94	110.00				20.00	2.93	0.76	0.75	0.02	2.20	2.22	1.50					1.70	2.20	0.01													
PZ-O2N-17	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	27.00	6.11	11.50	5.35	45.25					1.38	0.69	0.63	0.06	0.70	0.75						1.11	0.70	0.01													
	STD. DEV.	0.28	0.01	0.71	1.06	1.77					0.06	0.05	0.10	0.06	0.11	0.16						0.41	0.11	0.00													
	MIN	26.80	6.10	11.00	4.60	44.00					1.34	0.65	0.55	0.02	0.62	0.64						0.82	0.62	0.01													
	MAX	27.20	6.12	12.00	6.10	46.50					1.42	0.72	0.70	0.10	0.77	0.87						1.40	0.77	0.01													
PZ-O2N-21	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.50	4.69	2.65	2.51	220.00					9.02	1.07	1.06	0.01	7.95	7.96						11.40	7.95	0.01													
	STD. DEV.	0.14	0.12	0.78	0.43	14.14					2.95	0.33	0.33	0.00	2.62	2.62						2.26	2.62	0.00													
	MIN	26.40	4.60	2.10	2.20	210.00					6.93	0.83	0.82	0.01	6.10	6.11						9.80	6.10	0.01													
	MAX	26.60	4.77	3.20	2.81	230.00					11.10	1.30	1.29	0.01	9.80	9.81						13.00	9.80	0.01													

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Table F.1 (con't)
Summary of Water Quality Data

Sample ID	Sample Date/Time	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS/cm)	TDS (mg/L)	TSS (mg/L)	$CBOD_5$ (mg/L)	COD (mg/L)	TN (mg/L N)[1]	TKN (mg/L N)	Organic N (mg/L N)[2]	NH_3-N (mg/L N)	NOx (mg/L N)	TIN (mg/L N)[3]	TP (mg/L)	Fecal (Ct/100 mL)	TOC (mg/L)	DOC (mg/L)	Anions						Cations							Hydrogen Sulfide (Unionized) (mg/L)	Sulfide (mg/L)	TS (mg/L)	Sucralose (ug/L)
																					F^-	Cl^-	NO_3-N	NO_2-N	PO_4-P	SO_4	B	Ca	Fe	Mg	Mn	K	Na				
PZ-O4N-15	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	0	0	0	0
	MEAN	27.90	6.41	40.50	5.29	216.50				41.00	8.75	1.75	1.73	0.02	7.00	7.02	1.00		17.00	16.00	0.48	6.20	7.00	0.01	0.68	16.00	0.05	25.00	0.14	2.60	0.00	4.30	10.00				
	STD. DEV.	0.57	0.30	2.12	0.41	40.31				21.21	0.49	0.35	0.34	0.01	0.85	0.84	0.15					3.96	0.85	0.00												
	MIN	27.50	6.20	39.00	5.00	188.00				26.00	8.40	1.50	1.49	0.02	6.40	6.43	0.89		17.00	16.00	0.48	3.40	6.40	0.01	0.68	16.00	0.05	25.00	0.14	2.60	0.00	4.30	10.00				
	MAX	28.30	6.62	42.00	5.58	245.00				56.00	9.10	2.00	1.97	0.03	7.60	7.62	1.10		17.00	16.00	0.48	9.00	7.60	0.01	0.68	16.00	0.05	25.00	0.14	2.60	0.00	4.30	10.00				
PZ-O4N-17	n	2	2	2	2	2	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.95	6.41	23.00	3.58	75.75					2.57	1.85	1.64	0.21	0.72	0.93						2.15	0.72	0.01												
	STD. DEV.	0.07	0.16	1.41	0.25	15.20					1.03	0.92	0.88	0.04	0.11	0.15						0.21	0.11	0.00												
	MIN	26.90	6.30	22.00	3.40	65.00					1.84	1.20	1.02	0.18	0.64	0.82						2.00	0.64	0.01												
	MAX	27.00	6.52	24.00	3.75	86.50					3.29	2.50	2.26	0.24	0.79	1.03						2.30	0.79	0.01												
PZ-O4N-21	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.65	5.73	13.00	4.12	203.30					3.89	0.94	0.89	0.04	2.95	2.99						8.95	2.95	0.01												
	STD. DEV.	0.07	0.04	2.83	1.58	8.91					0.73	0.09	0.12	0.03	0.64	0.61						1.48	0.64	0.00												
	MIN	26.60	5.70	11.00	3.00	197.00					3.37	0.87	0.81	0.02	2.50	2.56						7.90	2.50	0.01												
	MAX	26.70	5.75	15.00	5.24	209.60					4.40	1.00	0.98	0.06	3.40	3.42						10.00	3.40	0.01												
PZ-O6N-15	n	2	2	2	2	2	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.90	6.05	22.50	4.07	243.50				20.00	11.25	1.45	1.37	0.08	9.80	9.88	1.30					8.49	9.80	0.01												
	STD. DEV.	0.28	0.06	16.26	0.75	232.64					11.67	0.07	0.15	0.08	11.60	11.52						10.62	11.60	0.00												
	MIN	26.70	6.00	11.00	3.54	79.00				20.00	3.00	1.40	1.27	0.02	1.60	1.73	1.30					0.98	1.60	0.01												
	MAX	27.10	6.09	34.00	4.60	408.00				20.00	19.50	1.50	1.48	0.13	18.00	18.02	1.30					16.00	18.00	0.01												
PZ-O6N-17	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.75	6.34	23.00	3.93	80.00					1.52	0.74	0.66	0.08	0.78	0.86						1.43	0.78	0.01												
	STD. DEV.	0.07	0.19	1.41	0.47	11.31					0.43	0.18	0.19	0.02	0.25	0.24						0.66	0.25	0.00												
	MIN	26.70	6.20	22.00	3.60	72.00					1.21	0.61	0.52	0.07	0.60	0.69						0.96	0.60	0.01												
	MAX	26.80	6.47	24.00	4.26	88.00					1.82	0.86	0.79	0.09	0.96	1.03						1.90	0.96	0.01												
PZ-O6N-21	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.75	5.55	10.70	2.72	154.35					2.66	0.66	0.64	0.02	2.00	2.02						5.70	2.00	0.01												
	STD. DEV.	0.07	0.35	3.25	0.26	86.76					0.46	0.11	0.10	0.00	0.57	0.56						2.69	0.57	0.00												
	MIN	26.70	5.30	8.40	2.53	93.00					2.33	0.58	0.57	0.02	1.60	1.62						3.80	1.60	0.01												
	MAX	26.80	5.80	13.00	2.90	215.70					2.98	0.73	0.71	0.02	2.40	2.42						7.60	2.40	0.01												
PZ-03O-15	n	2	2	2	2	2	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.25	7.03	44.50	4.70	132.25				10.00	3.08	1.08	1.07	0.01	2.00	2.01	0.56					1.95	2.00	0.01												
	STD. DEV.	1.20	0.74	13.44	3.25	27.93					0.32	0.32	0.32	0.00	0.00	0.00						0.49	0.00	0.00												
	MIN	24.40	6.50	35.00	2.40	112.50				10.00	2.85	0.85	0.84	0.01	2.00	2.01	0.56					1.60	2.00	0.01												
	MAX	26.10	7.55	54.00	7.00	152.00				10.00	3.30	1.30	1.29	0.01	2.00	2.01	0.56					2.30	2.00	0.01												
PZ-03O-17	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.25	6.60	18.50	3.39	58.20					1.58	0.62	0.60	0.02	0.97	0.98						0.97	0.97	0.01												
	STD. DEV.	0.78	0.42	4.95	1.53	2.55					0.06	0.13	0.15	0.01	0.19	0.20						0.04	0.19	0.00												
	MIN	24.70	6.30	15.00	2.30	56.40					1.54	0.52	0.50	0.01	0.83	0.84						0.94	0.83	0.01												
	MAX	25.80	6.90	22.00	4.47	60.00					1.62	0.71	0.70	0.03	1.10	1.13						1.00	1.10	0.01												
PZ-03O-21	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.40	5.01	2.10	2.41	195.65					10.45	1.45	1.44	0.01	9.00	9.01						13.00	9.00	0.01												
	STD. DEV.	0.42	0.72	0.00	0.30	20.72					0.92	0.07	0.07	0.00	0.99	0.99						0.00	0.99	0.00												
	MIN	25.10	4.50	2.10	2.20	181.00					9.80	1.40	1.39	0.01	8.30	8.31						13.00	8.30	0.01												
	MAX	25.70	5.52	2.10	2.62	210.30					11.10	1.50	1.49	0.01	9.70	9.71						13.00	9.70	0.01												

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Table F.1 (con't)
Summary of Water Quality Data

Sample ID	Sample Date/Time	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS/cm)	TDS (mg/L)	TSS (mg/L)	$CBOD_5$ (mg/L)	COD (mg/L)	TN (mg/L N)[1]	TKN (mg/L N)	Organic N (mg/L N)[2]	NH_3-N (mg/L N)	NOx (mg/L N)	TIN (mg/L N)[3]	TP (mg/L)	Fecal (Ct/100 mL)	TOC (mg/L)	DOC (mg/L)	Anions						Cations							Hydrogen Sulfide (Unionized) (mg/L)	Sulfide (mg/L)	TS (mg/L)	Sucralose (ug/L)
																					F^-	Cl^-	NO_3-N^-	NO_2-N^-	PO_4-P^-	SO_4^-	B	Ca	Fe	Mg	Mn	K	Na				
PZ-04O-15	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0
	MEAN	25.30	6.52	24.50	4.20	168.60				12.50	8.25	1.75	1.73	0.02	6.50	6.52	1.24		5.10	4.65	0.15	6.80	6.50	0.01	1.12	10.35	0.05	18.50	0.12	2.65	0.00	3.50	9.25				
	STD. DEV.	1.13	0.74	10.61	2.69	27.72				3.54	0.92	0.35	0.34	0.01	1.27	1.26	0.80		0.28	0.07	0.01	2.12	1.27	0.00	0.96	5.16	0.00	2.12	0.13	0.49	0.00	1.84	2.47				
	MIN	24.50	6.00	17.00	2.30	149.00				10.00	7.60	1.50	1.49	0.01	5.60	5.63	0.67		4.90	4.60	0.14	5.30	5.60	0.01	0.44	6.70	0.05	17.00	0.03	2.30	0.00	2.20	7.50				
	MAX	26.10	7.04	32.00	6.10	188.20				15.00	8.90	2.00	1.97	0.03	7.40	7.41	1.80		5.30	4.70	0.15	8.30	7.40	0.01	1.80	14.00	0.05	20.00	0.21	3.00	0.00	4.80	11.00				
PZ-04O-17	n	2	2	2	2	2	0	0	0	1	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.35	6.78	20.50	2.52	101.10				10.00	4.02	0.97	0.96	0.01	3.05	3.06						2.55	3.05	0.01													
	STD. DEV.	0.64	0.67	2.12	0.17	1.56					0.16	0.05	0.05	0.00	0.21	0.21						0.21	0.21	0.00													
	MIN	24.90	6.30	19.00	2.40	100.00				10.00	3.90	0.93	0.92	0.01	2.90	2.91						2.40	2.90	0.01													
	MAX	25.80	7.25	22.00	2.64	102.20				10.00	4.13	1.00	0.99	0.01	3.20	3.21						2.70	3.20	0.01													
PZ-04O-21	n	2	2	2	2	2	0	0	0	1	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.55	5.36	5.25	3.58	195.00				10.00	7.95	1.40	1.39	0.01	6.55	6.56						11.50	6.55	0.01													
	STD. DEV.	0.64	0.64	0.07	0.39	63.64					0.21	0.14	0.14	0.00	0.07	0.07						0.71	0.07	0.00													
	MIN	25.10	4.90	5.20	3.30	150.00				10.00	7.80	1.30	1.29	0.01	6.50	6.51						11.00	6.50	0.01													
	MAX	26.00	5.81	5.30	3.85	240.00				10.00	8.10	1.50	1.49	0.01	6.60	6.61						12.00	6.60	0.01													
PZ-07O-15	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.85	6.15	25.50	4.89	106.40				10.00	4.25	1.05	1.04	0.01	3.20	3.21	0.33					1.50	3.20	0.01													
	STD. DEV.	1.63	0.21	6.36	0.40	18.95				0.00	0.21	0.07	0.07	0.00	0.28	0.28	0.15					0.14	0.28	0.00													
	MIN	24.70	6.00	21.00	4.60	93.00				10.00	4.10	1.00	0.99	0.01	3.00	3.01	0.22					1.40	3.00	0.01													
	MAX	27.00	6.30	30.00	5.17	119.80				10.00	4.40	1.10	1.09	0.01	3.40	3.41	0.43					1.60	3.40	0.01													
PZ-07O-17	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.90	6.56	29.50	2.28	82.80					3.30	1.80	1.60	0.20	1.50	1.70						1.25	1.50	0.01													
	STD. DEV.	1.70	0.22	3.54	0.18	1.70					2.12	1.70	1.47	0.22	0.42	0.65						0.21	0.42	0.00													
	MIN	24.70	6.40	27.00	2.15	81.60					1.80	0.60	0.56	0.04	1.20	1.24						1.10	1.20	0.01													
	MAX	27.10	6.71	32.00	2.40	84.00					4.80	3.00	2.64	0.36	1.80	2.16						1.40	1.80	0.01													
PZ-07O-20	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.50	5.50	7.40	3.38	117.55					6.17	1.67	1.66	0.01	4.50	4.51						8.30	4.50	0.01													
	STD. DEV.	0.99	0.28	0.00	0.25	16.19					4.57	1.32	1.32	0.00	3.25	3.25						3.82	3.25	0.00													
	MIN	24.80	5.30	7.40	3.20	106.10					2.94	0.74	0.73	0.01	2.20	2.21						5.60	2.20	0.01													
	MAX	26.20	5.70	7.40	3.56	129.00					9.40	2.60	2.59	0.01	6.80	6.81						11.00	6.80	0.01													
PZ-01Q-13	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.40	6.51	14.00	6.13	64.70				17.00	2.60	0.83	0.78	0.05	1.77	1.82	0.32					1.45	1.77	0.04													
	STD. DEV.	0.99	0.42	4.24	1.03	23.05				9.90	1.31	0.13	0.13	0.00	1.18	1.18	0.01					0.64	1.18	0.04													
	MIN	24.70	6.21	11.00	5.40	48.40				10.00	1.67	0.74	0.69	0.05	0.93	0.98	0.31					1.00	0.93	0.01													
	MAX	26.10	6.80	17.00	6.86	81.00				24.00	3.52	0.92	0.87	0.05	2.60	2.65	0.33					1.90	2.60	0.07													
PZ-01Q-15	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.40	6.07	6.80	5.36	44.65				26.00	2.54	1.19	1.04	0.14	1.35	1.49	0.97					0.74	1.35	0.01													
	STD. DEV.	0.57	0.05	2.26	1.63	2.33				22.63	0.52	0.87	0.69	0.18	0.35	0.17	1.03					0.04	0.35	0.00													
	MIN	25.00	6.03	5.20	4.20	43.00				10.00	2.17	0.57	0.56	0.01	1.10	1.37	0.24					0.71	1.10	0.01													
	MAX	25.80	6.10	8.40	6.51	46.30				42.00	2.90	1.80	1.53	0.27	1.60	1.61	1.70					0.77	1.60	0.01													
PZ-01Q-19	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.35	5.16	2.65	3.66	66.20					3.43	0.63	0.62	0.01	2.80	2.81						1.80	2.80	0.01													
	STD. DEV.	0.35	0.08	0.78	0.64	14.42					0.98	0.01	0.01	0.01	0.99	0.98						0.57	0.99	0.00													
	MIN	25.10	5.10	2.10	3.20	56.00					2.74	0.62	0.61	0.01	2.10	2.12						1.40	2.10	0.01													
	MAX	25.60	5.22	3.20	4.11	76.40					4.12	0.64	0.62	0.02	3.50	3.51						2.20	3.50	0.01													

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Table F.1 (con't)
Summary of Water Quality Data

Sample ID	Sample Date/Time	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS/cm)	TDS (mg/L)	TSS (mg/L)	$CBOD_5$ (mg/L)	COD (mg/L)	TN (mg/L N)[1]	TKN (mg/L N)	Organic N (mg/L N)[2]	NH_3-N (mg/L N)	NOx (mg/L N)	TIN (mg/L N)[3]	TP (mg/L)	Fecal (Ct/100 mL)	TOC (mg/L)	DOC (mg/L)	Anions						Cations							Hydrogen Sulfide (Unionized) (mg/L)	Sulfide (mg/L)	TS (mg/L)	Sucralose (ug/L)
																					F^-	Cl^-	NO_3-N^-	NO_2-N^-	PO_4-P^-	SO_4^-	B	Ca	Fe	Mg	Mn	K	Na				
PZ-04Q-13	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	0	0	0	0
	MEAN	25.45	6.49	32.00	5.85	186.40				35.50	10.40	2.10	2.01	0.09	8.30	8.39	1.45		5.10	5.10	0.23	8.30	8.30	0.01	1.80	7.20	0.05	20.00	0.02	3.00	0.00	4.80	7.40				
	STD. DEV.	1.48	0.69	0.00	0.06	3.39				28.99	0.99	0.42	0.30	0.12	0.57	0.69	0.49					3.82	0.57	0.00													
	MIN	24.40	6.00	32.00	5.80	184.00				15.00	9.70	1.80	1.79	0.01	7.90	7.91	1.10		5.10	5.10	0.23	5.60	7.90	0.01	1.80	7.20	0.05	20.00	0.02	3.00	0.00	4.80	7.40				
	MAX	26.50	6.98	32.00	5.89	188.80				56.00	11.10	2.40	2.22	0.18	8.70	8.88	1.80		5.10	5.10	0.23	11.00	8.70	0.01	1.80	7.20	0.05	20.00	0.02	3.00	0.00	4.80	7.40				
PZ-04Q-15	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	0	0	0	0
	MEAN	25.05	6.88	15.00	2.63	100.30				11.50	3.62	1.07	1.03	0.04	2.55	2.59	1.15		3.30	3.00	0.35	2.25	2.55	0.01	0.25	6.00	0.05	11.00	0.02	2.40	0.00	3.10	1.60				
	STD. DEV.	1.48	0.67	5.66	0.39	8.91				2.12	1.25	0.19	0.23	0.04	1.06	1.02	1.20					0.78	1.06	0.00													
	MIN	24.00	6.40	11.00	2.35	94.00				10.00	2.73	0.93	0.87	0.01	1.80	1.86	0.30		3.30	3.00	0.35	1.70	1.80	0.01	0.25	6.00	0.05	11.00	0.02	2.40	0.00	3.10	1.60				
	MAX	26.10	7.35	19.00	2.90	106.60				13.00	4.50	1.20	1.19	0.06	3.30	3.31	2.00		3.30	3.00	0.35	2.80	3.30	0.01	0.25	6.00	0.05	11.00	0.02	2.40	0.00	3.10	1.60				
PZ-04Q-19	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.30	6.03	35.15	2.76	162.50					12.70	8.60	8.52	0.08	4.10	4.18						6.95	4.10	0.01													
	STD. DEV.	0.71	0.24	42.21	1.05	122.33					6.93	10.47	10.36	0.11	3.54	3.43						5.73	3.54	0.00													
	MIN	24.80	5.86	5.30	2.02	76.00					7.80	1.20	1.19	0.01	1.60	1.76						2.90	1.60	0.01													
	MAX	25.80	6.20	65.00	3.50	249.00					17.60	16.00	15.84	0.16	6.60	6.61						11.00	6.60	0.01													
PZ-06Q-13	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	0	0	0	0
	MEAN	26.00	6.49	23.50	5.88	110.15				28.50	4.56	1.01	0.94	0.07	3.55	3.62	0.48		10.00	4.60	0.06	2.15	3.55	0.01	0.01	3.60	0.05	10.00	0.07	1.20	0.00	1.90	5.90				
	STD. DEV.	0.99	0.13	2.12	1.67	38.40				26.16	3.17	0.13	0.21	0.08	3.04	2.96	0.44					0.49	3.04	0.00													
	MIN	25.30	6.40	22.00	4.70	83.00				10.00	2.32	0.92	0.79	0.01	1.40	1.53	0.17		10.00	4.60	0.06	1.80	1.40	0.01	0.01	3.60	0.05	10.00	0.07	1.20	0.00	1.90	5.90				
	MAX	26.70	6.58	25.00	7.06	137.30				47.00	6.80	1.10	1.09	0.13	5.70	5.71	0.79		10.00	4.60	0.06	2.50	5.70	0.01	0.01	3.60	0.05	10.00	0.07	1.20	0.00	1.90	5.90				
PZ-06Q-15	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.00	6.58	36.50	2.86	272.20				10.50	14.65	1.75	1.73	0.02	12.90	12.92	3.90					8.35	12.90	0.01													
	STD. DEV.	0.42	0.39	9.19	0.08	196.29				0.71	13.94	1.07	1.06	0.00	12.87	12.87	1.27					9.40	12.87	0.00													
	MIN	25.70	6.30	30.00	2.80	133.40				10.00	4.79	0.99	0.98	0.01	3.80	3.81	3.00					1.70	3.80	0.01													
	MAX	26.30	6.85	43.00	2.91	411.00				11.00	24.50	2.50	2.48	0.02	22.00	22.02	4.80					15.00	22.00	0.01													
PZ-06Q-19	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.10	6.73	39.50	0.39	91.00				75.00	15.36	13.29	13.14	0.15	2.07	2.22						1.90	2.07	0.06													
	STD. DEV.	0.00	0.18	20.51	0.16	26.87				91.92	20.42	17.97	17.80	0.17	2.45	2.62						0.85	2.45	0.03													
	MIN	26.10	6.60	25.00	0.28	72.00				10.00	0.92	0.58	0.56	0.02	0.34	0.36						1.30	0.34	0.04													
	MAX	26.10	6.85	54.00	0.50	110.00				140.00	29.80	26.00	25.73	0.27	3.80	4.07						2.50	3.80	0.08													
PZ-07Q-13	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.80	6.56	21.00	5.19	122.40				12.50	3.92	0.87	0.83	0.04	3.05	3.09	0.34					2.20	3.05	0.01													
	STD. DEV.	1.84	0.06	14.14	0.16	10.75				3.54	0.18	0.11	0.10	0.02	0.07	0.09	0.01					0.85	0.07	0.00													
	MIN	24.50	6.52	11.00	5.07	114.80				10.00	3.79	0.79	0.76	0.03	3.00	3.03	0.33					1.60	3.00	0.01													
	MAX	27.10	6.60	31.00	5.30	130.00				15.00	4.05	0.95	0.90	0.05	3.10	3.15	0.34					2.80	3.10	0.01													
PZ-07Q-15	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.80	6.47	25.50	2.64	100.15					8.26	4.36	4.25	0.10	3.90	4.00						1.80	3.90	0.01													
	STD. DEV.	1.13	0.10	0.71	0.23	25.24					8.69	4.87	4.75	0.13	3.82	3.94						0.57	3.82	0.00													
	MIN	25.00	6.40	25.00	2.47	82.30					2.11	0.91	0.90	0.01	1.20	1.21						1.40	1.20	0.01													
	MAX	26.60	6.54	26.00	2.80	118.00					14.40	7.80	7.61	0.19	6.60	6.79						2.20	6.60	0.01													
PZ-07Q-19	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.75	5.98	33.70	3.09	106.40					15.09	12.89	12.79	0.10	2.20	2.30						5.65	2.20	0.01													
	STD. DEV.	1.06	0.46	37.19	0.83	7.64					16.99	17.13	17.03	0.10	0.14	0.04						0.49	0.14	0.00													
	MIN	25.00	5.65	7.40	2.50	101.00					3.07	0.77	0.75	0.02	2.10	2.27						5.30	2.10	0.01													
	MAX	26.50	6.30	60.00	3.67	111.80					27.10	25.00	24.83	0.17	2.30	2.32						6.00	2.30	0.01													

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Table F.1 (con't)
Summary of Water Quality Data

Sample ID	Sample Date/Time	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS/cm)	TDS (mg/L)	TSS (mg/L)	$CBOD_5$ (mg/L)	COD (mg/L)	TN (mg/L N)[1]	TKN (mg/L N)	Organic N (mg/L N)[2]	NH_3-N (mg/L N)	NOx (mg/L N)	TIN (mg/L N)[3]	TP (mg/L)	Fecal (Ct/100 mL)	TOC (mg/L)	DOC (mg/L)	Anions						Cations							Hydrogen Sulfide (Unionized) (mg/L)	Sulfide (mg/L)	TS (mg/L)	Sucralose (ug/L)
																					F^-	Cl^-	NO_3-N^-	NO_2-N^-	PO_4-P^-	SO_4^-	B	Ca	Fe	Mg	Mn	K	Na				
PZ-04U-12	n	2	2	2	2	2	0	0	0	2	2	2	2	2	2	2	2	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.25	6.80	28.00	4.44	84.70				24.00	1.25	0.63	0.57	0.05	0.62	0.67	0.29					1.40	0.62	0.01													
	STD. DEV.	2.05	0.57	8.49	0.33	8.06				19.80	0.25	0.21	0.17	0.04	0.04	0.08	0.12					0.42	0.04	0.00													
	MIN	24.80	6.40	22.00	4.20	79.00				10.00	1.07	0.48	0.45	0.03	0.59	0.62	0.20					1.10	0.59	0.01													
	MAX	27.70	7.20	34.00	4.67	90.40				38.00	1.42	0.77	0.69	0.08	0.65	0.73	0.37					1.70	0.65	0.01													
PZ-04U-14	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.00	6.91	39.00	5.39	95.20					6.39	5.25	5.06	0.18	1.14	1.32						0.99	1.14	0.01													
	STD. DEV.	1.27	0.58	9.90	1.12	45.54					6.50	6.72	6.48	0.25	0.23	0.02						0.30	0.23	0.00													
	MIN	25.10	6.50	32.00	4.60	63.00					1.79	0.49	0.48	0.01	0.98	1.31						0.77	0.98	0.01													
	MAX	26.90	7.32	46.00	6.18	127.40					10.98	10.00	9.64	0.36	1.30	1.34						1.20	1.30	0.01													
PZ-04U-18	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.80	5.94	9.65	3.88	73.25					4.54	2.24	2.03	0.21	2.30	2.51						4.15	2.30	0.01													
	STD. DEV.	0.71	0.48	6.15	0.54	23.69					4.04	2.49	2.21	0.28	1.56	1.84						2.33	1.56	0.00													
	MIN	25.30	5.60	5.30	3.50	56.50					1.68	0.48	0.47	0.01	1.20	1.21						2.50	1.20	0.01													
	MAX	26.30	6.28	14.00	4.26	90.00					7.40	4.00	3.59	0.41	3.40	3.81						5.80	3.40	0.01													
PZ-06U-12	n	2	2	2	2	2	0	0	0	1	2	2	2	2	2	2	1	0	1	1	1	2	2	2	1	1	1	1	1	1	1	1	0	0	0	0
	MEAN	25.95	6.79	28.50	5.23	153.90				17.00	6.56	0.96	0.92	0.03	5.60	5.63	0.44		4.80	3.30	0.04	5.75	5.60	0.01	0.13	15.00	0.05	14.00	0.02	2.50	0.00	2.50	5.30				
	STD. DEV.	2.05	0.55	4.95	0.88	42.28					6.99	0.77	0.80	0.03	6.22	6.19						0.07	6.22	0.00													
	MIN	24.50	6.40	25.00	4.60	124.00				17.00	1.61	0.41	0.36	0.01	1.20	1.26	0.44		4.80	3.30	0.04	5.70	1.20	0.01	0.13	15.00	0.05	14.00	0.02	2.50	0.00	2.50	5.30				
	MAX	27.40	7.18	32.00	5.85	183.80				17.00	11.50	1.50	1.49	0.06	10.00	10.01	0.44		4.80	3.30	0.04	5.80	10.00	0.01	0.13	15.00	0.05	14.00	0.02	2.50	0.00	2.50	5.30				
PZ-06U-14	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.75	6.06	18.00	2.63	455.50					33.05	2.05	2.04	0.01	31.00	31.01						24.50	31.00	0.01													
	STD. DEV.	1.63	0.23	5.66	0.74	86.97					5.59	0.07	0.08	0.00	5.66	5.66						0.71	5.66	0.00													
	MIN	24.60	5.90	14.00	2.10	394.00					29.10	2.00	1.98	0.01	27.00	27.01						24.00	27.00	0.01													
	MAX	26.90	6.22	22.00	3.15	517.00					37.00	2.10	2.09	0.02	35.00	35.02						25.00	35.00	0.01													
PZ-06U-34	n	2	2	2	2	2	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.55	5.63	7.05	1.12	265.50					13.00	2.45	2.34	0.11	10.55	10.66						13.00	10.55	0.02													
	STD. DEV.	0.64	0.38	7.00	0.30	50.20					0.42	1.63	1.48	0.15	2.05	1.90						1.41	2.05	0.01													
	MIN	25.10	5.36	2.10	0.90	230.00					12.70	1.30	1.29	0.01	9.10	9.32						12.00	9.10	0.01													
	MAX	26.00	5.90	12.00	1.33	301.00					13.30	3.60	3.38	0.22	12.00	12.01						14.00	12.00	0.02													

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Table F.1 (con't)
Summary of Water Quality Data

Sample ID	Sample Date/Time	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS/cm)	TDS (mg/L)	TSS (mg/L)	$CBOD_5$ (mg/L)	COD (mg/L)	TN (mg/L N)[1]	TKN (mg/L N)	Organic N (mg/L N)[2]	NH_3-N (mg/L N)	NOx (mg/L N)	TIN (mg/L N)[3]	TP (mg/L)	Fecal (Ct/100 mL)	TOC (mg/L)	DOC (mg/L)	Anions						Cations							Hydrogen Sulfide (Unionized) (mg/L)	Sulfide (mg/L)	TS (mg/L)	Sucralose (ug/L)
																					F^-	Cl^-	NO_3-N^-	NO_2-N^-	PO_4-P^-	SO_4^-	B	Ca	Fe	Mg	Mn	K	Na				
Blanks																																					
EB	n	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	2	0
	MEAN	22.95	6.81	2.00	6.57	1.52		1.00	2.00	10.00	0.08	0.06	0.04	0.02	0.02	0.03	0.01	1.00	0.50	0.50	0.01	0.05	0.01	0.01	0.01	0.20	0.05	0.04	0.02	0.02	0.00	0.01	0.13			10.00	
	STD. DEV.	2.19	0.30	0.00	4.90	0.73		0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00	
	MIN	21.40	6.60	2.00	3.10	1.00		1.00	2.00	10.00	0.07	0.05	0.04	0.01	0.01	0.03	0.01	1.00	0.50	0.50	0.01	0.05	0.01	0.01	0.01	0.20	0.05	0.04	0.02	0.02	0.00	0.01	0.13			10.00	
	MAX	24.50	7.02	2.00	10.03	2.03		1.00	2.00	10.00	0.08	0.07	0.05	0.02	0.02	0.03	0.01	1.00	0.50	0.50	0.01	0.05	0.01	0.01	0.01	0.20	0.05	0.04	0.02	0.02	0.00	0.01	0.13			10.00	
FB-DI	n	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	2	0
	MEAN	22.95	6.81	2.00	6.57	1.52		1.00	2.00	10.00	0.07	0.05	0.04	0.01	0.02	0.02	0.01	2.50	0.50	0.50	0.01	0.05	0.01	0.01	0.01	0.20	0.05	0.04	0.02	0.02	0.00	0.01	0.13			10.00	
	STD. DEV.	2.19	0.30	0.00	4.90	0.73		0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.00	2.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00	
	MIN	21.40	6.60	2.00	3.10	1.00		1.00	2.00	10.00	0.06	0.05	0.04	0.01	0.01	0.02	0.01	1.00	0.50	0.50	0.01	0.05	0.01	0.01	0.01	0.20	0.05	0.04	0.02	0.02	0.00	0.01	0.13			10.00	
	MAX	24.50	7.02	2.00	10.03	2.03		1.00	2.00	10.00	0.07	0.05	0.04	0.01	0.02	0.03	0.01	4.00	0.50	0.50	0.01	0.05	0.01	0.01	0.01	0.20	0.05	0.04	0.02	0.02	0.00	0.01	0.13			10.00	
FB-TAP	n	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0
	MEAN	23.10	7.51	93.00	5.44	330.00		1.00	2.00	10.00	0.61	0.26	0.25	0.01	0.35	0.36	0.04	1.00	0.50	0.50	0.02	12.00	0.35	0.01	0.01	38.00	0.05	39.00	0.02	10.00	0.00	3.70	7.20			260.00	
	STD. DEV.																																				
	MIN	23.10	7.51	93.00	5.44	330.00	0.00	1.00	2.00	10.00	0.61	0.26	0.25	0.01	0.35	0.36	0.04	1.00	0.50	0.50	0.02	12.00	0.35	0.01	0.01	38.00	0.05	39.00	0.02	10.00	0.00	3.70	7.20			260.00	
	MAX	23.10	7.51	93.00	5.44	330.00	0.00	1.00	2.00	10.00	0.61	0.26	0.25	0.01	0.35	0.36	0.04	1.00	0.50	0.50	0.02	12.00	0.35	0.01	0.01	38.00	0.05	39.00	0.02	10.00	0.00	3.70	7.20			260.00	

Notes:

[1]Total Nitrogen (TN) is a calculated value equal to the sum of TKN and NO_x

[2]Organic Nitrogen (ON) is a calculated value equal to the difference of TKN and NH_3

[3]Total Inorganic Nitrogen (TIN) is a calculated value equal to the sum of NH_3 and NO_x

D.O. - Dissolved oxygen

G - Grab sample

Gray-shaded data points indicate values below method detection level (mdl), mdl value used for statistical analyses.

Yellow-shaded data points indicate the reported value is between the laboratory method detection limit and the laboratory practical quantitation limit, value used for statistical analysis.

Blue-shaded data points indicate values below mdl and sample held beyond accepted holding time

Orange-shaded data points indicate estimated value

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Appendix G: Laboratory Report

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SOUTHERN ANALYTICAL LABORATORIES, INC.
110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 FAX 813-855-2218

Hazen and Sawyer
10002 Princess Palm Ave, Suite 200
Tampa, FL 33619

December 19, 2012
Work Order: 1213368

Laboratory Report

Project Name **C-HS3 SE#2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-03A-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-03**						
Date/Time Collected		**11/29/12 10:02**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/29/12 16:15**						
Client Provided Field Data								
pH		6.62						
Temperature		26.7 °C						
Conductivity		38.4 umhos						
Dissolved Oxygen		7.56 mg/L						
Inorganics								
Ammonia as N	mg/L	0.071	EPA 350.1	0.040	0.009		12/14/12 12:46	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/03/12 08:05	12/03/12 11:30	1
Chloride	mg/L	0.94	EPA 300.0	0.20	0.050		11/30/12 17:39	1
Fluoride	mg/L	0.014 I	EPA 300.0	0.040	0.010		11/30/12 17:39	1
Nitrate (as N)	mg/L	0.52	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Orthophosphate as P	mg/L	0.078	EPA 300.0	0.040	0.010		11/30/12 17:39	1
Phosphorous - Total as P	mg/L	0.82	SM 4500P-E	0.040	0.010	12/01/12 07:38	12/12/12 13:07	1
Sulfate	mg/L	2.4	EPA 300.0	0.60	0.20		11/30/12 17:39	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		12/03/12 08:50	1
Total Kjeldahl Nitrogen	mg/L	0.78	EPA 351.2	0.20	0.05	12/11/12 08:13	12/12/12 13:26	1
Total Organic Carbon	mg/L	5.0	SM 5310B	1.0	0.50		12/03/12 14:25	1
Nitrate+Nitrite (N)	mg/L	0.52	EPA 300.0	0.08	0.02		11/30/12 17:39	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	3.6	SM 5310B	1.0	0.50		12/03/12 14:25	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	11/29/12 16:39	12/04/12 17:55	1
Calcium	mg/L	3.4	EPA 200.7	0.50	0.042	11/29/12 16:39	12/04/12 17:55	1
Iron	mg/L	0.16	EPA 200.7	0.10	0.020	11/29/12 16:39	12/05/12 17:06	1
Magnesium	mg/L	1.5	EPA 200.7	0.50	0.020	11/29/12 16:39	12/04/12 17:55	1
Manganese	mg/L	0.0051 I	EPA 200.7	0.010	0.0010	11/29/12 16:39	12/04/12 17:55	1
Potassium	mg/L	0.98	EPA 200.7	0.050	0.010	11/29/12 16:39	12/04/12 17:55	1
Sodium	mg/L	0.86	EPA 200.7	0.50	0.13	11/29/12 16:39	12/04/12 17:55	1

Sample Description	**PZ-03A-17**
Matrix	**Groundwater**
SAL Sample Number	**1213368-04**
Date/Time Collected	**11/29/12 10:26**
Collected by	**Sean Schmidt**
Date/Time Received	**11/29/12 16:15**

SOUTHERN ANALYTICAL LABORATORIES, INC.
110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 FAX 813-855-2218

Hazen and Sawyer
10002 Princess Palm Ave, Suite 200
Tampa, FL 33619

December 19, 2012
Work Order: 1213368

Laboratory Report

Project Name **C-HS3 SE#2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-03A-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-04**						
Date/Time Collected		**11/29/12 10:26**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/29/12 16:15**						
Client Provided Field Data								
pH		6.27						
Temperature		26.3 °C						
Conductivity		75.6 umhos						
Dissolved Oxygen		7.11 mg/L						
Inorganics								
Ammonia as N	mg/L	0.011 I	EPA 350.1	0.040	0.009		12/14/12 11:58	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/03/12 08:05	12/03/12 11:30	1
Chloride	mg/L	1.5	EPA 300.0	0.20	0.050		11/30/12 17:39	1
Nitrate (as N)	mg/L	0.54	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Phosphorous - Total as P	mg/L	0.18	SM 4500P-E	0.040	0.010	12/01/12 07:38	12/12/12 14:12	1
Total Alkalinity	mg/L	25	SM 2320B	8.0	2.0		12/03/12 08:50	1
Total Kjeldahl Nitrogen	mg/L	0.51	EPA 351.2	0.20	0.05	12/11/12 08:13	12/12/12 13:28	1
Nitrate+Nitrite (N)	mg/L	0.54	EPA 300.0	0.08	0.02		11/30/12 17:39	1
Sample Description		**PZ-03A-17-DUP**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-05**						
Date/Time Collected		**11/29/12 10:31**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/29/12 16:15**						
Client Provided Field Data								
pH		6.27						
Temperature		26.3 °C						
Conductivity		75.6 umhos						
Dissolved Oxygen		7.11 mg/L						
Inorganics								
Ammonia as N	mg/L	0.014 I	EPA 350.1	0.040	0.009		12/14/12 12:00	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/03/12 08:05	12/03/12 11:30	1
Chloride	mg/L	1.5	EPA 300.0	0.20	0.050		11/30/12 17:39	1
Nitrate (as N)	mg/L	0.60	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Phosphorous - Total as P	mg/L	0.18	SM 4500P-E	0.040	0.010	12/01/12 07:38	12/12/12 14:13	1
Total Alkalinity	mg/L	25	SM 2320B	8.0	2.0		12/03/12 08:50	1
Total Kjeldahl Nitrogen	mg/L	0.56	EPA 351.2	0.20	0.05	11/30/12 08:15	12/07/12 14:57	1
Nitrate+Nitrite (N)	mg/L	0.60	EPA 300.0	0.08	0.02		11/30/12 17:39	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-03A-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-06**						
Date/Time Collected		**11/29/12 10:43**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/29/12 16:15**						
Client Provided Field Data								
pH		5.71						
Temperature		26.8 °C						
Conductivity		244 umhos						
Dissolved Oxygen		3.03 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/14/12 10:00	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/03/12 08:05	12/03/12 11:30	1
Chloride	mg/L	11	EPA 300.0	0.20	0.050		11/30/12 17:39	1
Nitrate (as N)	mg/L	8.2	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Nitrite (as N)	mg/L	0.01 I	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Phosphorous - Total as P	mg/L	0.039 I	SM 4500P-E	0.040	0.010	12/01/12 07:38	12/12/12 13:10	1
Total Alkalinity	mg/L	15	SM 2320B	8.0	2.0		12/03/12 08:50	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	11/30/12 08:15	12/07/12 14:59	1
Nitrate+Nitrite (N)	mg/L	8.2	EPA 300.0	0.08	0.02		11/30/12 17:39	1

Sample Description		**PZ-03A-34**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-07**						
Date/Time Collected		**11/29/12 09:00**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/29/12 16:15**						
Client Provided Field Data								
pH		4.80						
Temperature		25.6 °C						
Conductivity		305 umhos						
Dissolved Oxygen		2.21 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/14/12 10:02	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/03/12 08:05	12/03/12 11:30	1
Chloride	mg/L	19	EPA 300.0	0.20	0.050		11/30/12 17:39	1
Nitrate (as N)	mg/L	14	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Phosphorous - Total as P	mg/L	0.18	SM 4500P-E	0.040	0.010	12/01/12 07:38	12/12/12 13:11	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		12/03/12 08:50	1
Total Kjeldahl Nitrogen	mg/L	1.1	EPA 351.2	0.20	0.05	11/30/12 08:15	12/07/12 15:01	1
Nitrate+Nitrite (N)	mg/L	14	EPA 300.0	0.08	0.02		11/30/12 17:39	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-03I-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-08**						
Date/Time Collected		**11/28/12 08:49**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/28/12 15:30**						
Client Provided Field Data								
pH		6.15						
Temperature		25.8 °C						
Conductivity		77.8 umhos						
Dissolved Oxygen		6.17 mg/L						
Inorganics								
Ammonia as N	mg/L	0.028 I	EPA 350.1	0.040	0.009		11/29/12 11:04	1
Chemical Oxygen Demand	mg/L	15 I	EPA 410.4	25	10	12/10/12 08:07	12/10/12 10:35	1
Chloride	mg/L	1.1	EPA 300.0	0.20	0.050		11/29/12 16:45	1
Nitrate (as N)	mg/L	3.3	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Phosphorous - Total as P	mg/L	0.44	SM 4500P-E	0.040	0.010	12/01/12 07:38	12/12/12 13:12	1
Total Alkalinity	mg/L	9.5	SM 2320B	8.0	2.0		11/29/12 14:27	1
Total Kjeldahl Nitrogen	mg/L	1.2	EPA 351.2	0.20	0.05	11/30/12 08:15	12/07/12 15:02	1
Nitrate+Nitrite (N)	mg/L	3.3	EPA 300.0	0.08	0.02		11/29/12 16:45	1

Sample Description		**PZ-03I-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-09**						
Date/Time Collected		**11/28/12 09:08**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/28/12 15:30**						
Client Provided Field Data								
pH		6.27						
Temperature		25.9 °C						
Conductivity		51.3 umhos						
Dissolved Oxygen		6.89 mg/L						
Inorganics								
Ammonia as N	mg/L	0.13	EPA 350.1	0.040	0.009		11/29/12 11:06	1
Chloride	mg/L	1.8	EPA 300.0	0.20	0.050		11/29/12 16:45	1
Nitrate (as N)	mg/L	0.54	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Total Alkalinity	mg/L	2.1 I	SM 2320B	8.0	2.0		11/29/12 14:27	1
Total Kjeldahl Nitrogen	mg/L	1.1	EPA 351.2	0.20	0.05	11/30/12 08:15	12/07/12 15:04	1
Nitrate+Nitrite (N)	mg/L	0.54	EPA 300.0	0.08	0.02		11/29/12 16:45	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-03I-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-10**						
Date/Time Collected		**11/28/12 09:26**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/28/12 15:30**						
Client Provided Field Data								
pH		5.13						
Temperature		25.9 °C						
Conductivity		177.2 umhos						
Dissolved Oxygen		3.72 mg/L						
Inorganics								
Ammonia as N	mg/L	0.034 I	EPA 350.1	0.040	0.009		11/29/12 11:08	1
Chloride	mg/L	6.8	EPA 300.0	0.20	0.050		11/29/12 16:45	1
Nitrate (as N)	mg/L	2.9	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Total Alkalinity	mg/L	3.2 I	SM 2320B	8.0	2.0		11/29/12 14:27	1
Total Kjeldahl Nitrogen	mg/L	0.81	EPA 351.2	0.20	0.05	11/30/12 08:15	12/07/12 15:05	1
Nitrate+Nitrite (N)	mg/L	2.9	EPA 300.0	0.08	0.02		11/29/12 16:45	1

Sample Description		**PZ-03K-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-11**						
Date/Time Collected		**11/29/12 11:29**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/29/12 16:15**						
Client Provided Field Data								
pH		6.77						
Temperature		27.5 °C						
Conductivity		275 umhos						
Dissolved Oxygen		5.79 mg/L						
Inorganics								
Ammonia as N	mg/L	0.010 I	EPA 350.1	0.040	0.009		12/14/12 10:04	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/10/12 08:07	12/10/12 10:35	1
Chloride	mg/L	9.0	EPA 300.0	0.20	0.050		11/30/12 17:39	1
Nitrate (as N)	mg/L	11	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Phosphorous - Total as P	mg/L	4.3	SM 4500P-E	0.40	0.10	12/01/12 07:38	12/12/12 14:14	10
Total Alkalinity	mg/L	41	SM 2320B	8.0	2.0		12/03/12 08:50	1
Total Kjeldahl Nitrogen	mg/L	1.4	EPA 351.2	0.20	0.05	11/30/12 08:15	12/07/12 15:06	1
Nitrate+Nitrite (N)	mg/L	11	EPA 300.0	0.08	0.02		11/30/12 17:39	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-03K-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-12**						
Date/Time Collected		**11/29/12 11:48**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/29/12 16:15**						
Client Provided Field Data								
pH		6.13						
Temperature		27.4 °C						
Conductivity		76.8 umhos						
Dissolved Oxygen		6.32 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/14/12 10:06	1
Chloride	mg/L	1.9	EPA 300.0	0.20	0.050		11/30/12 17:39	1
Nitrate (as N)	mg/L	0.51	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Total Alkalinity	mg/L	15	SM 2320B	8.0	2.0		12/03/12 08:50	1
Total Kjeldahl Nitrogen	mg/L	0.49	EPA 351.2	0.20	0.05	11/30/12 08:15	12/07/12 15:08	1
Nitrate+Nitrite (N)	mg/L	0.51	EPA 300.0	0.08	0.02		11/30/12 17:39	1

Sample Description		**PZ-03K-21**
Matrix		**Groundwater**
SAL Sample Number		**1213368-13**
Date/Time Collected		**11/29/12 12:09**
Collected by		**Sean Schmidt**
Date/Time Received		**11/29/12 16:15**
Client Provided Field Data		
pH		5.95
Temperature		27.5 °C
Conductivity		185.3 umhos
Dissolved Oxygen		3.63 mg/L
Inorganics		
Ammonia as N	mg/L	0.009 U
Chloride	mg/L	7.5
Nitrate (as N)	mg/L	2.4
Nitrite (as N)	mg/L	0.01 U
Total Alkalinity	mg/L	17
Total Kjeldahl Nitrogen	mg/L	0.55
Nitrate+Nitrite (N)	mg/L	2.4

Parameters	Method	PQL	MDL	Prepared	Analyzed	Dilution
Ammonia as N	EPA 350.1	0.040	0.009		12/14/12 10:08	1
Chloride	EPA 300.0	0.20	0.050		11/30/12 17:39	1
Nitrate (as N)	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Nitrite (as N)	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Total Alkalinity	SM 2320B	8.0	2.0		12/03/12 08:50	1
Total Kjeldahl Nitrogen	EPA 351.2	0.20	0.05	11/30/12 08:15	12/07/12 15:09	1
Nitrate+Nitrite (N)	EPA 300.0	0.08	0.02		11/30/12 17:39	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-02L-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-14**						
Date/Time Collected		**11/27/12 09:21**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/27/12 15:00**						
Client Provided Field Data								
pH		6.80						
Temperature		26.6 °C						
Conductivity		105.4 umhos						
Dissolved Oxygen		6.90 mg/L						
Inorganics								
Ammonia as N	mg/L	0.014 I	EPA 350.1	0.040	0.009		11/29/12 11:10	1
Chemical Oxygen Demand	mg/L	24 I	EPA 410.4	25	10	11/28/12 09:35	11/28/12 12:00	1
Chloride	mg/L	1.4	EPA 300.0	0.20	0.050		11/28/12 16:38	1
Nitrate (as N)	mg/L	2.0	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Phosphorous - Total as P	mg/L	1.1	SM 4500P-E	0.040	0.010	11/28/12 10:11	12/03/12 10:49	1
Total Alkalinity	mg/L	27	SM 2320B	8.0	2.0		11/29/12 14:27	1
Total Kjeldahl Nitrogen	mg/L	2.3	EPA 351.2	0.20	0.05	11/30/12 08:15	12/07/12 15:11	1
Nitrate+Nitrite (N)	mg/L	2.0	EPA 300.0	0.08	0.02		11/28/12 16:38	1

Sample Description		**PZ-02L-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-15**						
Date/Time Collected		**11/27/12 09:40**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/27/12 15:00**						
Client Provided Field Data								
pH		6.80						
Temperature		26.1 °C						
Conductivity		62.9 umhos						
Dissolved Oxygen		5.49 mg/L						
Inorganics								
Ammonia as N	mg/L	0.028 I	EPA 350.1	0.040	0.009		11/29/12 11:12	1
Chloride	mg/L	1.3	EPA 300.0	0.20	0.050		11/28/12 16:38	1
Nitrate (as N)	mg/L	1.0	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Total Alkalinity	mg/L	16	SM 2320B	8.0	2.0		11/29/12 14:27	1
Total Kjeldahl Nitrogen	mg/L	0.51	EPA 351.2	0.20	0.05	11/30/12 08:12	12/07/12 14:07	1
Nitrate+Nitrite (N)	mg/L	1.0	EPA 300.0	0.08	0.02		11/28/12 16:38	1

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Sample Description		**PZ-02L-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-16**						
Date/Time Collected		**11/27/12 09:51**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/27/12 15:00**						
Client Provided Field Data								
pH		5.38						
Temperature		26.2 °C						
Conductivity		209.2 umhos						
Dissolved Oxygen		3.18 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		11/29/12 11:14	1
Chloride	mg/L	7.8	EPA 300.0	0.20	0.050		11/28/12 16:38	1
Nitrate (as N)	mg/L	3.5	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Total Alkalinity	mg/L	6.3 I	SM 2320B	8.0	2.0		11/29/12 14:27	1
Total Kjeldahl Nitrogen	mg/L	1.4	EPA 351.2	0.20	0.05	11/30/12 08:12	12/07/12 14:09	1
Nitrate+Nitrite (N)	mg/L	3.5	EPA 300.0	0.08	0.02		11/28/12 16:38	1

Sample Description		**PZ-04L-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-17**						
Date/Time Collected		**11/27/12 11:21**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/27/12 15:00**						
Client Provided Field Data								
pH		6.65						
Temperature		27.5 °C						
Conductivity		6.65 umhos						
Dissolved Oxygen		5.85 mg/L						
Inorganics								
Ammonia as N	mg/L	0.030 I	EPA 350.1	0.040	0.009		11/29/12 11:16	1
Chemical Oxygen Demand	mg/L	24 I	EPA 410.4	25	10	11/28/12 09:35	11/28/12 12:00	1
Chloride	mg/L	8.4	EPA 300.0	0.20	0.050		11/28/12 16:38	1
Nitrate (as N)	mg/L	8.5	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Phosphorous - Total as P	mg/L	1.1	SM 4500P-E	0.040	0.010	11/28/12 10:11	12/03/12 10:50	1
Total Alkalinity	mg/L	41	SM 2320B	8.0	2.0		11/29/12 14:27	1
Total Kjeldahl Nitrogen	mg/L	1.7	EPA 351.2	0.20	0.05	11/30/12 08:12	12/07/12 14:11	1
Nitrate+Nitrite (N)	mg/L	8.5	EPA 300.0	0.08	0.02		11/28/12 16:38	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04L-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-18**						
Date/Time Collected		**11/27/12 11:40**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/27/12 15:00**						
Client Provided Field Data								
pH		6.47						
Temperature		27.3 °C						
Conductivity		70.6 umhos						
Dissolved Oxygen		5.50 mg/L						
Inorganics								
Ammonia as N	mg/L	0.011 I	EPA 350.1	0.040	0.009		11/29/12 11:18	1
Chloride	mg/L	1.2	EPA 300.0	0.20	0.050		11/28/12 16:38	1
Nitrate (as N)	mg/L	0.55	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Total Alkalinity	mg/L	21	SM 2320B	8.0	2.0		11/29/12 14:27	1
Total Kjeldahl Nitrogen	mg/L	0.49	EPA 351.2	0.20	0.05	11/30/12 08:12	12/07/12 14:12	1
Nitrate+Nitrite (N)	mg/L	0.55	EPA 300.0	0.08	0.02		11/28/12 16:38	1

Sample Description		**PZ-04L-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-19**						
Date/Time Collected		**11/27/12 11:55**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/27/12 15:00**						
Client Provided Field Data								
pH		5.42						
Temperature		27.6 °C						
Conductivity		189.7 umhos						
Dissolved Oxygen		2.50 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/03/12 10:16	1
Chloride	mg/L	6.6	EPA 300.0	0.20	0.050		11/28/12 16:38	1
Nitrate (as N)	mg/L	2.5	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Total Alkalinity	mg/L	6.3 I	SM 2320B	8.0	2.0		11/29/12 14:27	1
Total Kjeldahl Nitrogen	mg/L	0.84	EPA 351.2	0.20	0.05	11/30/12 08:12	12/07/12 14:14	1
Nitrate+Nitrite (N)	mg/L	2.5	EPA 300.0	0.08	0.02		11/28/12 16:38	1

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Project Name **C-HS3 SE#2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-07L-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-20**						
Date/Time Collected		**11/28/12 09:45**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/28/12 15:30**						
Client Provided Field Data								
pH		6.45						
Temperature		25.7 °C						
Conductivity		65.2 umhos						
Dissolved Oxygen		6.72 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/14/12 10:10	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/10/12 08:07	12/10/12 10:35	1
Chloride	mg/L	1.0	EPA 300.0	0.20	0.050		11/29/12 16:45	1
Nitrate (as N)	mg/L	0.81	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Phosphorous - Total as P	mg/L	0.18	SM 4500P-E	0.040	0.010	12/01/12 07:38	12/12/12 13:14	1
Total Alkalinity	mg/L	20	SM 2320B	8.0	2.0		11/29/12 14:27	1
Total Kjeldahl Nitrogen	mg/L	0.80	EPA 351.2	0.20	0.05	11/30/12 08:12	12/07/12 14:16	1
Nitrate+Nitrite (N)	mg/L	0.81	EPA 300.0	0.08	0.02		11/29/12 16:45	1

Sample Description		**PZ-07L-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-21**						
Date/Time Collected		**11/28/12 10:03**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/28/12 15:30**						
Client Provided Field Data								
pH		6.34						
Temperature		25.5 °C						
Conductivity		84.5 umhos						
Dissolved Oxygen		6.26 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/14/12 10:12	1
Chloride	mg/L	1.7	EPA 300.0	0.20	0.050		11/29/12 16:45	1
Nitrate (as N)	mg/L	1.2	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Total Alkalinity	mg/L	24	SM 2320B	8.0	2.0		11/29/12 14:27	1
Total Kjeldahl Nitrogen	mg/L	0.70	EPA 351.2	0.20	0.05	11/30/12 08:12	12/07/12 14:17	1
Nitrate+Nitrite (N)	mg/L	1.2	EPA 300.0	0.08	0.02		11/29/12 16:45	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-07L-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-22**						
Date/Time Collected		**11/28/12 10:21**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/28/12 15:30**						
Client Provided Field Data								
pH		5.42						
Temperature		25.9 °C						
Conductivity		166.3 umhos						
Dissolved Oxygen		3.94 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/14/12 10:14	1
Chloride	mg/L	5.8	EPA 300.0	0.20	0.050		11/29/12 16:45	1
Nitrate (as N)	mg/L	3.5	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Total Alkalinity	mg/L	6.3 I	SM 2320B	8.0	2.0		11/29/12 14:27	1
Total Kjeldahl Nitrogen	mg/L	0.87	EPA 351.2	0.20	0.05	11/30/12 08:12	12/07/12 14:19	1
Nitrate+Nitrite (N)	mg/L	3.5	EPA 300.0	0.08	0.02		11/29/12 16:45	1

Sample Description		**PZ-03ML-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-23**						
Date/Time Collected		**11/27/12 10:10**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/27/12 15:00**						
Client Provided Field Data								
pH		6.32						
Temperature		27.1 °C						
Conductivity		394 umhos						
Dissolved Oxygen		5.32 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/03/12 10:18	1
Chemical Oxygen Demand	mg/L	13 I	EPA 410.4	25	10	11/28/12 09:35	11/28/12 12:00	1
Chloride	mg/L	19	EPA 300.0	0.20	0.050		11/28/12 16:38	1
Fluoride	mg/L	0.027 I	EPA 300.0	0.040	0.010		11/28/12 16:38	1
Nitrate (as N)	mg/L	17	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Orthophosphate as P	mg/L	3.0	EPA 300.0	0.040	0.010		11/28/12 16:38	1
Phosphorous - Total as P	mg/L	5.3	SM 4500P-E	0.20	0.050	11/28/12 10:11	12/03/12 11:32	5
Sulfate	mg/L	27	EPA 300.0	0.60	0.20		11/28/12 16:38	1
Total Alkalinity	mg/L	30	SM 2320B	8.0	2.0		11/29/12 14:27	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	11/30/12 08:12	12/07/12 14:21	1

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Project Name **C-HS3 SE#2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-03ML-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-23**						
Date/Time Collected		**11/27/12 10:10**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/27/12 15:00**						
Client Provided Field Data								
pH		6.32						
Temperature		27.1 °C						
Conductivity		394 umhos						
Dissolved Oxygen		5.32 mg/L						
Total Organic Carbon	mg/L	3.5	SM 5310B	1.0	0.50		11/29/12 16:44	1
Nitrate+Nitrite (N)	mg/L	17	EPA 300.0	0.08	0.02		11/28/12 16:38	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	3.3	SM 5310B	1.0	0.50		11/28/12 16:44	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	11/27/12 16:10	12/04/12 12:55	1
Calcium	mg/L	38	EPA 200.7	0.50	0.042	11/27/12 16:10	12/04/12 12:55	1
Iron	mg/L	0.11	EPA 200.7	0.10	0.020	11/27/12 16:10	12/05/12 11:55	1
Magnesium	mg/L	6.1	EPA 200.7	0.50	0.020	11/27/12 16:10	12/04/12 12:55	1
Manganese	mg/L	0.017	EPA 200.7	0.010	0.0010	11/27/12 16:10	12/04/12 12:55	1
Potassium	mg/L	6.3	EPA 200.7	0.050	0.010	11/27/12 16:10	12/04/12 12:55	1
Sodium	mg/L	18	EPA 200.7	0.50	0.13	11/27/12 16:10	12/04/12 12:55	1

Sample Description		**PZ-03ML-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-24**						
Date/Time Collected		**11/27/12 10:31**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/27/12 15:00**						
Client Provided Field Data								
pH		6.58						
Temperature		26.4 °C						
Conductivity		62.9 umhos						
Dissolved Oxygen		6.54 mg/L						
Inorganics								
Ammonia as N	mg/L	0.026 I	EPA 350.1	0.040	0.009		12/03/12 11:19	1
Chemical Oxygen Demand	mg/L	42	EPA 410.4	25	10	11/28/12 09:35	11/28/12 12:00	1
Chloride	mg/L	1.6	EPA 300.0	0.20	0.050		11/28/12 16:38	1
Fluoride	mg/L	0.010 U	EPA 300.0	0.040	0.010		11/28/12 16:38	1
Nitrate (as N)	mg/L	0.70	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Orthophosphate as P	mg/L	1.8	EPA 300.0	0.040	0.010		11/28/12 16:38	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-03ML-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-24**						
Date/Time Collected		**11/27/12 10:31**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/27/12 15:00**						
Client Provided Field Data								
pH		6.58						
Temperature		26.4 °C						
Conductivity		62.9 umhos						
Dissolved Oxygen		6.54 mg/L						
Phosphorous - Total as P	mg/L	3.6	SM 4500P-E	0.20	0.050	11/28/12 10:11	12/03/12 11:33	5
Sulfate	mg/L	4.4	EPA 300.0	0.60	0.20		11/28/12 16:38	1
Total Alkalinity	mg/L	17	SM 2320B	8.0	2.0		11/29/12 14:27	1
Total Kjeldahl Nitrogen	mg/L	0.81	EPA 351.2	0.20	0.05	11/30/12 08:12	12/07/12 14:22	1
Total Organic Carbon	mg/L	8.4	SM 5310B	1.0	0.50		11/29/12 16:44	1
Nitrate+Nitrite (N)	mg/L	0.70	EPA 300.0	0.08	0.02		11/28/12 16:38	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	3.7	SM 5310B	1.0	0.50		11/28/12 16:44	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	11/27/12 16:10	12/04/12 12:58	1
Calcium	mg/L	8.8	EPA 200.7	0.50	0.042	11/27/12 16:10	12/04/12 12:58	1
Iron	mg/L	0.19	EPA 200.7	0.10	0.020	11/27/12 16:10	12/05/12 11:59	1
Magnesium	mg/L	1.8	EPA 200.7	0.50	0.020	11/27/12 16:10	12/04/12 12:58	1
Manganese	mg/L	0.0019 I	EPA 200.7	0.010	0.0010	11/27/12 16:10	12/04/12 12:58	1
Potassium	mg/L	1.6	EPA 200.7	0.050	0.010	11/27/12 16:10	12/04/12 12:58	1
Sodium	mg/L	1.1	EPA 200.7	0.50	0.13	11/27/12 16:10	12/05/12 11:59	1
Sample Description		**PZ-03ML-17-DUP**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-25**						
Date/Time Collected		**11/27/12 10:36**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/27/12 15:00**						
Client Provided Field Data								
pH		6.58						
Temperature		26.4 °C						
Conductivity		62.9 umhos						
Dissolved Oxygen		6.54 mg/L						
Inorganics								
Ammonia as N	mg/L	0.028 I	EPA 350.1	0.040	0.009		12/03/12 11:21	1
Chemical Oxygen Demand	mg/L	44	EPA 410.4	25	10	11/28/12 09:35	11/28/12 12:00	1
Chloride	mg/L	1.5	EPA 300.0	0.20	0.050		11/28/12 16:38	1

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Project Name **C-HS3 SE#2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-03ML-17-DUP**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-25**						
Date/Time Collected		**11/27/12 10:36**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/27/12 15:00**						
Client Provided Field Data								
pH		6.58						
Temperature		26.4 °C						
Conductivity		62.9 umhos						
Dissolved Oxygen		6.54 mg/L						
Fluoride	mg/L	0.022 I	EPA 300.0	0.040	0.010		11/28/12 16:38	1
Nitrate (as N)	mg/L	0.68	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Orthophosphate as P	mg/L	1.7	EPA 300.0	0.040	0.010		11/28/12 16:38	1
Phosphorous - Total as P	mg/L	3.6	SM 4500P-E	0.20	0.050	11/28/12 10:11	12/03/12 11:34	5
Sulfate	mg/L	4.3	EPA 300.0	0.60	0.20		11/28/12 16:38	1
Total Alkalinity	mg/L	16	SM 2320B	8.0	2.0		11/29/12 14:27	1
Total Kjeldahl Nitrogen	mg/L	0.97	EPA 351.2	0.20	0.05	11/30/12 08:12	12/07/12 14:31	1
Total Organic Carbon	mg/L	7.8	SM 5310B	1.0	0.50		11/29/12 16:44	1
Nitrate+Nitrite (N)	mg/L	0.68	EPA 300.0	0.08	0.02		11/28/12 16:38	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	3.8	SM 5310B	1.0	0.50		11/28/12 16:44	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	11/27/12 16:10	12/04/12 13:02	1
Calcium	mg/L	8.7	EPA 200.7	0.50	0.042	11/27/12 16:10	12/04/12 13:02	1
Iron	mg/L	0.17	EPA 200.7	0.10	0.020	11/27/12 16:10	12/05/12 12:03	1
Magnesium	mg/L	1.8	EPA 200.7	0.50	0.020	11/27/12 16:10	12/04/12 13:02	1
Manganese	mg/L	0.0020 I	EPA 200.7	0.010	0.0010	11/27/12 16:10	12/04/12 13:02	1
Potassium	mg/L	1.6	EPA 200.7	0.050	0.010	11/27/12 16:10	12/04/12 13:02	1
Sodium	mg/L	1.1	EPA 200.7	0.50	0.13	11/27/12 16:10	12/05/12 12:03	1

Sample Description	**PZ-03ML-21**
Matrix	**Groundwater**
SAL Sample Number	**1213368-26**
Date/Time Collected	**11/27/12 10:58**
Collected by	**Sean Schmidt**
Date/Time Received	**11/27/12 15:00**
Client Provided Field Data	
pH	6.16
Temperature	27.0 °C
Conductivity	223 umhos
Dissolved Oxygen	2.99 mg/L

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-03ML-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-26**						
Date/Time Collected		**11/27/12 10:58**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/27/12 15:00**						
Client Provided Field Data								
pH		6.16						
Temperature		27.0 °C						
Conductivity		223 umhos						
Dissolved Oxygen		2.99 mg/L						
Inorganics								
Ammonia as N	mg/L	0.010 I	EPA 350.1	0.040	0.009		12/03/12 10:23	1
Chemical Oxygen Demand	mg/L	17 I	EPA 410.4	25	10	11/28/12 09:35	11/28/12 12:00	1
Chloride	mg/L	7.8	EPA 300.0	0.20	0.050		11/28/12 16:38	1
Fluoride	mg/L	0.010 U	EPA 300.0	0.040	0.010		11/28/12 16:38	1
Nitrate (as N)	mg/L	2.7	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Orthophosphate as P	mg/L	0.37	EPA 300.0	0.040	0.010		11/28/12 16:38	1
Phosphorous - Total as P	mg/L	0.87	SM 4500P-E	0.040	0.010	11/28/12 10:11	12/03/12 10:55	1
Sulfate	mg/L	44	EPA 300.0	0.60	0.20		11/28/12 16:38	1
Total Alkalinity	mg/L	20	SM 2320B	8.0	2.0		11/29/12 14:27	1
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	11/30/12 08:12	12/07/12 14:32	1
Total Organic Carbon	mg/L	2.1	SM 5310B	1.0	0.50		11/29/12 16:44	1
Nitrate+Nitrite (N)	mg/L	2.7	EPA 300.0	0.08	0.02		11/28/12 16:38	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	1.5	SM 5310B	1.0	0.50		11/28/12 16:44	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	11/27/12 16:10	12/04/12 13:06	1
Calcium	mg/L	24	EPA 200.7	0.50	0.042	11/27/12 16:10	12/04/12 13:06	1
Iron	mg/L	0.041 I	EPA 200.7	0.10	0.020	11/27/12 16:10	12/05/12 12:06	1
Magnesium	mg/L	4.8	EPA 200.7	0.50	0.020	11/27/12 16:10	12/04/12 13:06	1
Manganese	mg/L	0.0030 I	EPA 200.7	0.010	0.0010	11/27/12 16:10	12/04/12 13:06	1
Potassium	mg/L	5.3	EPA 200.7	0.050	0.010	11/27/12 16:10	12/04/12 13:06	1
Sodium	mg/L	3.5	EPA 200.7	0.50	0.13	11/27/12 16:10	12/04/12 13:06	1

Sample Description	**PZ-00N-15**
Matrix	**Groundwater**
SAL Sample Number	**1213368-27**
Date/Time Collected	**11/26/12 10:43**
Collected by	**Sean Schmidt**
Date/Time Received	**11/26/12 16:00**

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-00N-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-27**						
Date/Time Collected		**11/26/12 10:43**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/26/12 16:00**						
Client Provided Field Data								
pH		6.47						
Temperature		26.6 °C						
Conductivity		74.9 umhos						
Dissolved Oxygen		6.47 mg/L						
Inorganics								
Ammonia as N	mg/L	0.036 I	EPA 350.1	0.040	0.009		12/03/12 10:25	1
Chemical Oxygen Demand	mg/L	29	EPA 410.4	25	10	11/28/12 09:35	11/28/12 12:00	1
Chloride	mg/L	1.2	EPA 300.0	0.20	0.050		11/27/12 16:39	1
Nitrate (as N)	mg/L	0.57	EPA 300.0	0.04	0.01		11/27/12 16:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/27/12 16:39	1
Phosphorous - Total as P	mg/L	0.94	SM 4500P-E	0.040	0.010	11/28/12 10:05	11/30/12 11:12	1
Total Alkalinity	mg/L	21	SM 2320B	8.0	2.0		11/27/12 13:49	1
Total Kjeldahl Nitrogen	mg/L	0.67	EPA 351.2	0.20	0.05	11/27/12 08:11	11/30/12 11:28	1
Nitrate+Nitrite (N)	mg/L	0.57	EPA 300.0	0.08	0.02		11/27/12 16:39	1

Sample Description		**PZ-00N-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-28**						
Date/Time Collected		**11/26/12 12:55**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/26/12 16:00**						
Client Provided Field Data								
pH		5.91						
Temperature		27.0 °C						
Conductivity		61.2 umhos						
Dissolved Oxygen		5.14 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/03/12 10:27	1
Chloride	mg/L	0.88	EPA 300.0	0.20	0.050		11/27/12 16:39	1
Nitrate (as N)	mg/L	1.0	EPA 300.0	0.04	0.01		11/27/12 16:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/27/12 16:39	1
Total Alkalinity	mg/L	15	SM 2320B	8.0	2.0		11/27/12 13:49	1
Total Kjeldahl Nitrogen	mg/L	0.60	EPA 351.2	0.20	0.05	11/27/12 08:11	11/30/12 11:30	1
Nitrate+Nitrite (N)	mg/L	1.0	EPA 300.0	0.08	0.02		11/27/12 16:39	1

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Project Name **C-HS3 SE#2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-00N-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-29**						
Date/Time Collected		**11/26/12 10:05**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/26/12 16:00**						
Client Provided Field Data								
pH		5.97						
Temperature		26.1 °C						
Conductivity		212.5 umhos						
Dissolved Oxygen		4.50 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/03/12 10:28	1
Chloride	mg/L	8.9	EPA 300.0	0.20	0.050		11/27/12 16:39	1
Nitrate (as N)	mg/L	4.9	EPA 300.0	0.04	0.01		11/27/12 16:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/27/12 16:39	1
Total Alkalinity	mg/L	2.1 I	SM 2320B	8.0	2.0		11/27/12 13:49	1
Total Kjeldahl Nitrogen	mg/L	1.2	EPA 351.2	0.20	0.05	11/27/12 08:11	11/30/12 11:31	1
Nitrate+Nitrite (N)	mg/L	4.9	EPA 300.0	0.08	0.02		11/27/12 16:39	1

Sample Description		**PZ-02N-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-30**						
Date/Time Collected		**11/26/12 13:22**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/26/12 16:00**						
Client Provided Field Data								
pH		6.64						
Temperature		26.9 °C						
Conductivity		102.4 umhos						
Dissolved Oxygen		6.94 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/03/12 10:30	1
Chemical Oxygen Demand	mg/L	20 I	EPA 410.4	25	10	11/28/12 09:35	11/28/12 12:00	1
Chloride	mg/L	1.5	EPA 300.0	0.20	0.050		11/27/12 16:39	1
Nitrate (as N)	mg/L	1.0	EPA 300.0	0.04	0.01		11/27/12 16:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/27/12 16:39	1
Phosphorous - Total as P	mg/L	1.4	SM 4500P-E	0.040	0.010	11/28/12 10:05	11/30/12 11:13	1
Total Alkalinity	mg/L	32	SM 2320B	8.0	2.0		11/27/12 13:49	1
Total Kjeldahl Nitrogen	mg/L	0.76	EPA 351.2	0.20	0.05	11/27/12 08:11	11/30/12 11:33	1
Nitrate+Nitrite (N)	mg/L	1.0	EPA 300.0	0.08	0.02		11/27/12 16:39	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-02N-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-31**						
Date/Time Collected		**11/26/12 13:41**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/26/12 16:00**						
Client Provided Field Data								
pH		6.12						
Temperature		26.8 °C						
Conductivity		46.5 umhos						
Dissolved Oxygen		6.10 mg/L						
Inorganics								
Ammonia as N	mg/L	0.020 I	EPA 350.1	0.040	0.009		12/03/12 10:32	1
Chloride	mg/L	1.4	EPA 300.0	0.20	0.050		11/27/12 16:39	1
Nitrate (as N)	mg/L	0.62	EPA 300.0	0.04	0.01		11/27/12 16:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/27/12 16:39	1
Total Alkalinity	mg/L	12	SM 2320B	8.0	2.0		11/27/12 13:49	1
Total Kjeldahl Nitrogen	mg/L	0.72	EPA 351.2	0.20	0.05	11/27/12 08:11	11/30/12 11:35	1
Nitrate+Nitrite (N)	mg/L	0.62	EPA 300.0	0.08	0.02		11/27/12 16:39	1

Sample Description		**PZ-02N-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-32**						
Date/Time Collected		**11/26/12 14:00**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/26/12 16:00**						
Client Provided Field Data								
pH		4.77						
Temperature		26.4 °C						
Conductivity		230 umhos						
Dissolved Oxygen		2.81 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/03/12 10:40	1
Chloride	mg/L	9.8	EPA 300.0	0.20	0.050		11/27/12 16:39	1
Nitrate (as N)	mg/L	6.1	EPA 300.0	0.04	0.01		11/27/12 16:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/27/12 16:39	1
Total Alkalinity	mg/L	2.1 I	SM 2320B	8.0	2.0		11/27/12 13:49	1
Total Kjeldahl Nitrogen	mg/L	0.83	EPA 351.2	0.20	0.05	11/27/12 08:11	11/30/12 11:36	1
Nitrate+Nitrite (N)	mg/L	6.1	EPA 300.0	0.08	0.02		11/27/12 16:39	1

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Project Name **C-HS3 SE#2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04N-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-33**						
Date/Time Collected		**11/27/12 12:11**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/27/12 15:00**						
Client Provided Field Data								
pH		6.62						
Temperature		28.3 °C						
Conductivity		245 umhos						
Dissolved Oxygen		5.58 mg/L						
Inorganics								
Ammonia as N	mg/L	0.015 I	EPA 350.1	0.040	0.009		11/30/12 11:18	1
Chemical Oxygen Demand	mg/L	26	EPA 410.4	25	10	11/28/12 09:35	11/28/12 12:00	1
Chloride	mg/L	9.0	EPA 300.0	0.20	0.050		11/28/12 16:38	1
Nitrate (as N)	mg/L	7.6	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Phosphorous - Total as P	mg/L	0.89	SM 4500P-E	0.040	0.010	11/28/12 10:05	11/30/12 11:14	1
Total Alkalinity	mg/L	42	SM 2320B	8.0	2.0		11/29/12 14:27	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	11/30/12 08:12	12/07/12 14:34	1
Nitrate+Nitrite (N)	mg/L	7.6	EPA 300.0	0.08	0.02		11/28/12 16:38	1

Sample Description		**PZ-04N-15-DUP**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-34**						
Date/Time Collected		**11/27/12 12:16**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/27/12 15:00**						
Client Provided Field Data								
pH		6.62						
Temperature		28.3 °C						
Conductivity		245 umhos						
Dissolved Oxygen		5.58 mg/L						
Inorganics								
Ammonia as N	mg/L	0.011 I	EPA 350.1	0.040	0.009		11/30/12 11:19	1
Chemical Oxygen Demand	mg/L	26	EPA 410.4	25	10	11/28/12 09:35	11/28/12 12:00	1
Chloride	mg/L	9.7	EPA 300.0	0.20	0.050		11/28/12 16:38	1
Nitrate (as N)	mg/L	8.2	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Phosphorous - Total as P	mg/L	0.86	SM 4500P-E	0.040	0.010	11/28/12 10:05	11/30/12 11:16	1
Total Alkalinity	mg/L	42	SM 2320B	8.0	2.0		11/29/12 14:27	1
Total Kjeldahl Nitrogen	mg/L	1.6	EPA 351.2	0.20	0.05	11/30/12 08:12	12/07/12 14:36	1
Nitrate+Nitrite (N)	mg/L	8.2	EPA 300.0	0.08	0.02		11/28/12 16:38	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04N-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-35**						
Date/Time Collected		**11/27/12 12:32**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/27/12 15:00**						
Client Provided Field Data								
pH		6.52						
Temperature		26.9 °C						
Conductivity		86.5 umhos						
Dissolved Oxygen		3.75 mg/L						
Inorganics								
Ammonia as N	mg/L	0.18	EPA 350.1	0.040	0.009		11/30/12 11:21	1
Chemical Oxygen Demand	mg/L	56	EPA 410.4	25	10	11/28/12 09:35	11/28/12 12:00	1
Chloride	mg/L	2.0	EPA 300.0	0.20	0.050		11/28/12 16:38	1
Nitrate (as N)	mg/L	0.64	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Phosphorous - Total as P	mg/L	1.7	SM 4500P-E	0.20	0.050	11/28/12 10:05	11/30/12 11:17	5
Total Alkalinity	mg/L	24	SM 2320B	8.0	2.0		11/29/12 14:27	1
Total Kjeldahl Nitrogen	mg/L	1.2	EPA 351.2	0.20	0.05	11/30/12 08:12	12/07/12 14:37	1
Nitrate+Nitrite (N)	mg/L	0.64	EPA 300.0	0.08	0.02		11/28/12 16:38	1

Sample Description	**PZ-04N-21**	
Matrix	**Groundwater**	
SAL Sample Number	**1213368-36**	
Date/Time Collected	**11/27/12 12:51**	
Collected by	**Sean Schmidt**	
Date/Time Received	**11/27/12 15:00**	
Client Provided Field Data		
pH	5.75	
Temperature	26.6 °C	
Conductivity	209.6 umhos	
Dissolved Oxygen	5.24 mg/L	
Inorganics		
Ammonia as N	mg/L 0.062	EPA 350.1 0.040 0.009 11/30/12 11:23 1
Chloride	mg/L 7.9	EPA 300.0 0.20 0.050 11/28/12 16:38 1
Nitrate (as N)	mg/L 2.5	EPA 300.0 0.04 0.01 11/28/12 16:38 1
Nitrite (as N)	mg/L 0.01 U	EPA 300.0 0.04 0.01 11/28/12 16:38 1
Total Alkalinity	mg/L 15	SM 2320B 8.0 2.0 12/03/12 08:50 1
Total Kjeldahl Nitrogen	mg/L 0.87	EPA 351.2 0.20 0.05 11/30/12 08:12 12/07/12 14:39 1
Nitrate+Nitrite (N)	mg/L 2.5	EPA 300.0 0.08 0.02 11/28/12 16:38 1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-06N-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-37**						
Date/Time Collected		**11/27/12 13:08**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/27/12 15:00**						
Client Provided Field Data								
pH		6.09						
Temperature		26.7 °C						
Conductivity		408 umhos						
Dissolved Oxygen		3.54 mg/L						
Inorganics								
Ammonia as N	mg/L	0.023 I	EPA 350.1	0.040	0.009		11/30/12 11:24	1
Chloride	mg/L	16	EPA 300.0	0.20	0.050		11/28/12 16:38	1
Nitrate (as N)	mg/L	18	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Total Alkalinity	mg/L	34	SM 2320B	8.0	2.0		12/03/12 08:50	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	11/30/12 08:12	12/07/12 14:41	1
Nitrate+Nitrite (N)	mg/L	18	EPA 300.0	0.08	0.02		11/28/12 16:38	1

Sample Description		**PZ-06N-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-38**						
Date/Time Collected		**11/27/12 13:26**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/27/12 15:00**						
Client Provided Field Data								
pH		6.47						
Temperature		26.8 °C						
Conductivity		88.0 umhos						
Dissolved Oxygen		4.26 mg/L						
Inorganics								
Ammonia as N	mg/L	0.092	EPA 350.1	0.040	0.009		11/30/12 11:26	1
Chloride	mg/L	1.9	EPA 300.0	0.20	0.050		11/28/12 16:38	1
Nitrate (as N)	mg/L	0.60	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Total Alkalinity	mg/L	24	SM 2320B	8.0	2.0		12/03/12 08:50	1
Total Kjeldahl Nitrogen	mg/L	0.61	EPA 351.2	0.20	0.05	11/30/12 08:12	12/07/12 14:42	1
Nitrate+Nitrite (N)	mg/L	0.60	EPA 300.0	0.08	0.02		11/28/12 16:38	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-06N-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-39**						
Date/Time Collected		**11/27/12 13:44**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/27/12 15:00**						
Client Provided Field Data								
pH		5.8						
Temperature		26.8 °C						
Conductivity		715.7 umhos						
Dissolved Oxygen		2.53 mg/L						
Inorganics								
Ammonia as N	mg/L	0.015 I	EPA 350.1	0.040	0.009		11/30/12 11:28	1
Chloride	mg/L	7.6	EPA 300.0	0.20	0.050		11/28/12 16:38	1
Nitrate (as N)	mg/L	2.4	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/28/12 16:38	1
Total Alkalinity	mg/L	13	SM 2320B	8.0	2.0		12/03/12 08:50	1
Total Kjeldahl Nitrogen	mg/L	0.58	EPA 351.2	0.20	0.05	11/30/12 08:12	12/07/12 14:44	1
Nitrate+Nitrite (N)	mg/L	2.4	EPA 300.0	0.08	0.02		11/28/12 16:38	1

Sample Description		**PZ-03O-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-40**						
Date/Time Collected		**11/30/12 11:39**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/30/12 15:10**						
Client Provided Field Data								
pH		7.55						
Temperature		24.4 °C						
Conductivity		112.5 umhos						
Dissolved Oxygen		7.00 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/03/12 12:03	1
Chloride	mg/L	1.6	EPA 300.0	0.20	0.050		12/01/12 10:39	1
Nitrate (as N)	mg/L	2.0	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Total Alkalinity	mg/L	35	SM 2320B	8.0	2.0		12/03/12 08:50	1
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	12/05/12 08:09	12/06/12 13:09	1
Nitrate+Nitrite (N)	mg/L	2.0	EPA 300.0	0.08	0.02		12/01/12 10:39	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-03O-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-41**						
Date/Time Collected		**11/30/12 11:57**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/30/12 15:10**						
Client Provided Field Data								
pH		6.90						
Temperature		24.7 °C						
Conductivity		56.4 umhos						
Dissolved Oxygen		4.41 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/03/12 12:04	1
Chloride	mg/L	1.0	EPA 300.0	0.20	0.050		12/01/12 10:39	1
Nitrate (as N)	mg/L	0.83	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Total Alkalinity	mg/L	15	SM 2320B	8.0	2.0		12/03/12 08:50	1
Total Kjeldahl Nitrogen	mg/L	0.71	EPA 351.2	0.20	0.05	12/05/12 08:09	12/06/12 13:11	1
Nitrate+Nitrite (N)	mg/L	0.83	EPA 300.0	0.08	0.02		12/01/12 10:39	1

Sample Description		**PZ-03O-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-42**						
Date/Time Collected		**11/30/12 12:16**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/30/12 15:10**						
Client Provided Field Data								
pH		5.52						
Temperature		25.1 °C						
Conductivity		210.3 umhos						
Dissolved Oxygen		2.62 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/03/12 12:06	1
Chloride	mg/L	13	EPA 300.0	0.20	0.050		12/01/12 10:39	1
Nitrate (as N)	mg/L	9.7	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Total Alkalinity	mg/L	2.1 I	SM 2320B	8.0	2.0		12/03/12 08:50	1
Total Kjeldahl Nitrogen	mg/L	1.4	EPA 351.2	0.20	0.05	12/05/12 08:09	12/06/12 13:13	1
Nitrate+Nitrite (N)	mg/L	9.7	EPA 300.0	0.08	0.02		12/01/12 10:39	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04O-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-43**						
Date/Time Collected		**11/30/12 09:52**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/30/12 15:10**						
Client Provided Field Data								
pH		7.04						
Temperature		24.5 °C						
Conductivity		188.2 umhos						
Dissolved Oxygen		6.10 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/03/12 12:08	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/03/12 08:05	12/03/12 11:30	1
Chloride	mg/L	5.3	EPA 300.0	0.20	0.050		12/01/12 10:39	1
Fluoride	mg/L	0.15	EPA 300.0	0.040	0.010		12/01/12 10:39	1
Nitrate (as N)	mg/L	7.4	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Orthophosphate as P	mg/L	1.8	EPA 300.0	0.040	0.010		12/01/12 10:39	1
Phosphorous - Total as P	mg/L	1.8	SM 4500P-E	0.20	0.050	12/01/12 07:35	12/04/12 13:42	5
Sulfate	mg/L	6.7	EPA 300.0	0.60	0.20		12/01/12 10:39	1
Total Alkalinity	mg/L	32	SM 2320B	8.0	2.0		12/03/12 08:50	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	12/05/12 08:09	12/06/12 13:14	1
Total Organic Carbon	mg/L	5.3	SM 5310B	1.0	0.50		12/03/12 14:25	1
Nitrate+Nitrite (N)	mg/L	7.4	EPA 300.0	0.08	0.02		12/01/12 10:39	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	4.7	SM 5310B	1.0	0.50		12/03/12 14:25	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	12/05/12 09:02	12/05/12 16:45	1
Calcium	mg/L	20	EPA 200.7	0.50	0.042	12/05/12 09:02	12/05/12 16:45	1
Iron	mg/L	0.031 I	EPA 200.7	0.10	0.020	12/05/12 09:02	12/05/12 16:45	1
Magnesium	mg/L	3.0	EPA 200.7	0.50	0.020	12/05/12 09:02	12/05/12 16:45	1
Manganese	mg/L	0.0024 I	EPA 200.7	0.010	0.0010	12/05/12 09:02	12/05/12 16:45	1
Potassium	mg/L	4.8	EPA 200.7	0.050	0.010	12/05/12 09:02	12/05/12 16:45	1
Sodium	mg/L	7.5	EPA 200.7	0.50	0.13	12/05/12 09:02	12/05/12 16:45	1

Sample Description	**PZ-04O-17**
Matrix	**Groundwater**
SAL Sample Number	**1213368-44**
Date/Time Collected	**11/30/12 10:18**
Collected by	**Sean Schmidt**
Date/Time Received	**11/30/12 15:10**

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04O-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-44**						
Date/Time Collected		**11/30/12 10:18**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/30/12 15:10**						
Client Provided Field Data								
pH		7.25						
Temperature		24.9 °C						
Conductivity		102.2 umhos						
Dissolved Oxygen		2.64 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/03/12 12:09	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/03/12 08:05	12/03/12 11:30	1
Chloride	mg/L	2.7	EPA 300.0	0.20	0.050		12/01/12 10:39	1
Nitrate (as N)	mg/L	3.2	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Total Alkalinity	mg/L	19	SM 2320B	8.0	2.0		12/03/12 08:50	1
Total Kjeldahl Nitrogen	mg/L	0.93	EPA 351.2	0.20	0.05	12/05/12 08:09	12/06/12 13:16	1
Nitrate+Nitrite (N)	mg/L	3.2	EPA 300.0	0.08	0.02		12/01/12 10:39	1

Sample Description		**PZ-04O-17-DUP**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-45**						
Date/Time Collected		**11/30/12 10:23**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/30/12 15:10**						
Client Provided Field Data								
pH		7.25						
Temperature		24.9 °C						
Conductivity		102.2 umhos						
Dissolved Oxygen		2.64 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/03/12 12:11	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/03/12 08:05	12/03/12 11:30	1
Chloride	mg/L	2.7	EPA 300.0	0.20	0.050		12/01/12 10:39	1
Nitrate (as N)	mg/L	3.3	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Total Alkalinity	mg/L	20	SM 2320B	8.0	2.0		12/03/12 08:50	1
Total Kjeldahl Nitrogen	mg/L	0.73	EPA 351.2	0.20	0.05	12/05/12 08:09	12/06/12 13:18	1
Nitrate+Nitrite (N)	mg/L	3.3	EPA 300.0	0.08	0.02		12/01/12 10:39	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04O-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-46**						
Date/Time Collected		**11/30/12 10:36**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/30/12 15:10**						
Client Provided Field Data								
pH		5.81						
Temperature		25.1 °C						
Conductivity		240 umhos						
Dissolved Oxygen		3.85 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/03/12 12:13	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/03/12 08:05	12/03/12 11:30	1
Chloride	mg/L	11	EPA 300.0	0.20	0.050		12/01/12 10:39	1
Nitrate (as N)	mg/L	6.6	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Total Alkalinity	mg/L	5.3 I	SM 2320B	8.0	2.0		12/03/12 08:50	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	12/05/12 08:09	12/06/12 13:19	1
Nitrate+Nitrite (N)	mg/L	6.6	EPA 300.0	0.08	0.02		12/01/12 10:39	1

Sample Description		**PZ-07O-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-47**						
Date/Time Collected		**11/28/12 10:37**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/28/12 15:30**						
Client Provided Field Data								
pH		6.30						
Temperature		24.7 °C						
Conductivity		119.8 umhos						
Dissolved Oxygen		5.17 mg/L						
Inorganics								
Ammonia as N	mg/L	0.012 I	EPA 350.1	0.040	0.009		11/30/12 11:30	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/10/12 08:07	12/10/12 10:35	1
Chloride	mg/L	1.6	EPA 300.0	0.20	0.050		11/29/12 16:45	1
Nitrate (as N)	mg/L	3.0	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Phosphorous - Total as P	mg/L	0.43	SM 4500P-E	0.040	0.010	12/01/12 07:38	12/12/12 13:14	1
Total Alkalinity	mg/L	30	SM 2320B	8.0	2.0		12/03/12 08:50	1
Total Kjeldahl Nitrogen	mg/L	1.1	EPA 351.2	0.20	0.05	11/30/12 08:12	12/07/12 14:46	1
Nitrate+Nitrite (N)	mg/L	3.0	EPA 300.0	0.08	0.02		11/29/12 16:45	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-07O-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-48**						
Date/Time Collected		**11/28/12 11:01**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/28/12 15:30**						
Client Provided Field Data								
pH		6.71						
Temperature		24.7 °C						
Conductivity		81.6 umhos						
Dissolved Oxygen		2.15 mg/L						
Inorganics								
Ammonia as N	mg/L	0.043	EPA 350.1	0.040	0.009		11/30/12 11:31	1
Chloride	mg/L	1.4	EPA 300.0	0.20	0.050		11/29/12 16:45	1
Nitrate (as N)	mg/L	1.2	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Total Alkalinity	mg/L	27	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	0.60	EPA 351.2	0.20	0.05	11/30/12 08:09	12/07/12 10:13	1
Nitrate+Nitrite (N)	mg/L	1.2	EPA 300.0	0.08	0.02		11/29/12 16:45	1

Sample Description		**PZ-07O-20**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-49**						
Date/Time Collected		**11/28/12 11:13**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/28/12 15:30**						
Client Provided Field Data								
pH		5.70						
Temperature		24.8 °C						
Conductivity		106.1 umhos						
Dissolved Oxygen		3.56 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		11/30/12 11:33	1
Chloride	mg/L	5.6	EPA 300.0	0.20	0.050		11/29/12 16:45	1
Nitrate (as N)	mg/L	2.2	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Total Alkalinity	mg/L	7.4 I	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	0.74	EPA 351.2	0.20	0.05	11/30/12 08:09	12/07/12 10:14	1
Nitrate+Nitrite (N)	mg/L	2.2	EPA 300.0	0.08	0.02		11/29/12 16:45	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-01Q-13**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-50**						
Date/Time Collected		**11/29/12 13:10**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/29/12 16:15**						
Client Provided Field Data								
pH		6.21						
Temperature		24.7 °C						
Conductivity		48.4 umhos						
Dissolved Oxygen		6.86 mg/L						
Inorganics								
Ammonia as N	mg/L	0.051	EPA 350.1	0.040	0.009		12/14/12 10:24	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/10/12 08:07	12/10/12 10:35	1
Chloride	mg/L	1.0	EPA 300.0	0.20	0.050		11/30/12 17:39	1
Nitrate (as N)	mg/L	0.93	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Phosphorous - Total as P	mg/L	0.33	SM 4500P-E	0.040	0.010	12/01/12 07:38	12/12/12 13:15	1
Total Alkalinity	mg/L	17	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	0.74	EPA 351.2	0.20	0.05	11/30/12 08:09	12/07/12 10:16	1
Nitrate+Nitrite (N)	mg/L	0.93	EPA 300.0	0.08	0.02		11/30/12 17:39	1

Sample Description		**PZ-01Q-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-51**						
Date/Time Collected		**11/29/12 13:28**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/29/12 16:15**						
Client Provided Field Data								
pH		6.03						
Temperature		25.0 °C						
Conductivity		46.3 umhos						
Dissolved Oxygen		6.51 mg/L						
Inorganics								
Ammonia as N	mg/L	0.012 I	EPA 350.1	0.040	0.009		12/14/12 10:26	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/10/12 08:07	12/10/12 10:35	1
Chloride	mg/L	0.71	EPA 300.0	0.20	0.050		11/30/12 17:39	1
Nitrate (as N)	mg/L	1.6	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Phosphorous - Total as P	mg/L	0.24	SM 4500P-E	0.040	0.010	12/01/12 07:38	12/12/12 13:20	1
Total Alkalinity	mg/L	8.4	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	0.57	EPA 351.2	0.20	0.05	11/30/12 08:09	12/07/12 10:18	1
Nitrate+Nitrite (N)	mg/L	1.6	EPA 300.0	0.08	0.02		11/30/12 17:39	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-01Q-19**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-52**						
Date/Time Collected		**11/29/12 13:48**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/29/12 16:15**						
Client Provided Field Data								
pH		5.22						
Temperature		25.1 °C						
Conductivity		76.4 umhos						
Dissolved Oxygen		4.11 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/14/12 10:28	1
Chloride	mg/L	2.2	EPA 300.0	0.20	0.050		11/30/12 17:39	1
Nitrate (as N)	mg/L	3.5	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Total Alkalinity	mg/L	2.1 I	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	0.62	EPA 351.2	0.20	0.05	11/30/12 08:09	12/07/12 10:19	1
Nitrate+Nitrite (N)	mg/L	3.5	EPA 300.0	0.08	0.02		11/30/12 17:39	1

Sample Description		**PZ-04Q-13**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-53**						
Date/Time Collected		**11/30/12 10:49**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/30/12 15:10**						
Client Provided Field Data								
pH		6.98						
Temperature		24.4 °C						
Conductivity		188.8 umhos						
Dissolved Oxygen		5.89 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/03/12 12:15	1
Chemical Oxygen Demand	mg/L	15 I	EPA 410.4	25	10	12/03/12 08:05	12/03/12 11:30	1
Chloride	mg/L	5.6	EPA 300.0	0.20	0.050		12/01/12 10:39	1
Fluoride	mg/L	0.23	EPA 300.0	0.040	0.010		12/01/12 10:39	1
Nitrate (as N)	mg/L	7.9	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Orthophosphate as P	mg/L	1.8	EPA 300.0	0.040	0.010		12/01/12 10:39	1
Phosphorous - Total as P	mg/L	1.8	SM 4500P-E	0.20	0.050	12/01/12 07:35	12/04/12 13:43	5
Sulfate	mg/L	7.2	EPA 300.0	0.60	0.20		12/01/12 10:39	1
Total Alkalinity	mg/L	32	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	1.8	EPA 351.2	0.20	0.05	12/05/12 08:09	12/06/12 13:21	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04Q-13**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-53**						
Date/Time Collected		**11/30/12 10:49**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/30/12 15:10**						
Client Provided Field Data								
pH		6.98						
Temperature		24.4 °C						
Conductivity		188.8 umhos						
Dissolved Oxygen		5.89 mg/L						
Total Organic Carbon	mg/L	5.1	SM 5310B	1.0	0.50		12/03/12 14:25	1
Nitrate+Nitrite (N)	mg/L	7.9	EPA 300.0	0.08	0.02		12/01/12 10:39	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	5.1	SM 5310B	1.0	0.50		12/03/12 14:25	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	12/05/12 09:02	12/05/12 16:48	1
Calcium	mg/L	20	EPA 200.7	0.50	0.042	12/05/12 09:02	12/05/12 16:48	1
Iron	mg/L	0.020 U	EPA 200.7	0.10	0.020	12/05/12 09:02	12/05/12 16:48	1
Magnesium	mg/L	3.0	EPA 200.7	0.50	0.020	12/05/12 09:02	12/05/12 16:48	1
Manganese	mg/L	0.0023 I	EPA 200.7	0.010	0.0010	12/05/12 09:02	12/05/12 16:48	1
Potassium	mg/L	4.8	EPA 200.7	0.050	0.010	12/05/12 09:02	12/05/12 16:48	1
Sodium	mg/L	7.4	EPA 200.7	0.50	0.13	12/05/12 09:02	12/05/12 16:48	1

Sample Description		**PZ-04Q-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-54**						
Date/Time Collected		**11/30/12 11:08**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/30/12 15:10**						
Client Provided Field Data								
pH		7.35						
Temperature		24.0 °C						
Conductivity		106.6 umhos						
Dissolved Oxygen		2.35 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/03/12 12:16	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/03/12 08:05	12/03/12 11:30	1
Chloride	mg/L	2.8	EPA 300.0	0.20	0.050		12/01/12 10:39	1
Fluoride	mg/L	0.35	EPA 300.0	0.040	0.010		12/01/12 10:39	1
Nitrate (as N)	mg/L	3.3	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Orthophosphate as P	mg/L	0.25	EPA 300.0	0.040	0.010		12/01/12 10:39	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04Q-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-54**						
Date/Time Collected		**11/30/12 11:08**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/30/12 15:10**						
Client Provided Field Data								
pH		7.35						
Temperature		24.0 °C						
Conductivity		106.6 umhos						
Dissolved Oxygen		2.35 mg/L						
Phosphorous - Total as P	mg/L	0.30	SM 4500P-E	0.040	0.010	12/01/12 07:35	12/04/12 12:36	1
Sulfate	mg/L	6.0	EPA 300.0	0.60	0.20		12/01/12 10:39	1
Total Alkalinity	mg/L	19	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	1.2	EPA 351.2	0.20	0.05	12/05/12 08:06	12/06/12 09:48	1
Total Organic Carbon	mg/L	3.3	SM 5310B	1.0	0.50		12/03/12 14:25	1
Nitrate+Nitrite (N)	mg/L	3.3	EPA 300.0	0.08	0.02		12/01/12 10:39	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	3.0	SM 5310B	1.0	0.50		12/03/12 14:25	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	12/05/12 09:02	12/05/12 16:52	1
Calcium	mg/L	11	EPA 200.7	0.50	0.042	12/05/12 09:02	12/05/12 16:52	1
Iron	mg/L	0.020 U	EPA 200.7	0.10	0.020	12/05/12 09:02	12/05/12 16:52	1
Magnesium	mg/L	2.4	EPA 200.7	0.50	0.020	12/05/12 09:02	12/05/12 16:52	1
Manganese	mg/L	0.0042 I	EPA 200.7	0.010	0.0010	12/05/12 09:02	12/05/12 16:52	1
Potassium	mg/L	3.1	EPA 200.7	0.050	0.010	12/05/12 09:02	12/05/12 16:52	1
Sodium	mg/L	1.6	EPA 200.7	0.50	0.13	12/05/12 09:02	12/05/12 16:52	1

Sample Description		**PZ-04Q-19**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-55**						
Date/Time Collected		**11/30/12 11:23**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/30/12 15:10**						
Client Provided Field Data								
pH		5.86						
Temperature		24.8 °C						
Conductivity		249 umhos						
Dissolved Oxygen		2.02 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/03/12 12:18	1
Chloride	mg/L	11	EPA 300.0	0.20	0.050		12/01/12 10:39	1
Nitrate (as N)	mg/L	6.6	EPA 300.0	0.04	0.01		12/01/12 10:39	1

Florida Certification Number: E84129
NELAP Accredited

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Leslie C. Boardman, Q.A. Manager

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Laboratory Report

Project Name **C-HS3 SE#2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04Q-19**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-55**						
Date/Time Collected		**11/30/12 11:23**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/30/12 15:10**						
Client Provided Field Data								
pH		5.86						
Temperature		24.8 °C						
Conductivity		249 umhos						
Dissolved Oxygen		2.02 mg/L						
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Total Alkalinity	mg/L	5.3 I	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	1.2	EPA 351.2	0.20	0.05	12/05/12 08:06	12/06/12 09:50	1
Nitrate+Nitrite (N)	mg/L	6.6	EPA 300.0	0.08	0.02		12/01/12 10:39	1

Sample Description		**PZ-06Q-13**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-56**						
Date/Time Collected		**11/28/12 12:13**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/28/12 15:30**						
Client Provided Field Data								
pH		6.58						
Temperature		25.3 °C						
Conductivity		137.3 umhos						
Dissolved Oxygen		7.06 mg/L						
Inorganics								
Ammonia as N	mg/L	0.010 I	EPA 350.1	0.040	0.009		11/30/12 11:42	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/10/12 08:07	12/10/12 10:35	1
Chloride	mg/L	2.5	EPA 300.0	0.20	0.050		11/29/12 16:45	1
Nitrate (as N)	mg/L	5.7	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Phosphorous - Total as P	mg/L	0.17	SM 4500P-E	0.040	0.010	12/01/12 07:38	12/12/12 13:21	1
Total Alkalinity	mg/L	25	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	1.1	EPA 351.2	0.20	0.05	11/30/12 08:09	12/07/12 10:21	1
Nitrate+Nitrite (N)	mg/L	5.7	EPA 300.0	0.08	0.02		11/29/12 16:45	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-06Q-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-57**						
Date/Time Collected		**11/28/12 12:31**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/28/12 15:30**						
Client Provided Field Data								
pH		6.85						
Temperature		25.7 °C						
Conductivity		133.4 umhos						
Dissolved Oxygen		2.91 mg/L						
Inorganics								
Ammonia as N	mg/L	0.013 I	EPA 350.1	0.040	0.009		11/30/12 11:43	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/10/12 08:07	12/10/12 10:35	1
Chloride	mg/L	1.7	EPA 300.0	0.20	0.050		11/29/12 16:45	1
Nitrate (as N)	mg/L	3.8	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Phosphorous - Total as P	mg/L	4.8	SM 4500P-E	0.40	0.10	12/01/12 07:38	12/12/12 14:17	10
Total Alkalinity	mg/L	30	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	0.99	EPA 351.2	0.20	0.05	11/30/12 08:09	12/07/12 10:23	1
Nitrate+Nitrite (N)	mg/L	3.8	EPA 300.0	0.08	0.02		11/29/12 16:45	1
Sample Description		**PZ-06Q-15-DUP**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-58**						
Date/Time Collected		**11/28/12 12:36**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/28/12 15:30**						
Client Provided Field Data								
pH		6.85						
Temperature		25.7 °C						
Conductivity		133.4 umhos						
Dissolved Oxygen		2.91 mg/L						
Inorganics								
Ammonia as N	mg/L	0.029 I	EPA 350.1	0.040	0.009		11/30/12 11:45	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/10/12 08:07	12/10/12 10:35	1
Chloride	mg/L	1.7	EPA 300.0	0.20	0.050		11/29/12 16:45	1
Nitrate (as N)	mg/L	3.7	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Phosphorous - Total as P	mg/L	4.4	SM 4500P-E	0.20	0.050	12/01/12 07:35	12/04/12 13:44	5
Total Alkalinity	mg/L	30	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	0.99	EPA 351.2	0.20	0.05	11/30/12 08:09	12/07/12 10:24	1
Nitrate+Nitrite (N)	mg/L	3.7	EPA 300.0	0.08	0.02		11/29/12 16:45	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-06Q-19**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-59**						
Date/Time Collected		**11/28/12 12:48**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/28/12 15:30**						
Client Provided Field Data								
pH		6.85						
Temperature		26.1 °C						
Conductivity		72.0 umhos						
Dissolved Oxygen		0.28 mg/L						
Inorganics								
Ammonia as N	mg/L	0.024 I	EPA 350.1	0.040	0.009		11/30/12 11:47	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/10/12 08:07	12/10/12 10:35	1
Chloride	mg/L	1.3	EPA 300.0	0.20	0.050		11/29/12 16:45	1
Nitrate (as N)	mg/L	0.34	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Nitrite (as N)	mg/L	0.08	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Phosphorous - Total as P	mg/L	0.17	SM 4500P-E	0.040	0.010	12/01/12 07:35	12/04/12 12:38	1
Total Alkalinity	mg/L	25	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	0.58	EPA 351.2	0.20	0.05	11/30/12 08:09	12/07/12 10:26	1
Nitrate+Nitrite (N)	mg/L	0.41	EPA 300.0	0.08	0.02		11/29/12 16:45	1

Sample Description		**PZ-07Q-13**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-60**						
Date/Time Collected		**11/28/12 11:28**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/28/12 15:30**						
Client Provided Field Data								
pH		6.52						
Temperature		24.5 °C						
Conductivity		114.8 umhos						
Dissolved Oxygen		5.07 mg/L						
Inorganics								
Ammonia as N	mg/L	0.030 I	EPA 350.1	0.040	0.009		11/30/12 11:48	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/10/12 08:07	12/10/12 10:35	1
Chloride	mg/L	1.6	EPA 300.0	0.20	0.050		11/29/12 16:45	1
Nitrate (as N)	mg/L	3.0	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Phosphorous - Total as P	mg/L	0.34	SM 4500P-E	0.040	0.010	12/01/12 07:35	12/04/12 12:39	1
Total Alkalinity	mg/L	31	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	0.79	EPA 351.2	0.20	0.05	11/30/12 08:09	12/07/12 10:28	1
Nitrate+Nitrite (N)	mg/L	3.0	EPA 300.0	0.08	0.02		11/29/12 16:45	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-07Q-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-61**						
Date/Time Collected		**11/28/12 11:46**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/28/12 15:30**						
Client Provided Field Data								
pH		6.54						
Temperature		25.0 °C						
Conductivity		82.3 umhos						
Dissolved Oxygen		2.47 mg/L						
Inorganics								
Ammonia as N	mg/L	0.011 I	EPA 350.1	0.040	0.009		11/30/12 11:50	1
Chloride	mg/L	1.4	EPA 300.0	0.20	0.050		11/29/12 16:45	1
Nitrate (as N)	mg/L	1.2	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Nitrite (as N)	mg/L	0.01 I	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Total Alkalinity	mg/L	26	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	0.91	EPA 351.2	0.20	0.05	11/30/12 08:09	12/07/12 10:36	1
Nitrate+Nitrite (N)	mg/L	1.3	EPA 300.0	0.08	0.02		11/29/12 16:45	1

Sample Description		**PZ-07Q-19**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-62**						
Date/Time Collected		**11/28/12 11:58**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/28/12 15:30**						
Client Provided Field Data								
pH		5.65						
Temperature		25.0 °C						
Conductivity		111.8 umhos						
Dissolved Oxygen		3.67 mg/L						
Inorganics								
Ammonia as N	mg/L	0.024 I	EPA 350.1	0.040	0.009		11/30/12 11:52	1
Chloride	mg/L	6.0	EPA 300.0	0.20	0.050		11/29/12 16:45	1
Nitrate (as N)	mg/L	2.3	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Total Alkalinity	mg/L	7.4 I	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	0.77	EPA 351.2	0.20	0.05	11/30/12 08:09	12/07/12 10:38	1
Nitrate+Nitrite (N)	mg/L	2.3	EPA 300.0	0.08	0.02		11/29/12 16:45	1

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Parameters	Units	Results *		Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04U-12**							
Matrix		**Groundwater**							
SAL Sample Number		**1213368-63**							
Date/Time Collected		**11/30/12 09:00**							
Collected by		**Sean Schmidt**							
Date/Time Received		**11/30/12 15:10**							
Client Provided Field Data									
pH		7.20							
Temperature		24.8 °C							
Conductivity		90.4 umhos							
Dissolved Oxygen		4.67 mg/L							
Inorganics									
Ammonia as N	mg/L	0.028	I	EPA 350.1	0.040	0.009		12/03/12 12:30	1
Chemical Oxygen Demand	mg/L	10	U	EPA 410.4	25	10	12/03/12 08:05	12/03/12 11:30	1
Chloride	mg/L	1.1		EPA 300.0	0.20	0.050		12/01/12 10:39	1
Nitrate (as N)	mg/L	0.59		EPA 300.0	0.04	0.01		12/01/12 10:39	1
Nitrite (as N)	mg/L	0.01	U	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Phosphorous - Total as P	mg/L	0.20		SM 4500P-E	0.040	0.010	12/01/12 07:35	12/04/12 12:41	1
Total Alkalinity	mg/L	34		SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	0.48		EPA 351.2	0.20	0.05	12/05/12 08:06	12/06/12 09:51	1
Nitrate+Nitrite (N)	mg/L	0.59		EPA 300.0	0.08	0.02		12/01/12 10:39	1
Sample Description		**PZ-04U-14**							
Matrix		**Groundwater**							
SAL Sample Number		**1213368-64**							
Date/Time Collected		**11/30/12 09:18**							
Collected by		**Sean Schmidt**							
Date/Time Received		**11/30/12 15:10**							
Client Provided Field Data									
pH		7.32							
Temperature		25.1 °C							
Conductivity		127.4 umhos							
Dissolved Oxygen		6.18 mg/L							
Inorganics									
Ammonia as N	mg/L	0.009	U	EPA 350.1	0.040	0.009		12/03/12 12:32	1
Chloride	mg/L	1.2		EPA 300.0	0.20	0.050		12/01/12 10:39	1
Nitrate (as N)	mg/L	1.3		EPA 300.0	0.04	0.01		12/01/12 10:39	1
Nitrite (as N)	mg/L	0.01	U	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Total Alkalinity	mg/L	46		SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	0.49		EPA 351.2	0.20	0.05	12/05/12 08:06	12/06/12 09:53	1
Nitrate+Nitrite (N)	mg/L	1.3		EPA 300.0	0.08	0.02		12/01/12 10:39	1

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Project Name **C-HS3 SE#2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04U-18**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-65**						
Date/Time Collected		**11/30/12 09:36**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/30/12 15:10**						
Client Provided Field Data								
pH		6.28						
Temperature		25.3 °C						
Conductivity		56.5 umhos						
Dissolved Oxygen		4.26 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/03/12 12:34	1
Chloride	mg/L	2.5	EPA 300.0	0.20	0.050		12/01/12 10:39	1
Nitrate (as N)	mg/L	1.2	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Total Alkalinity	mg/L	5.3 I	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	0.48	EPA 351.2	0.20	0.05	12/05/12 08:06	12/06/12 09:55	1
Nitrate+Nitrite (N)	mg/L	1.2	EPA 300.0	0.08	0.02		12/01/12 10:39	1

Sample Description		**PZ-06U-12**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-66**						
Date/Time Collected		**11/30/12 08:07**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/30/12 15:10**						
Client Provided Field Data								
pH		7.18						
Temperature		24.5 °C						
Conductivity		183.8 umhos						
Dissolved Oxygen		5.85 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/03/12 12:35	1
Chloride	mg/L	5.7	EPA 300.0	0.20	0.050		12/01/12 10:39	1
Nitrate (as N)	mg/L	10	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Total Alkalinity	mg/L	25	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	12/05/12 08:06	12/06/12 09:56	1
Nitrate+Nitrite (N)	mg/L	10	EPA 300.0	0.08	0.02		12/01/12 10:39	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-06U-14**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-67**						
Date/Time Collected		**11/30/12 08:15**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/30/12 15:10**						
Client Provided Field Data								
pH		6.22						
Temperature		24.6 °C						
Conductivity		517 umhos						
Dissolved Oxygen		3.15 mg/L						
Inorganics								
Ammonia as N	mg/L	0.016 I	EPA 350.1	0.040	0.009		12/03/12 14:06	1
Chloride	mg/L	25	EPA 300.0	0.20	0.050		12/01/12 10:39	1
Nitrate (as N)	mg/L	35	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Total Alkalinity	mg/L	14	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	2.0	EPA 351.2	0.20	0.05	12/05/12 08:06	12/06/12 09:58	1
Nitrate+Nitrite (N)	mg/L	35	EPA 300.0	0.08	0.02		12/01/12 10:39	1

Sample Description		**PZ-06U-14-DUP**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-68**						
Date/Time Collected		**11/30/12 08:20**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/30/12 15:10**						
Client Provided Field Data								
pH		6.22						
Temperature		24.6 °C						
Conductivity		517 umhos						
Dissolved Oxygen		3.15 mg/L						
Inorganics								
Ammonia as N	mg/L	0.017 I	EPA 350.1	0.040	0.009		12/03/12 14:07	1
Chloride	mg/L	26	EPA 300.0	0.20	0.050		12/01/12 10:39	1
Nitrate (as N)	mg/L	35	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		12/01/12 10:39	1
Total Alkalinity	mg/L	13	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	2.4	EPA 351.2	0.20	0.05	12/05/12 08:06	12/06/12 10:00	1
Nitrate+Nitrite (N)	mg/L	35	EPA 300.0	0.08	0.02		12/01/12 10:39	1

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Laboratory Report

Project Name **C-HS3 SE#2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-06U-34**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-69**						
Date/Time Collected		**11/30/12 08:38**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/30/12 15:10**						
Client Provided Field Data								
pH		5.36						
Temperature		25.1 °C						
Conductivity		301 umhos						
Dissolved Oxygen		1.33 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/03/12 12:41	1
Chloride	mg/L	14	EPA 300.0	0.20	0.050		12/01/12 18:52	1
Nitrate (as N)	mg/L	12	EPA 300.0	0.04	0.01		12/01/12 18:52	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		12/01/12 18:52	1
Total Alkalinity	mg/L	2.1 I	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	12/05/12 08:06	12/06/12 10:01	1
Nitrate+Nitrite (N)	mg/L	12	EPA 300.0	0.08	0.02		12/01/12 18:52	1

Sample Description		**PZ-01BKG**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-70**						
Date/Time Collected		**11/29/12 11:03**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/29/12 16:15**						
Client Provided Field Data								
pH		5.85						
Temperature		26.6 °C						
Conductivity		60.1 umhos						
Dissolved Oxygen		7.55 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/14/12 10:31	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/10/12 08:07	12/10/12 10:35	1
Chloride	mg/L	4.4	EPA 300.0	0.20	0.050		11/30/12 17:39	1
Nitrate (as N)	mg/L	0.69	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Phosphorous - Total as P	mg/L	0.28	SM 4500P-E	0.040	0.010	12/01/12 07:35	12/04/12 12:42	1
Total Alkalinity	mg/L	12	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	0.52	EPA 351.2	0.20	0.05	11/30/12 08:09	12/07/12 10:39	1
Nitrate+Nitrite (N)	mg/L	0.69	EPA 300.0	0.08	0.02		11/30/12 17:39	1

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Laboratory Report

Project Name **C-HS3 SE#2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-02BKG**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-71**						
Date/Time Collected		**11/29/12 12:36**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/29/12 16:15**						
Client Provided Field Data								
pH		4.66						
Temperature		26.8 °C						
Conductivity		50.2 umhos						
Dissolved Oxygen		1.16 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/14/12 10:33	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/10/12 08:07	12/10/12 10:35	1
Chloride	mg/L	3.8	EPA 300.0	0.20	0.050		11/30/12 17:39	1
Nitrate (as N)	mg/L	0.03 I	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Phosphorous - Total as P	mg/L	0.048	SM 4500P-E	0.040	0.010	12/01/12 07:35	12/04/12 12:43	1
Total Alkalinity	mg/L	5.3 I	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	0.47	EPA 351.2	0.20	0.05	11/30/12 08:09	12/07/12 10:41	1
Nitrate+Nitrite (N)	mg/L	0.03 I	EPA 300.0	0.08	0.02		11/30/12 17:39	1

Sample Description		**PZ-03BKG**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-72**						
Date/Time Collected		**11/29/12 08:08**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/29/12 16:15**						
Client Provided Field Data								
pH		5.20						
Temperature		23.8 °C						
Conductivity		27.1 umhos						
Dissolved Oxygen		6.70 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		12/14/12 10:34	1
Chemical Oxygen Demand	mg/L	13 I	EPA 410.4	25	10	12/10/12 08:07	12/10/12 10:35	1
Chloride	mg/L	3.0	EPA 300.0	0.20	0.050		11/30/12 17:39	1
Nitrate (as N)	mg/L	0.08	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Phosphorous - Total as P	mg/L	0.33	SM 4500P-E	0.040	0.010	12/01/12 07:35	12/04/12 12:44	1
Total Alkalinity	mg/L	5.3 I	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	0.55	EPA 351.2	0.20	0.05	11/30/12 08:09	12/07/12 10:42	1
Nitrate+Nitrite (N)	mg/L	0.08	EPA 300.0	0.08	0.02		11/30/12 17:39	1

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December 19, 2012
Work Order: 1213368

Laboratory Report

Project Name **C-HS3 SE#2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04BKG**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-73**						
Date/Time Collected		**11/29/12 12:22**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/29/12 16:15**						
Client Provided Field Data								
pH		5.00						
Temperature		25.2 °C						
Conductivity		67.5 umhos						
Dissolved Oxygen		0.55 mg/L						
Inorganics								
Ammonia as N	mg/L	0.37	EPA 350.1	0.040	0.009		12/14/12 10:36	1
Chemical Oxygen Demand	mg/L	38	EPA 410.4	25	10	12/10/12 08:07	12/10/12 10:35	1
Chloride	mg/L	3.6	EPA 300.0	0.20	0.050		11/30/12 17:39	1
Nitrate (as N)	mg/L	0.60	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Phosphorous - Total as P	mg/L	0.67	SM 4500P-E	0.040	0.010	12/01/12 07:35	12/04/12 12:50	1
Total Alkalinity	mg/L	7.4 I	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	1.8	EPA 351.2	0.20	0.05	11/30/12 08:09	12/07/12 10:43	1
Nitrate+Nitrite (N)	mg/L	0.60	EPA 300.0	0.08	0.02		11/30/12 17:39	1

Sample Description		**PZ-05BKG**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-74**						
Date/Time Collected		**11/29/12 12:49**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/19/12 16:15**						
Client Provided Field Data								
pH		4.85						
Temperature		24.5 °C						
Conductivity		41.0 umhos						
Dissolved Oxygen		0.35 mg/L						
Inorganics								
Ammonia as N	mg/L	0.022 I	EPA 350.1	0.040	0.009		12/14/12 10:38	1
Chemical Oxygen Demand	mg/L	22 I	EPA 410.4	25	10	12/10/12 08:07	12/10/12 10:35	1
Chloride	mg/L	1.8	EPA 300.0	0.20	0.050		11/30/12 17:39	1
Nitrate (as N)	mg/L	0.02 I	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/30/12 17:39	1
Phosphorous - Total as P	mg/L	0.19	SM 4500P-E	0.040	0.010	12/01/12 07:35	12/04/12 12:51	1
Total Alkalinity	mg/L	12	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	0.62	EPA 351.2	0.20	0.05	11/30/12 08:09	12/07/12 10:44	1
Nitrate+Nitrite (N)	mg/L	0.02 I	EPA 300.0	0.08	0.02		11/30/12 17:39	1

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December 19, 2012
Work Order: 1213368

Laboratory Report

Project Name **C-HS3 SE#2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**FB-DI**						
Matrix		**Reagent Water**						
SAL Sample Number		**1213368-75**						
Date/Time Collected		**11/28/12 12:55**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/27/12 15:00**						
Client Provided Field Data								
pH		7.02						
Temperature		22.5 °C						
Conductivity		2.03 umhos						
Dissolved Oxygen		10.03 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		11/30/12 11:54	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	11/29/12 08:36	12/05/12 15:45	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/03/12 08:05	12/03/12 11:30	1
Chloride	mg/L	0.050 U	EPA 300.0	0.20	0.050		11/29/12 16:45	1
Fluoride	mg/L	0.010 U	EPA 300.0	0.040	0.010		11/29/12 16:45	1
Nitrate (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Orthophosphate as P	mg/L	0.010 U	EPA 300.0	0.040	0.010		11/29/12 16:45	1
Phosphorous - Total as P	mg/L	0.010 U	SM 4500P-E	0.040	0.010	12/01/12 07:35	12/04/12 13:45	1
Sulfate	mg/L	0.20 U	EPA 300.0	0.60	0.20		11/29/12 16:45	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	0.05 U	EPA 351.2	0.20	0.05	11/30/12 08:09	12/07/12 10:46	1
Total Organic Carbon	mg/L	0.50 U	SM 5310B	1.0	0.50		12/03/12 14:25	1
Total Solids	mg/L	10 U	SM 2540B	10	10	11/29/12 11:52	12/01/12 11:15	1
Total Suspended Solids	mg/L	1 U	SM 2540D	1	1	11/29/12 09:09	11/29/12 16:42	1
Nitrate+Nitrite (N)	mg/L	0.02 U	EPA 300.0	0.08	0.02		11/29/12 16:45	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	0.50 U	SM 5310B	1.0	0.50		12/03/12 14:25	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	12/12/12 12:27	12/12/12 13:04	1
Calcium	mg/L	0.042 U	EPA 200.7	0.50	0.042	12/12/12 12:27	12/12/12 13:04	1
Iron	mg/L	0.020 U	EPA 200.7	0.10	0.020	12/12/12 12:27	12/12/12 13:04	1
Magnesium	mg/L	0.020 U	EPA 200.7	0.50	0.020	12/12/12 12:27	12/12/12 13:04	1
Manganese	mg/L	0.0010 U	EPA 200.7	0.010	0.0010	12/12/12 12:27	12/12/12 13:04	1
Potassium	mg/L	0.010 U	EPA 200.7	0.050	0.010	12/12/12 12:27	12/12/12 13:04	1
Sodium	mg/L	0.13 U	EPA 200.7	0.50	0.13	12/12/12 12:27	12/12/12 13:04	1
Microbiology								
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	11/28/12 16:10	11/29/12 14:27	1

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December 19, 2012
Work Order: 1213368

Laboratory Report

Project Name **C-HS3 SE#2**

Parameters	Units	Results *		Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**FB-TAP**							
Matrix		**Drinking Water**							
SAL Sample Number		**1213368-76**							
Date/Time Collected		**11/28/12 12:50**							
Collected by		**Sean Schmidt**							
Date/Time Received		**11/27/12 15:00**							
Client Provided Field Data									
pH		7.50							
Temperature		23.0 °C							
Conductivity		339 umhos							
Dissolved Oxygen		5.49 mg/L							
Inorganics									
Ammonia as N	mg/L	0.009	U	EPA 350.1	0.040	0.009		11/30/12 11:55	1
Carbonaceous BOD	mg/L	2	U	SM 5210B	2	2	11/29/12 08:36	12/05/12 15:45	1
Chemical Oxygen Demand	mg/L	10	U	EPA 410.4	25	10	12/03/12 08:05	12/03/12 11:30	1
Chloride	mg/L	12		EPA 300.0	0.20	0.050		11/29/12 16:45	1
Fluoride	mg/L	0.023	I	EPA 300.0	0.040	0.010		11/29/12 16:45	1
Nitrate (as N)	mg/L	0.35		EPA 300.0	0.04	0.01		11/29/12 16:45	1
Nitrite (as N)	mg/L	0.01	U	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Orthophosphate as P	mg/L	0.010	U	EPA 300.0	0.040	0.010		11/29/12 16:45	1
Phosphorous - Total as P	mg/L	0.036	I	SM 4500P-E	0.040	0.010	12/01/12 07:35	12/04/12 12:54	1
Sulfate	mg/L	38		EPA 300.0	0.60	0.20		11/29/12 16:45	1
Total Alkalinity	mg/L	93		SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	0.26		EPA 351.2	0.20	0.05	11/30/12 08:09	12/07/12 10:47	1
Total Organic Carbon	mg/L	0.50	U	SM 5310B	1.0	0.50		12/03/12 14:25	1
Total Solids	mg/L	260		SM 2540B	10	10	11/29/12 11:52	12/01/12 11:15	1
Total Suspended Solids	mg/L	1	U	SM 2540D	1	1	11/29/12 09:09	11/29/12 16:42	1
Nitrate+Nitrite (N)	mg/L	0.35		EPA 300.0	0.08	0.02		11/29/12 16:45	1
Inorganic, Dissolved									
Dissolved Organic Carbon	mg/L	0.50	U	SM 5310B	1.0	0.50		12/03/12 14:25	1
Metals									
Boron	mg/L	0.050	U	EPA 200.7	0.10	0.050	12/12/12 12:27	12/12/12 13:08	1
Calcium	mg/L	39		EPA 200.7	0.50	0.042	12/12/12 12:27	12/12/12 13:08	1
Iron	mg/L	0.020	U	EPA 200.7	0.10	0.020	12/12/12 12:27	12/12/12 13:08	1
Magnesium	mg/L	10		EPA 200.7	0.50	0.020	12/12/12 12:27	12/12/12 13:08	1
Manganese	mg/L	0.0018	I	EPA 200.7	0.010	0.0010	12/12/12 12:27	12/12/12 13:08	1
Potassium	mg/L	3.7		EPA 200.7	0.050	0.010	12/12/12 12:27	12/12/12 13:08	1
Sodium	mg/L	7.2		EPA 200.7	0.50	0.13	12/12/12 12:27	12/12/12 13:08	1
Microbiology									
Fecal Coliforms	CFU/100 ml	1	U	SM 9222D	1	1	11/28/12 16:10	11/29/12 14:27	1

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December 19, 2012
Work Order: 1213368

Laboratory Report

Project Name **C-HS3 SE#2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**EB**						
Matrix		**Reagent Water**						
SAL Sample Number		**1213368-77**						
Date/Time Collected		**11/28/12 13:00**						
Collected by		**Sean Schmidt**						
Date/Time Received		**11/27/12 15:00**						
Client Provided Field Data								
pH		7.02						
Temperature		22.5 °C						
Conductivity		2.03 umhos						
Dissolved Oxygen		10.01 mg/L						
Inorganics								
Ammonia as N	mg/L	0.024 I	EPA 350.1	0.040	0.009		11/30/12 11:57	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	11/29/12 08:36	12/05/12 15:45	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	12/03/12 08:05	12/03/12 11:30	1
Chloride	mg/L	0.050 U	EPA 300.0	0.20	0.050		11/29/12 16:45	1
Fluoride	mg/L	0.010 U	EPA 300.0	0.040	0.010		11/29/12 16:45	1
Nitrate (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		11/29/12 16:45	1
Orthophosphate as P	mg/L	0.010 U	EPA 300.0	0.040	0.010		11/29/12 16:45	1
Phosphorous - Total as P	mg/L	0.010 U	SM 4500P-E	0.040	0.010	12/01/12 07:31	12/04/12 11:12	1
Sulfate	mg/L	0.20 U	EPA 300.0	0.60	0.20		11/29/12 16:45	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		12/04/12 11:46	1
Total Kjeldahl Nitrogen	mg/L	0.07 I	EPA 351.2	0.20	0.05	11/30/12 08:09	12/07/12 12:24	1
Total Organic Carbon	mg/L	0.50 U	SM 5310B	1.0	0.50		12/03/12 14:25	1
Total Solids	mg/L	10 U	SM 2540B	10	10	11/29/12 11:52	12/01/12 11:15	1
Total Suspended Solids	mg/L	1 U	SM 2540D	1	1	11/29/12 09:09	11/29/12 16:42	1
Nitrate+Nitrite (N)	mg/L	0.02 U	EPA 300.0	0.08	0.02		11/29/12 16:45	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	0.50 U	SM 5310B	1.0	0.50		12/03/12 14:25	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	12/12/12 12:27	12/12/12 13:20	1
Calcium	mg/L	0.042 U	EPA 200.7	0.50	0.042	12/12/12 12:27	12/12/12 13:20	1
Iron	mg/L	0.020 U	EPA 200.7	0.10	0.020	12/12/12 12:27	12/12/12 13:20	1
Magnesium	mg/L	0.020 U	EPA 200.7	0.50	0.020	12/12/12 12:27	12/12/12 13:20	1
Manganese	mg/L	0.0010 U	EPA 200.7	0.010	0.0010	12/12/12 12:27	12/12/12 13:20	1
Potassium	mg/L	0.010 U	EPA 200.7	0.050	0.010	12/12/12 12:27	12/12/12 14:50	1
Sodium	mg/L	0.13 U	EPA 200.7	0.50	0.13	12/12/12 12:27	12/12/12 13:20	1
Microbiology								
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	11/28/12 16:10	11/29/12 14:27	1

Hazen and Sawyer
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Tampa, FL 33619

December 19, 2012
Work Order: 1213368

Laboratory Report

Project Name **C-HS3 SE#2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**STE**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-78**						
Date/Time Collected		**12/04/12 08:20**						
Collected by		**Sean Schmidt**						
Date/Time Received		**12/04/12 12:15**						
Client Provided Field Data								
pH		7.42						
Temperature		25.6 °C						
Conductivity		818 umhos						
Dissolved Oxygen		1.75 mg/L						
Inorganics								
Ammonia as N	mg/L	46	EPA 350.1	4.0	0.95		12/14/12 11:21	100
Carbonaceous BOD	mg/L	38	SM 5210B	2	2	12/05/12 08:30	12/10/12 12:04	1
Chloride	mg/L	30	EPA 300.0	0.20	0.050		12/05/12 17:00	1
Fluoride	mg/L	0.13	EPA 300.0	0.040	0.010		12/05/12 17:00	1
Nitrate (as N)	mg/L	0.03 I	EPA 300.0	0.04	0.01		12/05/12 17:00	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		12/05/12 17:00	1
Orthophosphate as P	mg/L	2.9	EPA 300.0	0.040	0.010		12/05/12 17:00	1
Phosphorous - Total as P	mg/L	4.7	SM 4500P-E	0.20	0.050	12/04/12 12:37	12/06/12 11:05	5
Sulfate	mg/L	8.0	EPA 300.0	0.60	0.20		12/05/12 17:00	1
Total Alkalinity	mg/L	280	SM 2320B	8.0	2.0		12/10/12 09:14	1
Total Kjeldahl Nitrogen	mg/L	53	EPA 351.2	0.20	0.05	12/11/12 08:13	12/12/12 14:26	20.83
Total Solids	mg/L	390	SM 2540B	10	10	12/07/12 07:51	12/10/12 15:30	1
Total Suspended Solids	mg/L	10	SM 2540D	1	1	12/05/12 07:57	12/05/12 16:25	1
Nitrate+Nitrite (N)	mg/L	0.03 I	EPA 300.0	0.08	0.02		12/05/12 17:00	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	12/07/12 09:24	12/11/12 13:57	1
Calcium	mg/L	42	EPA 200.7	0.50	0.042	12/07/12 09:24	12/11/12 13:57	1
Iron	mg/L	0.12	EPA 200.7	0.10	0.020	12/07/12 09:24	12/11/12 13:57	1
Magnesium	mg/L	11	EPA 200.7	0.50	0.020	12/07/12 09:24	12/11/12 13:57	1
Manganese	mg/L	0.013	EPA 200.7	0.010	0.0010	12/07/12 09:24	12/11/12 13:57	1
Potassium	mg/L	12	EPA 200.7	0.050	0.010	12/07/12 09:24	12/11/12 13:57	1
Sodium	mg/L	23	EPA 200.7	0.50	0.13	12/07/12 09:24	12/11/12 13:57	1
Microbiology								
Fecal Coliforms	CFU/100 ml	900	SM 9222D	1	1	12/04/12 13:17	12/05/12 12:51	1

Sample Description	**STE DUP**
Matrix	**Groundwater**
SAL Sample Number	**1213368-79**
Date/Time Collected	**12/04/12 08:25**
Collected by	**Sean Schmidt**
Date/Time Received	**12/04/12 12:15**

SOUTHERN ANALYTICAL LABORATORIES, INC.
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December 19, 2012
Work Order: 1213368

Laboratory Report

Project Name **C-HS3 SE#2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**STE DUP**						
Matrix		**Groundwater**						
SAL Sample Number		**1213368-79**						
Date/Time Collected		**12/04/12 08:25**						
Collected by		**Sean Schmidt**						
Date/Time Received		**12/04/12 12:15**						
Client Provided Field Data								
pH		7.42						
Temperature		25.6 °C						
Conductivity		818 umhos						
Dissolved Oxygen		1.75 mg/L						
Inorganics								
Ammonia as N	mg/L	46	EPA 350.1	4.0	0.95		12/14/12 11:23	100
Carbonaceous BOD	mg/L	42	SM 5210B	2	2	12/05/12 08:30	12/10/12 12:04	1
Chloride	mg/L	31	EPA 300.0	0.20	0.050		12/05/12 17:00	1
Fluoride	mg/L	0.15	EPA 300.0	0.040	0.010		12/05/12 17:00	1
Nitrate (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		12/05/12 17:00	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		12/05/12 17:00	1
Orthophosphate as P	mg/L	8.9	EPA 300.0	0.040	0.010		12/05/12 17:00	1
Phosphorous - Total as P	mg/L	4.7	SM 4500P-E	0.20	0.050	12/04/12 12:37	12/06/12 11:06	5
Sulfate	mg/L	7.5	EPA 300.0	0.60	0.20		12/05/12 17:00	1
Total Alkalinity	mg/L	270	SM 2320B	8.0	2.0		12/10/12 09:14	1
Total Kjeldahl Nitrogen	mg/L	53	EPA 351.2	0.20	0.05	12/11/12 08:13	12/12/12 14:27	20.83
Total Solids	mg/L	420	SM 2540B	10	10	12/07/12 07:51	12/10/12 15:30	1
Total Suspended Solids	mg/L	12	SM 2540D	1	1	12/05/12 07:57	12/05/12 16:25	1
Nitrate+Nitrite (N)	mg/L	0.02 U	EPA 300.0	0.08	0.02		12/05/12 17:00	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	12/07/12 09:24	12/11/12 14:01	1
Calcium	mg/L	40	EPA 200.7	0.50	0.042	12/07/12 09:24	12/11/12 14:01	1
Iron	mg/L	0.11	EPA 200.7	0.10	0.020	12/07/12 09:24	12/11/12 14:01	1
Magnesium	mg/L	10	EPA 200.7	0.50	0.020	12/07/12 09:24	12/11/12 14:01	1
Manganese	mg/L	0.013	EPA 200.7	0.010	0.0010	12/07/12 09:24	12/11/12 14:01	1
Potassium	mg/L	11	EPA 200.7	0.050	0.010	12/07/12 09:24	12/11/12 14:01	1
Sodium	mg/L	22	EPA 200.7	0.50	0.13	12/07/12 09:24	12/11/12 14:01	1
Microbiology								
Fecal Coliforms	CFU/100 ml	900	SM 9222D	1	1	12/04/12 13:17	12/05/12 12:51	1

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BK22705 - Digestion for TKN by EPA 351.2										
Blank (BK22705-BLK1)					Prepared: 11/27/12 Analyzed: 11/30/12					
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BK22705-BS1)					Prepared: 11/27/12 Analyzed: 11/30/12					
Total Kjeldahl Nitrogen	2.55	0.20	0.05	mg/L	2.5		100	90-110		
Matrix Spike (BK22705-MS1)		**Source: 1213368-27**			Prepared: 11/27/12 Analyzed: 11/30/12					
Total Kjeldahl Nitrogen	2.99	0.20	0.05	mg/L	2.5	0.674	91	90-110		
Matrix Spike (BK22705-MS2)		**Source: 1213571-07**			Prepared: 11/27/12 Analyzed: 11/30/12					
Total Kjeldahl Nitrogen	es at 90.1%	0.20	0.05	mg/L	2.5	0.728	89	90-110		
Matrix Spike Dup (BK22705-MSD1)		**Source: 1213368-27**			Prepared: 11/27/12 Analyzed: 11/30/12					
Total Kjeldahl Nitrogen	3.00	0.20	0.05	mg/L	2.5	0.674	92	90-110	0.5	20
Matrix Spike Dup (BK22705-MSD2)		**Source: 1213571-07**			Prepared: 11/27/12 Analyzed: 11/30/12					
Total Kjeldahl Nitrogen	3.24	0.20	0.05	mg/L	2.5	0.728	99	90-110	8	20
Batch BK22717 - alkalinity										
Blank (BK22717-BLK1)					Prepared & Analyzed: 11/27/12					
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BK22717-BS1)					Prepared & Analyzed: 11/27/12					
Total Alkalinity	120	8.0	2.0	mg/L	120		100	90-110		
Matrix Spike (BK22717-MS1)		**Source: 1213368-32**			Prepared & Analyzed: 11/27/12					
Total Alkalinity	120	8.0	2.0	mg/L	120	2.1	98	80-120		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BK22717 - alkalinity										
Matrix Spike Dup (BK22717-MSD1)		**Source: 1213368-32**			Prepared & Analyzed: 11/27/12					
Total Alkalinity	120	8.0	2.0	mg/L	120	2.1	98	80-120	0	26
Batch BK22718 - Ion Chromatography 300.0 Prep										
Blank (BK22718-BLK1)					Prepared & Analyzed: 11/27/12					
Chloride	0.050 U	0.20	0.050	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
LCS (BK22718-BS1)					Prepared & Analyzed: 11/27/12					
Nitrite (as N)	1.28	0.04	0.01	mg/L	1.4		91	85-115		
Nitrate (as N)	1.71	0.04	0.01	mg/L	1.7		101	85-115		
Chloride	2.94	0.20	0.050	mg/L	3.0		98	85-115		
LCS Dup (BK22718-BSD1)					Prepared & Analyzed: 11/27/12					
Nitrate (as N)	1.71	0.04	0.01	mg/L	1.7		101	85-115	0	200
Nitrite (as N)	1.28	0.04	0.01	mg/L	1.4		91	85-115	0	200
Chloride	2.93	0.20	0.050	mg/L	3.0		98	85-115	0.3	200
Matrix Spike (BK22718-MS1)		**Source: 1213594-03**			Prepared & Analyzed: 11/27/12					
Nitrate (as N)	1.86	0.04	0.01	mg/L	1.7	0.150	101	85-115		
Chloride	14.1	0.20	0.050	mg/L	3.0	10.9	107	80-120		
Nitrite (as N)	1.27	0.04	0.01	mg/L	1.4	ND	91	85-115		
Matrix Spike (BK22718-MS2)		**Source: 1213607-09**			Prepared & Analyzed: 11/27/12					
Nitrite (as N)	12.6	0.04	0.01	mg/L	14	ND	90	85-115		
Nitrate (as N)	18.1	0.04	0.01	mg/L	17	1.27	99	85-115		
Chloride	109	0.20	0.050	mg/L	30	79.3	99	80-120		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BK22730 - Ammonia by SEAL										
Blank (BK22730-BLK1)					Prepared & Analyzed: 11/29/12					
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BK22730-BS1)					Prepared & Analyzed: 11/29/12					
Ammonia as N	0.49	0.040	0.009	mg/L	0.50		99	90-110		
Matrix Spike (BK22730-MS1)		**Source: 1213571-07**			Prepared & Analyzed: 11/29/12					
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	0.081	90	90-110		
Matrix Spike (BK22730-MS2)		**Source: 1213588-01**			Prepared & Analyzed: 11/29/12					
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	0.012	104	90-110		
Matrix Spike Dup (BK22730-MSD1)		**Source: 1213571-07**			Prepared & Analyzed: 11/29/12					
Ammonia as N	0.56	0.040	0.009	mg/L	0.50	0.081	95	90-110	4	10
Matrix Spike Dup (BK22730-MSD2)		**Source: 1213588-01**			Prepared & Analyzed: 11/29/12					
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	0.012	101	90-110	3	10
Batch BK22804 - TS prep										
Blank (BK22804-BLK1)					Prepared: 11/29/12 Analyzed: 12/01/12					
Total Solids	10 U	10	10	mg/L						
Duplicate (BK22804-DUP1)		**Source: 1213368-77**			Prepared: 11/29/12 Analyzed: 12/01/12					
Total Solids	10 U	10	10	mg/L		ND				20
Batch BK22807 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BK22807-BLK1)					Prepared: 11/28/12 Analyzed: 11/30/12					
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BK22807 - Digestion for TP by EPA 365.2/SM4500PE										
LCS (BK22807-BS1)					Prepared: 11/28/12 Analyzed: 11/30/12					
Phosphorous - Total as P	0.751	0.040	0.010	mg/L	0.80		94	90-110		
Matrix Spike (BK22807-MS1)		**Source: 1213571-07**			Prepared: 11/28/12 Analyzed: 11/30/12					
Phosphorous - Total as P	1.12	0.040	0.010	mg/L	1.0	0.0566	106	90-110		
Matrix Spike (BK22807-MS2)		**Source: 1213577-02**			Prepared: 11/28/12 Analyzed: 11/30/12					
Phosphorous - Total as P	1.12	0.040	0.010	mg/L	1.0	0.0826	104	90-110		
Matrix Spike Dup (BK22807-MSD1)		**Source: 1213571-07**			Prepared: 11/28/12 Analyzed: 11/30/12					
Phosphorous - Total as P	1.14	0.040	0.010	mg/L	1.0	0.0566	108	90-110	2	25
Matrix Spike Dup (BK22807-MSD2)		**Source: 1213577-02**			Prepared: 11/28/12 Analyzed: 11/30/12					
Phosphorous - Total as P	1.11	0.040	0.010	mg/L	1.0	0.0826	103	90-110	1	25
Batch BK22808 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BK22808-BLK1)					Prepared: 11/28/12 Analyzed: 12/03/12					
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						
LCS (BK22808-BS1)					Prepared: 11/28/12 Analyzed: 12/03/12					
Phosphorous - Total as P	0.735	0.040	0.010	mg/L	0.80		92	90-110		
Matrix Spike (BK22808-MS1)		**Source: 1213630-01**			Prepared: 11/28/12 Analyzed: 12/03/12					
Phosphorous - Total as P	1.30	0.040	0.010	mg/L	1.0	0.352	94	90-110		
Matrix Spike (BK22808-MS2)		**Source: 1213630-02**			Prepared: 11/28/12 Analyzed: 12/03/12					
Phosphorous - Total as P	1.43	0.040	0.010	mg/L	1.0	0.459	98	90-110		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BK22808 - Digestion for TP by EPA 365.2/SM4500PE										
Matrix Spike Dup (BK22808-MSD1)		**Source: 1213630-01**			Prepared: 11/28/12 Analyzed: 12/03/12					
Phosphorous - Total as P	1.30	0.040	0.010	mg/L	1.0	0.352	95	90-110	0.2	25
Matrix Spike Dup (BK22808-MSD2)		**Source: 1213630-02**			Prepared: 11/28/12 Analyzed: 12/03/12					
Phosphorous - Total as P	1.37	0.040	0.010	mg/L	1.0	0.459	91	90-110	5	25
Batch BK22810 - COD prep										
Blank (BK22810-BLK1)					Prepared & Analyzed: 11/28/12					
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BK22810-BS1)					Prepared & Analyzed: 11/28/12					
Chemical Oxygen Demand	54	25	10	mg/L	50		108	90-110		
Matrix Spike (BK22810-MS1)		**Source: 1213368-17**			Prepared & Analyzed: 11/28/12					
Chemical Oxygen Demand	69	25	10	mg/L	50	24	90	85-115		
Matrix Spike Dup (BK22810-MSD1)		**Source: 1213368-17**			Prepared & Analyzed: 11/28/12					
Chemical Oxygen Demand	81	25	10	mg/L	50	24	114	85-115	16	32
Batch BK22815 - Ion Chromatography 300.0 Prep										
Blank (BK22815-BLK1)					Prepared & Analyzed: 11/28/12					
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Sulfate	0.20 U	0.60	0.20	mg/L						
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Fluoride	0.010 U	0.040	0.010	mg/L						

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BK22815 - Ion Chromatography 300.0 Prep										
LCS (BK22815-BS1)					Prepared & Analyzed: 11/28/12					
Orthophosphate as P	0.917	0.040	0.010	mg/L	0.90		102	85-115		
Sulfate	9.08	0.60	0.20	mg/L	9.0		101	85-115		
Chloride	2.91	0.20	0.050	mg/L	3.0		97	85-115		
Nitrite (as N)	1.26	0.04	0.01	mg/L	1.4		90	85-115		
Fluoride	0.810	0.040	0.010	mg/L	0.90		90	85-115		
Nitrate (as N)	1.71	0.04	0.01	mg/L	1.7		101	85-115		
LCS Dup (BK22815-BSD1)					Prepared & Analyzed: 11/28/12					
Orthophosphate as P	0.883	0.040	0.010	mg/L	0.90		98	85-115	4	200
Fluoride	0.814	0.040	0.010	mg/L	0.90		90	85-115	0.5	200
Nitrate (as N)	1.69	0.04	0.01	mg/L	1.7		99	85-115	1	200
Chloride	2.91	0.20	0.050	mg/L	3.0		97	85-115	0	200
Sulfate	9.00	0.60	0.20	mg/L	9.0		100	85-115	0.9	200
Nitrite (as N)	1.26	0.04	0.01	mg/L	1.4		90	85-115	0	200
Matrix Spike (BK22815-MS1)		**Source: 1213368-26**			Prepared & Analyzed: 11/28/12					
Fluoride	0.837	0.040	0.010	mg/L	0.90	ND	93	85-115		
Nitrate (as N)	4.23	0.04	0.01	mg/L	1.7	2.70	90	85-115		
Nitrite (as N)	1.26	0.04	0.01	mg/L	1.4	ND	90	85-115		
Orthophosphate as P	1.21	0.040	0.010	mg/L	0.90	0.368	94	85-115		
Chloride	10.7	0.20	0.050	mg/L	3.0	7.84	95	80-120		
Sulfate	52.0	0.60	0.20	mg/L	9.0	43.8	91	85-115		
Matrix Spike (BK22815-MS2)		**Source: 1213663-01**			Prepared & Analyzed: 11/28/12					
Orthophosphate as P	0.880	0.040	0.010	mg/L	0.90	0.0544	92	85-115		
Nitrate (as N)	1.88	0.04	0.01	mg/L	1.7	0.300	93	85-115		
Fluoride	1.06	0.040	0.010	mg/L	0.90	0.230	92	85-115		
Chloride	49.5 +O	0.20	0.050	mg/L	3.0	49.4	3	80-120		
Nitrite (as N)	1.40	0.04	0.01	mg/L	1.4	0.127	91	85-115		
Sulfate	85.1	0.60	0.20	mg/L	9.0	76.2	99	85-115		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BK22903 - BOD										
Blank (BK22903-BLK1)					Prepared: 11/29/12 Analyzed: 12/05/12					
Carbonaceous BOD	2 U	2	2	mg/L						
LCS (BK22903-BS1)					Prepared: 11/29/12 Analyzed: 12/05/12					
Carbonaceous BOD	197	2	2	mg/L	200		98	85-115		
LCS Dup (BK22903-BSD1)					Prepared: 11/29/12 Analyzed: 12/05/12					
Carbonaceous BOD	195	2	2	mg/L	200		97	85-115	1	200
Duplicate (BK22903-DUP1)		**Source: 1213699-01**			Prepared: 11/29/12 Analyzed: 12/05/12					
Carbonaceous BOD	160	2	2	mg/L		160			2	25
Batch BK22906 - TSS prep										
Blank (BK22906-BLK1)					Prepared & Analyzed: 11/29/12					
Total Suspended Solids	1 U	1	1	mg/L						
LCS (BK22906-BS1)					Prepared & Analyzed: 11/29/12					
Total Suspended Solids	43.0	1	1	mg/L	50		86	85-115		
Duplicate (BK22906-DUP1)		**Source: 1213566-01**			Prepared & Analyzed: 11/29/12					
Total Suspended Solids	1 U	1	1	mg/L		1.00				30
Duplicate (BK22906-DUP2)		**Source: 1213570-02**			Prepared & Analyzed: 11/29/12					
Total Suspended Solids	1 U	1	1	mg/L		ND				30
Batch BK22918 - TOC prep										
Blank (BK22918-BLK1)					Prepared & Analyzed: 11/29/12					
Total Organic Carbon	0.50 U	1.0	0.50	mg/L						

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Batch BK22918 - TOC prep										
LCS (BK22918-BS1)					Prepared & Analyzed: 11/29/12					
Total Organic Carbon	10.4	1.0	0.50	mg/L	10		104	90-110		
Matrix Spike (BK22918-MS1)		**Source: 1213368-26**			Prepared & Analyzed: 11/29/12					
Total Organic Carbon	12.8	1.0	0.50	mg/L	10	2.09	107	85-115		
Matrix Spike Dup (BK22918-MSD1)		**Source: 1213368-26**			Prepared & Analyzed: 11/29/12					
Total Organic Carbon	13.2	1.0	0.50	mg/L	10	2.09	111	85-115	3	10
Batch BK22922 - Ion Chromatography 300.0 Prep										
Blank (BK22922-BLK1)					Prepared & Analyzed: 11/29/12					
Fluoride	0.010 U	0.040	0.010	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
Sulfate	0.20 U	0.60	0.20	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						
LCS (BK22922-BS1)					Prepared & Analyzed: 11/29/12					
Chloride	2.92	0.20	0.050	mg/L	3.0		97	85-115		
Orthophosphate as P	0.901	0.040	0.010	mg/L	0.90		100	85-115		
Nitrate (as N)	1.71	0.04	0.01	mg/L	1.7		101	85-115		
Sulfate	8.76	0.60	0.20	mg/L	9.0		97	85-115		
Nitrite (as N)	1.26	0.04	0.01	mg/L	1.4		90	85-115		
Fluoride	0.826	0.040	0.010	mg/L	0.90		92	85-115		
LCS Dup (BK22922-BSD1)					Prepared & Analyzed: 11/29/12					
Orthophosphate as P	0.928	0.040	0.010	mg/L	0.90		103	85-115	3	200
Chloride	2.99	0.20	0.050	mg/L	3.0		100	85-115	2	200
Sulfate	8.76	0.60	0.20	mg/L	9.0		97	85-115	0	200
Fluoride	0.886	0.040	0.010	mg/L	0.90		98	85-115	7	200
Nitrate (as N)	1.73	0.04	0.01	mg/L	1.7		102	85-115	1	200
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4		93	85-115	3	200

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Batch BK22922 - Ion Chromatography 300.0 Prep										
Matrix Spike (BK22922-MS1)		**Source: 1213368-56**			Prepared & Analyzed: 11/29/12					
Nitrite (as N)	1.27	0.04	0.01	mg/L	1.4	ND	91	85-115		
Chloride	5.60	0.20	0.050	mg/L	3.0	2.49	104	80-120		
Orthophosphate as P	0.965	0.040	0.010	mg/L	0.90	0.153	90	85-115		
Sulfate	16.0	0.60	0.20	mg/L	9.0	6.83	102	85-115		
Fluoride	0.851	0.040	0.010	mg/L	0.90	0.0301	91	85-115		
Nitrate (as N)	7.54	0.04	0.01	mg/L	1.7	5.72	107	85-115		
Matrix Spike (BK22922-MS2)		**Source: 1213677-05**			Prepared & Analyzed: 11/29/12					
Nitrate (as N)	1.75	0.04	0.01	mg/L	1.7	ND	103	85-115		
Orthophosphate as P	0.908	0.040	0.010	mg/L	0.90	ND	101	85-115		
Chloride	42.8 +O	0.20	0.050	mg/L	3.0	432	NR	80-120		
Fluoride	0.971	0.040	0.010	mg/L	0.90	0.0316	104	85-115		
Sulfate	119 +O	0.60	0.20	mg/L	9.0	117	22	85-115		
Nitrite (as N)	1.39	0.04	0.01	mg/L	1.4	ND	99	85-115		
Batch BK22933 - Ammonia by SEAL										
Blank (BK22933-BLK1)					Prepared & Analyzed: 11/30/12					
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BK22933-BS1)					Prepared & Analyzed: 11/30/12					
Ammonia as N	0.51	0.040	0.009	mg/L	0.50		102	90-110		
Matrix Spike (BK22933-MS1)		**Source: 1213368-35**			Prepared & Analyzed: 11/30/12					
Ammonia as N	0.65	0.040	0.009	mg/L	0.50	0.18	95	90-110		
Matrix Spike (BK22933-MS2)		**Source: 1213368-49**			Prepared & Analyzed: 11/30/12					
Ammonia as N	0.48	0.040	0.009	mg/L	0.50	ND	97	90-110		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BK22933 - Ammonia by SEAL										
Matrix Spike Dup (BK22933-MSD1)		**Source: 1213368-35**			Prepared & Analyzed: 11/30/12					
Ammonia as N	0.66	0.040	0.009	mg/L	0.50	0.18	95	90-110	0.5	10
Matrix Spike Dup (BK22933-MSD2)		**Source: 1213368-49**			Prepared & Analyzed: 11/30/12					
Ammonia as N	0.48	0.040	0.009	mg/L	0.50	ND	96	90-110	0.8	10
Batch BK22937 - alkalinity										
Blank (BK22937-BLK1)					Prepared & Analyzed: 11/29/12					
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BK22937-BS1)					Prepared & Analyzed: 11/29/12					
Total Alkalinity	120	8.0	2.0	mg/L	120		100	90-110		
Matrix Spike (BK22937-MS1)		**Source: 1213368-17**			Prepared & Analyzed: 11/29/12					
Total Alkalinity	170	8.0	2.0	mg/L	120	41	100	80-120		
Matrix Spike Dup (BK22937-MSD1)		**Source: 1213368-17**			Prepared & Analyzed: 11/29/12					
Total Alkalinity	170	8.0	2.0	mg/L	120	41	100	80-120	0	26
Batch BK23001 - Digestion for TKN by EPA 351.2										
Blank (BK23001-BLK1)					Prepared: 11/30/12 Analyzed: 12/07/12					
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BK23001-BS1)					Prepared: 11/30/12 Analyzed: 12/07/12					
Total Kjeldahl Nitrogen	2.70	0.20	0.05	mg/L	2.5		107	90-110		

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Batch BK23001 - Digestion for TKN by EPA 351.2										
Matrix Spike (BK23001-MS1)		**Source: 1213368-48**			Prepared: 11/30/12	Analyzed: 12/07/12				
Total Kjeldahl Nitrogen	3.35	0.20	0.05	mg/L	2.5	0.603	108	90-110		
Matrix Spike (BK23001-MS2)		**Source: 1213368-59**			Prepared: 11/30/12	Analyzed: 12/07/12				
Total Kjeldahl Nitrogen	3.12	0.20	0.05	mg/L	2.5	0.584	100	90-110		
Matrix Spike Dup (BK23001-MSD1)		**Source: 1213368-48**			Prepared: 11/30/12	Analyzed: 12/07/12				
Total Kjeldahl Nitrogen	3.29	0.20	0.05	mg/L	2.5	0.603	106	90-110	2	20
Matrix Spike Dup (BK23001-MSD2)		**Source: 1213368-59**			Prepared: 11/30/12	Analyzed: 12/07/12				
Total Kjeldahl Nitrogen	3.16	0.20	0.05	mg/L	2.5	0.584	102	90-110	1	20
Batch BK23002 - Digestion for TKN by EPA 351.2										
Blank (BK23002-BLK1)					Prepared: 11/30/12	Analyzed: 12/07/12				
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BK23002-BS1)					Prepared: 11/30/12	Analyzed: 12/07/12				
Total Kjeldahl Nitrogen	2.49	0.20	0.05	mg/L	2.5		98	90-110		
Matrix Spike (BK23002-MS1)		**Source: 1213368-15**			Prepared: 11/30/12	Analyzed: 12/07/12				
Total Kjeldahl Nitrogen	3.09	0.20	0.05	mg/L	2.5	0.511	102	90-110		
Matrix Spike (BK23002-MS2)		**Source: 1213368-23**			Prepared: 11/30/12	Analyzed: 12/08/12				
Total Kjeldahl Nitrogen	3.86	0.20	0.05	mg/L	2.5	1.46	95	90-110		
Matrix Spike Dup (BK23002-MSD1)		**Source: 1213368-15**			Prepared: 11/30/12	Analyzed: 12/07/12				
Total Kjeldahl Nitrogen	3.07	0.20	0.05	mg/L	2.5	0.511	101	90-110	0.7	20

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BK23002 - Digestion for TKN by EPA 351.2										
Matrix Spike Dup (BK23002-MSD2)		**Source: 1213368-23**			Prepared: 11/30/12	Analyzed: 12/07/12				
Total Kjeldahl Nitrogen	3.95	0.20	0.05	mg/L	2.5	1.46	98	90-110	2	20
Batch BK23003 - Digestion for TKN by EPA 351.2										
Blank (BK23003-BLK1)					Prepared: 11/30/12	Analyzed: 12/07/12				
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BK23003-BS1)					Prepared: 11/30/12	Analyzed: 12/07/12				
Total Kjeldahl Nitrogen	ses at 91%	0.20	0.05	mg/L	2.5		90	90-110		
Matrix Spike (BK23003-MS1)		**Source: 1213368-06**			Prepared: 11/30/12	Analyzed: 12/08/12				
Total Kjeldahl Nitrogen	4.10	0.20	0.05	mg/L	2.5	1.49	103	90-110		
Matrix Spike Dup (BK23003-MSD1)		**Source: 1213368-06**			Prepared: 11/30/12	Analyzed: 12/07/12				
Total Kjeldahl Nitrogen	4.18	0.20	0.05	mg/L	2.5	1.49	106	90-110	2	20
Batch BK23016 - Ion Chromatography 300.0 Prep										
Blank (BK23016-BLK1)					Prepared & Analyzed: 11/30/12					
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						
Sulfate	0.20 U	0.60	0.20	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
Fluoride	0.010 U	0.040	0.010	mg/L						

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Batch BK23016 - Ion Chromatography 300.0 Prep										
LCS (BK23016-BS1)					Prepared & Analyzed: 11/30/12					
Nitrite (as N)	1.26	0.04	0.01	mg/L	1.4		90	85-115		
Nitrate (as N)	1.71	0.04	0.01	mg/L	1.7		101	85-115		
Chloride	2.87	0.20	0.050	mg/L	3.0		96	85-115		
Fluoride	0.820	0.040	0.010	mg/L	0.90		91	85-115		
Sulfate	8.79	0.60	0.20	mg/L	9.0		98	85-115		
Orthophosphate as P	0.885	0.040	0.010	mg/L	0.90		98	85-115		
LCS Dup (BK23016-BSD1)					Prepared & Analyzed: 11/30/12					
Nitrate (as N)	1.69	0.04	0.01	mg/L	1.7		99	85-115	1	200
Nitrite (as N)	1.27	0.04	0.01	mg/L	1.4		91	85-115	0.8	200
Sulfate	8.65	0.60	0.20	mg/L	9.0		96	85-115	2	200
Chloride	2.88	0.20	0.050	mg/L	3.0		96	85-115	0.3	200
Orthophosphate as P	0.848	0.040	0.010	mg/L	0.90		94	85-115	4	200
Fluoride	0.823	0.040	0.010	mg/L	0.90		91	85-115	0.4	200
Matrix Spike (BK23016-MS1)		**Source: 1213368-51**			Prepared & Analyzed: 11/30/12					
Chloride	3.58	0.20	0.050	mg/L	3.0	0.714	96	80-120		
Sulfate	12.2	0.60	0.20	mg/L	9.0	3.51	97	85-115		
Fluoride	0.842	0.040	0.010	mg/L	0.90	0.0234	91	85-115		
Orthophosphate as P	0.940	0.040	0.010	mg/L	0.90	0.0759	96	85-115		
Nitrite (as N)	1.26	0.04	0.01	mg/L	1.4	ND	90	85-115		
Nitrate (as N)	3.31	0.04	0.01	mg/L	1.7	1.58	102	85-115		
Matrix Spike (BK23016-MS2)		**Source: 1213747-01**			Prepared & Analyzed: 11/30/12					
Nitrate (as N)	1.71	0.04	0.01	mg/L	1.7	0.0238	99	85-115		
Fluoride	1.04	0.040	0.010	mg/L	0.90	0.127	101	85-115		
Sulfate	9.41	0.60	0.20	mg/L	9.0	0.654	97	85-115		
Nitrite (as N)	1.31	0.04	0.01	mg/L	1.4	ND	94	85-115		
Chloride	20.9	0.20	0.050	mg/L	3.0	18.2	90	80-120		
Orthophosphate as P	0.888	0.040	0.010	mg/L	0.90	ND	99	85-115		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BK23022 - Ammonia by SEAL										
Blank (BK23022-BLK1)					Prepared & Analyzed: 12/03/12					
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BK23022-BS1)					Prepared & Analyzed: 12/03/12					
Ammonia as N	0.50	0.040	0.009	mg/L	0.50		101	90-110		
Matrix Spike (BK23022-MS1)		**Source: 1213607-07**			Prepared & Analyzed: 12/03/12					
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	0.045	97	90-110		
Matrix Spike (BK23022-MS2)		**Source: 1213630-01**			Prepared & Analyzed: 12/03/12					
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	0.039	97	90-110		
Matrix Spike Dup (BK23022-MSD1)		**Source: 1213607-07**			Prepared & Analyzed: 12/03/12					
Ammonia as N	0.54	0.040	0.009	mg/L	0.50	0.045	99	90-110	1	10
Matrix Spike Dup (BK23022-MSD2)		**Source: 1213630-01**			Prepared & Analyzed: 12/03/12					
Ammonia as N	0.54	0.040	0.009	mg/L	0.50	0.039	99	90-110	2	10
Batch BK23032 - Ion Chromatography 300.0 Prep										
Blank (BK23032-BLK1)					Prepared & Analyzed: 12/01/12					
Sulfate	0.20 U	0.60	0.20	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Fluoride	0.010 U	0.040	0.010	mg/L						
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BK23032 - Ion Chromatography 300.0 Prep										
LCS (BK23032-BS1)					Prepared & Analyzed: 12/01/12					
Chloride	2.91	0.20	0.050	mg/L	3.0		97	85-115		
Nitrite (as N)	1.26	0.04	0.01	mg/L	1.4		90	85-115		
Orthophosphate as P	0.882	0.040	0.010	mg/L	0.90		98	85-115		
Nitrate (as N)	1.73	0.04	0.01	mg/L	1.7		102	85-115		
Fluoride	0.829	0.040	0.010	mg/L	0.90		92	85-115		
Sulfate	8.90	0.60	0.20	mg/L	9.0		99	85-115		
LCS Dup (BK23032-BSD1)					Prepared & Analyzed: 12/01/12					
Orthophosphate as P	0.875	0.040	0.010	mg/L	0.90		97	85-115	0.8	200
Nitrite (as N)	1.27	0.04	0.01	mg/L	1.4		91	85-115	0.8	200
Fluoride	0.827	0.040	0.010	mg/L	0.90		92	85-115	0.2	200
Chloride	2.95	0.20	0.050	mg/L	3.0		98	85-115	1	200
Sulfate	8.91	0.60	0.20	mg/L	9.0		99	85-115	0.1	200
Nitrate (as N)	1.73	0.04	0.01	mg/L	1.7		102	85-115	0	200
Matrix Spike (BK23032-MS1)		**Source: 1213368-45**			Prepared & Analyzed: 12/01/12					
Nitrite (as N)	1.28	0.04	0.01	mg/L	1.4	ND	91	85-115		
Orthophosphate as P	1.10	0.040	0.010	mg/L	0.90	0.213	99	85-115		
Sulfate	15.2	0.60	0.20	mg/L	9.0	6.03	102	85-115		
Chloride	5.74	0.20	0.050	mg/L	3.0	2.71	101	80-120		
Nitrate (as N)	5.12	0.04	0.01	mg/L	1.7	3.34	105	85-115		
Fluoride	1.17	0.040	0.010	mg/L	0.90	0.342	92	85-115		
Matrix Spike (BK23032-MS2)		**Source: 1213368-68**			Prepared & Analyzed: 12/01/12					
Sulfate	31.5	0.60	0.20	mg/L	9.0	21.7	109	85-115		
Nitrate (as N)	25.2 +O	0.04	0.01	mg/L	1.7	24.9	18	85-115		
Fluoride	0.872	0.040	0.010	mg/L	0.90	0.0410	92	85-115		
Nitrite (as N)	1.27	0.04	0.01	mg/L	1.4	ND	91	85-115		
Orthophosphate as P	1.54	0.040	0.010	mg/L	0.90	0.696	94	85-115		
Chloride	28.2	0.20	0.050	mg/L	3.0	25.6	87	80-120		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BK23033 - Ion Chromatography 300.0 Prep										
Blank (BK23033-BLK1)					Prepared & Analyzed: 12/01/12					
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BK23033-BS1)					Prepared & Analyzed: 12/01/12					
Chloride	3.00	0.20	0.050	mg/L	3.0		100	85-115		
Nitrate (as N)	1.74	0.04	0.01	mg/L	1.7		102	85-115		
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4		93	85-115		
LCS Dup (BK23033-BSD1)					Prepared & Analyzed: 12/01/12					
Nitrate (as N)	1.75	0.04	0.01	mg/L	1.7		103	85-115	0.6	200
Chloride	3.02	0.20	0.050	mg/L	3.0		101	85-115	0.7	200
Nitrite (as N)	1.32	0.04	0.01	mg/L	1.4		94	85-115	2	200
Matrix Spike (BK23033-MS1)		**Source: 1213768-01**			Prepared & Analyzed: 12/01/12					
Chloride	45.6 +O	0.20	0.050	mg/L	3.0	90.3	NR	80-120		
Nitrite (as N)	1.36	0.04	0.01	mg/L	1.4	0.0153	96	85-115		
Nitrate (as N)	1.86	0.04	0.01	mg/L	1.7	0.113	103	85-115		
Batch BL20101 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BL20101-BLK1)					Prepared: 12/01/12 Analyzed: 12/04/12					
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						
LCS (BL20101-BS1)					Prepared: 12/01/12 Analyzed: 12/04/12					
Phosphorous - Total as P	0.737	0.040	0.010	mg/L	0.80		92	90-110		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL20101 - Digestion for TP by EPA 365.2/SM4500PE										
Matrix Spike (BL20101-MS1)		**Source: 1213684-02**			Prepared: 12/01/12 Analyzed: 12/04/12					
Phosphorous - Total as P	0.947	0.040	0.010	mg/L	1.0	0.0410	91	90-110		
Matrix Spike (BL20101-MS2)		**Source: 1213714-07**			Prepared: 12/01/12 Analyzed: 12/04/12					
Phosphorous - Total as P	0.992	0.040	0.010	mg/L	1.0	0.0619	93	90-110		
Matrix Spike Dup (BL20101-MSD1)		**Source: 1213684-02**			Prepared: 12/01/12 Analyzed: 12/04/12					
Phosphorous - Total as P	0.985	0.040	0.010	mg/L	1.0	0.0410	94	90-110	4	25
Matrix Spike Dup (BL20101-MSD2)		**Source: 1213714-07**			Prepared: 12/01/12 Analyzed: 12/04/12					
Phosphorous - Total as P	1.03	0.040	0.010	mg/L	1.0	0.0619	96	90-110	3	25
Batch BL20102 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BL20102-BLK1)					Prepared: 12/01/12 Analyzed: 12/04/12					
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						
LCS (BL20102-BS1)					Prepared: 12/01/12 Analyzed: 12/04/12					
Phosphorous - Total as P	0.725	0.040	0.010	mg/L	0.80		91	90-110		
Matrix Spike (BL20102-MS1)		**Source: 1213368-43**			Prepared: 12/01/12 Analyzed: 12/04/12					
Phosphorous - Total as P	12.7	0.40	0.10	mg/L	10	1.82	108	90-110		
Matrix Spike (BL20102-MS2)		**Source: 1213755-07**			Prepared: 12/01/12 Analyzed: 12/04/12					
Phosphorous - Total as P	1.04	0.040	0.010	mg/L	1.0	0.0842	95	90-110		
Matrix Spike Dup (BL20102-MSD1)		**Source: 1213368-43**			Prepared: 12/01/12 Analyzed: 12/04/12					
Phosphorous - Total as P	12.8	0.40	0.10	mg/L	10	1.82	110	90-110	1	25

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL20102 - Digestion for TP by EPA 365.2/SM4500PE										
Matrix Spike Dup (BL20102-MSD2)		**Source: 1213755-07**			Prepared: 12/01/12 Analyzed: 12/04/12					
Phosphorous - Total as P	0.989	0.040	0.010	mg/L	1.0	0.0842	90	90-110	5	25
Batch BL20103 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BL20103-BLK1)					Prepared: 12/01/12 Analyzed: 12/12/12					
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						
LCS (BL20103-BS1)					Prepared: 12/01/12 Analyzed: 12/12/12					
Phosphorous - Total as P	0.731	0.040	0.010	mg/L	0.80		91	90-110		
Matrix Spike (BL20103-MS1)		**Source: 1213368-03**			Prepared: 12/01/12 Analyzed: 12/12/12					
Phosphorous - Total as P	1.85	0.040	0.010	mg/L	1.0	0.819	103	90-110		
Matrix Spike (BL20103-MS2)		**Source: 1213368-11**			Prepared: 12/01/12 Analyzed: 12/12/12					
Phosphorous - Total as P	14.6	0.40	0.10	mg/L	10	4.28	103	90-110		
Matrix Spike Dup (BL20103-MSD1)		**Source: 1213368-03**			Prepared: 12/01/12 Analyzed: 12/12/12					
Phosphorous - Total as P	1.86	0.040	0.010	mg/L	1.0	0.819	104	90-110	0.8	25
Matrix Spike Dup (BL20103-MSD2)		**Source: 1213368-11**			Prepared: 12/01/12 Analyzed: 12/12/12					
Phosphorous - Total as P	14.5	0.40	0.10	mg/L	10	4.28	102	90-110	1	25
Batch BL20301 - COD prep										
Blank (BL20301-BLK1)					Prepared & Analyzed: 12/03/12					
Chemical Oxygen Demand	10 U	25	10	mg/L						

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL20301 - COD prep										
LCS (BL20301-BS1)					Prepared & Analyzed: 12/03/12					
Chemical Oxygen Demand	51	25	10	mg/L	50		102	90-110		
Matrix Spike (BL20301-MS1)		**Source: 1213368-46**			Prepared & Analyzed: 12/03/12					
Chemical Oxygen Demand	44	25	10	mg/L	50	ND	88	85-115		
Matrix Spike Dup (BL20301-MSD1)		**Source: 1213368-46**			Prepared & Analyzed: 12/03/12					
Chemical Oxygen Demand	44	25	10	mg/L	50	ND	88	85-115	0	32
Batch BL20316 - alkalinity										
Blank (BL20316-BLK1)					Prepared & Analyzed: 12/03/12					
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BL20316-BS1)					Prepared & Analyzed: 12/03/12					
Total Alkalinity	120	8.0	2.0	mg/L	120		100	90-110		
Matrix Spike (BL20316-MS1)		**Source: 1213368-42**			Prepared & Analyzed: 12/03/12					
Total Alkalinity	120	8.0	2.0	mg/L	120	2.1	98	80-120		
Matrix Spike Dup (BL20316-MSD1)		**Source: 1213368-42**			Prepared & Analyzed: 12/03/12					
Total Alkalinity	120	8.0	2.0	mg/L	120	2.1	98	80-120	0	26
Batch BL20318 - Ammonia by SEAL										
Blank (BL20318-BLK1)					Prepared & Analyzed: 12/03/12					
Ammonia as N	0.009 U	0.040	0.009	mg/L						

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL20318 - Ammonia by SEAL										
Blank (BL20318-BLK2)					Prepared & Analyzed: 12/03/12					
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BL20318-BS1)					Prepared & Analyzed: 12/03/12					
Ammonia as N	0.53	0.040	0.009	mg/L	0.50		106	90-110		
LCS (BL20318-BS2)					Prepared & Analyzed: 12/03/12					
Ammonia as N	0.49	0.040	0.009	mg/L	0.50		97	90-110		
Matrix Spike (BL20318-MS1)		**Source: 1213368-40**			Prepared & Analyzed: 12/03/12					
Ammonia as N	0.52	0.040	0.009	mg/L	0.50	ND	104	90-110		
Matrix Spike (BL20318-MS2)		**Source: 1213368-63**			Prepared & Analyzed: 12/03/12					
Ammonia as N	0.54	0.040	0.009	mg/L	0.50	0.028	102	90-110		
Matrix Spike Dup (BL20318-MSD1)		**Source: 1213368-40**			Prepared & Analyzed: 12/03/12					
Ammonia as N	0.52	0.040	0.009	mg/L	0.50	ND	103	90-110	0.8	10
Matrix Spike Dup (BL20318-MSD2)		**Source: 1213368-63**			Prepared & Analyzed: 12/03/12					
Ammonia as N	0.54	0.040	0.009	mg/L	0.50	0.028	103	90-110	0.8	10
Batch BL20325 - Ion Chromatography 300.0 Prep										
Blank (BL20325-BLK1)					Prepared & Analyzed: 12/03/12					
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
LCS (BL20325-BS1)					Prepared & Analyzed: 12/03/12					
Nitrate (as N)	1.70	0.04	0.01	mg/L	1.7		100	85-115		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL20325 - Ion Chromatography 300.0 Prep										
LCS Dup (BL20325-BSD1)					Prepared & Analyzed: 12/03/12					
Nitrate (as N)	1.68	0.04	0.01	mg/L	1.7		99	85-115	1	200
Matrix Spike (BL20325-MS1)		**Source: 1213721-01**			Prepared & Analyzed: 12/03/12					
Nitrate (as N)	33.2	0.04	0.01	mg/L	34	ND	98	85-115		
Matrix Spike (BL20325-MS2)		**Source: 1213773-01**			Prepared & Analyzed: 12/03/12					
Nitrate (as N)	1,720	0.04	0.01	mg/L	1700	ND	101	85-115		
Batch BL20334 - TOC prep										
Blank (BL20334-BLK1)					Prepared & Analyzed: 12/03/12					
Total Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BL20334-BS1)					Prepared & Analyzed: 12/03/12					
Total Organic Carbon	9.39	1.0	0.50	mg/L	10		94	90-110		
Matrix Spike (BL20334-MS1)		**Source: 1213368-76**			Prepared & Analyzed: 12/03/12					
Total Organic Carbon	11.2	1.0	0.50	mg/L	10	ND	112	85-115		
Matrix Spike Dup (BL20334-MSD1)		**Source: 1213368-76**			Prepared & Analyzed: 12/03/12					
Total Organic Carbon	11.2	1.0	0.50	mg/L	10	ND	112	85-115	0.2	10
Batch BL20420 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BL20420-BLK1)					Prepared: 12/04/12 Analyzed: 12/06/12					
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL20420 - Digestion for TP by EPA 365.2/SM4500PE										
LCS (BL20420-BS1)					Prepared: 12/04/12 Analyzed: 12/06/12					
Phosphorous - Total as P	0.800	0.040	0.010	mg/L	0.80		100	90-110		
Matrix Spike (BL20420-MS1)		**Source: 1213780-07**			Prepared: 12/04/12 Analyzed: 12/06/12					
Phosphorous - Total as P	1.20	0.040	0.010	mg/L	1.0	0.160	104	90-110		
Matrix Spike (BL20420-MS2)		**Source: 1213784-02**			Prepared: 12/04/12 Analyzed: 12/06/12					
Phosphorous - Total as P	0.979	0.040	0.010	mg/L	1.0	0.0498	93	90-110		
Matrix Spike Dup (BL20420-MSD1)		**Source: 1213780-07**			Prepared: 12/04/12 Analyzed: 12/06/12					
Phosphorous - Total as P	1.15	0.040	0.010	mg/L	1.0	0.160	99	90-110	4	25
Matrix Spike Dup (BL20420-MSD2)		**Source: 1213784-02**			Prepared: 12/04/12 Analyzed: 12/06/12					
Phosphorous - Total as P	0.966	0.040	0.010	mg/L	1.0	0.0498	92	90-110	1	25
Batch BL20439 - alkalinity										
Blank (BL20439-BLK1)					Prepared & Analyzed: 12/04/12					
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Blank (BL20439-BLK2)					Prepared & Analyzed: 12/04/12					
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Blank (BL20439-BLK3)					Prepared & Analyzed: 12/04/12					
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BL20439-BS1)					Prepared & Analyzed: 12/04/12					
Total Alkalinity	120	8.0	2.0	mg/L	120		100	90-110		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL20439 - alkalinity										
LCS (BL20439-BS2)					Prepared & Analyzed: 12/04/12					
Total Alkalinity	120	8.0	2.0	mg/L	120		100	90-110		
LCS (BL20439-BS3)					Prepared & Analyzed: 12/04/12					
Total Alkalinity	120	8.0	2.0	mg/L	120		100	90-110		
Matrix Spike (BL20439-MS1)		**Source: 1213368-52**			Prepared & Analyzed: 12/04/12					
Total Alkalinity	120	8.0	2.0	mg/L	120	2.1	98	80-120		
Matrix Spike (BL20439-MS2)		**Source: 1213720-01**			Prepared & Analyzed: 12/04/12					
Total Alkalinity	220	8.0	2.0	mg/L	120	93	100	80-120		
Matrix Spike (BL20439-MS3)		**Source: 1213828-07**			Prepared & Analyzed: 12/04/12					
Total Alkalinity	270	8.0	2.0	mg/L	120	150	100	80-120		
Matrix Spike Dup (BL20439-MSD1)		**Source: 1213368-52**			Prepared & Analyzed: 12/04/12					
Total Alkalinity	120	8.0	2.0	mg/L	120	2.1	98	80-120	0	26
Matrix Spike Dup (BL20439-MSD2)		**Source: 1213720-01**			Prepared & Analyzed: 12/04/12					
Total Alkalinity	220	8.0	2.0	mg/L	120	93	100	80-120	0	26
Matrix Spike Dup (BL20439-MSD3)		**Source: 1213828-07**			Prepared & Analyzed: 12/04/12					
Total Alkalinity	270	8.0	2.0	mg/L	120	150	100	80-120	0	26
Batch BL20502 - TSS prep										
Blank (BL20502-BLK1)					Prepared & Analyzed: 12/05/12					
Total Suspended Solids	1 U	1	1	mg/L						

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Batch BL20502 - TSS prep										
Blank (BL20502-BLK2)					Prepared & Analyzed: 12/05/12					
Total Suspended Solids	1 U	1	1	mg/L						
LCS (BL20502-BS1)					Prepared & Analyzed: 12/05/12					
Total Suspended Solids	44.2	1	1	mg/L	50		88	85-115		
LCS (BL20502-BS2)					Prepared & Analyzed: 12/05/12					
Total Suspended Solids	43.2	1	1	mg/L	50		86	85-115		
Duplicate (BL20502-DUP1)		**Source: 1213679-07**			Prepared & Analyzed: 12/05/12					
Total Suspended Solids	1 U	1	1	mg/L		ND				30
Duplicate (BL20502-DUP2)		**Source: 1213679-06**			Prepared & Analyzed: 12/05/12					
Total Suspended Solids	1 U	1	1	mg/L		ND				30
Batch BL20503 - Digestion for TKN by EPA 351.2										
Blank (BL20503-BLK1)					Prepared: 12/05/12 Analyzed: 12/06/12					
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BL20503-BS1)					Prepared: 12/05/12 Analyzed: 12/06/12					
Total Kjeldahl Nitrogen	2.70	0.20	0.05	mg/L	2.5		107	90-110		
Matrix Spike (BL20503-MS1)		**Source: 1213368-65**			Prepared: 12/05/12 Analyzed: 12/06/12					
Total Kjeldahl Nitrogen	3.05	0.20	0.05	mg/L	2.5	0.484	101	90-110		
Matrix Spike (BL20503-MS2)		**Source: 1213755-07**			Prepared: 12/05/12 Analyzed: 12/06/12					
Total Kjeldahl Nitrogen	3.43	0.20	0.05	mg/L	2.5	0.750	106	90-110		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL20503 - Digestion for TKN by EPA 351.2										
Matrix Spike Dup (BL20503-MSD1)		**Source: 1213368-65**			Prepared: 12/05/12 Analyzed: 12/06/12					
Total Kjeldahl Nitrogen	3.02	0.20	0.05	mg/L	2.5	0.484	100	90-110	0.8	20
Matrix Spike Dup (BL20503-MSD2)		**Source: 1213755-07**			Prepared: 12/05/12 Analyzed: 12/06/12					
Total Kjeldahl Nitrogen	3.43	0.20	0.05	mg/L	2.5	0.750	106	90-110	0.06	20
Batch BL20504 - Digestion for TKN by EPA 351.2										
Blank (BL20504-BLK1)					Prepared: 12/05/12 Analyzed: 12/06/12					
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BL20504-BS1)					Prepared: 12/05/12 Analyzed: 12/06/12					
Total Kjeldahl Nitrogen	2.59	0.20	0.05	mg/L	2.5		102	90-110		
Matrix Spike (BL20504-MS1)		**Source: 1213368-40**			Prepared: 12/05/12 Analyzed: 12/06/12					
Total Kjeldahl Nitrogen	3.62	0.20	0.05	mg/L	2.5	1.25	94	90-110		
Matrix Spike (BL20504-MS2)		**Source: 1213368-53**			Prepared: 12/05/12 Analyzed: 12/06/12					
Total Kjeldahl Nitrogen	4.44	0.20	0.05	mg/L	2.5	1.83	103	90-110		
Matrix Spike Dup (BL20504-MSD1)		**Source: 1213368-40**			Prepared: 12/05/12 Analyzed: 12/06/12					
Total Kjeldahl Nitrogen	3.81	0.20	0.05	mg/L	2.5	1.25	101	90-110	5	20
Matrix Spike Dup (BL20504-MSD2)		**Source: 1213368-53**			Prepared: 12/05/12 Analyzed: 12/06/12					
Total Kjeldahl Nitrogen	4.26	0.20	0.05	mg/L	2.5	1.83	96	90-110	4	20
Batch BL20520 - Ion Chromatography 300.0 Prep										
Blank (BL20520-BLK1)					Prepared & Analyzed: 12/06/12					
Sulfate	0.20 U	0.60	0.20	mg/L						
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
Fluoride	0.010 U	0.040	0.010	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						

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Batch BL20520 - Ion Chromatography 300.0 Prep										
LCS (BL20520-BS1)					Prepared & Analyzed: 12/06/12					
Orthophosphate as P	0.841	0.040	0.010	mg/L	0.90		93	85-115		
Nitrate (as N)	1.69	0.04	0.01	mg/L	1.7		99	85-115		
Fluoride	0.832	0.040	0.010	mg/L	0.90		92	85-115		
Nitrite (as N)	1.26	0.04	0.01	mg/L	1.4		90	85-115		
Chloride	2.79	0.20	0.050	mg/L	3.0		93	85-115		
Sulfate	8.77	0.60	0.20	mg/L	9.0		97	85-115		
LCS Dup (BL20520-BSD1)					Prepared & Analyzed: 12/06/12					
Fluoride	0.832	0.040	0.010	mg/L	0.90		92	85-115	0	200
Nitrate (as N)	1.68	0.04	0.01	mg/L	1.7		99	85-115	0.6	200
Nitrite (as N)	1.26	0.04	0.01	mg/L	1.4		90	85-115	0	200
Orthophosphate as P	0.847	0.040	0.010	mg/L	0.90		94	85-115	0.7	200
Sulfate	8.65	0.60	0.20	mg/L	9.0		96	85-115	1	200
Chloride	2.79	0.20	0.050	mg/L	3.0		93	85-115	0	200
Matrix Spike (BL20520-MS1)		**Source: 1213797-06**			Prepared & Analyzed: 12/06/12					
Nitrate (as N)	17.6	0.04	0.01	mg/L	17	0.0169	103	85-115		
Fluoride	8.42	0.040	0.010	mg/L	9.0		94	85-115		
Sulfate	144	0.60	0.20	mg/L	90	52.7	101	85-115		
Chloride	225	0.20	0.050	mg/L	30	190	117	80-120		
Orthophosphate as P	8.49	0.040	0.010	mg/L	9.0		94	85-115		
Nitrite (as N)	13.1	0.04	0.01	mg/L	14		94	85-115		
Batch BL20534 - BOD										
Blank (BL20534-BLK1)					Prepared: 12/05/12 Analyzed: 12/10/12					
Carbonaceous BOD	2 U	2	2	mg/L						

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL20534 - BOD										
Blank (BL20534-BLK2)					Prepared: 12/05/12 Analyzed: 12/10/12					
Carbonaceous BOD	2 U	2	2	mg/L						
LCS (BL20534-BS1)					Prepared: 12/05/12 Analyzed: 12/10/12					
Carbonaceous BOD	188	2	2	mg/L	200		94	85-115		
LCS (BL20534-BS2)					Prepared: 12/05/12 Analyzed: 12/10/12					
Carbonaceous BOD	197	2	2	mg/L	200		98	85-115		
LCS Dup (BL20534-BSD1)					Prepared: 12/05/12 Analyzed: 12/10/12					
Carbonaceous BOD	196	2	2	mg/L	200		98	85-115	4	200
LCS Dup (BL20534-BSD2)					Prepared: 12/05/12 Analyzed: 12/10/12					
Carbonaceous BOD	203	2	2	mg/L	200		101	85-115	3	200
Duplicate (BL20534-DUP1)		**Source: 1213368-78**			Prepared: 12/05/12 Analyzed: 12/10/12					
Carbonaceous BOD	39	2	2	mg/L		38			3	25
Duplicate (BL20534-DUP2)		**Source: 1213869-01**			Prepared: 12/05/12 Analyzed: 12/10/12					
Carbonaceous BOD	110	2	2	mg/L		100			6	25
Batch BL21015 - alkalinity										
Blank (BL21015-BLK1)					Prepared & Analyzed: 12/10/12					
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BL21015-BS1)					Prepared & Analyzed: 12/10/12					
Total Alkalinity	120	8.0	2.0	mg/L	120		100	90-110		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL21015 - alkalinity										
Matrix Spike (BL21015-MS1)		**Source: 1213680-03**			Prepared & Analyzed: 12/10/12					
Total Alkalinity	230	8.0	2.0	mg/L	120	100	100	80-120		
Matrix Spike Dup (BL21015-MSD1)		**Source: 1213680-03**			Prepared & Analyzed: 12/10/12					
Total Alkalinity	230	8.0	2.0	mg/L	120	100	100	80-120	0	26
Batch BL21022 - COD prep										
Blank (BL21022-BLK1)					Prepared & Analyzed: 12/10/12					
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BL21022-BS1)					Prepared & Analyzed: 12/10/12					
Chemical Oxygen Demand	54	25	10	mg/L	50		107	90-110		
Matrix Spike (BL21022-MS1)		**Source: 1213368-71**			Prepared & Analyzed: 12/10/12					
Chemical Oxygen Demand	54	25	10	mg/L	50	ND	107	85-115		
Matrix Spike Dup (BL21022-MSD1)		**Source: 1213368-71**			Prepared & Analyzed: 12/10/12					
Chemical Oxygen Demand	56	25	10	mg/L	50	ND	112	85-115	4	32
Batch BL21105 - Digestion for TKN by EPA 351.2										
Blank (BL21105-BLK1)					Prepared: 12/11/12 Analyzed: 12/12/12					
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BL21105-BS1)					Prepared: 12/11/12 Analyzed: 12/12/12					
Total Kjeldahl Nitrogen	2.39	0.20	0.05	mg/L	2.5		94	90-110		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL21105 - Digestion for TKN by EPA 351.2										
Matrix Spike (BL21105-MS1)		**Source: 1213368-03**			Prepared: 12/11/12 Analyzed: 12/12/12					
Total Kjeldahl Nitrogen	3.06	0.20	0.05	mg/L	2.5	0.777	90	90-110		
Matrix Spike (BL21105-MS2)		**Source: 1214116-07**			Prepared: 12/11/12 Analyzed: 12/12/12					
Total Kjeldahl Nitrogen	3.10	0.20	0.05	mg/L	2.5	0.646	97	90-110		
Matrix Spike Dup (BL21105-MSD1)		**Source: 1213368-03**			Prepared: 12/11/12 Analyzed: 12/12/12					
Total Kjeldahl Nitrogen	3.17	0.20	0.05	mg/L	2.5	0.777	94	90-110	3	20
Matrix Spike Dup (BL21105-MSD2)		**Source: 1214116-07**			Prepared: 12/11/12 Analyzed: 12/12/12					
Total Kjeldahl Nitrogen	3.22	0.20	0.05	mg/L	2.5	0.646	101	90-110	4	20
Batch BL21201 - TS prep										
Blank (BL21201-BLK1)					Prepared: 12/07/12 Analyzed: 12/10/12					
Total Solids	10 U	10	10	mg/L						
Duplicate (BL21201-DUP1)		**Source: 1213368-79**			Prepared: 12/07/12 Analyzed: 12/10/12					
Total Solids	360	10	10	mg/L		416			15	20
Batch BL21344 - Ammonia by SEAL										
Blank (BL21344-BLK1)					Prepared & Analyzed: 12/14/12					
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BL21344-BS1)					Prepared & Analyzed: 12/14/12					
Ammonia as N	0.50	0.040	0.009	mg/L	0.50		100	90-110		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL21344 - Ammonia by SEAL										
Matrix Spike (BL21344-MS1)		**Source: 1213368-06**			Prepared & Analyzed: 12/14/12					
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	ND	101	90-110		
Matrix Spike (BL21344-MS2)		**Source: 1213368-74**			Prepared & Analyzed: 12/14/12					
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	0.022	97	90-110		
Matrix Spike Dup (BL21344-MSD1)		**Source: 1213368-06**			Prepared & Analyzed: 12/14/12					
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	101	90-110	0.6	10
Matrix Spike Dup (BL21344-MSD2)		**Source: 1213368-74**			Prepared & Analyzed: 12/14/12					
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	0.022	101	90-110	4	10
Batch BL21420 - Ammonia by SEAL										
Blank (BL21420-BLK1)					Prepared & Analyzed: 12/14/12					
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BL21420-BS1)					Prepared & Analyzed: 12/14/12					
Ammonia as N	0.51	0.040	0.009	mg/L	0.50		101	90-110		
Matrix Spike (BL21420-MS1)		**Source: 1214116-07**			Prepared & Analyzed: 12/14/12					
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	0.015	102	90-110		
Matrix Spike (BL21420-MS2)		**Source: 1214301-01**			Prepared & Analyzed: 12/14/12					
Ammonia as N	0.52	0.040	0.009	mg/L	0.50	0.030	98	90-110		
Matrix Spike Dup (BL21420-MSD1)		**Source: 1214116-07**			Prepared & Analyzed: 12/14/12					
Ammonia as N	0.56	0.040	0.009	mg/L	0.50	0.015	109	90-110	7	10

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL21420 - Ammonia by SEAL										
Matrix Spike Dup (BL21420-MSD2)		**Source: 1214301-01**			Prepared & Analyzed: 12/14/12					
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	0.030	100	90-110	2	10

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Inorganic, Dissolved - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BK22919 -										
Blank (BK22919-BLK1)					Prepared & Analyzed: 11/28/12					
Dissolved Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BK22919-BS1)					Prepared & Analyzed: 11/28/12					
Dissolved Organic Carbon	9.93	1.0	0.50	mg/L	10		99	90-110		
Matrix Spike (BK22919-MS1)		**Source: 1213368-26**			Prepared & Analyzed: 11/28/12					
Dissolved Organic Carbon	12.7	1.0	0.50	mg/L	10	1.45	113	85-125		
Matrix Spike Dup (BK22919-MSD1)		**Source: 1213368-26**			Prepared & Analyzed: 11/28/12					
Dissolved Organic Carbon	12.7	1.0	0.50	mg/L	10	1.45	113	85-125	0.05	25
Batch BL20333 - DOC prep										
Blank (BL20333-BLK1)					Prepared & Analyzed: 12/03/12					
Dissolved Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BL20333-BS1)					Prepared & Analyzed: 12/03/12					
Dissolved Organic Carbon	9.76	1.0	0.50	mg/L	10		98	90-110		
Matrix Spike (BL20333-MS1)		**Source: 1213368-76**			Prepared & Analyzed: 12/03/12					
Dissolved Organic Carbon	10.9	1.0	0.50	mg/L	10	ND	109	85-125		
Matrix Spike Dup (BL20333-MSD1)		**Source: 1213368-76**			Prepared & Analyzed: 12/03/12					
Dissolved Organic Carbon	11.1	1.0	0.50	mg/L	10	ND	111	85-125	1	25

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Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BK22737 - Metals Preparation for EPA Method 200.7										
Blank (BK22737-BLK1)					Prepared: 11/27/12 Analyzed: 12/05/12					
Iron	0.020 U	0.10	0.020	mg/L						
Boron	0.050 U	0.10	0.050	mg/L						
Calcium	0.042 U	0.50	0.042	mg/L						
Magnesium	0.024 I	0.50	0.020	mg/L						
Potassium	0.010 U	0.050	0.010	mg/L						
Sodium	0.13 U	0.50	0.13	mg/L						
Manganese	0.0010 U	0.010	0.0010	mg/L						
LCS (BK22737-BS1)					Prepared: 11/27/12 Analyzed: 12/04/12					
Manganese	0.39	0.010	0.0010	mg/L	0.40		98	85-115		
Sodium	21	0.50	0.13	mg/L	20		104	85-115		
Magnesium	19	0.50	0.020	mg/L	20		96	85-115		
Calcium	19	0.50	0.042	mg/L	20		97	85-115		
Boron	0.40	0.10	0.050	mg/L	0.40		100	85-115		
Iron	7.7	0.10	0.020	mg/L	8.0		97	85-115		
Potassium	19	0.050	0.010	mg/L	20		94	85-115		
Matrix Spike (BK22737-MS1)		**Source: 1213564-01**			Prepared: 11/27/12 Analyzed: 12/04/12					
Manganese	0.39	0.010	0.0010	mg/L	0.40	0.0024	98	70-130		
Calcium	33	0.50	0.042	mg/L	20	15	92	70-130		
Magnesium	24	0.50	0.020	mg/L	20	5.2	96	70-130		
Iron	9.9	0.10	0.020	mg/L	8.0	2.3	96	70-130		
Sodium	36	0.50	0.13	mg/L	20	18	89	70-130		
Potassium	23	0.050	0.010	mg/L	20	5.5	88	70-130		
Boron	0.42	0.10	0.050	mg/L	0.40	ND	105	70-130		
Matrix Spike (BK22737-MS2)		**Source: 1213594-02**			Prepared: 11/27/12 Analyzed: 12/04/12					
Iron	8.2	0.10	0.020	mg/L	8.0	0.021	102	70-130		
Manganese	0.39	0.010	0.0010	mg/L	0.40	0.0033	97	70-130		
Potassium	24	0.050	0.010	mg/L	20	4.7	94	70-130		
Boron	0.53	0.10	0.050	mg/L	0.40	0.11	105	70-130		
Magnesium	23	0.50	0.020	mg/L	20	4.3	96	70-130		
Calcium	150	0.50	0.042	mg/L	20	140	81	70-130		
Sodium	79	0.50	0.13	mg/L	20	62	86	70-130		

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Analyte	Result		PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BK22737 - Metals Preparation for EPA Method 200.7											
Matrix Spike Dup (BK22737-MSD1)			**Source: 1213564-01**			Prepared: 11/27/12 Analyzed: 12/04/12					
Manganese	0.40		0.010	0.0010	mg/L	0.40	0.0024	99	70-130	0.8	30
Calcium	34		0.50	0.042	mg/L	20	15	97	70-130	3	30
Iron	10		0.10	0.020	mg/L	8.0	2.3	99	70-130	3	30
Sodium	39		0.50	0.13	mg/L	20	18	103	70-130	8	30
Magnesium	25		0.50	0.020	mg/L	20	5.2	100	70-130	3	30
Boron	0.42		0.10	0.050	mg/L	0.40	ND	105	70-130	0.5	30
Potassium	24		0.050	0.010	mg/L	20	5.5	94	70-130	6	30
Matrix Spike Dup (BK22737-MSD2)			**Source: 1213594-02**			Prepared: 11/27/12 Analyzed: 12/04/12					
Calcium	150		0.50	0.042	mg/L	20	140	85	70-130	0.5	30
Magnesium	24		0.50	0.020	mg/L	20	4.3	96	70-130	0.3	30
Boron	0.53		0.10	0.050	mg/L	0.40	0.11	106	70-130	1	30
Iron	8.0		0.10	0.020	mg/L	8.0	0.021	100	70-130	2	30
Potassium	23		0.050	0.010	mg/L	20	4.7	93	70-130	0.7	30
Manganese	0.39		0.010	0.0010	mg/L	0.40	0.0033	97	70-130	0.3	30
Sodium	79		0.50	0.13	mg/L	20	62	82	70-130	0.8	30
Batch BK22830 - Metals Preparation for EPA Method 200.7											
Blank (BK22830-BLK1)						Prepared: 11/29/12 Analyzed: 12/04/12					
Calcium	0.088	I	0.50	0.042	mg/L						
Manganese	0.0010	U	0.010	0.0010	mg/L						
Magnesium	0.020	U	0.50	0.020	mg/L						
Sodium	0.13	U	0.50	0.13	mg/L						
Boron	0.050	U	0.10	0.050	mg/L						
Potassium	0.010	U	0.050	0.010	mg/L						
Iron	0.020	U	0.10	0.020	mg/L						

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BK22830 - Metals Preparation for EPA Method 200.7										
LCS (BK22830-BS1)					Prepared: 11/29/12	Analyzed: 12/04/12				
Manganese	0.38	0.010	0.0010	mg/L	0.40		95	85-115		
Boron	0.39	0.10	0.050	mg/L	0.40		97	85-115		
Iron	7.4	0.10	0.020	mg/L	8.0		93	85-115		
Calcium	19	0.50	0.042	mg/L	20		94	85-115		
Potassium	18	0.050	0.010	mg/L	20		88	85-115		
Sodium	20	0.50	0.13	mg/L	20		98	85-115		
Magnesium	19	0.50	0.020	mg/L	20		93	85-115		
Matrix Spike (BK22830-MS1)		**Source: 1213695-01**			Prepared: 11/29/12	Analyzed: 12/04/12				
Magnesium	35	0.50	0.020	mg/L	20	16	94	70-130		
Boron	0.61	0.10	0.050	mg/L	0.40	0.16	113	70-130		
Calcium	64	0.50	0.042	mg/L	20	45	96	70-130		
Iron	8.0	0.10	0.020	mg/L	8.0	0.030	99	70-130		
Potassium	38	0.050	0.010	mg/L	20	18	97	70-130		
Sodium	190	0.50	0.13	mg/L	20	160	125	70-130		
Manganese	0.38	0.010	0.0010	mg/L	0.40	ND	95	70-130		
Matrix Spike (BK22830-MS2)		**Source: 1213710-01**			Prepared: 11/29/12	Analyzed: 12/04/12				
Potassium	32	0.050	0.010	mg/L	20	14	93	70-130		
Calcium	76	0.50	0.042	mg/L	20	58	93	70-130		
Sodium	140	0.50	0.13	mg/L	20	110	114	70-130		
Manganese	0.40	0.010	0.0010	mg/L	0.40	0.023	95	70-130		
Magnesium	46	0.50	0.020	mg/L	20	27	98	70-130		
Boron	0.67	0.10	0.050	mg/L	0.40	0.24	108	70-130		
Iron	8.3	0.10	0.020	mg/L	8.0	0.36	99	70-130		
Matrix Spike Dup (BK22830-MSD1)		**Source: 1213695-01**			Prepared: 11/29/12	Analyzed: 12/04/12				
Boron	0.59	0.10	0.050	mg/L	0.40	0.16	109	70-130	3	30
Iron	7.5	0.10	0.020	mg/L	8.0	0.030	94	70-130	5	30
Sodium	190	0.50	0.13	mg/L	20	160	121	70-130	0.4	30
Manganese	0.38	0.010	0.0010	mg/L	0.40	ND	95	70-130	0.04	30
Calcium	63	0.50	0.042	mg/L	20	45	92	70-130	1	30
Potassium	36	0.050	0.010	mg/L	20	18	86	70-130	6	30
Magnesium	34	0.50	0.020	mg/L	20	16	93	70-130	0.6	30

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BK22830 - Metals Preparation for EPA Method 200.7										
Matrix Spike Dup (BK22830-MSD2)		**Source: 1213710-01**			Prepared: 11/29/12 Analyzed: 12/04/12					
Calcium	78	0.50	0.042	mg/L	20	58	104	70-130	3	30
Manganese	0.41	0.010	0.0010	mg/L	0.40	0.023	97	70-130	2	30
Iron	8.1	0.10	0.020	mg/L	8.0	0.36	96	70-130	3	30
Potassium	32	0.050	0.010	mg/L	20	14	90	70-130	2	30
Sodium	140	0.50	0.13	mg/L	20	110	122	70-130	1	30
Magnesium	47	0.50	0.020	mg/L	20	27	102	70-130	2	30
Boron	0.69	0.10	0.050	mg/L	0.40	0.24	112	70-130	2	30
Batch BL20508 - Metals Preparation for EPA Method 200.7										
Blank (BL20508-BLK1)					Prepared & Analyzed: 12/05/12					
Manganese	0.0010 U	0.010	0.0010	mg/L						
Calcium	0.042 U	0.50	0.042	mg/L						
Boron	0.050 U	0.10	0.050	mg/L						
Magnesium	0.020 U	0.50	0.020	mg/L						
Iron	0.020 U	0.10	0.020	mg/L						
Potassium	0.010 U	0.050	0.010	mg/L						
Sodium	0.13 U	0.50	0.13	mg/L						
LCS (BL20508-BS1)					Prepared & Analyzed: 12/05/12					
Potassium	20	0.050	0.010	mg/L	20		99	85-115		
Manganese	0.39	0.010	0.0010	mg/L	0.40		98	85-115		
Calcium	20	0.50	0.042	mg/L	20		99	85-115		
Sodium	21	0.50	0.13	mg/L	20		103	85-115		
Iron	8.0	0.10	0.020	mg/L	8.0		100	85-115		
Magnesium	20	0.50	0.020	mg/L	20		100	85-115		
Boron	0.39	0.10	0.050	mg/L	0.40		98	85-115		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL20508 - Metals Preparation for EPA Method 200.7										
Matrix Spike (BL20508-MS1)		**Source: 1213772-01**			Prepared & Analyzed: 12/05/12					
Magnesium	19	0.50	0.020	mg/L	20	0.44	93	70-130		
Iron	8.0	0.10	0.020	mg/L	8.0	0.025	100	70-130		
Sodium	35 J5	0.50	0.13	mg/L	20	3.2	161	70-130		
Manganese	0.39	0.010	0.0010	mg/L	0.40	0.0027	98	70-130		
Potassium	20	0.050	0.010	mg/L	20	1.4	91	70-130		
Calcium	19	0.50	0.042	mg/L	20	0.71	93	70-130		
Boron	0.40	0.10	0.050	mg/L	0.40	ND	99	70-130		
Matrix Spike (BL20508-MS2)		**Source: 1213797-01**			Prepared & Analyzed: 12/05/12					
Calcium	37	0.50	0.042	mg/L	20	18	93	70-130		
Iron	8.2	0.10	0.020	mg/L	8.0	0.18	101	70-130		
Potassium	39	0.050	0.010	mg/L	20	21	89	70-130		
Boron	0.58	0.10	0.050	mg/L	0.40	0.18	100	70-130		
Magnesium	24	0.50	0.020	mg/L	20	5.8	93	70-130		
Sodium	280	5.0	1.3	mg/L	20	99	882	70-130		
Manganese	0.40	0.010	0.0010	mg/L	0.40	0.0015	99	70-130		
Matrix Spike Dup (BL20508-MSD1)		**Source: 1213772-01**			Prepared & Analyzed: 12/05/12					
Magnesium	19	0.50	0.020	mg/L	20	0.44	93	70-130	0.9	30
Calcium	19	0.50	0.042	mg/L	20	0.71	93	70-130	0.05	30
Iron	8.0	0.10	0.020	mg/L	8.0	0.025	100	70-130	0.2	30
Manganese	0.39	0.010	0.0010	mg/L	0.40	0.0027	96	70-130	2	30
Sodium	31 J5	0.50	0.13	mg/L	20	3.2	140	70-130	13	30
Boron	0.39	0.10	0.050	mg/L	0.40	ND	98	70-130	0.7	30
Potassium	20	0.050	0.010	mg/L	20	1.4	92	70-130	0.6	30
Matrix Spike Dup (BL20508-MSD2)		**Source: 1213797-01**			Prepared & Analyzed: 12/05/12					
Calcium	37	0.50	0.042	mg/L	20	18	91	70-130	1	30
Boron	0.58	0.10	0.050	mg/L	0.40	0.18	101	70-130	0.8	30
Manganese	0.40	0.010	0.0010	mg/L	0.40	0.0015	99	70-130	0.7	30
Iron	8.3	0.10	0.020	mg/L	8.0	0.18	101	70-130	0.3	30
Potassium	39	0.050	0.010	mg/L	20	21	90	70-130	0.2	30
Sodium	280	5.0	1.3	mg/L	20	99	883	70-130	0.1	30
Magnesium	24	0.50	0.020	mg/L	20	5.8	92	70-130	0.8	30

Hazen and Sawyer
10002 Princess Palm Ave, Suite 200
Tampa, FL 33619

December 19, 2012
Work Order: 1213368

Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL20509 - Metals Preparation for EPA Method 200.7										
Blank (BL20509-BLK1)					Prepared: 12/07/12 Analyzed: 12/11/12					
Iron	0.020 U	0.10	0.020	mg/L						
Sodium	0.13 U	0.50	0.13	mg/L						
Manganese	0.0010 U	0.010	0.0010	mg/L						
Calcium	0.042 U	0.50	0.042	mg/L						
Magnesium	0.020 U	0.50	0.020	mg/L						
Potassium	0.010 U	0.050	0.010	mg/L						
Boron	0.050 U	0.10	0.050	mg/L						
LCS (BL20509-BS1)					Prepared: 12/07/12 Analyzed: 12/11/12					
Manganese	0.39	0.010	0.0010	mg/L	0.40		98	85-115		
Magnesium	20	0.50	0.020	mg/L	20		100	85-115		
Sodium	21	0.50	0.13	mg/L	20		106	85-115		
Calcium	20	0.50	0.042	mg/L	20		99	85-115		
Iron	8.2	0.10	0.020	mg/L	8.0		102	85-115		
Potassium	20	0.050	0.010	mg/L	20		100	85-115		
Boron	0.43	0.10	0.050	mg/L	0.40		108	85-115		
Matrix Spike (BL20509-MS1)		**Source: 1213368-79**			Prepared: 12/07/12 Analyzed: 12/11/12					
Magnesium	29	0.50	0.020	mg/L	20	10	95	70-130		
Boron	0.48	0.10	0.050	mg/L	0.40	ND	119	70-130		
Calcium	61	0.50	0.042	mg/L	20	40	104	70-130		
Iron	8.3	0.10	0.020	mg/L	8.0	0.11	102	70-130		
Manganese	0.41	0.010	0.0010	mg/L	0.40	0.013	100	70-130		
Potassium	31	0.050	0.010	mg/L	20	11	103	70-130		
Sodium	43	0.50	0.13	mg/L	20	22	106	70-130		
Matrix Spike (BL20509-MS2)		**Source: 1213982-02**			Prepared: 12/07/12 Analyzed: 12/11/12					
Potassium	19	0.050	0.010	mg/L	20	0.39	93	70-130		
Calcium	27	0.50	0.042	mg/L	20	7.9	96	70-130		
Boron	0.44	0.10	0.050	mg/L	0.40	ND	109	70-130		
Magnesium	20	0.50	0.020	mg/L	20	0.84	98	70-130		
Sodium	22	0.50	0.13	mg/L	20	2.5	98	70-130		
Manganese	0.40	0.010	0.0010	mg/L	0.40	0.0046	99	70-130		
Iron	8.3	0.10	0.020	mg/L	8.0	0.26	101	70-130		

Hazen and Sawyer
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December 19, 2012
Work Order: 1213368

Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL20509 - Metals Preparation for EPA Method 200.7										
Matrix Spike Dup (BL20509-MSD1)		**Source: 1213368-79**			Prepared: 12/07/12 Analyzed: 12/11/12					
Potassium	32	0.050	0.010	mg/L	20	11	107	70-130	3	30
Iron	8.2	0.10	0.020	mg/L	8.0	0.11	102	70-130	0.8	30
Magnesium	31	0.50	0.020	mg/L	20	10	104	70-130	6	30
Manganese	0.41	0.010	0.0010	mg/L	0.40	0.013	98	70-130	2	30
Calcium	63	0.50	0.042	mg/L	20	40	113	70-130	3	30
Sodium	44	0.50	0.13	mg/L	20	22	110	70-130	2	30
Boron	0.47	0.10	0.050	mg/L	0.40	ND	116	70-130	2	30
Matrix Spike Dup (BL20509-MSD2)		**Source: 1213982-02**			Prepared: 12/07/12 Analyzed: 12/11/12					
Boron	0.44	0.10	0.050	mg/L	0.40	ND	110	70-130	0.9	30
Iron	8.5	0.10	0.020	mg/L	8.0	0.26	103	70-130	2	30
Sodium	23	0.50	0.13	mg/L	20	2.5	102	70-130	4	30
Calcium	28	0.50	0.042	mg/L	20	7.9	98	70-130	1	30
Magnesium	21	0.50	0.020	mg/L	20	0.84	100	70-130	2	30
Potassium	20	0.050	0.010	mg/L	20	0.39	100	70-130	8	30
Manganese	0.40	0.010	0.0010	mg/L	0.40	0.0046	99	70-130	0.5	30
Batch BL21229 - Metals Preparation for EPA Method 200.7										
Blank (BL21229-BLK1)					Prepared & Analyzed: 12/12/12					
Potassium	0.010 U	0.050	0.010	mg/L						
Magnesium	0.020 U	0.50	0.020	mg/L						
Iron	0.020 U	0.10	0.020	mg/L						
Boron	0.050 U	0.10	0.050	mg/L						
Manganese	0.0010 U	0.010	0.0010	mg/L						
Calcium	0.042 U	0.50	0.042	mg/L						
Sodium	0.13 U	0.50	0.13	mg/L						

Hazen and Sawyer
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December 19, 2012
Work Order: 1213368

Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL21229 - Metals Preparation for EPA Method 200.7										
LCS (BL21229-BS1)					Prepared & Analyzed: 12/12/12					
Potassium	18	0.050	0.010	mg/L	20		90	85-115		
Iron	7.6	0.10	0.020	mg/L	8.0		95	85-115		
Calcium	19	0.50	0.042	mg/L	20		93	85-115		
Sodium	19	0.50	0.13	mg/L	20		93	85-115		
Boron	0.36	0.10	0.050	mg/L	0.40		90	85-115		
Magnesium	19	0.50	0.020	mg/L	20		93	85-115		
Manganese	0.37	0.010	0.0010	mg/L	0.40		92	85-115		
Matrix Spike (BL21229-MS1)		**Source: 1214056-01**			Prepared & Analyzed: 12/12/12					
Boron	0.37	0.10	0.050	mg/L	0.40	ND	92	70-130		
Sodium	33	0.50	0.13	mg/L	20	15	89	70-130		
Iron	7.6	0.10	0.020	mg/L	8.0	ND	95	70-130		
Magnesium	27	0.50	0.020	mg/L	20	9.3	91	70-130		
Calcium	52	0.50	0.042	mg/L	20	35	85	70-130		
Manganese	0.37	0.010	0.0010	mg/L	0.40	0.0013	91	70-130		
Potassium	20	0.050	0.010	mg/L	20	1.2	95	70-130		
Matrix Spike (BL21229-MS2)		**Source: 1214192-01**			Prepared & Analyzed: 12/12/12					
Sodium	170	0.50	0.13	mg/L	20	160	65	70-130		
Calcium	18	0.50	0.042	mg/L	20	0.15	89	70-130		
Boron	0.39	0.10	0.050	mg/L	0.40	ND	99	70-130		
Magnesium	18	0.50	0.020	mg/L	20	0.034	89	70-130		
Potassium	17	0.050	0.010	mg/L	20	0.29	85	70-130		
Iron	7.6	0.10	0.020	mg/L	8.0	0.080	94	70-130		
Manganese	0.37	0.010	0.0010	mg/L	0.40	0.0013	93	70-130		
Matrix Spike Dup (BL21229-MSD1)		**Source: 1214056-01**			Prepared & Analyzed: 12/12/12					
Potassium	20	0.050	0.010	mg/L	20	1.2	92	70-130	3	30
Magnesium	27	0.50	0.020	mg/L	20	9.3	88	70-130	2	30
Calcium	51	0.50	0.042	mg/L	20	35	81	70-130	2	30
Iron	7.6	0.10	0.020	mg/L	8.0	ND	95	70-130	0.1	30
Sodium	31	0.50	0.13	mg/L	20	15	83	70-130	4	30
Manganese	0.37	0.010	0.0010	mg/L	0.40	0.0013	92	70-130	0.8	30
Boron	0.37	0.10	0.050	mg/L	0.40	ND	93	70-130	1	30

Hazen and Sawyer
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Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL21229 - Metals Preparation for EPA Method 200.7										
Matrix Spike Dup (BL21229-MSD2)		**Source: 1214192-01**			Prepared & Analyzed: 12/12/12					
Sodium	170	0.50	0.13	mg/L	20	160	90	70-130	3	30
Boron	0.39	0.10	0.050	mg/L	0.40	ND	98	70-130	0.6	30
Potassium	19	0.050	0.010	mg/L	20	0.29	91	70-130	7	30
Calcium	19	0.50	0.042	mg/L	20	0.15	92	70-130	3	30
Magnesium	19	0.50	0.020	mg/L	20	0.034	93	70-130	5	30
Iron	7.6	0.10	0.020	mg/L	8.0	0.080	94	70-130	0.8	30
Manganese	0.37	0.010	0.0010	mg/L	0.40	0.0013	92	70-130	0.6	30

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December 19, 2012
Work Order: 1213368

Microbiology - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BK22834 - FC-MF										
Blank (BK22834-BLK1)					Prepared: 11/28/12	Analyzed: 11/29/12				
Fecal Coliforms	1 U	1	1	CFU/100 ml						
Duplicate (BK22834-DUP1)		**Source: 1213368-75**			Prepared: 11/28/12	Analyzed: 11/29/12				
Fecal Coliforms	1 U	1	1	CFU/100 ml		ND				200
Batch BL20426 - FC-MF										
Blank (BL20426-BLK1)					Prepared: 12/04/12	Analyzed: 12/05/12				
Fecal Coliforms	1 U	1	1	CFU/100 ml						
Duplicate (BL20426-DUP1)		**Source: 1213825-01**			Prepared: 12/04/12	Analyzed: 12/05/12				
Fecal Coliforms	1 U	1	1	CFU/100 ml		ND				200

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Work Order: 1213368

* Qualifiers, Notes and Definitions

Results followed by a "U" indicate that the sample was analyzed but the compound was not detected. Results followed by "I" indicate that the reported value is between the laboratory method detection limts and the laboratory practical quantitation limit.

A statement of estimated uncertainty of test results is available upon request.

For methods marked with **, all QC criteria have been met for this method which is equivalent to a SAL certified method.

Test results in this report meet all the requirements of the NELAC standards. Any applicable qualifiers are shown below.

J5 Matrix spike of this sample was outside typical range. All other QC criteria were acceptable.
+O Matrix spike source sample was over the reccommended range for the method.

Questions regarding this report should be directed to :

Kathryn Nordmark
Telephone (813) 855-1844 FAX (813) 855-2218
Kathryn@southernanalyticallabs.com

Kathryn@southernanalyticallabs.com

SOUTHERN ANALYTICAL LABORATORIES, INC.

11D BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218

SAL Project No. 121336 8

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

Matrix Codes:
DW-Drinking Water WW-Wastewater
SW-SurfaceWater SL-Sludge SO-Soil
GW-Groundwater SA-Saline Water O-Other
R-Reagent Water

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
01	STE			GW		X	1	1	2	1											
02	STE Dup			GW		X	1	1	2	1											
03	PZ-03A-15			GW		X				1	1	1	2	1							
04	PZ-03A-17			GW		X						1			1						
05	PZ-03A-17-DUP			GW		X						1			1						
06	PZ-03A-21			GW		X						1			1						
07	PZ-03A-34			GW		X						1			1						
08	PZ-03I-15	11/28/12	0849	GW		X						1			1		6.17	6.15	77.8	25.8	
09	PZ-03I-17		0908	GW		X									1	1	6.59	6.27	51.3	25.8	
10	PZ-03I-21		0926	GW		X									1	1	3.72	5.13	177.2	25.9	
11	PZ-03K-15			GW		X						1			1						
12	PZ-03K-17			GW		X									1	1					

Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:
R Bowling	1310 11/16/12	UPS	
Relinquished: UPS	Date/Time:	Received:	Date/Time: 11/17/12
Relinquished:	Date/Time: 11/28/12	Received:	Date/Time: 11/28/12
Relinquished:	Date/Time:	Received:	Date/Time: 11-28-12 1530
Relinquished:	Date/Time:	Received:	Date/Time:

Seal intact?	Y N N/A
Samples intact upon arrival?	Y N N/A
Received on ice? Temp_____	Y N N/A
Proper preservatives indicated?	Y N N/A
Rec'd within holding time?	Y N N/A
Volatiles rec'd w /out headspace?	Y N N/A
Proper containers used?	Y N N/A

Chain of Custody.xls
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Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

Matrix Codes:
DW-Drinking Water WW-Wastewater
SW-SurfaceWater SL-Sludge SO-Soil
GW-Groundwater SA-Saline Water O-Other
R-Reagent Water

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
01	STE	11/29/12	1300	GW		X	1	1	2	1							1.48	7.76	746	28.0	
02	STE Dup		1305	GW		X	1	1	2	1							1.48	7.76	746	28.0	
03	PZ-03A-15		1008	GW		X				1	1	1	2	1			7.56	6.62	38.4	26.7	
04	PZ-03A-17		1031	GW		X						1			1		7.11	6.27	75.6	26.3	
05	PZ-03A-17-DUP		1031	GW		X						1			1		7.11	6.27	75.6	26.3	
06	PZ-03A-21		1043	GW		X						1			1		3.03	5.71	244	26.8	
07	PZ-03A-34		0900	GW		X						1			1		2.21	4.80	305	25.6	
08	PZ-03I-15			GW		X						1			1						
09	PZ-03I-17			GW		X									1	1					
10	PZ-03I-21			GW		X									1	1					
11	PZ-03K-15	11/29/12	1129	GW		X						1			1		5.79	6.77	275	27.5	
12	PZ-03K-17		1148	GW		X									1	1	6.32	6.13	976.8	27.4	

Relinquished:	Date/Time:	Received:	Date/Time:
Containers Prepared/ Relinquished: B Bowling	Date/Time: 1310 11/16/12	Received: UPS	Date/Time:
Relinquished: UPS	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time: 1615 11/29/12	Received: K Mudmark	Date/Time: 1615 11/29/12
Relinquished:	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time:	Received:	Date/Time:

Seal intact?	Y N (N/A)
Samples intact upon arrival?	(Y) N N/A
Received on ice? Temp_____	(Y) N N/A
Proper preservatives indicated?	(Y) N N/A
Rec'd within holding time?	(Y) N N/A
Volatiles rec'd w/out headspace?	Y N (N/A)
Proper containers used?	(Y) N N/A

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Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

Matrix Codes:
DW-Drinking Water WW-Wastewater
SW-SurfaceWater SL-Sludge SO-Soil
GW-Groundwater SA-Saline Water O-Other
R-Reagent Water

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
13	PZ-03K-21			GW		X									1	1					
14	PZ-02L-15	11/27/12	0921	GW		X						1			1		6.90	6.80	105.4	26.6	
15	PZ-02L-17		0940	GW		X									1	1	5.49	6.80	62.9	26.1	
16	PZ-02L-21		0951	GW		X									1	1	3.18	5.38	209.2	26.2	
17	PZ-04L-15		1121	GW		X						1			1		5.85	6.65	252	27.5	
18	PZ-04L-17		1140	GW		X									1	1	5.50	6.47	796	27.3	
19	PZ-04L-21		1155	GW		X									1	1	2.50	5.42	189.7	27.6	
20	PZ-07L-15			GW		X						1			1						
21	PZ-07L-17			GW		X									1	1					
22	PZ-07L-21			GW		X									1	1					
23	PZ-03ML-15	11/27/12	1010	GW		X				1	1	1	2	1			5.32	6.32	394	27.1	
24	PZ-03ML-17		1031	GW		X				1	1	1	2	1			6.54	6.55	62.9	26.4	

Relinquished:	Date/Time:	Received:	Date/Time:
Containers Prepared/ Relinquished:	Date/Time: 1330 11/16/12	Received: UPS	Date/Time:
Relinquished: UPS	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time: 1500 11/27/12	Received:	Date/Time: 1500 11-27-12
Relinquished:	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time:	Received:	Date/Time:

Seal intact?	Y N (N/A)
Samples intact upon arrival?	(Y) N N/A
Received on ice? Temp_____	(Y) N N/A
Proper preservatives indicated?	(Y) N N/A
Rec'd within holding time?	(Y) N N/A
Volatiles rec'd w/out headspace?	Y N (N/A)
Proper containers used?	(Y) N N/A

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Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218

SAL Project No. 1213368

Client Name	Contact / Phone:
Hazen and Sawyer	
Project Name / Location: C-HS3 SE#2	
Samplers: (Signature)	

Matrix Codes:
DW-Drinking Water WW-Wastewater
SW-SurfaceWater SL-Sludge SO-Soil
GW-Groundwater SA-Saline Water O-Other
R-Reagent Water

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
13	PZ-03K-21			GW		X									1	1				
14	PZ-02L-15			GW		X						1			1					
15	PZ-02L-17			GW		X									1	1				
16	PZ-02L-21			GW		X									1	1				
17	PZ-04L-15			GW		X						1			1					
18	PZ-04L-17			GW		X									1	1				
19	PZ-04L-21			GW		X									1	1				
20	PZ-07L-15	11/28/12	0945	GW		X						1			1		6.72	6.45	65.2	25.7
21	PZ-07L-17		1003	GW		X									1	1	6.26	6.34	84.5	25.5
22	PZ-07L-21		1021	GW		X									1	1	3.94	5.42	66.3	25.9
23	PZ-03ML-15			GW		X				1	1	1	2	1						
24	PZ-03ML-17			GW		X				1	1	1	2	1						

Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:
[illegible]	1330 11/16/12	UPS	
Relinquished: UPS	Date/Time:	Received: [illegible]	Date/Time: 11/17/12
Relinquished: [illegible]	Date/Time: 11/28/12	Received: [illegible]	Date/Time: 11/28/12
Relinquished:	Date/Time:	Received: [illegible]	Date/Time: 11-28-12 1530
Relinquished:	Date/Time:	Received: [illegible]	Date/Time:

Seal intact?	Y N N/A
Samples intact upon arrival?	Y N N/A
Received on ice? Temp_____	Y N N/A
Proper preservatives indicated?	Y N N/A
Rec'd within holding time?	Y N N/A
Volatiles rec'd w/out headspace?	Y N N/A
Proper containers used?	Y N N/A

Chain of Custody.xls
Rev.Date 11/19/01

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

11D BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

Matrix Codes:
DW-Drinking Water WW-Wastewater
SW-SurfaceWater SL-Sludge SO-Soil
GW-Groundwater SA-Saline Water O-Other
R-Reagent Water

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
13	PZ-03K-21	11/29/12	1209	GW		X									1	1	8.63	5.95	1855	27.5	
14	PZ-02L-15			GW		X						1			1						
15	PZ-02L-17			GW		X									1	1					
16	PZ-02L-21			GW		X									1	1					
17	PZ-04L-15			GW		X						1			1						
18	PZ-04L-17			GW		X									1	1					
19	PZ-04L-21			GW		X									1	1					
20	PZ-07L-15			GW		X						1			1						
21	PZ-07L-17			GW		X									1	1					
22	PZ-07L-21			GW		X									1	1					
23	PZ-03ML-15			GW		X				1	1	1	2	1							
24	PZ-03ML-17			GW		X				1	1	1	2	1							

Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:
D Bowling	1330 11/16/12	UPS	
Relinquished: UPS	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time: 1415 11/29/12	Received: K Mudmeck	Date/Time: 1615 11/29/12
Relinquished:	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time:	Received:	Date/Time:

Seal intact?	Y	N	N/A
Samples intact upon arrival?	Y	N	N/A
Received on ice? Temp_____	Y	N	N/A
Proper preservatives indicated?	Y	N	N/A
Rec'd within holding time?	Y	N	N/A
Volatiles rec'd w/out headspace?	Y	N	N/A
Proper containers used?	Y	N	N/A

Chain of Custody.xls
Rev.Date 11/19/01

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218

SAL Project No. 12133368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

Matrix Codes:
DW-Drinking Water WW-Wastewater
SW-SurfaceWater SL-Sludge SO-Soil
GW-Groundwater SA-Saline Water O-Other
R-Reagent Water

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
~~25~~	~~PZ-03ML-17-DUP~~			GW		X				1	1	1	2	1							
~~26~~	~~PZ-03ML-24~~			GW		X				1	1	1	2	1							
27	PZ-00N-15	11/26/12	1043	GW		X						1			1		6.47	6.47	74.9	26.6	
28	PZ-00N-17		1255	GW		X									1	1	5.14	5.91	61.2	27.0	
29	PZ-00N-21		1005	GW		X									1	1	4.50	5.97	212.5	26.1	
30	PZ-02N-15		1322	GW		X						1			1		6.94	6.64	102.4	26.9	
31	PZ-02N-17		1341	GW		X									1	1	6.10	6.12	446.5	26.8	
32	PZ-02N-21		1400	GW		X									1	1	2.81	4.77	230	26.4	
~~33~~	~~PZ-04N-15~~			GW		X						1			1						
~~34~~	~~PZ-04N-15-DUP~~			GW		X						1			1						
~~35~~	~~PZ-04N-17~~			GW		X						1			1						
~~36~~	~~PZ-04M-21~~			GW		X									1	1					

Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:
[signature]	11/16/12 1330	UPS	
Relinquished: UPS	Date/Time:	Received: [signature]	Date/Time:
Relinquished: [signature]	Date/Time: 11/26/12 1400	Received: K Hardmeat	Date/Time: 11/26/12 1600
Relinquished:	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time:	Received:	Date/Time:

Seal intact?	Y N N/A
Samples intact upon arrival?	Y N N/A
Received on ice? Temp_____	Y N N/A
Proper preservatives indicated?	Y N N/A
Rec'd within holding time?	Y N N/A
Volatiles rec'd w/out headspace?	Y N N/A
Proper containers used?	Y N N/A

Chain of Custody.xls
Rev.Date 11/19/01

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

11D BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

Matrix Codes: DW-Drinking Water WW-Wastewater SW-SurfaceWater SL-Sludge SO-Soil GW-Groundwater SA-Saline Water O-Other R-Reagent Water

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
25	PZ-03ML-17-DUP	11/27/12	1036	GW		X				1	1	1	2	1			6.57	6.55	62.9	26.4	
26	PZ-03ML-21		1058	GW		X				1	1	1	2	1			2.99	6.16	123	27.0	
27	PZ-00N-15	11/26/12	1043	GW		X						1			1		6.47	6.47	74.9	26.6	
28	PZ-00N-17		1255	GW		X									1	1	5.14	5.91	61.2	27.0	
29	PZ-00N-21		1005	GW		X									1	1	4.50	5.97	212.5	26.1	
30	PZ-02N-15		1322	GW		X						1			1		6.94	6.64	102.4	26.9	
31	PZ-02N-17		1341	GW		X									1	1	6.10	6.12	46.5	26.8	
32	PZ-02N-21		1400	GW		X									1	1	2.81	4.77	230	26.4	
33	PZ-04N-15	11/27/12	1211	GW		X						1			1		5.58	6.62	245	28.3	
34	PZ-04N-15-DUP		1216	GW		X						1			1		5.58	6.62	245	28.3	
35	PZ-04N-17		1232	GW		X						1			1		3.75	6.52	86.5	26.9	
36	PZ-04N-21		1251	GW		X									1	1	5.24	5.75	209.6	26.6	

Containers Prepared/ Relinquished	Date/Time	Received	Date/Time
Bowling	11/16/12 1330	UPS	
UPS			
	11/27/12 1500		11-27-12 1500

Seal intact? Y N (N/A)

Samples intact upon arrival? (Y) N N/A

Received on ice? Temp_____ (Y) N N/A

Proper preservatives indicated? (Y) N N/A

Rec'd within holding time? (Y) N N/A

Volatiles rec'd w/out headspace? Y N (N/A)

Proper containers used? (Y) N N/A

Chain of Custody.xls
Rev.Date 11/19/01

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218

SAL Project No. 12 13368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

Matrix Codes: DW-Drinking Water WW-Wastewater SW-SurfaceWater SL-Sludge SO-Soil GW-Groundwater SA-Saline Water O-Other R-Reagent Water

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 COD, TKN, NH_3	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
37	PZ-06N-15	11/27/12	1308	GW		X									1		1	3.52	6.09	408	26.7	
38	PZ-06N-17		1326	GW		X									1		1	4.26	6.47	88.0	26.8	
39	PZ-06N-21		1344	GW		X									1		1	2.53	5.8	715.7	26.8	
40	PZ-03O-15			GW		X									1		1					
41	PZ-03O-17			GW		X									1		1					
42	PZ-03O-21			GW		X									1		1					
43	PZ-04O-15			GW		X				1	1	1	2	1								
44	PZ-04O-17			GW		X									1	1						
45	PZ-04O-17-DUP			GW		X									1	1						
46	PZ-04O-21			GW		X									1	1						
47	PZ-07O-15			GW		X						1			1							
48	PZ-07O-17			GW		X									1		1					

Relinquished	Date/Time	Received	Date/Time
Containers Prepared/ Relinquished: [illegible]	Date/Time: 1330 11/16/12	Received: UPS	Date/Time:
Relinquished: UPS	Date/Time:	Received: [signature]	Date/Time:
Relinquished: [signature]	Date/Time: 1500 11/27/12	Received: [signature]	Date/Time: 1500 11-27-12
Relinquished:	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time:	Received:	Date/Time:

Seal intact?	Y N N/A
Samples intact upon arrival?	Y N N/A
Received on ice? Temp_____	Y N N/A
Proper preservatives indicated?	Y N N/A
Rec'd within holding time?	Y N N/A
Volatiles rec'd w/out headspace?	Y N N/A
Proper containers used?	Y N N/A

Chain of Custody.xls
Rev.Date 11/19/01

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

11D BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218

SAL Project No. 12 13368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

Matrix Codes: DW-Drinking Water WW-Wastewater SW-SurfaceWater SL-Sludge SO-Soil GW-Groundwater SA-Saline Water O-Other R-Reagent Water

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 COD, TKN, NH_3	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
37	PZ-06N-15			GW		X									1		1					
38	PZ-06N-17			GW		X									1		1					
39	PZ-06N-21			GW		X									1		1					
40	PZ-03O-15			GW		X									1		1					
41	PZ-03O-17			GW		X									1		1					
42	PZ-03O-21			GW		X									1		1					
43	PZ-04O-15			GW		X				1	1	1	2	1								
44	PZ-04O-17			GW		X									1	1						
45	PZ-04O-17-DUP			GW		X									1	1						
46	PZ-04O-21			GW		X									1	1						
47	PZ-07O-15	11/28/12	1037	GW		X						1			1			5.17	6.20	119.8	24.7	
48	PZ-07O-17		1101	GW		X									1		1	2.15	6.71	81.6	24.7	

Relinquished	Date/Time	Received	Date/Time
Containers Prepared/ Relinquished: [signature]	Date/Time: 1330 11/16/12	Received: UPS	Date/Time:
Relinquished: UPS	Date/Time:	Received: [signature]	Date/Time: 11/17/12
Relinquished: [signature]	Date/Time: 11/28/12	Received: [signature]	Date/Time: 11/28/12
Relinquished:	Date/Time:	Received: [signature]	Date/Time: 11-28-12 1530
Relinquished:	Date/Time:	Received:	Date/Time:

Seal intact?	N N/A
Samples intact upon arrival?	N N/A
Received on ice? Temp_____	N N/A
Proper preservatives indicated?	N N/A
Rec'd within holding time?	N N/A
Volatiles rec'd w/out headspace?	Y N N/A
Proper containers used?	N N/A

Chain of Custody.xls
Rev.Date 11/19/01

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.
110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

Matrix Codes:
DW-Drinking Water WW-Wastewater
SW-SurfaceWater SL-Sludge SO-Soil
GW-Groundwater SA-Saline Water O-Other
R-Reagent Water

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Samp# No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 COD, TKN, NH_3	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
49	PZ-07O-20			GW		X									1		1	6.36	6.21	48.4	24.7	
50	PZ-01Q-13	11/29/12	1310	GW		X						1			1			6.51	6.03	46.3	25.0	
51	PZ-01Q-15		1328	GW		X						1			1			4.11	5.22	76.4	25.1	
52	PZ-01Q-19		1348	GW		X									1		1					
53	PZ-04Q-13			GW		X				1	1	1	2	1								
54	PZ-04Q-15			GW		X				1	1	1	2	1								
55	PZ-04Q-19			GW		X									1		1					
56	PZ-06Q-13			GW		X						1			1							
57	PZ-06Q-15			GW		X						1			1							
58	PZ-06Q-15-DUP			GW		X						1			1							
59	PZ-06Q-19			GW		X						1			1							
60	PZ-07Q-13			GW		X						1			1							

Relinquished:	Date/Time:	Received:	Date/Time:
Containers Prepared/ Relinquished: RBowling	11/16/12 1330	UPS	
UPS		[signature]	
[signature]	11/29/12 1615	K Mudmouth	11/29/12 1615

Seal intact? Y N (N/A)
Samples intact upon arrival? (Y) N N/A
Received on ice? Temp_____ (Y) N N/A
Proper preservatives indicated? (Y) N N/A
Rec'd within holding time? (Y) N N/A
Volatiles rec'd w/out headspace? Y N (N/A)
Proper containers used? (Y) N N/A

Chain of Custody.xls
Rev.Date 11/19/01

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

Matrix Codes: DW-Drinking Water WW-Wastewater SW-SurfaceWater SL-Sludge SO-Soil GW-Groundwater SA-Saline Water O-Other R-Reagent Water

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 COD, TKN, NH_3	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
37	PZ-06N-15			GW		X									1		1					
38	PZ-06N-17			GW		X									1		1					
39	PZ-06N-21			GW		X									1		1					
40	PZ-03O-15	11/30/12	1139	GW		X									1		1	7.00	7.55	112.5	24.4	
41	PZ-03O-17		1157	GW		X									1		1	[illegible]	6.90	56.4	24.7	
42	PZ-03O-21		1216	GW		X									1		1	2.62	5.52	210.3	25.1	
43	PZ-04O-15		0952	GW		X				1	1	1	2	1				6.10	7.04	188.2	24.5	
44	PZ-04O-17		1018	GW		X									1	1		2.64	7.25	102.2	24.9	
45	PZ-04O-17-DUP		1023	GW		X									1	1		2.64	7.25	102.2	24.9	
46	PZ-04O-21		1036	GW		X									1	1		5.85	5.81	240	25.1	
47	PZ-07O-15			GW		X						1			1							
48	PZ-07O-17			GW		X									1		1					

Containers Prepared/ Relinquished	Date/Time: 1330 11/16/12	Received: UPS	Date/Time:
Relinquished: UPS	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time: 1330 11/30/12	Received: 11-30-12	Date/Time:
Relinquished:	Date/Time: 11/30/12	Received:	Date/Time: 11-30-12 1570
Relinquished:	Date/Time:	Received:	Date/Time:

Seal intact?	Y	N	N/A
Samples intact upon arrival?	Y	N	N/A
Received on ice? Temp_____	Y	N	N/A
Proper preservatives indicated?	Y	N	N/A
Rec'd within holding time?	Y	N	N/A
Volatiles rec'd w/out headspace?	Y	N	N/A
Proper containers used?	Y	N	N/A

Chain of Custody.xls
Rev.Date 11/19/01

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.
11D BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

Matrix Codes: DW-Drinking Water WW-Wastewater SW-SurfaceWater SL-Sludge SO-Soil GW-Groundwater SA-Saline Water O-Other R-Reagent Water

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 COD, TKN, NH_3	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
49	PZ-07O-20	11/28/12	1113	GW		X									1		1	3.56	5.70	106.2	24.8	
50	PZ-01Q-13			GW		X						1			1							
51	PZ-01Q-15			GW		X						1			1							
52	PZ-01Q-19			GW		X									1		1					
53	PZ-04Q-13			GW		X				1	1	1	2	1								
54	PZ-04Q-15			GW		X				1	1	1	2	1								
55	PZ-04Q-19			GW		X									1		1					
56	PZ-06Q-13	11/28/12	1213	GW		X						1			1			7.06	6.58	137.3	25.3	
57	PZ-06Q-15		1231	GW		X						1			1			2.91	6.85	133.4	25.7	
58	PZ-06Q-15-DUP		1236	GW		X						1			1			2.91	6.85	133.4	25.7	
59	PZ-06Q-19		1248	GW		X						1			1			0.28	6.85	72.0	26.1	
60	PZ-07Q-13		1128	GW		X						1			1			5.07	6.52	114.8	24.5	

Relinquished:	Date/Time:	Received:	Date/Time:
Containers Prepared/ Relinquished: Bowling	11/16/12 1330	UPS	
UPS		[illegible]	11/28/12
[illegible]	11/28/12	[illegible]	11/28/12
			11-28-12 1530

Seal intact? Y N N/A
Samples intact upon arrival? Y N N/A
Received on ice? Temp_____ Y N N/A
Proper preservatives indicated? Y N N/A
Rec'd within holding time? Y N N/A
Volatiles rec'd w/out headspace? Y N N/A
Proper containers used? Y N N/A

Chain of Custody.xls
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Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

Matrix Codes: DW-Drinking Water WW-Wastewater SW-SurfaceWater SL-Sludge SO-Soil GW-Groundwater SA-Saline Water O-Other R-Reagent Water

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 COD, TKN, NH_3	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
49	PZ-07O-20	11/28/12	1113	GW		X									1		1	3.56	5.70	106.1	24.8	
50	PZ-01Q-13			GW		X						1			1							
51	PZ-01Q-15			GW		X						1			1							
52	PZ-01Q-19			GW		X									1		1					
53	PZ-04Q-13	11/30/12	1049	GW		X				1	1	1	2	1				3.89	6.98	188.8	24.4	
54	PZ-04Q-15		1108	GW		X				1	1	1	2	1				2.35	7.35	106.6	24.0	
55	PZ-04Q-19		1123	GW		X									1		1	2.02	5.86	249	24.8	
56	PZ-06Q-13			GW		X						1			1							
57	PZ-06Q-15			GW		X						1			1							
58	PZ-06Q-15-DUP			GW		X						1			1							
59	PZ-06Q-19			GW		X						1			1							
60	PZ-07Q-13			GW		X						1			1							

Containers Prepared/ Relinquished: Bowling	Date/Time: 11/16/12 1330	Received: UPS	Date/Time:
Relinquished: UPS	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time: 11/30/12 1530	Received: 11-30-12 1420	Date/Time:
Relinquished:	Date/Time: 11/30/12 1510	Received:	Date/Time: 11-30-12 1510
Relinquished:	Date/Time:	Received:	Date/Time:

Seal intact?	N N/A
Samples intact upon arrival?	N N/A
Received on ice? Temp_____	N N/A
Proper preservatives indicated?	N N/A
Rec'd within holding time?	N N/A
Volatiles rec'd w/out headspace?	Y N N/A
Proper containers used?	N N/A

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Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.
110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

Matrix Codes:
DW-Drinking Water WW-Wastewater
SW-SurfaceWater SL-Sludge SO-Soil
GW-Groundwater SA-Saline Water O-Other
R-Reagent Water

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only sample no.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 COD, TKN, NH_3	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
61	PZ-07Q-15	11/28/12	1140	GW		X									1		1	2.47	6.54	82.3	25.0	
62	PZ-07Q-19		1158	GW		X									1		1	3.67	5.65	111.8	25.0	
63	PZ-04U-12			GW		X						1			1							
64	PZ-04U-14			GW		X									1		1					
65	PZ-04U-18			GW		X									1		1					
66	PZ-06U-12			GW		X									1		1					
67	PZ-06U-14			GW		X									1		1					
68	PZ-06U-14-DUP			GW		X									1		1					
69	PZ-06U-34			GW		X									1		1					
70	PZ-01BKG			GW		X						1			1							
71	PZ-02BKG			GW		X						1			1							
72	PZ-03BKG			GW		X						1			1							

Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:
J Chambers	11-16-12 12:55	[illegible]	11/17/12
[illegible]	11/28/12	[illegible]	11/30/12
		[illegible]	11/28/12 1530

Seal intact?	Y	N	N/A
Samples intact upon arrival?	Y	N	N/A
Received on ice? Temp_____	Y	N	N/A
Proper preservatives indicated?	Y	N	N/A
Rec'd within holding time?	Y	N	N/A
Volatiles rec'd w/out headspace?	Y	N	N/A
Proper containers used?	Y	N	N/A

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Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

Matrix Codes:
DW-Drinking Water WW-Wastewater
SW-SurfaceWater SL-Sludge SO-Soil
GW-Groundwater SA-Saline Water O-Other
R-Reagent Water

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 COD, TKN, NH_3	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
61	PZ-07Q-15			GW		X									1		1					
62	PZ-07Q-19			GW		X									1		1					
63	PZ-04U-12			GW		X						1			1							
64	PZ-04U-14			GW		X									1		1					
65	PZ-04U-18			GW		X									1		1					
66	PZ-06U-12			GW		X									1		1					
67	PZ-06U-14			GW		X									1		1					
68	PZ-06U-14-DUP			GW		X									1		1					
69	PZ-06U-34			GW		X									1		1					
70	PZ-01BKG	11/29/12	1103	GW		X						1			1			7.55	5.85	60.1	26.6	
71	PZ-02BKG		1236	GW		X						1			1			1.16	4.66	592	26.8	
72	PZ-03BKG		0808	GW		X						1			1			6.70	5.20	27.1	23.8	

Relinquished:	Date/Time:	Received:	Date/Time:
Containers Prepared/ Relinquished: J Chambers	11-26-12 12:55		
Relinquished:	11/29/12 1615	Received: K Mudmand	11/29/12 1615
Relinquished:	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time:	Received:	Date/Time:

Seal intact? Y N (N/A)
Samples intact upon arrival? (Y) N N/A
Received on ice? Temp_____ (Y) N N/A
Proper preservatives indicated? (Y) N N/A
Rec'd within holding time? (Y) N N/A
Volatiles rec'd w/out headspace? Y N (N/A)
Proper containers used? (Y) N N/A

Chain of Custody.xls
Rev.Date 11/19/01

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.
110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

Matrix Codes: DW-Drinking Water WW-Wastewater SW-SurfaceWater SL-Sludge SO-Soil GW-Groundwater SA-Saline Water O-Other R-Reagent Water

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_2, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 COD, TKN, NH_3	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
61	PZ-07Q-15			GW		X									1		1					
62	PZ-07Q-19			GW		X									1		1					
63	PZ-04U-12	11/30/12	0900	GW		X						1			1			4.67	7.20	90.4	24.8	
64	PZ-04U-14		0918	GW		X									1		1	6.18	7.32	27.4	25.1	
65	PZ-04U-18		0936	GW		X									1		1	4.26	6.28	56.5	25.3	
66	PZ-06U-12		0807	GW		X									1		1	5.85	7.18	183.8	24.5	
67	PZ-06U-14		0815	GW		X									1		1	3.15	6.22	517	24.6	
68	PZ-06U-14-DUP		0820	GW		X									1		1	3.15	6.22	517	24.6	
69	PZ-06U-34		0838	GW		X									1		1	1.33	5.36	301	25.1	
70	PZ-01BKG			GW		X						1			1							
71	PZ-02BKG			GW		X						1			1							
72	PZ-03BKG			GW		X						1			1							

Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:
J Chambers	11-16-12 12:55		
Relinquished:	Date/Time: 1330 11/30/12	Received: 11/30/12	Date/Time:
Relinquished: 1510 11-30-12	Date/Time:	Received:	Date/Time: 11-30-12 1510
Relinquished:	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time:	Received:	Date/Time:

Seal intact?	Y N N/A
Samples intact upon arrival?	Y N N/A
Received on ice? Temp_____	Y N N/A
Proper preservatives indicated?	Y N N/A
Rec'd within holding time?	Y N N/A
Volatiles rec'd w/out headspace?	Y N N/A
Proper containers used?	Y N N/A

Chain of Custody.xls
Rev.Date 11/19/01

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218

SAL Project No. 12133368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

Matrix Codes:
DW-Drinking Water WW-Wastewater
SW-SurfaceWater SL-Sludge SO-Soil
GW-Groundwater SA-Saline Water O-Other
R-Reagent Water

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 COD, TKN, NH_3	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
73	PZ-04BKG			GW		X						1			1							
74	PZ-05BKG			GW		X						1			1							
75	FB-DI	11/27/12	0830	R		X	1		2	1		1	2	1				10.03	7.02	2.03	21.4	
76	FB-TAP		0845	DW		X	1		2	1		1	2	1				5.44	7.51	330	23.1	
77	EB		0828	R		X	1		2	1		1	2	1				10.03	7.02	2.03	21.4	

Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:
J. Chambers	11-16-12 13:05	UPS	
Relinquished: UPS	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time: 1500 11/27/12	Received:	Date/Time: 1500 11-27-12
Relinquished:	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time:	Received:	Date/Time:

Seal intact?	Y N N/A
Samples intact upon arrival?	Y N N/A
Received on ice? Temp_____	Y N N/A
Proper preservatives indicated?	Y N N/A
Rec'd within holding time?	Y N N/A
Volatiles rec'd w/out headspace?	Y N N/A
Proper containers used?	Y N N/A

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Rev.Date 11/16/01

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

Matrix Codes: DW-Drinking Water WW-Wastewater SW-SurfaceWater SL-Sludge SO-Soil GW-Groundwater SA-Saline Water O-Other R-Reagent Water

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 COD, TKN, NH_3	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
73	PZ-04BKG			GW		X						1			1							
74	PZ-05BKG			GW		X						1			1							
75	FB-DI	11/28/12	1255	R		X	1		2	1		1	2	1				10.01	7.02	2.03	22.5	
76	FB-TAP		1250	DW		X	1		2	1		1	2	1				5.44	7.50	339	23.0	
77	EB		1300	R		X	1		2	1		1	2	1				10.01	7.02	2.03	22.5	

Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:
J. Chambers	11-16-12 13:05	[illegible]	11/17/12
Relinquished: [illegible]	Date/Time: 11/28/12	Received: [illegible]	Date/Time: 11/28/12
Relinquished:	Date/Time:	Received: [illegible]	Date/Time: 11/28/12 1530
Relinquished:	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time:	Received:	Date/Time:

Seal intact?	(Y) N N/A
Samples intact upon arrival?	(Y) N N/A
Received on ice? Temp_____	(Y) N N/A
Proper preservatives indicated?	(Y) N N/A
Rec'd within holding time?	(Y) N N/A
Volatiles rec'd w/out headspace?	Y N (N/A)
Proper containers used?	(Y) N N/A

Chain of Custody.xls
Rev.Date 11/19/01

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3/SE#2

Samplers: (Signature)

Matrix Codes:
DW-Drinking Water WW-Wastewater
SW-SurfaceWater SL-Sludge SO-Soil
GW-Groundwater SA-Saline Water O-Other
R-Reagent Water

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 COD, TKN, NH_3	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
73	PZ-04BKG	11/29/12	1222	GW		X						1			1			0.55	5.00	67.5	25.2	
74	PZ-05BKG		1249	GW		X						1			1			0.35	4.85	41.0	24.5	
75	FB-DI			R		X	1		2	1		1	2	1								
76	FB-TAP			DW		X	1		2	1		1	2	1								
77	EB			R		X	1		2	1		1	2	1								

Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:
J. Chambers	11-16-12 13:05		
Relinquished:	Date/Time: 1615 11/29/12	Received: K Mudmank	Date/Time: 11/29/12 1615
Relinquished:	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time:	Received:	Date/Time:

Seal intact? Y N N/A

Samples intact upon arrival? Y N N/A

Received on ice? Temp_____ Y N N/A

Proper preservatives indicated? Y N N/A

Rec'd within holding time? Y N N/A

Volatiles rec'd w/out headspace? Y N N/A

Proper containers used? Y N N/A

Chain of Custody.xls
Rev.Date 11/19/01

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-855-1844 fax 813-855-2218

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: HS3 SE#2

Samplers: (Signature)

Matrix Codes: DW-Drinking Water WW-Wastewater SW-SurfaceWater SL-Sludge SO-Soil GW-Groundwater SA-Saline Water O-Other R-Reagent Water

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
78	STE	12/4/12	0820	GW		X	1	1	2	1							1.75	7.40	818	25.6	
79	STE Dup		0825	GW		X	1	1	2	1							1.75	7.42	818	25.6	

Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:
J. Chambers	11-30-12 12:05		12:05 11 30 12
Relinquished:	Date/Time: 1025 12/4/12	Received: Scott McCall	Date/Time: 10:51 A.M. 12-4-12
Relinquished:	Date/Time:	Received:	Date/Time: 12-4-12 1215
Relinquished:	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time:	Received:	Date/Time:

Seal intact?	Y N N/A
Samples intact upon arrival?	Y N N/A
Received on ice? Temp_____	Y N N/A
Proper preservatives indicated?	Y N N/A
Rec'd within holding time?	Y N N/A
Volatiles rec'd w/out headspace?	Y N N/A
Proper containers used?	Y N N/A

Chain of Custody.xls
Rev.Date 11/19/01

Chain of Custody

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DOH-2012-11-30-01

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ent escription	**Nitrogen Reduction Study**
e uest	**RQ-2012-11-26-41**
ustomer	**DOH**
ro ect	**NIT-REDUCT**

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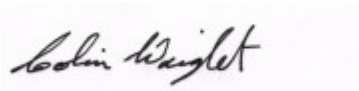

Abbreviations and data remark codes

CERT # - NELAP (National Environmental Laboratory Accreditation Program) Certification Number of the laboratory that performed the analysis.
LCS – Laboratory Control Sample; in the QC Failures column, this notation indicates a batch recovery failure.
MS – Matrix Spike; in the QC Failures column, this notation indicates a batch recovery failure.
RPD – Relative Percent Difference; in the QC Failures column, this notation indicates a batch failure for precision.
CCV – Continuing Calibration Verification; in the QC Failures column, this notation indicates a failure of the calibration verification check sample.
SUR – Surrogate; in the QC Failures column, this notation indicates a recovery failure for the associated surrogate.
RSD – Relative Standard Deviation expressed as a percentage.
SMP – Sample.
** - The laboratory is not NELAP certified for this analyte/method, or certification is not applicable.

A - Value reported is the mean of two or more determinations
B - Results based on colony counts outside the acceptable range.
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J - Estimated value
K - Actual value is known to be less than value given
L - Actual value is known to be greater than value given
N - Presumptive evidence of presence of material.
O - Sampled, but analysis lost or not performed.
Q - Sample held beyond normal holding time.
T - Value reported is less than the criterion of detection.
U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
V - Analyte was detected in both sample and method blank.
X - Too few individuals to calculate SCI value.
Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate
Z - Colonies were too numerous to count (TNTC).

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Precision is reported as relative percent difference unless otherwise noted.

Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published test performance acceptance criteria.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

All sample collection performed by Bureau of Laboratories staff followed the field Standard Operating Procedures adopted by reference in Rule 62-160 FAC unless otherwise noted.

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Results for NELAP accredited tests contained in this report meet the requirements specified by the National Environmental Laboratory Accreditation Conference (NELAC). All samples received were in acceptable condition and met NELAC requirements unless otherwise noted. Results generated in this report pertain to the samples collected and submitted for analysis.

Sample Location: LAKE WALES , FL STE C-HS3 **Collection Date/Time: 11/29/2012 09:30 AM**

Field ID: STE Matri O

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
	O based on	ucralose			ug		

ef Method and omment
O based on Matri spi e accurac for sucralose could not be assessed due to high concentration of parameter in the spi ed sample

Sample Location: LAKE WALES , FL C-HS3 **Collection Date/Time: 11/29/2012 09:08 AM**

Field ID: PZ-03A-34 Matri O N

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Failures
	O based on	ucralose			ug		

ef Method and omment
O based on ualit control failure s obser ed

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: LC-001-2 (based on EPA 8321B)
Batch ID: P247512

Component	Result	Code	Units
ucralose			ug

Reference Method: DEP SOP: LC-001-2 (based on EPA 8321B)
Batch ID: P247513

Component	Result	Code	Units
ucralose			ug

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: DEP SOP: LC-001-2 (based on EPA 8321B)
Batch ID: P247512

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
ucralose				

Reference Method: DEP SOP: LC-001-2 (based on EPA 8321B)
Batch ID: P247513

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
ucralose				

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: DEP SOP: LC-001-2 (based on EPA 8321B)
Batch ID: P247512

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
	ucralose				

Quality Assurance Report
Precision

Reference Method: DEP SOP: LC-001-2 (based on EPA 8321B)
Batch ID: P247512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
	ucralose		pi e		
	ucralose				

Reference Method: DEP SOP: LC-001-2 (based on EPA 8321B)
Batch ID: P247513

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
	ucralose		pi e		
	ucralose				

ample, spi e and or laborator control sample precision is reported
eplicate spi e precision ma be reported when sample results are below uantifiable le els

Quality Assurance Report
Surrogates

Lab Sample ID: 1470942
Field Sample ID: PZ-03A-34

Reference Method		Surrogate	% Rec.	Pass/Fail	Control Limits
O	based on	ucralose d			

Lab Sample ID: 1470943
Field Sample ID: STE

Reference Method		Surrogate	% Rec.	Pass/Fail	Control Limits
O	based on	ucralose d			

Quality Assurance Report
Calibration Verification

Reference Method: DEP SOP: LC-001-2 (based on EPA 8321B)
Run ID: A48308
Included Lab Sample IDs: 1470942

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
ucralose				

Reference Method: DEP SOP: LC-001-2 (based on EPA 8321B)
Run ID: A48323
Included Lab Sample IDs: 1470943

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
ucralose				

ass ail determinations are made for each brac eting calibration erification chec
ontrol limits for initial calibration chec s ma be different from those for continuing chec s, depending on method re uirements
here the are different, both control limits are pro ided

Quality Assurance Report
Summary

Ref. Method		Analyte	LCS % Recovery	MS % Recovery	Precision		
					LCS	SMP	MS
O	based on	ucralose					
		ucralose					

Reference Method Descriptions

Method / NELAC Cert. #	Description	Associated Samples
O based on	nal sis of sucralose in water matrices b M M	,

Preparation and Analysis Log

Ref. Method		Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
O	based on			oor hai		M edd	
				oor hai		M edd	