FLORIDA DEPARTMENT OF HEALTH

Florida Onsite Sewage Nitrogen Reduction Strategies Study

Task C.25

C-HS3 Monitoring Data Summary Report No. 4

Progress Report

June 2013

4423-001

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In association with

SCHOOL OF MINES 1874 COLORADO

AET
Applied Environmental Technology

OTIS ENVIRONMENTAL CONSULTANTS, LLC

Florida Onsite Sewage Nitrogen Reduction Strategies Study

TASK C.25
PROGRESS REPORT

C-HS3 Monitoring
Data Summary Report No. 4

Prepared for:

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Division of Disease Control and Health Protection
Bureau of Environmental Health
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C-HS3 Monitoring
Data Summary Report No. 4

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 fourth C-HS3 monitoring and sampling event which was conducted May 20 through May 22, 2013. The corresponding sample event report was submitted as C-HS3 Sample Event Report No. 4, June 2013, 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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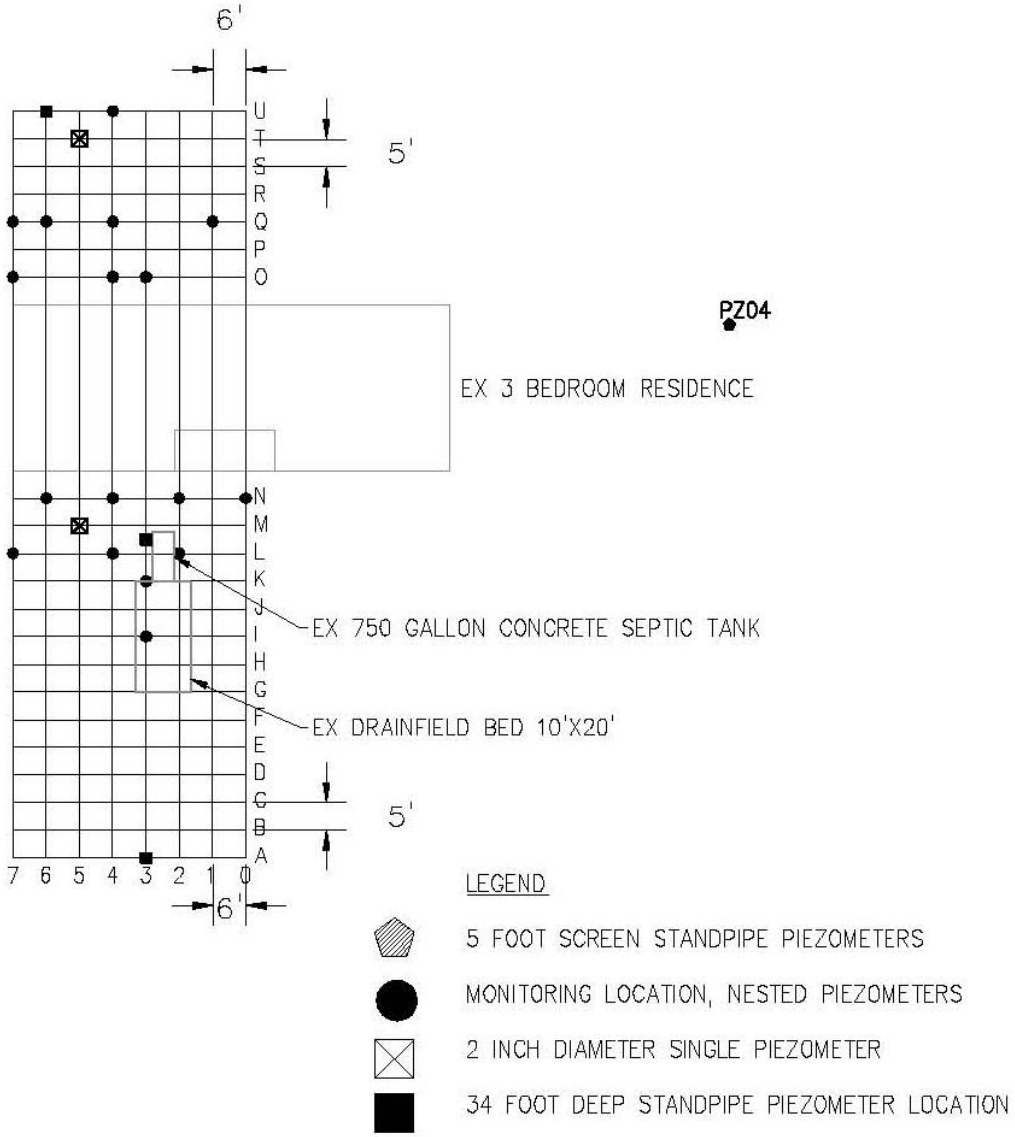

Figure 1
C-HS3 Monitoring Network

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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 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.

3.5 Water Quality Sample Collection and Analyses

Groundwater and septic tank effluent (STE samples) were collected May 20 through May 22, 2013 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 recorded 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-02N-21
- C-HS3-04O-17
- C-HS3-06Q-15
- C-HS3-04U-14
- C-HS3-06U-14

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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	Installed
	11/26/12 9:00	8,800.91	90.61
	2/25/13 9:00	15,980.66	78.90
	5/30/13 13:30	27,127.00	118.34

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

Table 3
Meteorological Data Daily Averages Measured
May 14 through May 22, 2013

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)	ET (in/d)
14-May-13	71.79	71.13	70.78	79.52	54.29	59	0	0	6.48	0.18
15-May-13	72.35	71.89	72.32	79.6	58.28	65	0	0	5.77	0.16
16-May-13	75.68	74.83	74.13	80.47	60.61	64	0	0	6.77	0.19
17-May-13	76.62	75.53	75.47	81.25	63.01	68	0	0	4.93	0.18
18-May-13	79.65	78.59	77.98	82.25	66.82	71	0	0	5.58	0.19
19-May-13	79.12	78.27	77.4	83.15	69.31	76	0	0	6.6	0.18
20-May-13	76.83	76.17	75.56	82.19	67.75	77	1.08	0.81	5.76	0.16
21-May-13	73.95	73.3	72.86	79.81	69.01	87	0.01	0.01	5.41	0.14
22-May-13	74.55	73.88	73.7	80.18	69.62	87	0.57	0.47	4.01	0.15

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4.2 Groundwater Levels

Water levels were measured within the standpipe piezometers on February 25, 2013 for this sampling event as summarized in Table 4. Figures 2, 3, 4 and 5 illustrate the surficial groundwater contours as measured within the standpipe piezometers during Sample Event 1 (August 28, 2012), Sample Event 2 (November 26, 2012), Sample Event 3 (February 25, 2013), and Sample Event 4 on (May 20, 2013), respectively. A summary of all recorded groundwater elevations taken at the standpipe piezometers is presented in Appendix C. 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 May 20, 2013

Identification	Water Table El[1] (ft)	Identification	Water Table El[1] (ft)
PZ01	DRY	PZ-04N-17	92.56
PZ02	92.24	PZ-04N-21	92.60
PZ03	92.49	PZ-06N-15	92.57
PZ04	DRY	PZ-06N-17	92.55
PZ05	92.68	PZ-06N-21	92.56
PZ-03A-15	92.73	PZ-03O-15	92.49
PZ-03A-17	92.73	PZ-03O-17	92.48
PZ-03A-21	92.73	PZ-03O-21	92.49
PZ-03A-34	92.67	PZ-04O-15	92.48
PZ-03I-15	92.64	PZ-04O-17	92.50
PZ-03I-17	92.63	PZ-04O-21	92.53
PZ-03I-21	92.69	PZ-07O-15	92.47
PZ-03K-15	93.02	PZ-07O-17	92.33
PZ-03K-17	93.03	PZ-07O-20	92.49
PZ-03K-21	93.07	PZ-01Q-13	92.45
PZ-02L-15	92.58	PZ-01Q-15	92.46
PZ-02L-17	92.58	PZ-01Q-19	92.45
PZ-02L-21	92.60	PZ-04Q-13	92.45
PZ-04L-15	92.59	PZ-04Q-15	92.45
PZ-04L-17	92.60	PZ-04Q-19	92.46
PZ-04L-21	92.46	PZ-06Q-13	92.44
PZ-07L-15	92.58	PZ-06Q-15	92.45
PZ-07L-17	92.58	PZ-06Q-19	92.39
PZ-07L-21	92.59	PZ-07Q-13	92.47
PZ-03ML-15	92.59	PZ-07Q-15	92.45
PZ-03ML-17	92.64	PZ-07Q-19	92.48
PZ-03ML-21	92.66	PZ-04U-12	92.42
PZ-00N-15	92.58	PZ-04U-14	92.42
PZ-00N-17	92.59	PZ-04U-18	92.41
PZ-00N-21	92.58	PZ-06U-12	92.41
PZ-02N-15	92.58	PZ-06U-14	92.39
PZ-02N-17	92.58	PZ-06U-34	92.39
PZ-02N-21	92.60	Staff gauge	92.05
PZ-04N-15	92.56		

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

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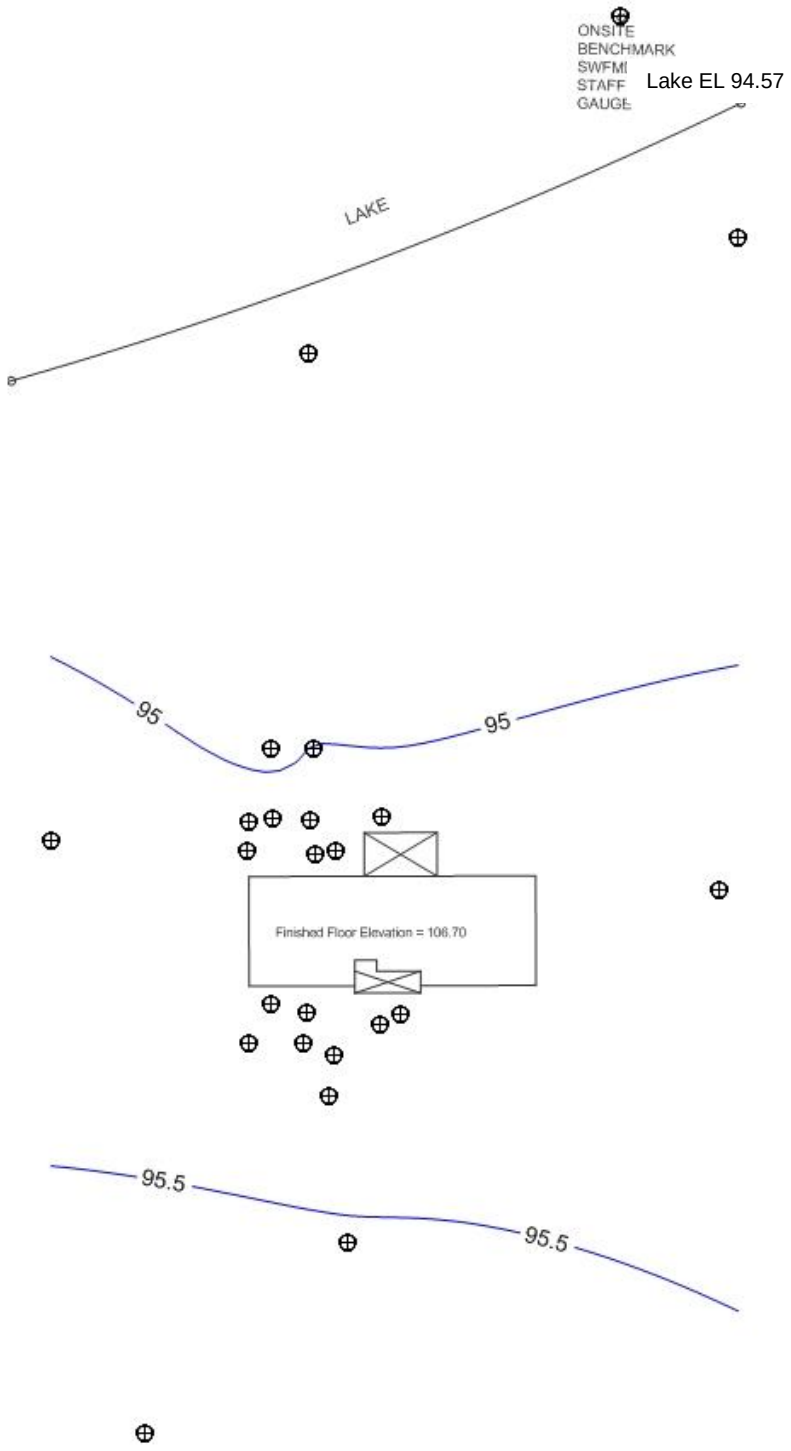

Figure 2
Surficial Groundwater Contours SE1, August 28, 2012

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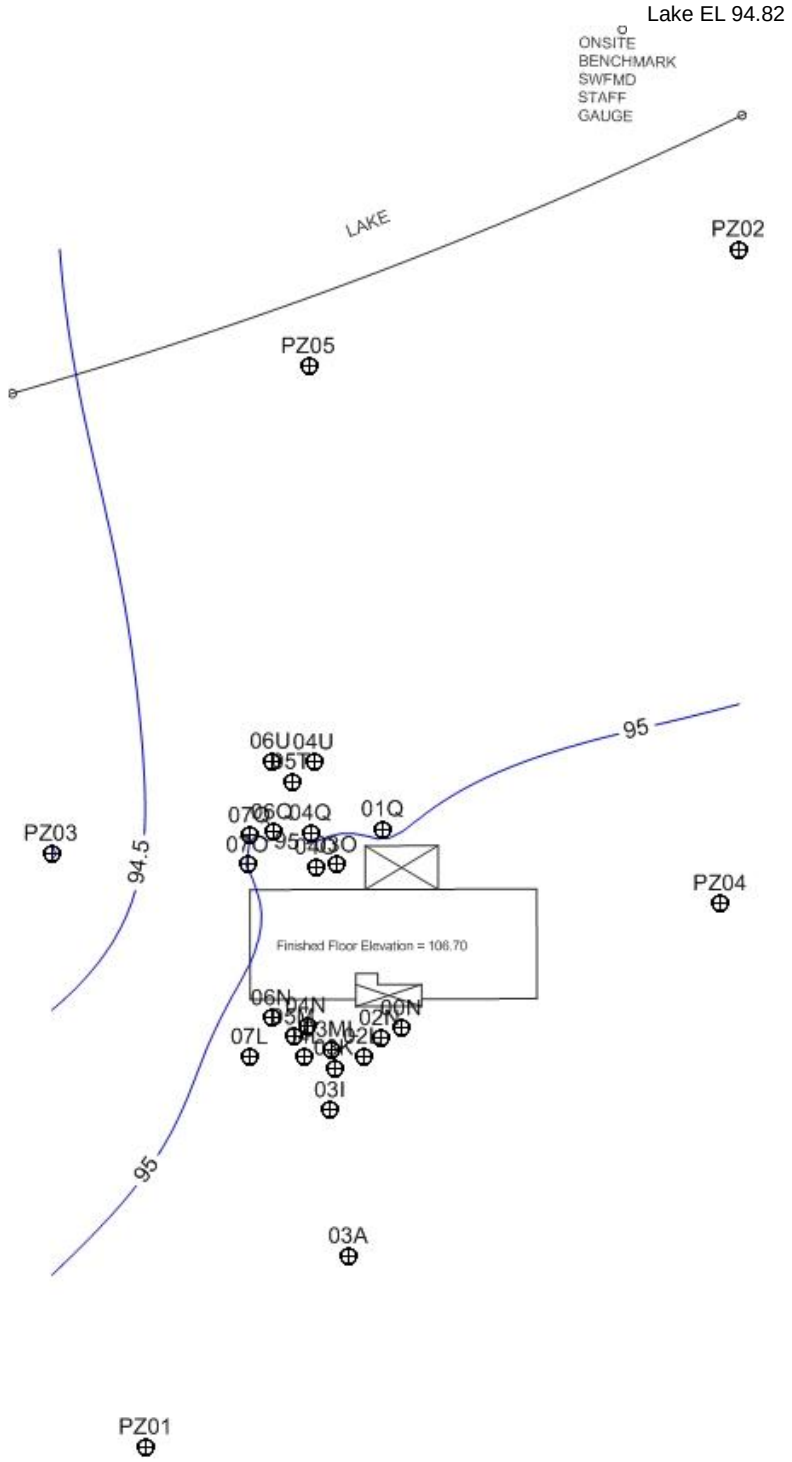

Figure 3
Surficial Groundwater Contours SE2, November 26, 2012

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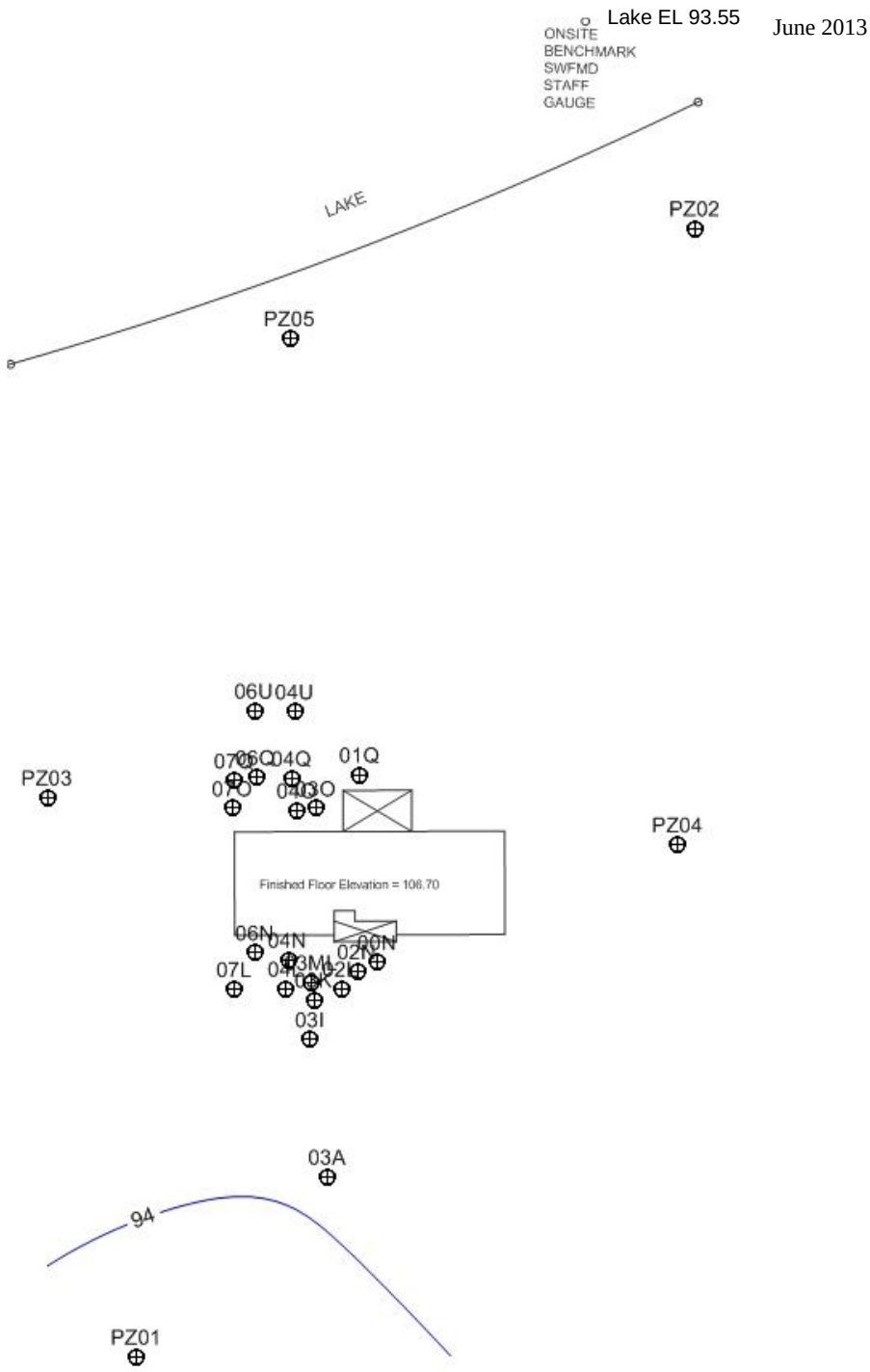

Figure 4
Surficial Groundwater Contours SE3, February 25, 2013

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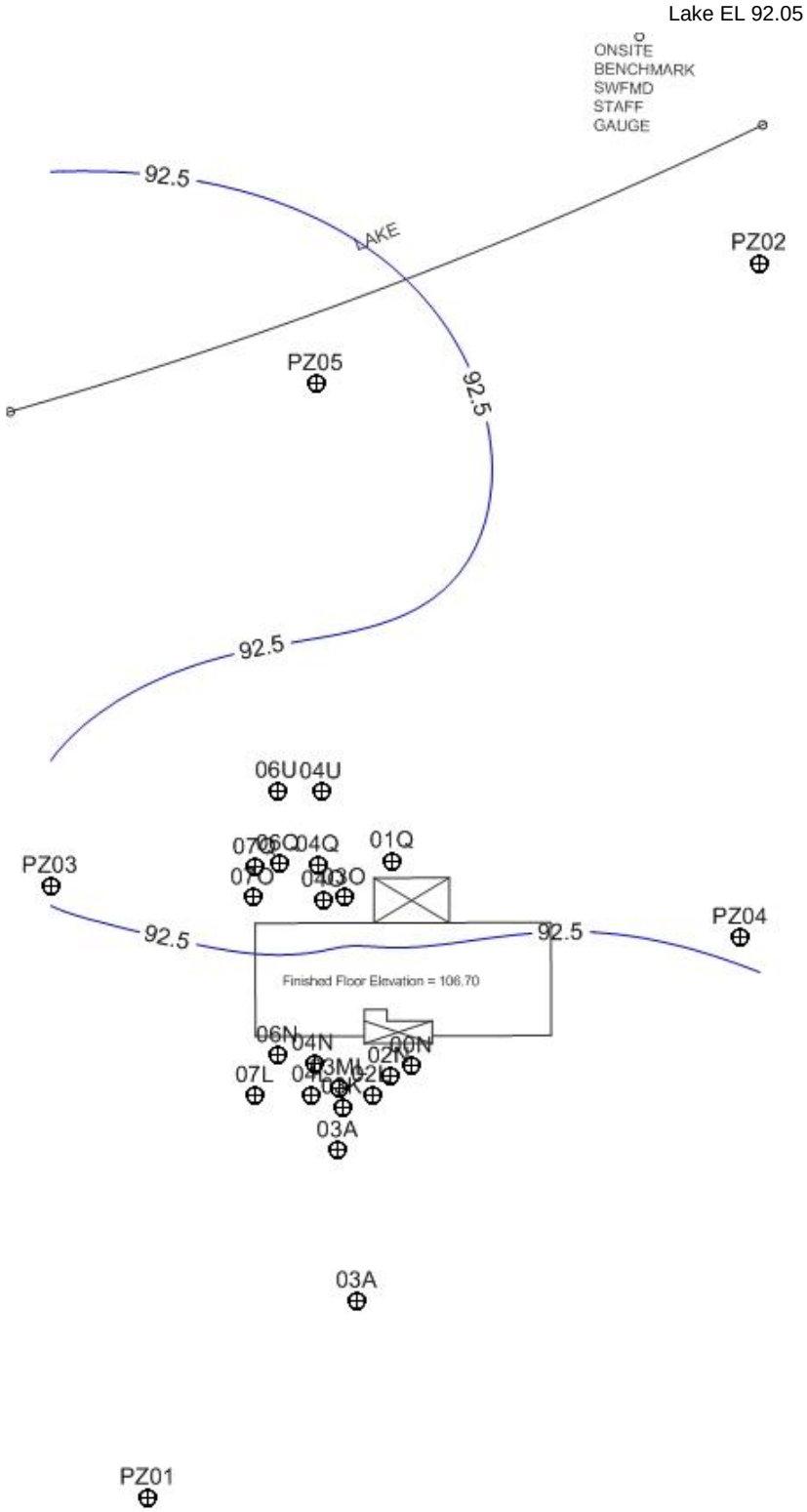

Figure 5
Surficial Groundwater Contours SE4, May 20, 2013

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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 D. 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 6 and 7 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 chloride (Figure 7).

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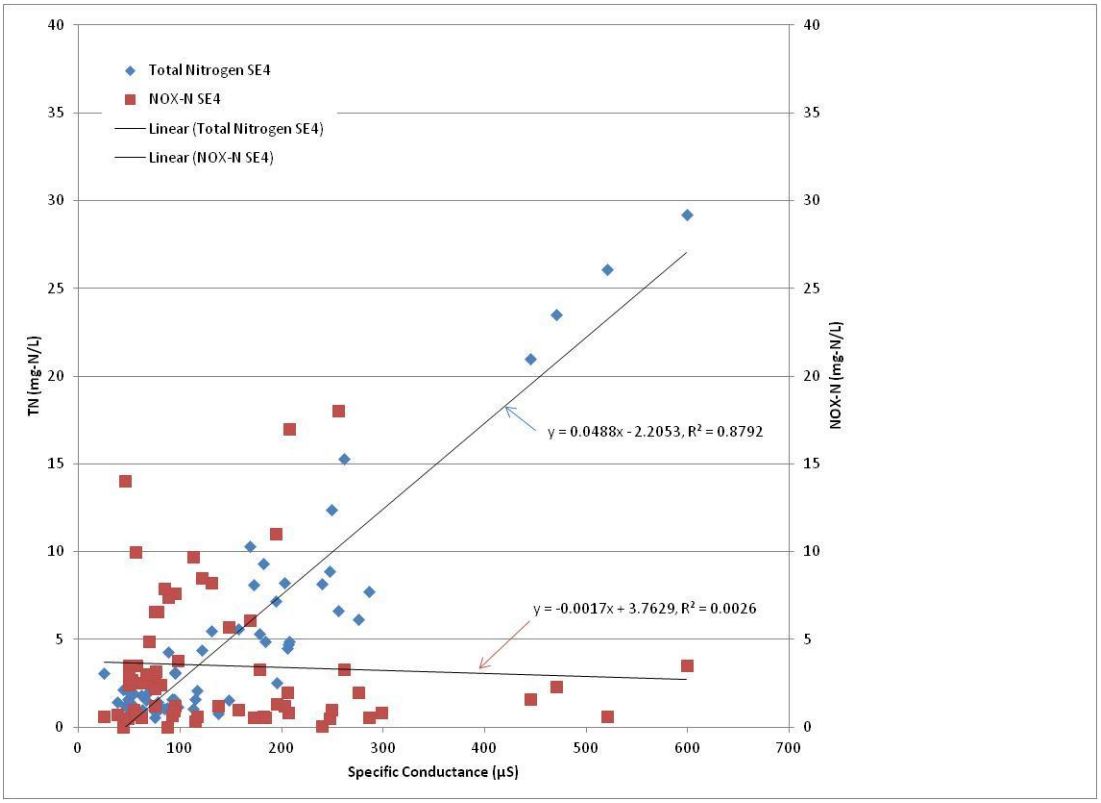

Figure 6
Correlation Between the Specific Conductance (uS) and the Concentrations of Total Nitrogen (mg-N/L) and NOX (mg-N/L)

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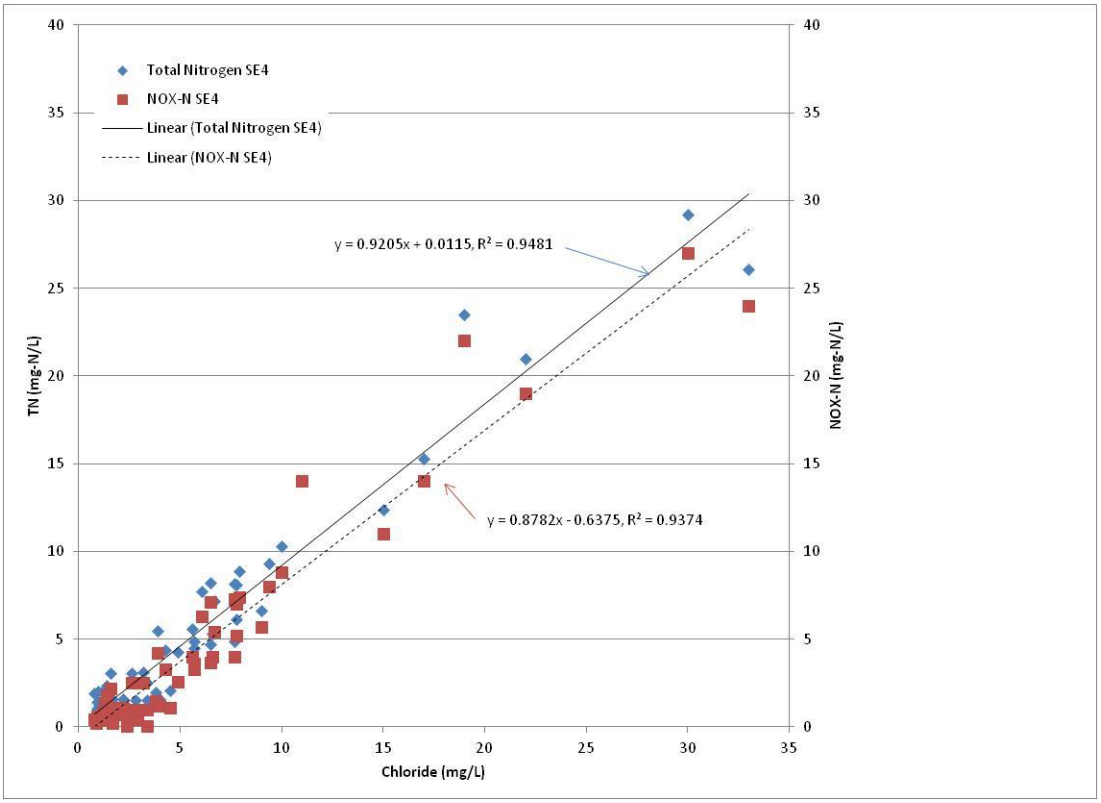

Figure 7
Correlation Between Chloride (mg/L) and the Concentrations of Total Nitrogen (mg-N/L) and NOX (mg-N/L)

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), 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. 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. 4 are listed in Table D.1 of Appendix D. The summary of the water quality is presented in Table E.1 of Appendix E. The laboratory report containing the raw analytical data is included in Appendix F.

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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 8, 9, 10, and 11. 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 May 2013 are presented in Figures 8 through 10. 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 11 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 8) appear to show the plume to be confined in a northwesterly direction from the drainfield. The middle piezometers (Figure 9) again seem to indicate a high NOX concentration northwest of the system, downgradient from the house. The deeper piezometers (Figure 10) 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 12 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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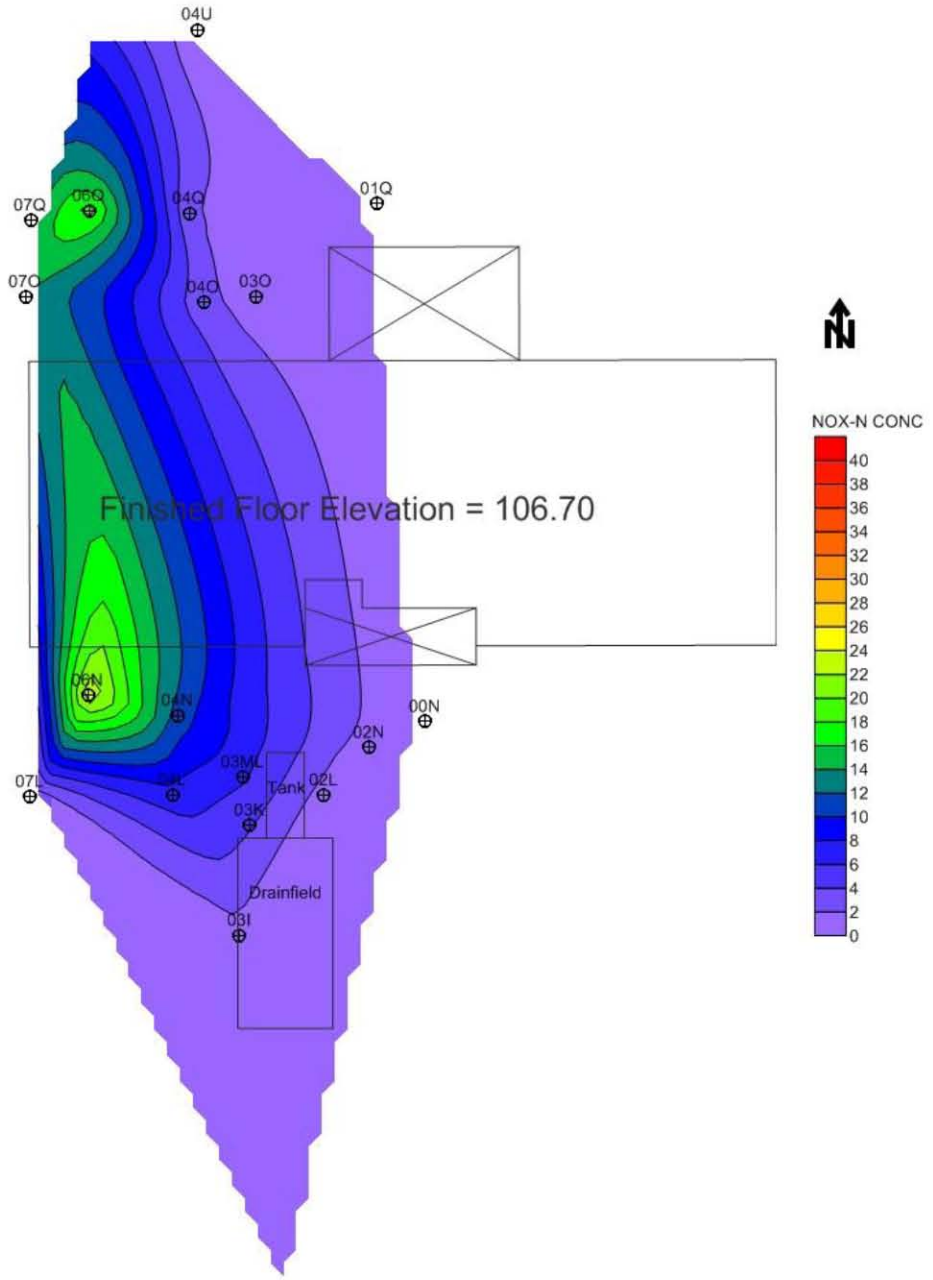

Figure 8
Shallow Elev 90-95.6 ft above MSL (May 2013 Sample Event)
Schematic (using Surfer) illustrating NOX concentrations in the subsurface

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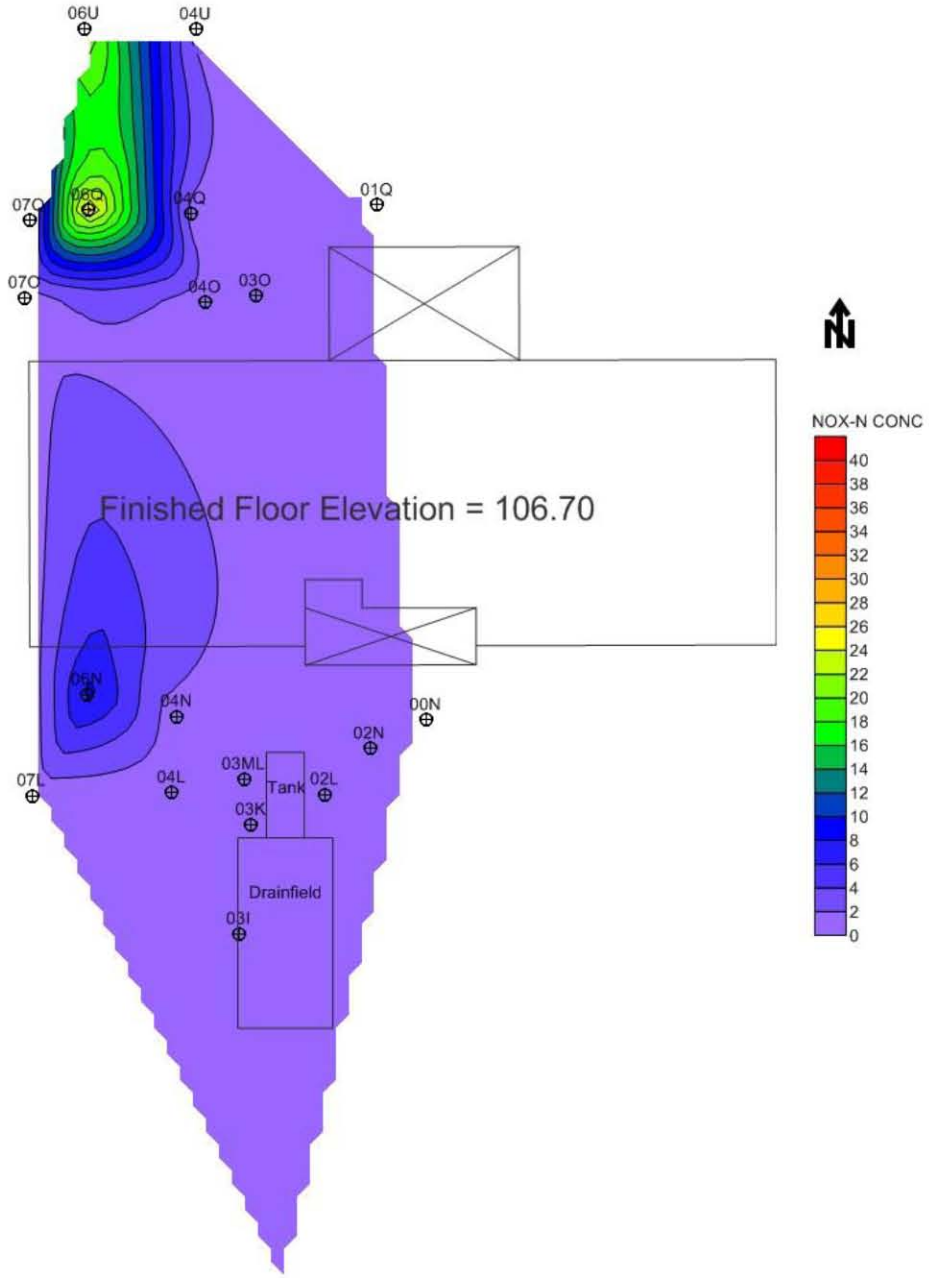

Figure 9
Elev 87-90 ft above MSL (May 2013 Sample Event)
Schematic (using Surfer) illustrating NOX concentrations in the subsurface

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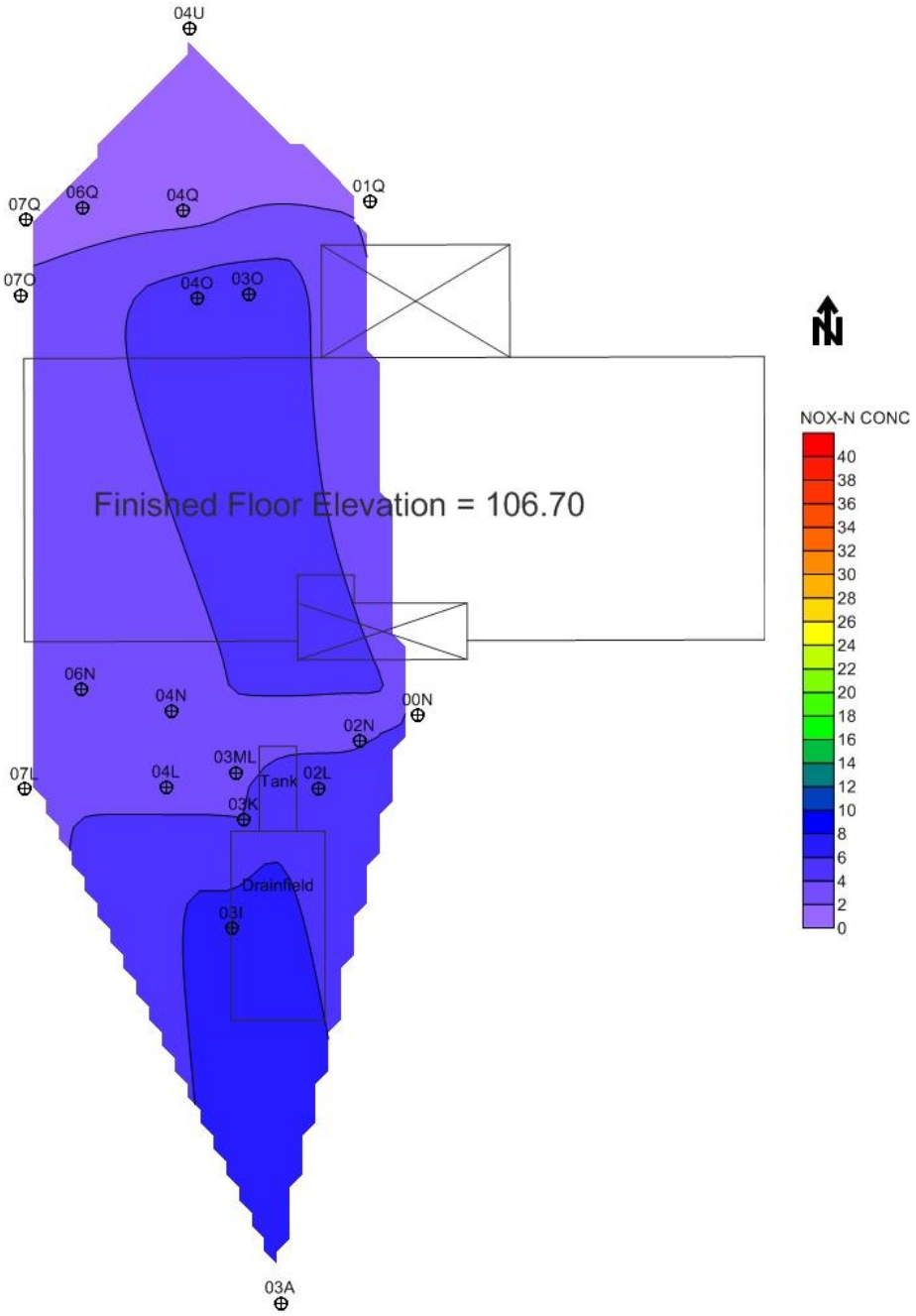

Figure 10
Elev 83-87 ft above MSL (May 2013 Sample Event)
Schematic (using Surfer) illustrating NOX concentrations in the subsurface

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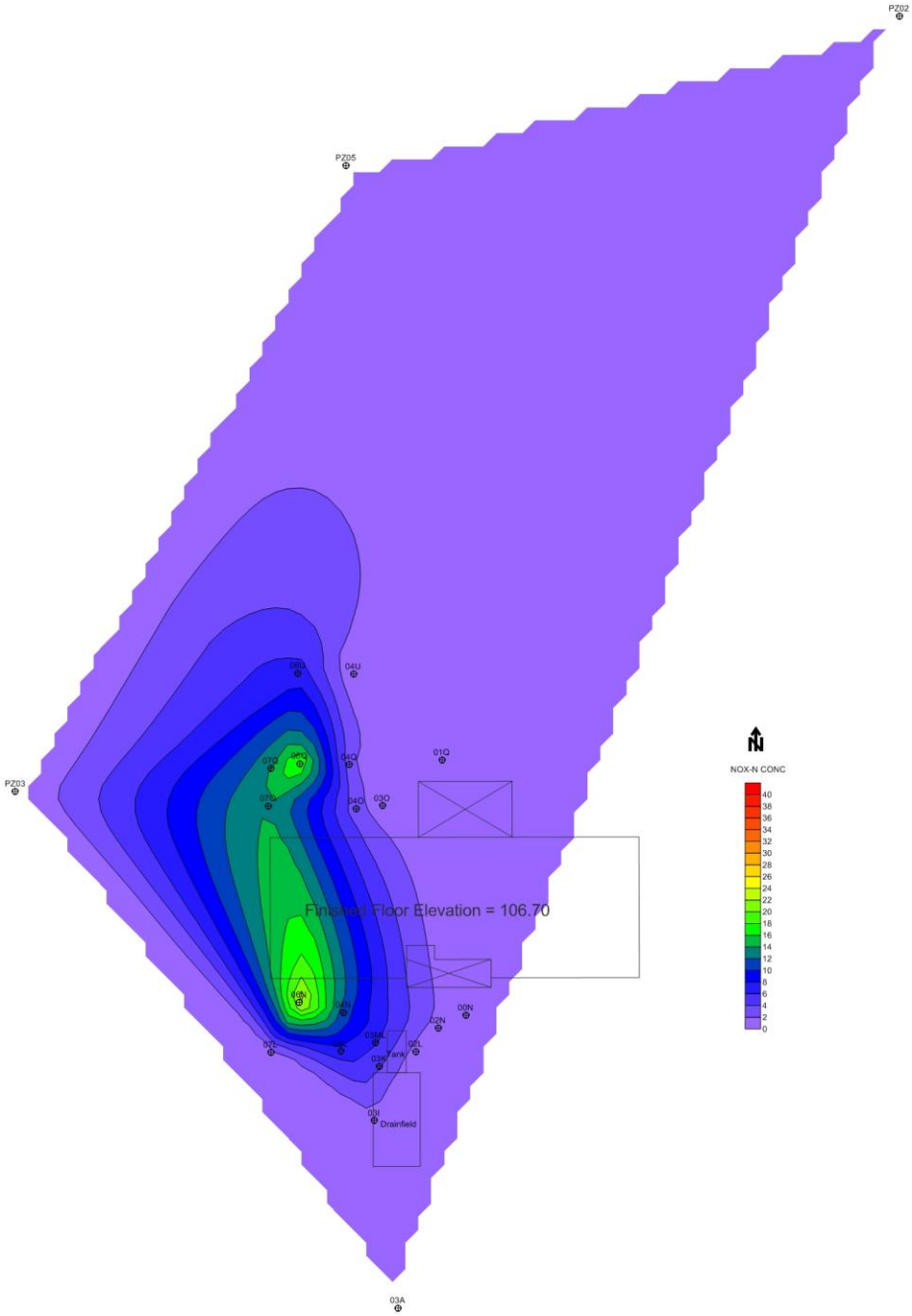

Figure 11
Shallow including Background Elev 90-95.6 ft above MSL
(May 2013 Sample Event)Schematic (using Surfer) illustrating NOX concentrations in the subsurface

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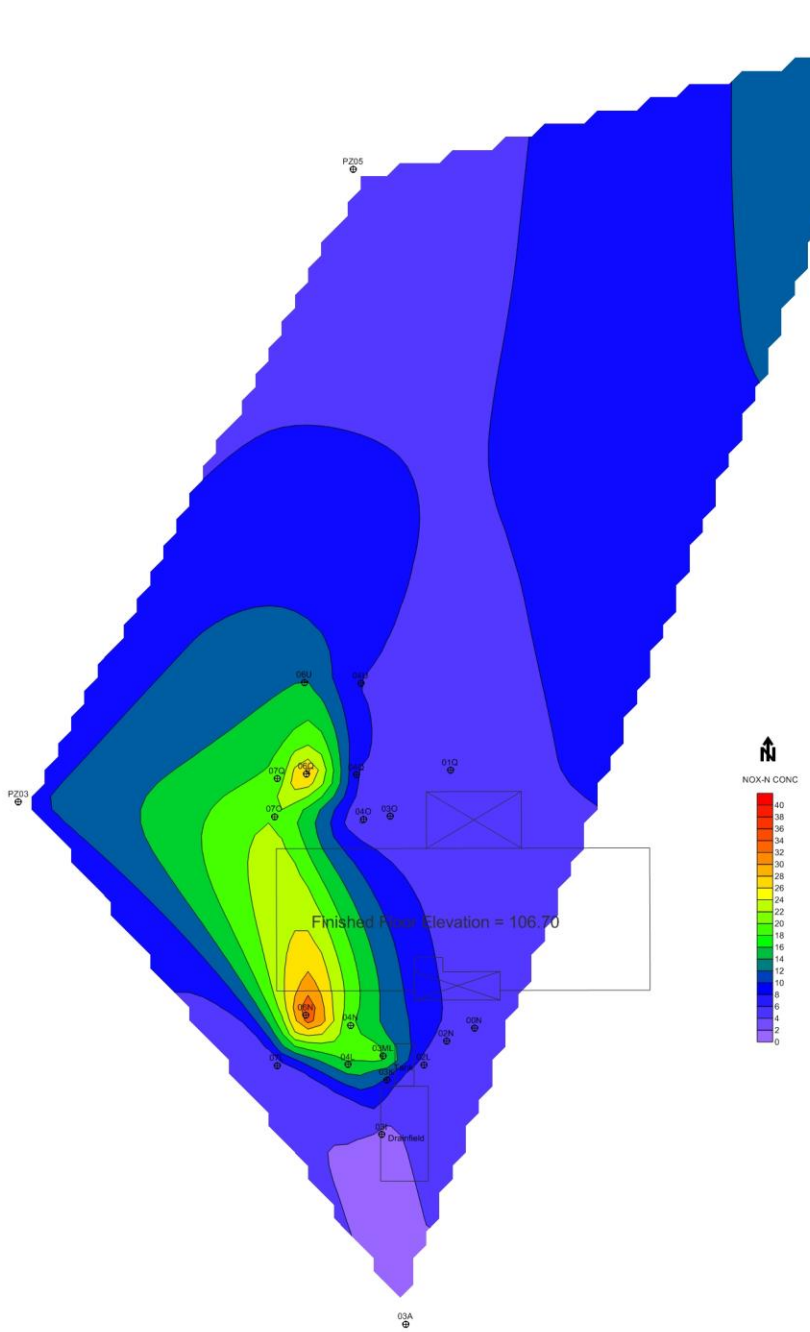

Figure 12
Shallow including Background Elev 90-95.6 ft above MSL
(May 2013 Sample Event)
Schematic (using Surfer) illustrating Specific Conductance concentrations in the subsurface

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5.0 C-HS3 Data Summary Report No. 4: Summary and Recommendations

5.1 Summary

The results of the data collected to date have allowed for estimations of groundwater flow, gradient and velocity, and provided additional insights into the general trend of the NOX plume. Results of Sample Event No. 4 indicate that:

- Although the groundwater levels fluctuate, the direction of flow remains relatively constant.
- There are small variations in field parameters over the site with correlations between field parameters and total nitrogen and NOX concentrations identified.
- The nitrogen plume appears to be flowing in a north-northwesterly direction and similar to the groundwater contours.
- Little seasonal variation in groundwater flow direction was observed.

5.2 Conclusions

Sample Event 4 was the last funded sample event for the C-HS3 monitoring network. Further analysis of the results obtained at this site will occur as Task C results are compiled and summarized for use in Task D. The insight gained from monitoring the C-HS3 plume will provide information needed for the development of the groundwater model in Task D.

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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: Weather Station Data

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Table B.1
Daily Recorded Meteorological Data
Frostproof, FL

Period	60cm T avg (F)	60cm T min (F)	60cm T max (F)	2m T avg (F)	2m T min (F)	2m T max (F)	10m T avg (F)	10m T min (F)	10m T max (F)	Tsoil avg - 10cm (F)	Tsoil min (avg) - 10cm (F)	Tsoil max (avg) - 10cm (F)	2m DewPt avg (F)	RelHum avg 2m (%)	2m Rain tot (in)	2m Rain max over 15min (in)	10m Wind avg (mph)	10m Wind min (mph)	10m Wind max (mph)	W Dir avg 10m (deg)
1-Mar-13	55.6	48.81	61.65	54.97	49.59	59.05	55.26	51.22	58.5	69.37	68.58	71.04	42.41	64	0	0	7.01	0.53	18.17	310
2-Mar-13	51.5	36.92	61.84	50.87	40.1	58.62	51.64	45.36	57.25	67.68	66.67	68.52	36.64	60	0	0	8.32	0.4	29.7	319
3-Mar-13	46.1	35.31	57.96	45.44	36.33	54.77	45.73	37.41	53.56	65.74	64.35	66.83	33.16	64	0	0	8.8	1.53	24.87	318
4-Mar-13	49.2	31.06	70.21	49.16	33.79	65.68	50.79	37.94	66.18	64.98	62.91	67.19	30.21	55	0	0	4.83	0.17	16.1	43
5-Mar-13	60	37.77	81.1	59.84	40.44	77.85	60.67	46.58	76.01	66.09	63.52	69.04	46.09	65	0	0	6.9	0.47	18.13	216
6-Mar-13	59.6	46.22	71.49	58.71	46.8	69.13	58.5	48	67.17	68	67.08	69.4	42.32	61	0	0	10.68	1.7	27.93	284
7-Mar-13	53.6	41.2	72.28	52.64	41.42	67.84	53.6	42.02	67.73	66.88	64.89	68.9	37.09	57	0	0	6.01	0.07	17.33	358
8-Mar-13	58.1	37.18	79.32	57.34	39.56	75.9	58.32	42.65	75.15	67.05	64.83	69.39	40.43	62	0	0	5	0.07	13.33	3
9-Mar-13	61.5	46.38	76.98	60.98	48.63	74.16	61.42	50.94	72.57	67.87	65.95	69.93	48.24	66	0	0	6.63	0.13	17.5	49
10-Mar-13	65	51.21	80.74	64.32	52.75	78.26	64.18	54.14	76.64	69.09	67.14	71.49	53.63	71	0	0	7.49	1.5	21.83	78
11-Mar-13	67.1	53.37	80.06	66.94	55	77.97	67.04	56.57	76.87	69.71	68.05	71.29	56.86	72	0	0	7.16	1.43	20.67	139
12-Mar-13	65	53.82	72.41	64.8	53.8	70.79	64.85	54.21	70.47	70.09	69.46	70.63	61.21	88	0.25	0.08	8.92	0.73	23.37	222
13-Mar-13	61.2	49.39	77.74	60.7	50.36	74.84	61.02	51.19	73.67	68.3	66.83	69.46	41.84	57	0	0	8.12	1.4	22.03	338
14-Mar-13	56.1	43.87	71.71	55.48	45.63	68.67	55.91	47.19	67.59	67.18	65.53	68.7	35.4	53	0	0	7.66	0.37	21.8	3
15-Mar-13	56.3	41.37	74.91	56.03	43.15	70.59	57.75	45.32	70.32	66.91	64.9	69.15	38.44	58	0	0	5.55	0.3	44.57	21
16-Mar-13	60.1	40.46	81.36	60.22	42.63	77.38	63.09	50.52	76.93	67.66	65.01	70.57	44.84	64	0	0	4.59	0.07	15	233
17-Mar-13	62.8	44.78	77.94	62.75	47.07	75.27	64.82	52.79	74.64	68.45	66.36	70.54	52.88	73	0	0	4.32	0	18.73	143
18-Mar-13	68.9	59.65	79.34	68.62	61.16	78.15	68.64	62.46	77.29	69.73	68.54	70.93	62.62	82	0.02	0.01	6.85	0	28.9	186
19-Mar-13	71.2	61.14	89.37	70.42	62.37	85.05	70.75	62.91	84.63	70.94	69.26	73.2	62.29	79	0	0	3.8	0	14.67	187
20-Mar-13	66.9	58.71	76.48	66.55	59.31	74.98	66.59	59.95	74.03	71.36	70.65	72.16	61.56	85	0	0	6	0	25.33	274
21-Mar-13	60.3	45.81	75.49	59.61	49.05	71.87	60.05	50.34	70.75	70.38	68.79	71.94	40.68	57	0.01	0.01	6.66	0.7	25.23	328
22-Mar-13	60.5	39.63	80.22	60.3	42.03	76.59	60.9	45.68	75.16	69.41	67.23	71.49	51.89	77	0.36	0.17	6.54	0.87	18.2	65
23-Mar-13	73.5	62.56	87.78	73.01	62.71	86.4	72.66	62.71	84.92	71.35	69.75	73.4	66.77	83	0	0	6.82	0.2	26.87	188
24-Mar-13	74.2	69.04	85.03	74.21	69.48	84.06	73.95	69.6	82.62	72.62	71.73	73.56	69.76	87	0.04	0.03	10.16	0.6	30.73	222
25-Mar-13	64.5	50.36	75.67	63.77	50.7	74.89	63.52	51.62	71.46	71.94	70.81	73.02	45.01	58	0	0	9.21	1.67	28.37	302
26-Mar-13	53.4	43.48	63.14	52.42	43.83	60.62	52.25	44.67	58.64	69.42	68.07	70.72	31.54	47	0	0	11	2.13	28.13	324
27-Mar-13	51.6	35.35	67.98	50.56	37.62	64.24	50.87	39.59	63.43	68.01	66.04	69.93	32.5	54	0	0	6.48	0.27	16	344
28-Mar-13	56.2	37.95	75.99	55.5	40.59	71.29	56.6	43.59	71.65	68.11	65.8	70.59	34.9	54	0	0	5.04	0.17	24.2	25
29-Mar-13	60.3	43.14	77.63	60.02	46.71	73.78	61.45	50.36	73.49	68.83	66.58	71.37	39.65	54	0	0	5.49	0.33	18.87	50
30-Mar-13	64	44.91	80.73	63.43	46.18	77.88	64.55	50.59	77.04	69.81	67.33	72.54	48.61	63	0	0	5.49	0.33	15.67	175
31-Mar-13	70.2	55.26	83.66	69.35	56.66	81.1	69.31	58.71	80.19	71.47	69.33	73.9	53.83	60	0	0	6.17	0.1	27.43	199

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

Period	60cm T avg (F)	60cm T min (F)	60cm T max (F)	2m T avg (F)	2m T min (F)	2m T max (F)	10m T avg (F)	10m T min (F)	10m T max (F)	Tsoil avg - 10cm (F)	Tsoil min (avg) - 10cm (F)	Tsoil max (avg) - 10cm (F)	2m DewPt avg (F)	RelHum avg 2m (%)	2m Rain tot (in)	2m Rain max over 15min (in)	10m Wind avg (mph)	10m Wind min (mph)	10m Wind max (mph)	W Dir avg 10m (deg)
1-Apr-13	72.4	61.52	87.28	71.77	62.31	84.76	71.49	63.21	82.4	72.82	71.02	74.88	61.8	73	0	0	7.08	0.2	22.9	242
2-Apr-13	72.4	60.22	88.07	71.11	60.66	84.16	70.87	61.32	83.77	73.89	71.98	76.14	59.6	72	0	0	4.66	0.07	23.03	7
3-Apr-13	73.4	61.54	87.28	72.85	62.89	85.03	72.48	63.28	83.55	74.59	72.82	76.5	63.64	76	0.39	0.29	6.88	0.1	18.33	126
4-Apr-13	68	65.23	70.27	67.92	65.19	70.23	67.94	65.34	70.09	73.61	72.59	75.42	66.34	95	1.29	0.1	8.25	0	25.73	187
5-Apr-13	67.9	60.73	77.85	67.4	60.46	76.39	67.35	60.6	75.07	72.39	71.55	73.44	62.06	84	0.11	0.04	8.04	1.07	28.03	279
6-Apr-13	66.6	54.61	80.65	65.58	54.73	77.99	65.19	55.26	76.5	72.12	70.18	74.14	55.83	73	0	0	9	1.57	34.23	37
7-Apr-13	69.7	58.19	83.43	68.92	58.82	80.62	68.64	59.72	78.8	72.99	71.02	75.24	59.19	74	0	0	6.61	0.83	18.8	69
8-Apr-13	71.9	59.02	85.23	71.24	60.04	81.99	70.98	61.27	80.56	74.23	71.92	76.89	59.25	69	0	0	5.69	0.33	21.8	99
9-Apr-13	71.2	59.95	85.23	70.86	61.23	82.72	70.7	62.06	80.85	74.87	72.88	77.02	62.35	76	0	0	6.82	0.7	20.33	100
10-Apr-13	74.5	59.04	89.67	73.86	60.93	86.77	73.51	61.7	85.51	75.42	72.95	78.04	64.58	75	0	0	6.62	0.77	18.43	107
11-Apr-13	77.4	69.31	88.88	76.95	69.62	86.92	76.33	69.58	85.32	77.14	75.47	79.07	69.81	80	0.02	0.02	9.87	2.7	24.33	156
12-Apr-13	77.5	71.73	86.07	77.5	72.55	85.39	77	72.37	84.13	77.27	76.41	78.15	71.14	82	0	0	9.2	0	27.1	198
13-Apr-13	77.6	68.14	90.46	76.75	68.97	86.77	76.51	69.13	85.37	77.68	76.19	79.39	67.74	76	0	0	3.97	0	17	355
14-Apr-13	77.1	67.39	91.78	76.56	68.04	89.87	76.02	68.13	88.57	78.27	76.86	80.01	68.63	78	0.01	0.01	7.77	0.6	31.7	140
15-Apr-13	76.3	62.91	93.7	75.65	63.73	90	75.36	65.25	88.18	78.18	76.33	80.06	65.92	74	0	0	5.5	0	14.37	137
16-Apr-13	77.1	67.24	90.79	76.5	67.55	88.36	75.91	67.71	85.82	79.1	77.22	81.23	68.12	77	0	0	8.17	0.83	21.9	59
17-Apr-13	75	64.98	87.39	74.4	66.02	84.94	73.95	66.22	83.12	79.24	77.32	81.21	64.43	74	0	0	7.44	1.47	20.3	62
18-Apr-13	77.4	65.37	91.81	76.56	66.27	87.67	76.1	66.63	86.47	79.56	77.38	81.79	66.72	74	0	0	6.18	0.17	16	115
19-Apr-13	78.5	69.98	93.09	77.92	70.57	90.12	77.38	70.5	87.82	80.27	78.64	81.9	69.29	77	0	0	8.09	1.3	24.43	172
20-Apr-13	71.5	62.44	82.04	70.59	62.04	78.89	70.22	62.11	77.16	79.54	78.48	80.55	65.34	84	0	0	7.54	0.33	17.03	32
21-Apr-13	70.8	60.57	85.51	69.85	60.13	82.22	69.54	60.21	81.41	77.65	76.05	79.18	65.62	87	0.44	0.32	5.79	0.27	16	34
22-Apr-13	71.3	66.36	82.29	70.59	66.24	78.71	70.32	66.16	77.72	77.74	76.96	78.67	67.13	89	0.07	0.02	6.28	0.13	23.6	15
23-Apr-13	72.4	62.65	84.81	71.55	62.89	82.26	70.91	63.34	80.04	77.48	75.81	79.39	62.69	76	0	0	9.24	2.07	21.57	44
24-Apr-13	73.3	59.92	90.32	72.12	60.26	86.27	71.76	60.76	85.51	77.92	75.51	80.6	60.95	72	0	0	5.94	0.43	16.47	79
25-Apr-13	74.4	59.32	90.41	73.88	60.62	86.34	74.44	65.59	85.19	78.55	76.3	80.76	60.53	67	0	0	4.41	0	14.23	107
26-Apr-13	74.5	59.38	89.71	73.96	60.8	87.19	74.83	65.71	84.92	78.99	76.57	81.52	62.41	70	0	0	5.58	0.07	19.63	82
27-Apr-13	74.1	62.6	85.37	73.54	64.89	83.5	73.01	66.24	81.48	79.37	77.59	81.21	65.65	78	0	0	6.91	0.3	21.4	67
28-Apr-13	74.4	60.96	88.2	73.94	62.92	85.24	73.28	63.95	83.12	79.66	77.11	82.36	61.15	68	0	0	7.88	0.63	20.7	120
29-Apr-13	74.2	60.89	89.53	73.66	62.46	86.72	73.18	63.63	84.92	79.83	77.68	81.95	64.11	75	0	0	6.33	0.03	31	151
30-Apr-13	74.9	66.43	93.13	74.14	67.69	89.04	73.71	68.72	88.39	80.36	78.39	82.67	66.76	81	0.07	0.03	5.59	0	24.6	125

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

Period	60cm T avg (F)	60cm T min (F)	60cm T max (F)	2m T avg (F)	2m T min (F)	2m T max (F)	10m T avg (F)	10m T min (F)	10m T max (F)	Tsoil avg - 10cm (F)	Tsoil min (avg) - 10cm (F)	Tsoil max (avg) - 10cm (F)	2m DewPt avg (F)	RelHum avg 2m (%)	2m Rain tot (in)	2m Rain max over 15min (in)	10m Wind avg (mph)	10m Wind min (mph)	10m Wind max (mph)	W Dir avg 10m (deg)
1-May-13	69.7	65.84	78.78	69.74	65.89	77.99	69.36	65.62	76.87	78.61	76.89	80.83	68.26	95	1.07	0.21	4.95	0.73	21.13	81
2-May-13	70.2	63.99	75.99	69.95	64.08	74.84	69.47	63.82	74.07	76.71	75.6	77.85	67.76	93	0.44	0.08	6.14	0.83	19.17	117
3-May-13	72.4	62.33	86.7	71.66	63.37	83.97	71.3	64.42	82	77.25	75.67	78.91	66.87	86	0.01	0.01	5.5	0.13	25.4	317
4-May-13	74	66.79	85.75	73.38	67.03	83.82	72.49	66.63	81.61	77.9	76.71	79.39	66.18	80	0	0	7.47	0.87	24.1	269
5-May-13	69.3	56.1	81.05	68.71	58.24	78.17	68.31	60.28	76.39	77.76	76.44	79.23	53.86	64	0	0	8.32	1.23	22.9	305
6-May-13	68.3	52.14	81.57	67.74	54.19	79.29	67.56	58.82	77.2	77.38	75.67	79.47	55.65	68	0	0	7.28	0.73	28.57	260
7-May-13	66.8	50.61	83.25	66.4	52.38	80.53	67.21	57.15	78.26	76.94	74.86	79.03	55.46	71	0	0	6.22	0.2	19.8	263
8-May-13	70.4	56.34	84.92	69.54	57.96	82.26	69.6	58.78	80.28	77.3	75.4	79.38	58.73	72	0	0	5.79	0.17	16.33	255
9-May-13	73	54.1	90	72.59	57.06	86.11	73.16	61.38	86.4	78.12	75.47	81.05	58.34	66	0.02	0.02	4.16	0.13	16.33	17
10-May-13	78.3	64.9	94.42	77.61	66	91.17	77.07	66.61	89.8	79.49	77.25	82.06	66.84	73	0	0	6.26	0.37	36.17	157
11-May-13	77.5	67.26	90.39	77.05	67.73	88.02	76.74	68.11	86.36	80.32	78.51	81.93	69.02	78	0	0	6.35	0.5	24.1	240
12-May-13	77.8	65.95	90.77	77.36	68.14	88.68	76.8	69.91	86.79	80.62	78.96	82.65	70	80	0.01	0.01	6.59	0.57	21.73	253
13-May-13	73.4	62.46	87.19	72.97	64.44	83.61	72.75	65.61	81.95	80.01	78.48	81.84	60.88	70	0	0	6.27	0.83	16.37	330
14-May-13	71.8	56.73	84.88	71.13	59.11	82.22	70.78	60.24	80.76	79.52	77	82.17	54.29	59	0	0	6.48	0.2	19.2	55
15-May-13	72.4	54.05	86.31	71.89	56.48	82.94	72.32	62.49	81.52	79.6	76.96	82.04	58.28	65	0	0	5.77	0.13	18.77	81
16-May-13	75.7	65.23	87.49	74.83	66.65	84.78	74.13	66.85	82.81	80.47	77.92	83.34	60.61	64	0	0	6.77	0.07	19.23	134
17-May-13	76.6	59.86	91.94	75.53	61.79	87.78	75.47	64.9	86.7	81.25	78.53	83.98	63.01	68	0	0	4.93	0.07	21.97	103
18-May-13	79.7	65.34	95.56	78.59	66.52	91.35	77.98	66.94	90.41	82.25	79.5	85.15	66.82	71	0	0	5.58	0.13	19.57	111
19-May-13	79.1	69.85	95.67	78.27	70.45	91.62	77.4	70.14	89.33	83.15	81.05	85.3	69.31	76	0	0	6.6	0.5	21.97	156
20-May-13	76.8	65.89	92.55	76.17	66.29	89.38	75.56	66.24	87.42	82.19	78.4	85.71	67.75	77	1.08	0.81	5.76	0	38.4	111
21-May-13	74	66.04	85.73	73.3	66.78	82.04	72.86	66.83	80.98	79.81	78.08	81.57	69.01	87	0.01	0.01	5.41	0.2	31.17	102
22-May-13	74.6	66.18	87.93	73.88	67.15	84.31	73.7	67.3	83.34	80.18	78.4	81.82	69.62	87	0.57	0.47	4.01	0	18.93	91
23-May-13	79.3	67.23	94.62	78.46	68.11	90.97	78.25	68.27	89.82	80.82	78.39	83.61	69.87	78	0	0	4.17	0	14.07	335
24-May-13	81.1	68.27	96.42	80.5	69.55	93.56	80.06	70.18	91.9	81.93	79.54	84.56	66.53	68	0	0	5.5	0.23	17.47	337
25-May-13	78	66.9	89.11	77.53	67.86	86.7	76.78	67.89	84.51	82.53	80.42	84.97	65.1	68	0	0	8.06	0.13	19.97	69
26-May-13	74	58.87	87.37	73.36	61.29	84.81	73.07	63.48	83.17	82.07	79.56	84.51	60.1	66	0	0	5.86	0.2	18.37	70
27-May-13	75.4	61.95	88.05	74.94	63.59	86.02	74.38	64.44	83.91	82.16	79.74	84.65	63.36	70	0	0	7.12	0.83	29.37	79
28-May-13	75.1	66.47	87.17	74.97	68.11	85.28	74.46	68.54	83.52	81.86	80.64	82.98	69.63	84	0.29	0.23	7.94	0.87	43.5	94
29-May-13	73.4	69.78	80.91	73.22	70.14	79.11	72.7	69.91	77.97	80.71	79.75	81.86	70.94	93	0.47	0.21	6.63	1.2	29.4	83
30-May-13	75.8	70.48	82.47	75.79	70.74	81.86	75.2	70.56	80.94	80.41	79.09	81.97	70.32	84	0.05	0.02	9.46	0.93	37.87	93
31-May-13	76.9	70.59	85.01	76.74	71.08	83.14	76.14	70.9	81.45	80.32	78.73	81.9	70.31	81	0.07	0.04	8.66	1.93	23.27	93

Appendix C: Groundwater Elevations

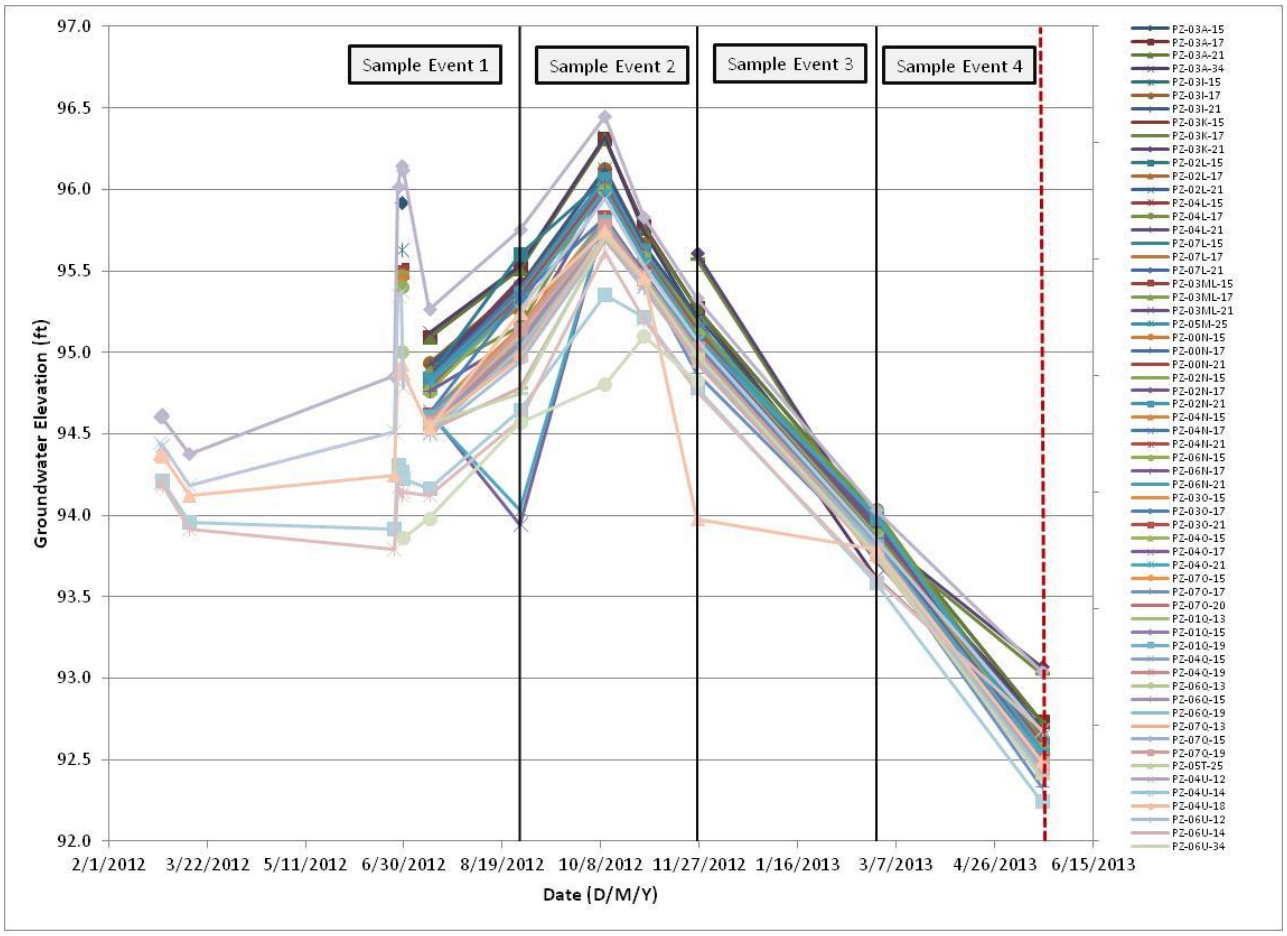

Figure C.1
Groundwater Elevations

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Table C.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
2/25/2013	2/25/2013	93.99	93.87	93.98	93.62	93.96	93.83	93.92	93.84	93.86	93.88	93.87	93.92	93.95	93.91	94.03	93.96	93.92	93.93	93.98	93.95	93.93	93.93
5/20/2013	5/20/2013	92.73	92.73	92.73	92.67	92.64	92.63	92.69	93.02	93.03	93.07	92.58	92.58	92.60	92.59	92.60	92.46	92.58	92.58	92.59	92.59	92.64	92.66

Elevation above mean sea level based on NGVD 1929

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Table C.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
2/25/2013		93.84	93.72	93.74	94.00	93.95	93.98	93.85	93.81	93.84	93.88	93.86	94.00	93.81	93.76	93.80	93.82	93.81	93.83	93.80	93.77	93.79
5/20/2013		92.58	92.59	92.58	92.58	92.58	92.60	92.56	92.56	92.60	92.57	92.55	92.56	92.49	92.48	92.49	92.48	92.50	92.53	92.47	92.33	92.49

Elevation above mean sea level based on NGVD 1929

Table C.1 (con't)
Groundwater Elevations

Date	PZ-01Q-13	PZ-01Q-15	PZ-01Q-19	PZ-04Q-13	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
2/25/2013	93.79	93.80	93.81	93.60	93.81	93.80	93.80	93.81	93.81	93.81	93.81	93.79		93.78	93.79	93.74	93.77	93.76	93.76	94.03	93.58	93.79	93.85	93.61	93.55
5/20/2013	92.45	92.46	92.45	92.45	92.45	92.46	92.44	92.45	92.39	92.47	92.45	92.48		92.42	92.42	92.41	92.41	92.39	92.39	93.04	92.24	92.49	92.67	92.68	92.05

Elevation above mean sea level based on NGVD 1929

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Appendix D: Water Quality Analytical Results

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Table D.1
Water Quality Analytical Results
(May 20 through May 22, 2013)

Sample ID	Sample Date/Time	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	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)	Nitrate + Nitrite (mg/L N)	TIN (mg/L N)[3]	TP (mg/L)	Fecal (Ct/100 mL)	E-coli	TOC (mg/L)	DOC (mg/L)	Anions						Cations							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	5/20/13 10:10	23.4	7.09	320	0.09	1,346	42	88		53.0	53	3	50	0.02	50.02	7.6	35000					43	0.01	0.01										430	10
STE DUP	5/20/13 10:15	23.4	7.09	320	0.09	1,346	37	74		54.0	54	3	51	0.02	51.02	7.3	121000					44	0.01	0.01										430	
Groundwater Samples																																				
PZ-03A-15	5/20/13 9:12	25.8	6.90	22	7.14	39			22	1.5	0.96	0.9	0.046	0.49	0.536	0.43						1.1	0.46	0.03											
PZ-03A-17	5/20/13 9:31	26.2	6.43	22	6.33	87			16	1.1	0.66	0.6	0.04	0.44	0.48	0.18						2.9	0.37	0.07											
PZ-03A-17-DUP	5/20/13 9:36	26.2	6.43	22	6.33	87			16	1.0	0.61	0.6	0.041	0.43	0.471	0.18						2.9	0.38	0.05											
PZ-03A-21	5/20/13 9:47	26.5	5.86	22	4.20	240			18	8.2	0.87	0.8	0.078	7.30	7.378	0.033			2.7	2.1	0.01	7.7	7.1	0.15	0.01	23	0.05	26	0.02	4.3	0.008	8.1	5.4		0.01
PZ-03A-34	5/21/13 13:02	26.6	7.47	11	1.38	182			16	9.3	1.3	1.3	0.009	8.00	8.009	0.078						9.4	7.9	0.06											
PZ-03I-15	5/21/13 12:41	27.6	5.79	11	5.20	44			16	2.1	0.74	0.7	0.045	1.40	1.445	0.3						1.3	1.4	0.02											
PZ-03I-17	5/21/13 12:56	27.3	5.66	11	6.15	49				1.6	1	0.9	0.14	0.58	0.72							1.5	0.55	0.03											
PZ-03I-21	5/21/13 13:12	27.4	4.89	11	3.78	173				8.1	1.1	1.1	0.009	7.00	7.009							7.8	6.9	0.13											
PZ-03K-15	5/21/13 10:23	26.3	6.75	33	5.41	131			22	5.5	1.3	1.2	0.08	4.20	4.28	4.2			3.6	2.7	0.13	3.9	4.2	0.05	2	5	0.05	19	0.16	2.6	0.005	3.7	4.6		
PZ-03K-17	5/21/13 10:46	26.7	6.18	22	5.98	46				1.2	0.72	0.6	0.1	0.50	0.6							1	0.46	0.04											
PZ-03K-21	5/21/13 11:01	26.2	5.86	33	3.03	179				5.3	1.3	1.3	0.009	4.00	4.009							6.6	3.9	0.15											
PZ-02L-15	5/21/13 10:06	26.2	6.30	22	5.47	62			28	1.8	0.59	0.6	0.015	1.20	1.215	0.45						1.4	1.2	0.03											
PZ-02L-17	5/21/13 10:20	26.0	6.86	22	5.44	75				1.0	0.33	0.3	0.009	0.64	0.649							1.6	0.58	0.05											
PZ-02L-21	5/21/13 10:36	26.2	5.14	11	2.72	195				7.2	1.8	1.8	0.009	5.40	5.409							6.7	5.2	0.14											
PZ-04L-15	5/21/13 10:55	26.4	6.63	33	5.56	247			10	8.9	1.5	1.5	0.018	7.40	7.418	4.1			3.3	2.4	0.12	7.9	7.3	0.12	2.2	7.9	0.05	27	0.11	5.1	0.002	4.2	9.5		
PZ-04L-17	5/21/13 11:15	26.2	6.00	22	6.13	50				1.0	0.51	0.4	0.095	0.47	0.565							0.97	0.45	0.02											
PZ-04L-21	5/21/13 11:31	26.4	5.97	33	2.69	205				4.5	1.2	1.2	0.009	3.30	3.309							5.7	3.2	0.15											
PZ-07L-15	5/21/13 12:14	57.6	6.12	33	2.89	54			71	1.9	1.5	1.4	0.11	0.44	0.55	3.1						0.78	0.4	0.04											
PZ-07L-17	5/21/13 12:30	26.5	6.40	22	5.69	50				1.4	0.82	0.7	0.12	0.62	0.74							0.94	0.58	0.03											
PZ-07L-21	5/21/13 12:45	26.9	5.12	11	2.37	122				4.4	1.1	1.1	0.009	3.30	3.309							4.3	3.3	0.13											
PZ-03ML-15	5/20/13 9:11	26.2	6.77	22	5.38	286			12	7.7	1.4	1.4	0.032	6.30	6.332	4.4			3.1	2.5	0.11	6.1	6.2	0.13	2.2	5.6	0.05	21	0.1	4	0.002	3.7	7.9		1.6
PZ-03ML-17	5/20/13 9:43	26.5	6.46	22	5.88	51			44	1.4	0.78	0.7	0.12	0.57	0.69	3.9			4.5	3.8	0.07	1.1	0.53	0.04	1.2	2.5	0.05	7.7	0.25	1.5	0.002	1.5	0.77		0.01
PZ-03ML-21	5/20/13 10:15	26.8	6.03	22	1.92	207			16	4.7	1	1.0	0.009	3.70	3.709	0.62			2.4	2	0.01	6.5	3.6	0.16	0.34	22	0.05	24	0.02	4	0.002	4.4	3.9		
PZ-00N-15	5/21/13 9:17	25.4	6.55	22	5.10	75			18	0.5	0.3	0.3	0.016	0.24	0.256	0.55						0.86	0.2	0.03											
PZ-00N-17	5/21/13 9:33	25.4	6.28	22	4.62	58				0.8	0.26	0.3	0.009	0.52	0.529							1.1	0.46	0.06											
PZ-00N-21	5/21/13 9:49	25.5	4.81	11	2.42	208				4.9	0.87	0.9	0.009	4.00	4.009							7.7	3.9	0.12											
PZ-02N-15	5/21/13 9:26	25.7	6.64	22	6.06	56			22	0.9	0.34	0.3	0.023	0.54	0.563							1.2	0.51	0.03											
PZ-02N-17	5/21/13 9:42	25.6	6.29	22	5.04	52				0.9	0.39	0.4	0.009	0.51	0.519							1.1	0.48	0.03											
PZ-02N-21	5/21/13 9:56	25.7	4.93	11	2.02	184				4.9	1.3	1.3	0.01	3.60	3.61							5.7	3.4	0.14											
PZ-02N-21-DUP	5/21/13 10:01	25.7	4.93	11	2.02	184				5.1	1.3	1.3	0.009	3.80	3.809							6	3.6	0.14											

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Table D.1 (cont'd)
Water Quality Analytical Results
(May 20 through May 22, 2013)

Sample ID	Sample Date/Time	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	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)	Nitrate + Nitrite (mg/L N)	TIN (mg/L N)[3]	TP (mg/L)	Fecal (Ct/100 mL)	E-coli	TOC (mg/L)	DOC (mg/L)	Anions						Cations							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-04N-15	5/21/13 11:19	26.1	5.99	22	5.03	249			44	12.4	1.4	1.4	0.027	11.00	11.027	0.85			4.6	3.7		15	11	0.1											
PZ-04N-17	5/21/13 11:39	26.5	6.50	33	3.19	70			73	2.0	1.6	1.5	0.12	0.41	0.53	3.4						0.98	0.37	0.04											
PZ-04N-21	5/21/13 11:55	27.0	5.66	11	2.89	158				5.6	1.6	1.6	0.009	4.00	4.009							5.6	3.9	0.11											
PZ-06N-15	5/21/13 11:49	27.0	5.91	22	4.35	521				26.1	2.1	2.0	0.059	24.00	24.059	0.5			3.2	2.7	0.15	33	24	0.24	0.093	23	0.05	41	0.07	11	0.001	11	28		
PZ-06N-17	5/21/13 12:09	27.2	5.85	22	5.21	169				10.3	1.5	1.5	0.041	8.80	8.841							10	8.7	0.09											
PZ-06N-21	5/21/13 12:25	26.8	4.76	11	4.04	95				3.2	0.65	0.6	0.009	2.50	2.509							3.2	2.5	0.06											
PZ-03O-15	5/22/13 11:18	25.0	6.57	33	5.66	92				1.6	0.48	0.5	0.009	1.10	1.109							2.2	1	0.04											
PZ-03O-17	5/22/13 11:32	25.2	6.34	22	3.54	63				1.0	0.28	0.3	0.009	0.71	0.719							1.8	0.66	0.05											
PZ-03O-21	5/22/13 11:46	26.2	5.06	11	1.87	256				6.6	0.94	0.9	0.009	5.70	5.709							9	5.7	0.01											
PZ-04O-15	5/22/13 11:12	25.1	6.35	22	4.46	25			14	3.1	0.59	0.6	0.011	2.50	2.511	2.9			4.1	2.6	0.47	2.6	2.4	0.07	2.4	3.7	0.05	12	0.24	1.4	0.003	3.2	1.8		
PZ-04O-17	5/22/13 11:30	25.3	6.42	22	1.21	81			14	1.1	0.37	0.4	0.009	0.75	0.759							1.6	0.71	0.04											
PZ-04O-17-DUP	5/22/13 11:35	25.3	6.42	22	1.21	81			14	1.2	0.39	0.4	0.009	0.76	0.769	0.38						1.6	0.72	0.04											
PZ-04O-21	5/22/13 11:47	26.4	5.74	11	1.76	276			10	6.2	0.96	1.0	0.009	5.20	5.209	0.058						7.8	5.2	0.01											
PZ-07O-15	5/22/13 9:39	25.6	6.35	33	4.25	298								14.00					5.6	4.6	0.35	11	14	0.08	0.29	13	0.05	31	0.1	4.1	0.002	7.4	7.9		
PZ-07O-17	5/22/13 9:56	25.5	6.38	33	2.24	113				1.1	0.61	0.6	0.054	0.44	0.494							0.9	0.41	0.03											
PZ-07O-20	5/22/13 10:14	25.9	6.04	11	0.59	89				4.3	1.7	1.7	0.009	2.60	2.609							4.9	2.6	0.05											
PZ-01Q-13	5/22/13 12:03	25.7	6.51	22	4.67	76			26	0.9	0.49	0.5	0.032	0.36	0.392	0.21						1.2	0.3	0.06											
PZ-01Q-15	5/22/13 12:30	26.0	4.99	22	3.05	78			28	1.4	0.59	0.6	0.028	0.83	0.858	0.32						1.2	0.79	0.04											
PZ-01Q-19	5/22/13 12:17	25.5	6.09	11	5.55	50				2.0	0.47	0.5	0.009	1.50	1.509							3.8	1.5	0.08											
PZ-04Q-13	5/22/13 10:33	26.4	6.50	33	4.37	95			22	3.1	0.85	0.8	0.011	2.20	2.211							1.6	2.2	0.08											
PZ-04Q-15	5/22/13 11:00	25.5	6.67	22	3.58	75			10	1.3	0.41	0.4	0.009	0.85	0.859	2			3.9	3.4		1.3	0.78	0.06											
PZ-04Q-19	5/22/13 10:45	25.8	6.16	22	3.40	94				1.6	0.37	0.4	0.009	1.20	1.209							4	1.1	0.08											
PZ-06Q-13	5/22/13 10:27	26.3	6.48	55	4.90	445			10	21.0	2	2.0	0.009	19.00	19.009	0.97						22	19	0.06											
PZ-06Q-15	5/22/13 10:42	25.4	6.06	44	3.47	599			10	29.2	2.2	2.2	0.009	27.00	27.009							30	27	0.01											
PZ-06Q-15-DUP	5/22/13 10:47	25.4	6.06	44	3.47	599			10	29.1	2.1	2.1	0.009	27.00	27.009							30	27	0.01											
PZ-06Q-19	5/22/13 10:57	25.4	6.20	33	0.30	85			10	1.0	0.33	0.3	0.009	0.71	0.719	0.054						2.3	0.62	0.09											
PZ-07Q-13	5/22/13 9:36	25.9	6.49	44	4.56	262			14	15.3	1.3	1.3	0.009	14.00	14.009	0.37			5.1	4.7	0.49	17	14	0.01	0.29	19	0.05	30	0.03	5.1	0.001	5.8	12		
PZ-07Q-15	5/22/13 9:56	25.5	6.31	44	1.84	75				2.4	0.58	0.5	0.038	1.80	1.838							1.4	1.8	0.05											
PZ-07Q-19	5/22/13 10:10	25.6	5.57	22	3.54	148				1.5	0.54	0.5	0.009	1.00	1.009							2.8	0.96	0.07											
PZ-04U-12	5/20/13 11:30	26.1	6.61	44	5.86	98			49	1.1	0.78	0.7	0.046	0.36	0.406	0.67						1.2	0.32	0.04											
PZ-04U-14	5/20/13 11:45	26.2	6.25	33	4.82	115				1.6	0.49	0.5	0.009	1.10	1.109							1.7	1	0.06											
PZ-04U-14-DUP	5/20/13 11:50	26.2	6.25	33	4.82	115				1.4	0.47	0.5	0.009	0.88	0.889							1.4	0.83	0.04											
PZ-04U-18	5/20/13 12:00	26.8	6.06	11	5.29	67				1.6	0.55	0.5	0.052	1.00	1.052							3.4	0.97	0.06											
PZ-06U-12	5/20/13 11:22	26.7	6.28	33	5.14	203				8.2	1.1	1.0	0.093	7.10	7.193	0.3			2.5	2.1		6.5	7	0.13											15
PZ-06U-14	5/20/13 11:47	26.7	5.89	11	2.46	471				23.5	1.5	1.5	0.009	22.00	22.009	0.9			1.6	1.5	0.09	19	22	0.11	0.6	18	0.05	46	0.09	8.7	0.11	6.9	18		8.2
PZ-06U-14-DUP	5/20/13 11:52	26.7	5.89	11	2.46	471				25.5	1.5	1.5	0.009	24.00	24.009	0.9			1.7	1.6	0.09	19	24	0.11	0.58	18	0.05	47	0.02	8.9	0.098	7.3	19		
PZ-06U-34	5/20/13 12:15	27.2	5.92	22	0.85	116				2.1	1	0.8	0.22	1.10	1.32							4.5	0.8	0.27											
PZ-02BKG	5/22/13 12:48	29.1	4.72	11	5.37	195			63	2.6	2.5	2.2	0.33	0.05	0.38	0.61						3.4	0.01	0.05											
PZ-03BKG	5/22/13 12:06	26.1	6.32	22	4.58	138			12	0.8	0.57	0.6	0.009	0.21	0.219	0.43						1.7	0.18	0.04											
PZ-05BKG	5/22/13 12:21	26.7	5.85	22	0.15	56			18	0.8	0.74	0.7	0.048	0.04	0.088	0.21						2.4	0.01	0.04											
FB-DI	5/20/13 10:55	28.0	7.34	2	7.88	2	1	2	10	0.1	0.05	0.0	0.009	0.02	0.029	0.01	1		0.5	0.5	0.01	0.22	0.01	0.01	0.01	0.28	0.05	0.042	0.02	0.02	0.001	0.01	0.13	10	
FB-TAP	5/20/13 10:45	25.7	6.50	96	3.05	328	1	2	10	0.6	0.14	0.1	0.009	0.50	0.509	0.039	1		0.86	0.5	0.08	10	0.34	0.16	0.01	29	0.05	41	0.02	10	0.001	3.8	6.8	250	
EB	5/20/13 10:50	28.0	7.34	2	7.88	2	1	2	10	0.1	0.05	0.0	0.009	0.02	0.029	0.01	1		0.5	0.5	0.01	0.21	0.01	0.01	0.01	0.27	0.05	0.042	0.02	0.02	0.001	0.01	0.13	10	

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.

Appendix E: Summary of Water Quality Data

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Table E.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)	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							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	4	4	4	4	4	4	4	0	4	4	4	4	4	4	4	4	0	0	2	4	4	4	2	2	2	2	2	2	2	2	2	4	2
	MEAN	26.93	7.23	275.00	1.31	862.50	24.75	39.75		45.67	45.50	4.75	40.75	0.17	40.92	4.80	10300.00			0.09	31.50	0.16	0.01	2.50	20.00	0.05	44.50	0.09	11.50	0.01	11.00	19.50	362.50	4.30
	STD. DEV.	3.06	0.14	59.16	0.82	335.22	13.15	34.43		9.53	9.57	1.71	9.64	0.28	9.61	1.97	16495.86			0.06	8.35	0.28	0.00	0.57	16.97	0.00	3.54	0.04	0.71	0.00	1.41	4.95	60.76	5.66
	MIN	23.40	7.09	190.00	0.09	593.00	10.00	8.00		33.03	33.00	3.00	28.00	0.02	28.03	3.20	900.00			0.04	23.00	0.01	0.01	2.10	8.00	0.05	42.00	0.07	11.00	0.01	10.00	16.00	290.00	0.30
	MAX	30.40	7.42	320.00	1.80	1346.00	42.00	88.00		53.03	53.00	7.00	50.00	0.58	50.02	7.60	35000.00			0.13	43.00	0.58	0.01	2.90	32.00	0.05	47.00	0.12	12.00	0.01	12.00	23.00	430.00	8.30
Groundwater samples																																		
PZ-01BKG	n	3	3	3	3	3	0	0	3	3	3	3	3	3	3	3	0	0	0	0	3	3	3	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.30	6.06	17.67	6.57	63.63			30.33	0.73	0.32	0.31	0.01	0.41	0.42	0.26					2.90	0.41	0.01											
	STD. DEV.	1.18	0.25	10.69	1.45	27.57			24.13	0.43	0.18	0.19	0.01	0.25	0.24	0.09					1.41	0.25	0.00											
	MIN	25.00	5.85	11.00	4.90	38.00			10.00	0.39	0.16	0.15	0.01	0.23	0.24	0.17					1.60	0.23	0.01											
	MAX	27.30	6.33	30.00	7.55	92.80			57.00	1.21	0.52	0.51	0.02	0.69	0.70	0.34					4.40	0.69	0.01											
PZ-02BKG	n	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	27.00	4.96	7.63	2.49	83.25			33.75	0.94	0.90	0.80	0.10	0.05	0.14	0.21					3.60	0.04	0.02											
	STD. DEV.	2.21	0.32	3.37	2.28	74.63			22.60	1.08	1.08	0.92	0.16	0.02	0.16	0.27					0.16	0.03	0.02											
	MIN	24.00	4.66	4.20	0.24	42.70			10.00	0.25	0.22	0.19	0.01	0.03	0.04	0.05					3.40	0.01	0.01											
	MAX	29.10	5.30	11.00	5.37	195.10			63.00	2.55	2.50	2.17	0.33	0.07	0.38	0.61					3.80	0.07	0.05											
PZ-03BKG	n	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.40	5.80	10.38	5.24	68.98			20.75	0.64	0.46	0.45	0.01	0.17	0.18	0.32					3.75	0.17	0.02											
	STD. DEV.	2.42	0.36	8.15	1.03	46.79			12.04	0.13	0.12	0.12	0.00	0.07	0.07	0.14					2.82	0.07	0.02											
	MIN	23.20	5.50	4.20	4.47	37.10			12.00	0.47	0.31	0.30	0.01	0.08	0.09	0.12					1.70	0.08	0.01											
	MAX	28.50	6.32	22.00	6.70	137.90			38.00	0.78	0.57	0.56	0.02	0.24	0.25	0.43					7.90	0.24	0.04											
PZ-04BKG	n	3	3	3	3	3	0	0	3	3	3	3	3	3	3	3	0	0	0	0	3	3	3	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.50	5.08	7.20	1.11	82.20			50.00	3.28	2.03	1.71	0.32	1.25	1.57	1.66					4.07	1.25	0.01											
	STD. DEV.	2.14	0.14	2.91	0.94	37.76			12.53	0.81	0.49	0.66	0.17	0.92	1.03	1.35					0.42	0.92	0.00											
	MIN	22.10	5.00	4.20	0.55	54.00			38.00	2.40	1.70	1.24	0.13	0.60	0.97	0.67					3.60	0.60	0.01											
	MAX	26.20	5.24	10.00	2.20	125.10			63.00	4.00	2.60	2.47	0.46	2.30	2.76	3.20					4.40	2.30	0.01											
PZ-05BKG	n	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.85	5.43	15.85	0.34	46.30			36.25	0.74	0.72	0.68	0.04	0.03	0.06	0.22					1.83	0.01	0.02											
	STD. DEV.	2.40	0.43	6.10	0.13	9.35			20.07	0.29	0.29	0.29	0.01	0.01	0.02	0.07					0.45	0.01	0.02											
	MIN	23.40	4.85	9.40	0.15	36.00			18.00	0.42	0.40	0.36	0.02	0.02	0.04	0.16					1.30	0.01	0.01											
	MAX	28.80	5.85	22.00	0.45	55.90			61.00	1.12	1.10	1.06	0.05	0.04	0.09	0.33					2.40	0.02	0.04											
PZ-O3A-15	n	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	2	2	2	4	4	4	2	2	2	2	2	2	2	2	2	0	1
	MEAN	26.33	6.45	14.00	7.34	41.63			13.50	1.24	0.67	0.63	0.04	0.57	0.61	0.54		4.30	3.25	0.01	1.16	0.56	0.02	0.04	2.85	0.05	3.75	0.93	1.85	0.00	1.89	1.48		0.01
	STD. DEV.	1.36	0.40	5.48	0.18	8.36			5.74	0.44	0.26	0.25	0.03	0.31	0.30	0.25		0.99	0.49	0.00	0.19	0.31	0.01	0.05	0.64	0.00	0.49	1.09	0.49	0.00	1.29	0.88		
	MIN	24.80	6.00	10.00	7.14	35.60			10.00	0.61	0.35	0.32	0.01	0.26	0.29	0.25		3.60	2.90	0.01	0.94	0.26	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	6.90	22.00	7.56	54.00			22.00	1.60	0.96	0.91	0.07	1.00	1.01	0.82		5.00	3.60	0.01	1.40	1.00	0.03	0.08	3.30	0.05	4.10	1.70	2.20	0.01	2.80	2.10		0.01
PZ-O3A-17	n	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	0	0	1	4	4	4	1	1	0	0	0	0	0	0	0	0	1
	MEAN	26.55	6.18	21.50	6.61	79.40			11.50	1.07	0.49	0.47	0.02	0.58	0.60	0.19				0.01	2.05	0.56	0.03	0.01	8.10									0.01
	STD. DEV.	1.16	0.27	2.65	0.35	5.83			3.00	0.10	0.14	0.14	0.02	0.12	0.11	0.09					0.60	0.15	0.03	0.00	0.00									
	MIN	25.50	5.80	19.00	6.33	74.60			10.00	0.94	0.31	0.27	0.01	0.44	0.48	0.10				0.01	1.50	0.37	0.01	0.01	8.10									0.01
	MAX	28.20	6.43	25.00	7.11	87.40			16.00	1.19	0.66	0.62	0.04	0.71	0.72	0.32				0.01	2.90	0.71	0.07	0.01	8.10									0.01

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Table E.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)	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							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	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	1	1	2	4	4	4	2	2	1	1	1	1	1	1	1	0	1
	MEAN	26.83	5.71	18.25	2.98	255.75			12.00	9.32	1.15	1.12	0.03	8.18	8.20	0.05		2.70	2.10	0.01	10.25	8.13	0.05	0.01	43.00	0.05	26.00	0.02	4.30	0.01	8.10	5.40		0.01
	STD. DEV.	1.17	0.11	3.30	0.92	16.09			4.00	3.36	0.41	0.43	0.03	3.64	3.64	0.03				0.00	2.28	3.66	0.07	0.00	28.28									
	MIN	25.60	5.60	15.00	2.00	240.00			10.00	5.70	0.72	0.71	0.01	4.20	4.21	0.03		2.70	2.10	0.01	7.70	4.20	0.01	0.01	23.00	0.05	26.00	0.02	4.30	0.01	8.10	5.40		0.01
	MAX	28.40	5.86	22.00	4.20	272.00			18.00	13.72	1.50	1.49	0.08	13.00	13.01	0.10		2.70	2.10	0.01	13.00	13.00	0.15	0.01	63.00	0.05	26.00	0.02	4.30	0.01	8.10	5.40		0.01
PZ-O3A-34	n	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	1	1	2	4	4	4	2	2	1	1	1	1	1	1	1	0	1
	MEAN	26.38	5.60	6.25	2.31	216.33			12.75	11.12	1.37	1.33	0.04	9.75	9.79	0.78		7.40	5.70	0.04	13.38	9.73	0.02	0.12	14.95	0.05	4.90	0.02	1.80	0.04	7.10	1.60		0.01
	STD. DEV.	0.59	1.44	4.92	1.86	103.30			3.20	5.77	0.66	0.60	0.06	5.32	5.35	1.15				0.05	7.99	5.33	0.03	0.16	14.21									
	MIN	25.60	4.20	2.00	0.70	85.70			10.00	3.78	0.78	0.77	0.01	3.00	3.02	0.08		7.40	5.70	0.01	4.10	3.00	0.01	0.01	4.90	0.05	4.90	0.02	1.80	0.04	7.10	1.60		0.01
	MAX	27.00	7.47	11.00	4.94	305.00			16.00	16.30	2.30	2.16	0.14	14.00	14.14	2.50		7.40	5.70	0.08	21.00	14.00	0.06	0.23	25.00	0.05	4.90	0.02	1.80	0.04	7.10	1.60		0.01
PZ-O3I-15	n	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	0	0	1	4	4	4	1	1	0	0	0	0	0	0	0	0	0
	MEAN	26.80	5.86	16.43	5.67	62.43			15.50	3.01	0.96	0.91	0.05	2.05	2.10	0.62				0.55	1.35	2.05	0.01	0.16	14.00									
	STD. DEV.	1.43	0.20	15.91	0.73	19.67			3.70	1.22	0.34	0.34	0.02	0.93	0.92	0.31					0.25	0.93	0.01											
	MIN	25.40	5.70	5.20	4.90	44.30			11.00	1.90	0.60	0.55	0.03	1.30	1.35	0.30				0.55	1.10	1.30	0.01	0.16	14.00									
	MAX	28.40	6.15	40.00	6.40	81.00			20.00	4.50	1.30	1.23	0.07	3.30	3.33	1.00				0.55	1.70	3.30	0.02	0.16	14.00									
PZ-O3I-17	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	1	4	4	4	1	1	0	0	0	0	0	0	0	0	0
	MEAN	26.93	6.00	10.78	5.66	51.00				1.75	1.14	1.00	0.14	0.61	0.75					0.01	1.65	0.60	0.02	0.01	7.30									
	STD. DEV.	2.19	0.25	7.33	1.86	3.62				0.30	0.24	0.19	0.06	0.07	0.11						0.24	0.07	0.01											
	MIN	24.70	5.66	2.10	2.91	48.10				1.58	0.97	0.86	0.08	0.54	0.67					0.01	1.40	0.54	0.01	0.01	7.30									
	MAX	29.80	6.27	20.00	6.89	56.00				2.20	1.50	1.28	0.22	0.70	0.92					0.01	1.90	0.70	0.03	0.01	7.30									
PZ-O3I-21	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	1	4	4	4	1	1	0	0	0	0	0	0	0	0	0
	MEAN	26.90	4.90	6.85	3.69	181.05				5.29	0.84	0.83	0.02	4.45	4.47					0.01	7.85	4.43	0.04	0.01	39.00									
	STD. DEV.	1.96	0.18	4.23	0.55	9.33				2.24	0.18	0.18	0.01	2.09	2.08						0.77	2.05	0.06											
	MIN	24.90	4.70	3.20	2.97	172.70				3.29	0.69	0.68	0.01	2.60	2.61					0.01	6.80	2.60	0.01	0.01	39.00									
	MAX	29.40	5.13	11.00	4.30	194.30				8.10	1.10	1.09	0.03	7.00	7.01					0.01	8.60	6.90	0.13	0.01	39.00									
PZ-O3K-15	n	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	2	2	2	4	4	4	2	2	2	2	2	2	2	2	2	0	0
	MEAN	26.83	6.64	34.25	5.45	293.40			13.00	14.58	1.78	1.74	0.03	12.80	12.83	4.18		3.45	2.65	0.10	11.23	12.80	0.02	1.01	17.00	0.05	32.50	0.14	5.35	0.00	5.85	10.30		
	STD. DEV.	1.14	0.22	10.44	0.28	127.10			6.00	7.23	0.52	0.54	0.03	6.81	6.79	0.26		0.21	0.07	0.04	7.66	6.81	0.02	1.41	16.97	0.00	19.09	0.03	3.89	0.00	3.04	8.06		
	MIN	25.50	6.30	20.00	5.10	130.60			10.00	5.50	1.30	1.22	0.01	4.20	4.28	3.80		3.30	2.60	0.07	3.90	4.20	0.01	0.01	5.00	0.05	19.00	0.12	2.60	0.00	3.70	4.60		
	MAX	28.00	6.77	43.00	5.79	435.00			22.00	22.00	2.40	2.38	0.08	20.00	20.02	4.40		3.60	2.70	0.13	22.00	20.00	0.05	2.00	29.00	0.05	46.00	0.16	8.10	0.01	8.00	16.00		
PZ-O3K-17	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.68	6.24	29.75	5.81	56.55				1.47	0.91	0.78	0.14	0.56	0.69						1.28	0.55	0.02											
	STD. DEV.	1.04	0.10	20.43	0.83	13.83				0.53	0.48	0.32	0.17	0.06	0.21						0.45	0.07	0.02											
	MIN	25.20	6.13	15.00	4.60	45.80				1.00	0.49	0.48	0.01	0.50	0.52						0.90	0.46	0.01											
	MAX	27.40	6.33	60.00	6.35	76.80				2.22	1.60	1.22	0.38	0.62	1.00						1.90	0.62	0.04											
PZ-O3K-21	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.73	5.91	20.50	2.91	173.70				4.19	1.04	1.03	0.01	3.15	3.16						7.65	3.13	0.05											
	STD. DEV.	0.92	0.09	9.68	0.60	12.18				0.98	0.35	0.35	0.00	0.73	0.73						1.42	0.69	0.07											
	MIN	25.70	5.80	10.00	2.17	156.80				2.95	0.55	0.54	0.01	2.40	2.41						6.60	2.40	0.01											
	MAX	27.50	6.01	33.00	3.63	185.30				5.30	1.30	1.29	0.02	4.00	4.01						9.70	3.90	0.15											
PZ-O2L-15	n	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.15	6.43	30.25	5.73	105.63			21.50	3.52	1.25	1.10	0.15	2.28	2.42	1.06					2.00	2.25	0.02											
	STD. DEV.	1.11	0.26	7.68	1.01	50.16			7.90	1.63	0.74	0.84	0.27	1.39	1.33	0.43					0.90	1.34	0.01											
	MIN	24.60	6.20	22.00	4.50	62.30			10.00	1.79	0.59	0.45	0.01	1.20	1.22	0.45					1.40	1.20	0.01											
	MAX	27.20	6.80	40.00	6.90	176.00			28.00	5.40	2.30	2.29	0.55	4.30	4.32	1.40					3.30	4.20	0.03											

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Table E.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)	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							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	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.98	6.60	27.50	5.29	65.98				1.53	0.68	0.62	0.06	0.85	0.91						1.50	0.84	0.02											
	STD. DEV.	0.66	0.27	15.26	0.27	7.30				0.40	0.38	0.31	0.06	0.23	0.23						0.32	0.25	0.02											
	MIN	25.10	6.30	16.00	4.90	58.00				0.97	0.33	0.32	0.01	0.64	0.65						1.20	0.58	0.01											
	MAX	26.70	6.86	50.00	5.49	75.10				1.86	1.20	1.05	0.15	1.10	1.16						1.90	1.10	0.05											
PZ-O2L-21	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.13	5.22	8.13	2.81	193.45				5.93	1.53	1.50	0.02	4.40	4.42						7.95	4.35	0.04											
	STD. DEV.	0.38	0.15	2.81	0.28	11.67				1.25	0.34	0.34	0.01	0.94	0.94						1.44	0.87	0.07											
	MIN	25.60	5.05	5.20	2.50	182.00				4.80	1.10	1.07	0.01	3.50	3.51						6.70	3.50	0.01											
	MAX	26.50	5.38	11.00	3.18	209.20				7.20	1.80	1.79	0.04	5.40	5.41						10.00	5.20	0.14											
PZ-O4L-15	n	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	1	1	1	4	4	4	1	1	1	1	1	1	1	1	1	0	0
	MEAN	26.98	6.17	34.00	5.27	243.75			23.50	9.70	1.60	1.55	0.05	8.10	8.15	1.85		3.30	2.40	0.12	8.45	8.08	0.04	2.20	7.90	0.05	27.00	0.11	5.10	0.00	4.20	9.50		
	STD. DEV.	0.51	0.56	4.83	0.56	63.25			12.48	3.76	0.18	0.15	0.05	3.91	3.87	1.55					5.93	3.91	0.06											
	MIN	26.40	5.38	30.00	4.56	161.00			10.00	5.30	1.40	1.38	0.02	3.50	3.62	0.61		3.30	2.40	0.12	1.50	3.50	0.01	2.20	7.90	0.05	27.00	0.11	5.10	0.00	4.20	9.50		
	MAX	27.50	6.63	41.00	5.85	315.00			40.00	14.40	1.80	1.68	0.12	13.00	13.02	4.10		3.30	2.40	0.12	16.00	13.00	0.12	2.20	7.90	0.05	27.00	0.11	5.10	0.00	4.20	9.50		
PZ-O4L-17	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.85	6.25	26.25	4.99	60.78				1.25	0.72	0.62	0.10	0.53	0.62						1.03	0.52	0.01											
	STD. DEV.	0.48	0.19	9.18	0.99	8.84				0.49	0.39	0.30	0.09	0.12	0.20						0.12	0.12	0.01											
	MIN	26.20	6.00	21.00	4.00	49.60				0.98	0.49	0.42	0.01	0.40	0.46						0.93	0.40	0.01											
	MAX	27.30	6.47	40.00	6.13	70.60				1.98	1.30	1.07	0.23	0.68	0.91						1.20	0.68	0.02											
PZ-O4L-21	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.90	5.46	15.08	2.49	190.10				4.33	1.03	1.02	0.01	3.30	3.31						7.20	3.28	0.05											
	STD. DEV.	0.56	0.35	12.12	0.17	13.09				0.67	0.15	0.15	0.00	0.57	0.57						1.58	0.57	0.07											
	MIN	26.40	5.16	6.30	2.27	173.40				3.34	0.84	0.83	0.01	2.50	2.51						5.70	2.50	0.01											
	MAX	27.60	5.97	33.00	2.69	205.30				4.80	1.20	1.19	0.01	3.70	3.71						9.40	3.70	0.15											
PZ-O7L-15	n	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	34.40	6.20	25.75	5.28	66.55			34.75	2.15	1.20	1.10	0.09	0.96	1.05	1.62					0.98	0.95	0.02											
	STD. DEV.	15.49	0.17	6.29	1.66	18.41			26.40	0.99	0.47	0.40	0.08	0.65	0.71	1.20					0.17	0.66	0.02											
	MIN	25.70	6.10	20.00	2.89	53.90			10.00	1.46	0.78	0.74	0.01	0.44	0.55	0.18					0.78	0.40	0.01											
	MAX	57.60	6.45	33.00	6.72	93.00			71.00	3.60	1.70	1.50	0.20	1.90	2.10	3.10					1.20	1.90	0.04											
PZ-O7L-17	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.40	6.29	22.00	5.60	64.38				1.45	0.70	0.64	0.06	0.75	0.81						1.24	0.74	0.02											
	STD. DEV.	0.64	0.09	1.63	0.60	14.64				0.39	0.16	0.13	0.05	0.32	0.29						0.33	0.32	0.01											
	MIN	25.50	6.20	20.00	4.80	49.60				0.95	0.48	0.44	0.01	0.47	0.51						0.94	0.47	0.01											
	MAX	27.00	6.40	24.00	6.26	84.50				1.90	0.82	0.74	0.12	1.20	1.21						1.70	1.20	0.03											
PZ-O7L-21	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.43	5.22	10.63	2.91	141.28				4.59	1.01	1.00	0.01	3.58	3.59						5.68	3.58	0.04											
	STD. DEV.	0.46	0.15	6.74	0.71	20.30				0.86	0.31	0.31	0.01	0.57	0.58						0.96	0.57	0.06											
	MIN	25.90	5.10	5.20	2.37	121.90				3.77	0.67	0.66	0.01	3.10	3.11						4.30	3.10	0.01											
	MAX	26.90	5.42	20.00	3.94	166.30				5.80	1.40	1.37	0.03	4.40	4.43						6.50	4.40	0.13											
PZ-03ML-15	n	3	3	3	3	3	0	0	3	3	3	3	3	3	3	3	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0
	MEAN	26.37	6.43	20.67	5.30	397.67			13.00	17.83	1.40	1.38	0.02	16.43	16.45	4.53		3.37	2.90	0.06	18.03	16.40	0.05	2.13	24.20	0.05	37.00	0.08	7.03	0.01	7.00	15.63		
	STD. DEV.	0.67	0.30	10.07	0.09	113.54			1.00	9.82	0.10	0.10	0.01	9.86	9.85	0.71		0.23	0.40	0.05	11.48	9.91	0.07	0.90	17.37	0.00	15.52	0.05	3.59	0.01	3.70	6.86		
	MIN	25.80	6.21	10.00	5.21	286.00			12.00	7.70	1.30	1.29	0.01	6.30	6.33	3.90		3.10	2.50	0.03	6.10	6.20	0.01	1.20	5.60	0.05	21.00	0.02	4.00	0.00	3.70	7.90		
	MAX	27.10	6.77	30.00	5.38	513.00			14.00	27.30	1.50	1.49	0.03	26.00	26.01	5.30		3.50	3.30	0.11	29.00	26.00	0.13	3.00	40.00	0.05	52.00	0.11	11.00	0.02	11.00	21.00		

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Table E.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)	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							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	3	3	3	3	3	0	0	3	3	3	3	3	3	3	3	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0
	MEAN	26.33	6.44	19.67	6.14	56.63			92.00	2.24	1.50	1.36	0.13	0.75	0.88	6.83		7.10	4.00	0.03	1.27	0.73	0.02	1.70	3.33	0.05	11.17	0.19	1.80	0.00	1.77	1.06		
	STD. DEV.	0.21	0.15	2.52	0.35	5.82			84.88	1.41	1.22	1.11	0.11	0.20	0.30	5.34		2.25	0.44	0.03	0.29	0.22	0.02	0.46	0.97	0.00	5.08	0.06	0.30	0.00	0.38	0.27		
	MIN	26.10	6.29	17.00	5.88	51.40			42.00	1.35	0.78	0.66	0.03	0.57	0.69	3.60		4.50	3.70	0.01	1.10	0.53	0.01	1.20	2.50	0.05	7.70	0.14	1.50	0.00	1.50	0.77		
	MAX	26.50	6.58	22.00	6.54	62.90			190.00	3.87	2.90	2.65	0.25	0.97	1.22	13.00		8.40	4.50	0.07	1.60	0.97	0.04	2.10	4.40	0.05	17.00	0.25	2.10	0.01	2.20	1.30		
PZ-03ML-21	n	3	3	3	3	3	0	0	3	3	3	3	3	3	3	3	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0
	MEAN	26.63	6.05	20.67	2.01	206.47			15.67	4.23	1.10	1.08	0.02	3.13	3.15	0.86		2.43	2.03	0.01	7.37	3.10	0.06	0.41	33.33	0.05	24.00	0.05	4.30	0.00	4.90	3.50		
	STD. DEV.	0.47	0.11	1.15	0.94	16.86			1.53	0.40	0.17	0.18	0.01	0.51	0.51	0.24		0.35	0.55	0.01	0.75	0.46	0.09	0.10	11.02	0.00	0.00	0.03	0.44	0.00	0.46	0.40		
	MIN	26.10	5.95	20.00	1.12	189.30			14.00	4.00	1.00	0.97	0.01	2.70	2.71	0.62		2.10	1.50	0.01	6.50	2.70	0.01	0.34	22.00	0.05	24.00	0.02	4.00	0.00	4.40	3.10		
	MAX	27.00	6.16	22.00	2.99	223.00			17.00	4.70	1.30	1.29	0.03	3.70	3.71	1.10		2.80	2.60	0.02	7.80	3.60	0.16	0.53	44.00	0.05	24.00	0.08	4.80	0.00	5.30	3.90		
PZ-OON-15	n	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.48	6.29	21.25	5.83	74.30			17.25	1.96	0.66	0.63	0.02	1.30	1.32	0.59					1.27	1.29	0.02											
	STD. DEV.	0.86	0.28	0.96	0.57	11.70			8.54	2.12	0.39	0.40	0.01	1.74	1.73	0.24					0.35	1.75	0.01											
	MIN	25.40	5.93	20.00	5.10	59.40			10.00	0.54	0.30	0.28	0.01	0.24	0.26	0.42					0.86	0.20	0.01											
	MAX	27.50	6.55	22.00	6.47	88.00			29.00	5.10	1.20	1.19	0.04	3.90	3.91	0.94					1.70	3.90	0.03											
PZ-OON-17	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.53	6.16	17.00	5.02	58.78				1.20	0.45	0.44	0.01	0.75	0.76						1.07	0.73	0.02											
	STD. DEV.	0.78	0.17	4.97	0.52	1.92				0.47	0.18	0.17	0.00	0.30	0.30						0.39	0.31	0.03											
	MIN	25.40	5.91	11.00	4.60	57.00				0.78	0.26	0.25	0.01	0.46	0.47						0.71	0.46	0.01											
	MAX	27.10	6.28	22.00	5.70	61.20				1.60	0.60	0.59	0.02	1.00	1.02						1.60	1.00	0.06											
PZ-OON-21	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.10	5.05	6.30	3.18	197.83				5.72	1.29	1.28	0.01	4.43	4.44						9.15	4.40	0.04											
	STD. DEV.	0.54	0.62	4.87	0.91	29.45				0.57	0.39	0.38	0.00	0.40	0.40						1.10	0.44	0.06											
	MIN	25.50	4.60	2.10	2.42	154.00				4.87	0.87	0.86	0.01	4.00	4.01						7.70	3.90	0.01											
	MAX	26.80	5.97	11.00	4.50	216.90				6.10	1.80	1.79	0.01	4.90	4.91						10.00	4.90	0.12											
PZ-O2N-15	n	4	4	4	4	4	0	0	4	4	4	4	4	4	4	3	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.40	6.56	26.50	6.43	89.20			17.75	1.77	0.56	0.54	0.02	1.21	1.23	1.40					1.58	1.20	0.02											
	STD. DEV.	1.03	0.11	5.26	0.39	23.69			4.03	0.86	0.22	0.23	0.01	0.70	0.70	0.10					0.30	0.71	0.01											
	MIN	25.40	6.40	22.00	6.06	56.40			13.00	0.88	0.34	0.32	0.01	0.54	0.56	1.30					1.20	0.51	0.01											
	MAX	27.60	6.64	32.00	6.94	110.00			22.00	2.93	0.76	0.75	0.02	2.20	2.22	1.50					1.90	2.20	0.03											
PZ-O2N-17	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.33	6.16	16.25	5.31	48.30				1.17	0.54	0.50	0.04	0.63	0.67						1.23	0.62	0.02											
	STD. DEV.	0.80	0.09	5.56	0.64	3.73				0.25	0.17	0.16	0.04	0.11	0.15						0.34	0.12	0.01											
	MIN	25.60	6.10	11.00	4.60	44.00				0.90	0.39	0.36	0.01	0.51	0.52						0.82	0.48	0.01											
	MAX	27.20	6.29	22.00	6.10	52.20				1.42	0.72	0.70	0.10	0.77	0.87						1.60	0.77	0.03											
PZ-O2N-21	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.13	4.74	6.58	2.35	212.58				7.01	1.13	1.12	0.01	5.88	5.88						9.20	5.83	0.04											
	STD. DEV.	0.44	0.15	4.57	0.34	20.74				2.88	0.22	0.22	0.00	2.84	2.84						3.05	2.89	0.07											
	MIN	25.70	4.60	2.10	2.02	184.30				4.90	0.83	0.82	0.01	3.60	3.61						5.70	3.40	0.01											
	MAX	26.60	4.93	11.00	2.81	230.00				11.10	1.30	1.29	0.01	9.80	9.81						13.00	9.80	0.14											

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Table E.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)	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							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	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	2	2	1	4	4	4	1	1	1	1	1	1	1	1	1	0	0
	MEAN	26.88	6.26	30.75	5.20	243.00			34.50	11.30	1.55	1.53	0.02	9.75	9.77	0.91		10.80	9.85	0.48	10.35	9.75	0.03	0.68	16.00	0.05	25.00	0.14	2.60	0.00	4.30	10.00		
	STD. DEV.	1.24	0.26	11.35	0.27	41.93			19.42	3.19	0.31	0.30	0.01	3.44	3.43	0.13		8.77	8.70		5.33	3.44	0.05											
	MIN	25.60	5.99	20.00	5.00	188.00			12.00	8.40	1.30	1.28	0.02	6.40	6.43	0.80		4.60	3.70	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	290.00			56.00	15.30	2.00	1.97	0.03	14.00	14.02	1.10		17.00	16.00	0.48	15.00	14.00	0.10	0.68	16.00	0.05	25.00	0.14	2.60	0.00	4.30	10.00		
PZ-O4N-17	n	4	4	4	4	4	0	0	3	4	4	4	4	4	4	3	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.53	6.44	32.25	3.23	76.20			58.33	2.04	1.43	1.29	0.14	0.61	0.75	2.13					1.67	0.60	0.02											
	STD. DEV.	0.59	0.10	12.76	0.50	10.38			13.65	0.94	0.87	0.78	0.10	0.16	0.22	1.12					0.59	0.17	0.02											
	MIN	25.70	6.30	22.00	2.56	65.00			46.00	1.02	0.42	0.41	0.01	0.41	0.53	1.30					0.98	0.37	0.01											
	MAX	27.00	6.52	50.00	3.75	86.50			73.00	3.29	2.50	2.26	0.24	0.79	1.03	3.40					2.30	0.79	0.04											
PZ-O4N-21	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.53	5.70	11.75	3.33	188.73				4.46	1.08	1.06	0.03	3.38	3.40						7.75	3.35	0.04											
	STD. DEV.	0.51	0.04	2.22	1.32	22.09				0.91	0.35	0.37	0.03	0.63	0.61						1.80	0.60	0.05											
	MIN	25.80	5.66	10.00	2.19	157.80				3.37	0.85	0.81	0.01	2.50	2.56						5.60	2.50	0.01											
	MAX	27.00	5.75	15.00	5.24	209.60				5.60	1.60	1.59	0.06	4.00	4.01						10.00	3.90	0.11											
PZ-O6N-15	n	4	4	4	4	4	0	0	2	4	4	4	4	4	4	3	0	2	2	2	4	4	4	2	2	2	2	2	2	2	2	2	0	0
	MEAN	26.53	6.01	19.25	4.35	344.50			17.00	17.45	1.55	1.49	0.06	15.90	15.96	0.63		3.55	2.85	0.12	18.25	15.90	0.07	0.05	23.50	0.05	37.50	0.14	9.15	0.00	9.45	19.50		
	STD. DEV.	0.83	0.07	11.24	0.58	188.26			4.24	10.03	0.39	0.38	0.05	9.85	9.81	0.62		0.49	0.21	0.05	13.46	9.85	0.12	0.06	0.71	0.00	4.95	0.09	2.62	0.00	2.19	12.02		
	MIN	25.30	5.91	10.00	3.54	79.00			14.00	3.00	1.20	1.19	0.01	1.60	1.73	0.08		3.20	2.70	0.08	0.98	1.60	0.01	0.01	23.00	0.05	34.00	0.07	7.30	0.00	7.90	11.00		
	MAX	27.10	6.09	34.00	4.89	521.00			20.00	26.10	2.10	2.04	0.13	24.00	24.06	1.30		3.90	3.00	0.15	33.00	24.00	0.24	0.09	24.00	0.05	41.00	0.20	11.00	0.00	11.00	28.00		
PZ-O6N-17	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.53	6.21	24.50	4.39	97.08				3.58	0.86	0.81	0.05	2.72	2.77						3.47	2.69	0.03											
	STD. DEV.	0.78	0.26	3.79	0.66	49.44				4.50	0.46	0.46	0.04	4.06	4.05						4.38	4.01	0.04											
	MIN	25.40	5.85	22.00	3.60	59.20				0.97	0.47	0.46	0.01	0.50	0.51						0.96	0.50	0.01											
	MAX	27.20	6.47	30.00	5.21	169.10				10.30	1.50	1.46	0.09	8.80	8.84						10.00	8.70	0.09											
PZ-O6N-21	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.45	5.22	10.60	3.16	128.10				2.97	0.67	0.66	0.01	2.30	2.31						4.80	2.30	0.02											
	STD. DEV.	0.64	0.45	1.93	0.64	58.83				0.46	0.07	0.07	0.00	0.48	0.48						1.95	0.48	0.03											
	MIN	25.50	4.76	8.40	2.53	93.00				2.33	0.58	0.57	0.01	1.60	1.62						3.20	1.60	0.01											
	MAX	26.80	5.80	13.00	4.04	215.70				3.41	0.73	0.71	0.02	2.70	2.71						7.60	2.70	0.06											
PZ-03O-15	n	4	4	4	4	4	0	0	1	4	4	4	4	4	4	1	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.55	6.84	40.50	5.41	124.98			10.00	2.54	0.84	0.82	0.01	1.70	1.71	0.56					2.13	1.68	0.02											
	STD. DEV.	1.42	0.48	9.47	2.08	27.83				0.73	0.35	0.35	0.01	0.42	0.42						0.36	0.47	0.02											
	MIN	22.70	6.50	33.00	2.40	91.90			10.00	1.58	0.48	0.47	0.01	1.10	1.11	0.56					1.60	1.00	0.01											
	MAX	26.10	7.55	54.00	7.00	152.00			10.00	3.30	1.30	1.29	0.02	2.00	2.01	0.56					2.40	2.00	0.04											
PZ-03O-17	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	1	1	1	4	4	4	1	1	1	1	1	1	1	1	1	0	0
	MEAN	24.63	6.53	20.75	4.31	59.48				1.25	0.42	0.41	0.01	0.83	0.84			3.60	3.20	0.54	1.36	0.81	0.02	0.17	4.10	0.05	7.30	0.12	1.90	0.00	2.10	1.10		
	STD. DEV.	1.30	0.28	6.90	1.96	2.78				0.36	0.22	0.22	0.01	0.20	0.21						0.46	0.21	0.02											
	MIN	22.80	6.30	15.00	2.30	56.40				0.88	0.22	0.21	0.01	0.66	0.67			3.60	3.20	0.54	0.92	0.66	0.01	0.17	4.10	0.05	7.30	0.12	1.90	0.00	2.10	1.10		
	MAX	25.80	6.90	30.00	6.92	63.00				1.57	0.71	0.70	0.03	1.10	1.13			3.60	3.20	0.54	1.80	1.10	0.05	0.17	4.10	0.05	7.30	0.12	1.90	0.00	2.10	1.10		
PZ-03O-21	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	1	1	1	4	4	4	1	1	1	1	1	1	1	1	1	0	0
	MEAN	25.33	4.99	6.30	2.11	217.58				9.22	1.19	1.18	0.01	8.03	8.03			1.60	1.50	0.02	11.75	8.03	0.01	0.01	32.00	0.05	20.00	0.03	5.10	0.01	10.00	3.40		
	STD. DEV.	0.82	0.43	4.87	0.40	31.07				1.87	0.30	0.30	0.00	1.68	1.68						1.89	1.68	0.00											
	MIN	24.30	4.50	2.10	1.73	181.00				6.64	0.93	0.92	0.01	5.70	5.71			1.60	1.50	0.02	9.00	5.70	0.01	0.01	32.00	0.05	20.00	0.03	5.10	0.01	10.00	3.40		
	MAX	26.20	5.52	11.00	2.62	256.00				11.10	1.50	1.49	0.01	9.70	9.71			1.60	1.50	0.02	13.00	9.70	0.01	0.01	32.00	0.05	20.00	0.03	5.10	0.01	10.00	3.40		

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Table E.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)	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							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	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	3	3	3	4	4	4	3	3	3	3	3	3	3	3	3	0	0
	MEAN	24.90	6.43	27.75	4.48	142.73			12.25	7.05	1.27	1.25	0.02	5.78	5.79	2.04		4.77	3.97	0.25	5.80	5.75	0.03	1.55	8.13	0.05	16.33	0.16	2.23	0.00	3.40	6.77		
	STD. DEV.	0.94	0.44	10.28	1.60	82.22			2.63	2.69	0.61	0.61	0.01	2.36	2.36	1.04		0.61	1.18	0.19	2.46	2.41	0.03	1.00	5.30	0.00	4.04	0.11	0.80	0.00	1.31	4.64		
	MIN	23.90	6.00	17.00	2.30	25.10			10.00	3.09	0.59	0.58	0.01	2.50	2.51	0.67		4.10	2.60	0.14	2.60	2.40	0.01	0.44	3.70	0.05	12.00	0.03	1.40	0.00	2.20	1.80		
	MAX	26.10	7.04	40.00	6.10	208.60			15.00	8.90	2.00	1.97	0.03	7.60	7.63	2.90		5.30	4.70	0.47	8.30	7.60	0.07	2.40	14.00	0.05	20.00	0.24	3.00	0.00	4.80	11.00		
PZ-04O-17	n	4	4	4	4	4	0	0	3	4	4	4	4	4	4	1	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.98	6.56	25.75	2.83	122.95			11.33	4.28	0.81	0.80	0.01	3.46	3.47	2.70					3.33	3.45	0.02											
	STD. DEV.	0.81	0.47	9.60	1.61	57.89			2.31	2.81	0.30	0.30	0.00	2.60	2.60						2.23	2.61	0.02											
	MIN	23.90	6.25	19.00	1.21	81.00			10.00	1.12	0.37	0.36	0.01	0.75	0.76	2.70					1.60	0.71	0.01											
	MAX	25.80	7.25	40.00	5.06	208.60			14.00	7.95	1.00	0.99	0.01	7.00	7.01	2.70					6.60	7.00	0.04											
PZ-04O-21	n	4	4	4	4	4	0	0	3	4	4	4	4	4	4	2	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.53	5.45	7.88	2.69	230.00			12.00	7.28	1.15	1.14	0.01	6.13	6.14	0.07					10.45	6.13	0.01											
	STD. DEV.	0.82	0.42	3.06	1.05	55.35				0.87	0.30	0.31	0.01	0.64	0.64	0.02					1.83	0.64	0.00											
	MIN	24.60	4.90	5.20	1.76	150.00			10.00	6.16	0.84	0.82	0.01	5.20	5.21	0.06					7.80	5.20	0.01											
	MAX	26.40	5.81	11.00	3.85	276.00			16.00	8.10	1.50	1.49	0.02	6.60	6.61	0.08					12.00	6.60	0.01											
PZ-07O-15	n	4	4	4	4	4	0	0	3	3	3	3	3	4	3	3	0	1	1	1	4	4	4	1	1	1	1	1	1	1	1	1	0	0
	MEAN	25.25	6.16	28.50	4.52	221.95			10.00	10.03	1.23	1.22	0.01	10.10	8.81	0.30		5.60	4.60	0.35	8.75	10.10	0.03	0.29	13.00	0.05	31.00	0.10	4.10	0.00	7.40	7.90		
	STD. DEV.	1.40	0.19	5.20	0.49	137.70			0.00	10.02	0.32	0.32	0.00	8.34	9.70	0.11					9.31	8.34	0.04											
	MIN	23.70	5.98	21.00	4.05	93.00			10.00	4.10	1.00	0.99	0.01	3.00	3.01	0.22		5.60	4.60	0.35	1.40	3.00	0.01	0.29	13.00	0.05	31.00	0.10	4.10	0.00	7.40	7.90		
	MAX	27.00	6.35	33.00	5.17	377.00			10.00	21.60	1.60	1.59	0.01	20.00	20.01	0.43		5.60	4.60	0.35	21.00	20.00	0.08	0.29	13.00	0.05	31.00	0.10	4.10	0.00	7.40	7.90		
PZ-07O-17	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.28	6.46	30.50	2.50	105.15				2.94	1.55	1.39	0.16	1.39	1.54						1.53	1.38	0.02											
	STD. DEV.	1.40	0.17	2.65	0.48	28.51				1.80	1.17	1.02	0.15	0.73	0.84						0.81	0.75	0.01											
	MIN	23.80	6.33	27.00	2.15	81.60				1.05	0.60	0.56	0.04	0.44	0.49						0.90	0.41	0.01											
	MAX	27.10	6.71	33.00	3.20	142.30				4.80	3.00	2.64	0.36	2.10	2.28						2.70	2.10	0.03											
PZ-07O-20	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.28	5.58	8.95	2.64	108.25				4.94	1.49	1.48	0.01	3.45	3.46						6.93	3.45	0.02											
	STD. DEV.	0.94	0.36	1.84	1.37	16.56				3.04	0.85	0.85	0.00	2.24	2.24						2.77	2.24	0.02											
	MIN	24.20	5.28	7.40	0.59	88.60				2.94	0.74	0.73	0.01	2.20	2.21						4.90	2.20	0.01											
	MAX	26.20	6.04	11.00	3.56	129.00				9.40	2.60	2.59	0.01	6.80	6.81						11.00	6.80	0.05											
PZ-01Q-13	n	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.70	6.45	20.00	5.72	69.10			21.00	1.71	0.62	0.59	0.04	1.09	1.13	0.27					1.43	1.08	0.04											
	STD. DEV.	1.70	0.26	8.04	0.92	14.37			7.39	1.27	0.26	0.24	0.02	1.04	1.05	0.06					0.40	1.05	0.03											
	MIN	22.30	6.21	11.00	4.67	48.40			10.00	0.81	0.34	0.33	0.01	0.36	0.39	0.21					1.00	0.30	0.01											
	MAX	26.10	6.80	30.00	6.86	81.00			26.00	3.52	0.92	0.87	0.05	2.60	2.65	0.33					1.90	2.60	0.07											
PZ-01Q-15	n	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.98	5.78	11.40	4.88	52.48			28.50	1.96	0.87	0.77	0.09	1.09	1.18	0.72					0.92	1.08	0.02											
	STD. DEV.	1.32	0.53	7.34	1.56	16.89			13.60	0.73	0.62	0.51	0.12	0.36	0.37	0.67					0.22	0.37	0.02											
	MIN	23.10	4.99	5.20	3.05	42.90			10.00	1.34	0.50	0.44	0.01	0.83	0.86	0.24					0.71	0.79	0.01											
	MAX	26.00	6.10	22.00	6.51	77.70			42.00	2.90	1.80	1.53	0.27	1.60	1.61	1.70					1.20	1.60	0.04											
PZ-01Q-19	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.98	5.38	6.58	4.16	61.78				4.03	1.81	1.63	0.18	2.23	2.40						2.68	2.23	0.03											
	STD. DEV.	0.88	0.48	4.57	1.00	11.60				2.35	2.46	2.13	0.33	0.88	0.84						1.08	0.88	0.04											
	MIN	23.70	5.09	2.10	3.20	49.70				1.97	0.47	0.46	0.01	1.50	1.51						1.40	1.50	0.01											
	MAX	25.60	6.09	11.00	5.55	76.40				7.30	5.50	4.82	0.68	3.50	3.51						3.80	3.50	0.08											

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Table E.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)	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							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	4	4	4	4	4	0	0	4	4	4	4	4	4	4	3	0	2	2	2	4	4	4	2	2	2	2	2	2	2	2	2	0	0
	MEAN	25.55	6.47	36.75	5.47	153.00			28.25	7.11	1.61	1.55	0.07	5.50	5.57	1.40		6.75	6.20	0.24	5.18	5.50	0.03	1.30	6.35	0.05	18.50	0.03	2.75	0.00	4.00	7.15		
	STD. DEV.	1.06	0.40	8.85	0.74	43.49			18.73	3.89	0.65	0.59	0.08	3.28	3.32	0.36		2.33	1.56	0.01	4.24	3.28	0.04	0.71	1.20	0.00	2.12	0.01	0.35	0.00	1.13	0.35		
	MIN	24.40	6.00	32.00	4.37	95.10			15.00	3.05	0.85	0.84	0.01	2.20	2.21	1.10		5.10	5.10	0.23	1.60	2.20	0.01	0.79	5.50	0.05	17.00	0.02	2.50	0.00	3.20	6.90		
	MAX	26.50	6.98	50.00	5.89	188.80			56.00	11.10	2.40	2.22	0.18	8.70	8.88	1.80		8.40	7.30	0.24	11.00	8.70	0.08	1.80	7.20	0.05	20.00	0.03	3.00	0.00	4.80	7.40		
PZ-04Q-15	n	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	2	2	1	4	4	4	1	1	1	1	1	1	1	1	1	0	0
	MEAN	25.13	6.51	18.00	3.10	89.70			10.75	2.63	0.77	0.75	0.03	1.86	1.89	1.73		3.60	3.20	0.35	1.83	1.85	0.02	0.25	6.00	0.05	11.00	0.02	2.40	0.00	3.10	1.60		
	STD. DEV.	0.90	0.72	4.83	0.59	13.73			1.50	1.38	0.36	0.36	0.02	1.04	1.03	0.99		0.42	0.28		0.67	1.06	0.03											
	MIN	24.00	5.60	11.00	2.35	74.80			10.00	1.26	0.41	0.40	0.01	0.85	0.86	0.30		3.30	3.00	0.35	1.30	0.78	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	22.00	3.58	106.60			13.00	4.50	1.20	1.19	0.06	3.30	3.31	2.60		3.90	3.40	0.35	2.80	3.30	0.06	0.25	6.00	0.05	11.00	0.02	2.40	0.00	3.10	1.60		
PZ-04Q-19	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	1	1	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.43	6.09	28.08	2.92	123.80				7.71	5.14	4.98	0.17	2.57	2.73			6.40	2.40		5.38	2.54	0.03										
	STD. DEV.	0.48	0.15	25.72	0.69	83.91				7.08	7.32	7.30	0.23	2.71	2.60						3.78	2.72	0.04										
	MIN	24.80	5.86	5.30	2.02	75.90				1.57	0.37	0.36	0.01	0.86	1.21			6.40	2.40		2.90	0.86	0.01										
	MAX	25.80	6.20	65.00	3.50	249.00				17.60	16.00	15.84	0.49	6.60	6.61			6.40	2.40		11.00	6.60	0.08										
PZ-06Q-13	n	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	1	1	1	4	4	4	1	1	1	1	1	1	1	1	1	0	0
	MEAN	25.70	6.48	33.00	5.70	207.45			19.25	9.06	1.36	1.31	0.04	7.70	7.74	0.60		10.00	4.60	0.06	7.85	7.70	0.02	0.01	3.60	0.05	10.00	0.07	1.20	0.001	1.90	5.90		
	STD. DEV.	0.99	0.08	15.03	1.11	161.95			18.50	8.20	0.47	0.51	0.06	7.75	7.72	0.35					9.54	7.75	0.03										
	MIN	24.50	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	0.001	1.90	5.90		
	MAX	26.70	6.58	55.00	7.06	445.00			47.00	21.00	2.00	1.99	0.13	19.00	19.01	0.97		10.00	4.60	0.06	22.00	19.00	0.06	0.01	3.60	0.05	10.00	0.07	1.20	0.001	1.90	5.90		
PZ-06Q-15	n	4	4	4	4	4	0	0	4	4	4	4	4	4	4	3	0	1	1	1	4	4	4	1	1	1	1	1	1	1	1	1	0	0
	MEAN	25.45	6.45	39.25	3.06	332.48			10.25	16.35	1.82	1.81	0.01	14.53	14.54	4.53		7.10	5.90	0.11	12.63	14.53	0.01	3.1	7.7	0.05	23	0.039	2.8	0.0013	4	7.8		
	STD. DEV.	0.79	0.35	6.40	0.29	214.59			0.50	12.31	0.67	0.67	0.00	11.71	11.71	1.42					12.97	11.71	0.00										
	MIN	24.40	6.06	30.00	2.80	133.40			10.00	4.79	0.99	0.98	0.01	3.80	3.81	3.00		7.10	5.90	0.11	1.70	3.80	0.01	3.1	7.7	0.05	23	0.039	2.8	0.0013	4	7.8		
	MAX	26.30	6.85	44.00	3.47	599.00			11.00	29.20	2.50	2.48	0.02	27.00	27.01	5.80		7.10	5.90	0.11	30.00	27.00	0.01	3.1	7.7	0.05	23	0.039	2.8	0.0013	4	7.8		
PZ-06Q-19	n	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	0	0	0	4	4	3	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.85	6.54	33.00	0.44	88.23			45.50	8.11	6.84	6.75	0.09	1.27	1.36						2.30	1.24	0.07										
	STD. DEV.	0.33	0.27	14.99	0.18	15.85			63.25	14.46	12.77	12.65	0.12	1.70	1.82						0.75	1.71	0.03										
	MIN	25.40	6.20	20.00	0.28	72.00			10.00	0.67	0.33	0.32	0.01	0.21	0.27						1.30	0.21	0.04										
	MAX	26.10	6.85	54.00	0.66	110.00			140.00	29.80	26.00	25.73	0.27	3.80	4.07						3.10	3.80	0.09										
PZ-07Q-13	n	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	1	1	1	4	4	4	1	1	1	1	1	1	1	1	1	0	0
	MEAN	25.28	6.43	29.00	4.74	221.70			12.25	10.71	1.19	1.16	0.03	9.53	9.55	0.32		5.1	4.7	0.49	10.10	9.53	0.01	0.29	19	0.05	30	0.026	5.1	0.0012	5.8	12		
	STD. DEV.	1.54	0.21	13.59	0.57	124.53			2.63	8.04	0.40	0.42	0.02	7.65	7.64	0.06					9.17	7.65	0.00										
	MIN	23.60	6.12	11.00	4.03	114.80			10.00	3.79	0.79	0.76	0.01	3.00	3.03	0.23		5.1	4.7	0.49	1.60	3.00	0.01	0.29	19	0.05	30	0.026	5.1	0.0012	5.8	12		
	MAX	27.10	6.60	44.00	5.30	380.00			15.00	19.70	1.70	1.69	0.05	18.00	18.01	0.37		5.1	4.7	0.49	19.00	18.00	0.01	0.29	19	0.05	30	0.026	5.1	0.0012	5.8	12		
PZ-07Q-15	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.25	6.42	28.75	2.46	97.38				5.55	2.67	2.60	0.07	2.88	2.95						1.90	2.88	0.02										
	STD. DEV.	1.12	0.09	10.50	0.43	21.70				5.92	3.43	3.36	0.08	2.50	2.58						0.60	2.50	0.02										
	MIN	23.90	6.31	20.00	1.84	75.30				2.11	0.58	0.54	0.01	1.20	1.21						1.40	1.20	0.01										
	MAX	26.60	6.54	44.00	2.80	118.00				14.40	7.80	7.61	0.19	6.60	6.79						2.60	6.60	0.05										
PZ-07Q-19	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.43	5.72	22.85	3.16	119.73				8.62	6.70	6.64	0.05	1.93	1.98						5.10	1.92	0.03										
	STD. DEV.	0.83	0.41	26.17	0.55	20.13				12.34	12.20	12.12	0.08	0.62	0.65						1.59	0.64	0.03										
	MIN	24.60	5.35	2.00	2.50	101.00				1.54	0.48	0.47	0.01	1.00	1.01						2.80	0.96	0.01										
	MAX	26.50	6.30	60.00	3.67	148.00				27.10	25.00	24.83	0.17	2.30	2.32						6.30	2.30	0.07										

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Table E.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)	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							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	4	4	4	4	4	0	0	4	4	4	4	4	4	4	4	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.50	6.68	37.50	4.85	117.85			30.75	1.54	0.69	0.64	0.05	0.85	0.90	0.38					3.05	0.84	0.02											
	STD. DEV.	1.83	0.36	12.26	0.71	58.27			16.72	0.67	0.14	0.13	0.02	0.65	0.64	0.21					3.44	0.66	0.02											
	MIN	23.40	6.40	22.00	4.20	79.00			10.00	1.07	0.48	0.45	0.03	0.36	0.41	0.20					1.10	0.32	0.01											
	MAX	27.70	7.20	50.00	5.86	204.50			49.00	2.52	0.78	0.73	0.08	1.80	1.83	0.67					8.20	1.80	0.04											
PZ-04U-14	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.48	6.64	35.25	5.44	136.50				4.23	2.89	2.79	0.10	1.35	1.44						6.17	1.32	0.02											
	STD. DEV.	1.40	0.47	7.27	0.84	75.02				4.52	4.74	4.57	0.18	0.46	0.39						9.90	0.48	0.03											
	MIN	23.70	6.25	30.00	4.60	63.00				1.59	0.49	0.48	0.01	0.98	1.11						0.77	0.98	0.01											
	MAX	26.90	7.32	46.00	6.18	241.00				10.98	10.00	9.64	0.36	2.00	2.01						21.00	2.00	0.06											
PZ-04U-18	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.70	5.93	10.08	4.35	69.38				2.97	1.36	1.23	0.13	1.61	1.74						3.48	1.60	0.02											
	STD. DEV.	1.07	0.30	3.61	0.73	14.43				2.96	1.76	1.57	0.19	1.20	1.39						1.63	1.21	0.03											
	MIN	24.40	5.60	5.30	3.50	56.50				1.26	0.42	0.37	0.01	0.84	0.89						2.20	0.84	0.01											
	MAX	26.80	6.28	14.00	5.29	90.00				7.40	4.00	3.59	0.41	3.40	3.81						5.80	3.40	0.06											
PZ-06U-12	n	4	4	4	4	4	0	0	1	4	4	4	4	4	4	2	0	3	3	1	4	4	4	1	1	1	1	1	1	1	1	1	0	0
	MEAN	25.30	6.64	27.50	5.23	156.90			17.00	6.16	0.88	0.83	0.05	5.28	5.32	0.37		3.87	2.80	0.04	5.00	5.25	0.04	0.13	15.00	0.05	14.00	0.02	2.50	0.00	2.50	5.30		
	STD. DEV.	2.18	0.40	6.14	0.52	42.77				4.53	0.51	0.52	0.04	4.02	4.01	0.10		1.21	0.62		2.03	4.00	0.06											
	MIN	22.60	6.28	20.00	4.60	117.10			17.00	1.61	0.41	0.36	0.01	1.20	1.26	0.30		2.50	2.10	0.04	2.00	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	33.00	5.85	202.70			17.00	11.50	1.50	1.49	0.09	10.00	10.01	0.44		4.80	3.30	0.04	6.50	10.00	0.13	0.13	15.00	0.05	14.00	0.02	2.50	0.00	2.50	5.30		
PZ-06U-14	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	1	0	2	2	2	4	4	4	2	2	2	2	2	2	2	2	2	0	0
	MEAN	25.30	5.97	16.75	2.71	443.00				27.88	1.88	1.86	0.01	26.00	26.01	0.90		2.15	1.75	0.07	21.50	26.00	0.04	0.31	28.00	0.05	41.50	0.06	7.65	0.09	7.45	17.50		
	STD. DEV.	1.85	0.17	5.12	0.52	61.83				6.82	0.26	0.26	0.00	6.68	6.69			0.78	0.35	0.03	3.51	6.68	0.05	0.42	14.14	0.00	6.36	0.05	1.48	0.03	0.78	0.71		
	MIN	23.00	5.88	11.00	2.10	390.00				21.90	1.50	1.49	0.01	20.00	20.01	0.90		1.60	1.50	0.05	18.00	20.00	0.01	0.01	18.00	0.05	37.00	0.02	6.60	0.07	6.90	17.00		
	MAX	26.90	6.22	22.00	3.15	517.00				37.00	2.10	2.09	0.02	35.00	35.02	0.90		2.70	2.00	0.09	25.00	35.00	0.11	0.60	38.00	0.05	46.00	0.09	8.70	0.11	8.00	18.00		
PZ-06U-34	n	4	4	4	4	4	0	0	0	4	4	4	4	4	4	0	0	0	0	0	4	4	4	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.63	5.61	11.53	0.91	231.85				10.73	2.18	2.01	0.16	8.55	8.71						11.63	8.48	0.08											
	STD. DEV.	1.28	0.35	8.19	0.32	82.53				5.82	1.23	1.19	0.10	5.15	5.10						5.02	5.30	0.13											
	MIN	24.20	5.27	2.10	0.56	116.40				2.10	1.00	0.78	0.01	1.10	1.32						4.50	0.80	0.01											
	MAX	27.20	5.92	22.00	1.33	301.00				14.80	3.60	3.38	0.22	12.00	12.21						16.00	12.00	0.27											

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Table E.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)	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							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	4	4	4	4	4	4	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0
	MEAN	23.48	7.22	2.00	7.33	1.62	1.00	2.00	10.00	0.07	0.06	0.04	0.01	0.02	0.03	0.01	1.00	0.50	0.50	0.01	0.09	0.01	0.01	0.01	0.22	0.05	0.04	0.02	0.02	0.00	0.01	0.13	10.00	
	STD. DEV.	3.55	0.55	0.00	2.97	0.44	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	MIN	20.00	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	28.00	7.90	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	0.21	0.01	0.01	0.01	0.27	0.05	0.04	0.02	0.02	0.00	0.01	0.13	10.00	
FB-DI	n	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0
	MEAN	23.43	7.23	2.00	7.33	1.62	1.00	2.00	10.00	0.07	0.05	0.04	0.01	0.02	0.02	0.01	1.75	0.50	0.50	0.01	0.09	0.01	0.01	0.01	0.22	0.05	0.04	0.02	0.02	0.00	0.01	0.13	10.00	
	STD. DEV.	3.62	0.57	0.00	2.97	0.44	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.00	1.50	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	MIN	19.80	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	28.00	7.95	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	0.22	0.01	0.01	0.01	0.28	0.05	0.04	0.02	0.02	0.00	0.01	0.13	10.00	
FB-TAP	n	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0
	MEAN	24.03	7.09	89.67	4.57	327.67	1.00	2.00	12.67	0.52	0.15	0.14	0.01	0.37	0.38	0.03	1.00	0.76	0.50	0.05	11.33	0.32	0.06	0.01	35.00	0.05	41.33	0.02	10.33	0.00	3.63	7.27	263.33	
	STD. DEV.	1.45	0.53	8.50	1.32	2.52		0.00	4.62	0.18	0.11	0.11		0.12	0.12	0.02		0.22		0.03	1.15	0.04	0.09		5.20		2.52		0.58		0.21	0.50	15.28	
	MIN	23.10	6.50	80.00	3.05	325.00	1.00	2.00	10.00	0.32	0.05	0.04	0.01	0.27	0.28	0.01	1.00	0.50	0.50	0.02	10.00	0.27	0.01	0.01	29.00	0.05	39.00	0.02	10.00	0.00	3.40	6.80	250.00	
	MAX	25.70	7.51	96.00	5.44	330.00	1.00	2.00	18.00	0.64	0.26	0.25	0.01	0.50	0.51	0.04	1.00	0.91	0.50	0.08	12.00	0.35	0.16	0.01	38.00	0.05	44.00	0.02	11.00	0.00	3.80	7.80	280.00	

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 F: 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

June 27, 2013
Work Order: 1304718

Laboratory Report

Project Name **C-HS3 SE#4**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**STE**						
Matrix		**Wastewater**						
SAL Sample Number		**1304718-01**						
Date/Time Collected		**05/20/13 10:10**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		7.09						
Temperature		23.4 °C						
Conductivity		1346 umhos						
Dissolved Oxygen		0.09 mg/L						
Inorganics								
Ammonia as N	mg/L	50	EPA 350.1	2.0	0.47		05/31/13 16:15	50
Carbonaceous BOD	mg/L	88	SM 5210B	2	2	05/20/13 15:04	05/25/13 10:47	1
Chloride	mg/L	43	EPA 300.0	0.20	0.050		05/24/13 01:25	1
Nitrate (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Phosphorous - Total as P	mg/L	7.6	SM 4500P-E	0.20	0.050	05/30/13 14:01	06/05/13 09:23	5
Total Alkalinity	mg/L	320	SM 2320B	8.0	2.0		05/21/13 13:00	1
Total Kjeldahl Nitrogen	mg/L	53	EPA 351.2	0.20	0.05	05/31/13 10:02	06/04/13 14:23	41.67
Total Solids	mg/L	430	SM 2540B	10	10	05/24/13 09:36	05/25/13 09:35	1
Total Suspended Solids	mg/L	42	SM 2540D	1	1	05/22/13 13:09	05/23/13 15:31	1
Nitrate+Nitrite (N)	mg/L	0.02 U	EPA 300.0	0.08	0.02		05/21/13 14:22	1
Microbiology								
Fecal Coliforms	CFU/100 ml	35,000	SM 9222D	1	1	05/20/13 15:49	05/21/13 14:41	1

Sample Description		**STE-DUP**						
Matrix		**Wastewater**						
SAL Sample Number		**1304718-02**						
Date/Time Collected		**05/20/13 10:15**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		7.09						
Temperature		23.4 °C						
Conductivity		1346 umhos						
Dissolved Oxygen		0.09 mg/L						
Inorganics								
Ammonia as N	mg/L	51	EPA 350.1	2.0	0.47		05/31/13 16:17	50
Carbonaceous BOD	mg/L	74	SM 5210B	2	2	05/20/13 15:04	05/25/13 10:47	1
Chloride	mg/L	44	EPA 300.0	0.20	0.050		05/24/13 01:25	1
Nitrate (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		05/21/13 14:22	1

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Tampa, FL 33619

June 27, 2013
Work Order: 1304718

Laboratory Report

Project Name **C-HS3 SE#4**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**STE-DUP**						
Matrix		**Wastewater**						
SAL Sample Number		**1304718-02**						
Date/Time Collected		**05/20/13 10:15**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		7.09						
Temperature		23.4 °C						
Conductivity		1346 umhos						
Dissolved Oxygen		0.09 mg/L						
Phosphorous - Total as P	mg/L	7.3	SM 4500P-E	0.20	0.050	05/30/13 14:01	06/05/13 09:24	5
Total Alkalinity	mg/L	320	SM 2320B	8.0	2.0		05/21/13 13:00	1
Total Kjeldahl Nitrogen	mg/L	54	EPA 351.2	0.20	0.05	05/31/13 10:02	06/04/13 14:24	41.67
Total Solids	mg/L	430	SM 2540B	10	10	05/24/13 09:36	05/25/13 09:35	1
Total Suspended Solids	mg/L	37	SM 2540D	1	1	05/22/13 13:09	05/23/13 15:31	1
Nitrate+Nitrite (N)	mg/L	0.02 U	EPA 300.0	0.08	0.02		05/21/13 14:22	1
Microbiology								
Fecal Coliforms	CFU/100 ml	121,000	SM 9222D	1	1	05/20/13 15:49	05/21/13 14:41	1

Sample Description		**PZ-03A-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-03**						
Date/Time Collected		**05/20/13 09:12**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		6.90						
Temperature		25.8 °C						
Conductivity		38.5 umhos						
Dissolved Oxygen		7.14 mg/L						
Inorganics								
Ammonia as N	mg/L	0.046	EPA 350.1	0.040	0.009		05/31/13 14:32	1
Chemical Oxygen Demand	mg/L	22 I	EPA 410.4	25	10	05/28/13 08:29	05/28/13 16:56	1
Chloride	mg/L	1.1	EPA 300.0	0.20	0.050		05/21/13 14:22	1
Nitrate (as N)	mg/L	0.46	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Nitrite (as N)	mg/L	0.03 I	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Phosphorous - Total as P	mg/L	0.43	SM 4500P-E	0.040	0.010	05/30/13 14:01	06/05/13 09:25	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/21/13 13:00	1
Total Kjeldahl Nitrogen	mg/L	0.96	EPA 351.2	0.20	0.05	05/31/13 10:02	06/04/13 13:10	1
Nitrate+Nitrite (N)	mg/L	0.49	EPA 300.0	0.08	0.02		05/21/13 14:22	1

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June 27, 2013
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Laboratory Report

Project Name **C-HS3 SE#4**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-03A-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-04**						
Date/Time Collected		**05/20/13 09:31**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		6.43						
Temperature		26.2 °C						
Conductivity		87.4 umhos						
Dissolved Oxygen		6.33 mg/L						
Inorganics								
Ammonia as N	mg/L	0.040	EPA 350.1	0.040	0.009		05/31/13 15:51	1
Chemical Oxygen Demand	mg/L	16 I	EPA 410.4	25	10	05/28/13 08:29	05/28/13 16:56	1
Chloride	mg/L	2.9	EPA 300.0	0.20	0.050		05/21/13 14:22	1
Nitrate (as N)	mg/L	0.37	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Nitrite (as N)	mg/L	0.07	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Phosphorous - Total as P	mg/L	0.18	SM 4500P-E	0.040	0.010	05/30/13 14:01	06/05/13 10:38	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/21/13 13:00	1
Total Kjeldahl Nitrogen	mg/L	0.66	EPA 351.2	0.20	0.05	05/31/13 10:02	06/04/13 14:26	1
Nitrate+Nitrite (N)	mg/L	0.44	EPA 300.0	0.08	0.02		05/21/13 14:22	1

Sample Description		**PZ-03A-17-DUP**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-05**						
Date/Time Collected		**05/20/13 09:36**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		6.43						
Temperature		26.2 °C						
Conductivity		87.4 umhos						
Dissolved Oxygen		6.33 mg/L						
Inorganics								
Ammonia as N	mg/L	0.041	EPA 350.1	0.040	0.009		05/31/13 15:53	1
Chemical Oxygen Demand	mg/L	16 I	EPA 410.4	25	10	05/28/13 08:29	05/28/13 16:56	1
Chloride	mg/L	2.9	EPA 300.0	0.20	0.050		05/21/13 14:22	1
Nitrate (as N)	mg/L	0.38	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Phosphorous - Total as P	mg/L	0.18	SM 4500P-E	0.040	0.010	05/30/13 14:01	06/05/13 10:39	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/21/13 13:00	1
Total Kjeldahl Nitrogen	mg/L	0.61	EPA 351.2	0.20	0.05	05/31/13 10:02	06/04/13 14:27	1
Nitrate+Nitrite (N)	mg/L	0.43	EPA 300.0	0.08	0.02		05/21/13 14:22	1

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Laboratory Report

Project Name **C-HS3 SE#4**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-03A-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-06**						
Date/Time Collected		**05/20/13 09:47**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		5.86						
Temperature		26.5 °C						
Conductivity		240 umhos						
Dissolved Oxygen		4.20 mg/L						
Inorganics								
Ammonia as N	mg/L	0.078	EPA 350.1	0.040	0.009		05/31/13 14:38	1
Chemical Oxygen Demand	mg/L	18 I	EPA 410.4	25	10	05/28/13 08:29	05/28/13 16:56	1
Chloride	mg/L	7.7	EPA 300.0	0.20	0.050		05/21/13 14:22	1
Fluoride	mg/L	0.010 U	EPA 300.0	0.040	0.010		05/21/13 14:22	1
Nitrate (as N)	mg/L	7.1	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Nitrite (as N)	mg/L	0.15	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Orthophosphate as P	mg/L	0.010 U	EPA 300.0	0.040	0.010		05/21/13 14:22	1
Phosphorous - Total as P	mg/L	0.033 I	SM 4500P-E	0.040	0.010	05/30/13 14:01	06/05/13 09:28	1
Sulfate	mg/L	23	EPA 300.0	0.60	0.20		05/21/13 14:22	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/21/13 13:00	1
Total Kjeldahl Nitrogen	mg/L	0.87	EPA 351.2	0.20	0.05	05/31/13 10:02	06/04/13 13:14	1
Total Organic Carbon	mg/L	2.7	SM 5310B	1.0	0.50		05/22/13 10:04	1
Nitrate+Nitrite (N)	mg/L	7.3	EPA 300.0	0.08	0.02		05/21/13 14:22	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	2.1	SM 5310B	1.0	0.50		05/22/13 10:04	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	05/23/13 08:20	05/23/13 14:26	1
Calcium	mg/L	26	EPA 200.7	0.50	0.042	05/23/13 08:20	05/23/13 14:26	1
Iron	mg/L	0.020 U	EPA 200.7	0.10	0.020	05/23/13 08:20	05/23/13 14:26	1
Magnesium	mg/L	4.3	EPA 200.7	0.50	0.020	05/23/13 08:20	05/23/13 14:26	1
Manganese	mg/L	0.0079 I	EPA 200.7	0.010	0.0010	05/23/13 08:20	05/23/13 14:26	1
Potassium	mg/L	8.1	EPA 200.7	0.050	0.010	05/23/13 08:20	05/23/13 14:26	1
Sodium	mg/L	5.4	EPA 200.7	0.50	0.13	05/23/13 08:20	05/23/13 14:26	1

Sample Description	**PZ-03A-34**
Matrix	**Groundwater**
SAL Sample Number	**1304718-07**
Date/Time Collected	**05/21/13 13:02**
Collected by	**Sean Schmidt**
Date/Time Received	**05/21/13 15:45**

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-03A-34**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-07**						
Date/Time Collected		**05/21/13 13:02**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		7.47						
Temperature		26.6 °C						
Conductivity		181.6 umhos						
Dissolved Oxygen		1.38 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		05/31/13 14:40	1
Chemical Oxygen Demand	mg/L	16 I	EPA 410.4	25	10	05/28/13 08:29	05/28/13 16:56	1
Chloride	mg/L	9.4	EPA 300.0	0.20	0.050		05/22/13 15:59	1
Nitrate (as N)	mg/L	7.9	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Nitrite (as N)	mg/L	0.06	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Phosphorous - Total as P	mg/L	0.078	SM 4500P-E	0.040	0.010	05/30/13 14:01	06/05/13 09:29	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		05/22/13 15:45	1
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	05/31/13 10:02	06/04/13 13:16	1
Nitrate+Nitrite (N)	mg/L	8.0	EPA 300.0	0.08	0.02		05/22/13 15:59	1

Sample Description		**PZ-03I-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-08**						
Date/Time Collected		**05/21/13 12:41**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		5.79						
Temperature		27.6 °C						
Conductivity		44.3 umhos						
Dissolved Oxygen		5.20 mg/L						
Inorganics								
Ammonia as N	mg/L	0.045	EPA 350.1	0.040	0.009		05/31/13 14:42	1
Chemical Oxygen Demand	mg/L	16 I	EPA 410.4	25	10	05/28/13 08:29	05/28/13 16:56	1
Chloride	mg/L	1.3	EPA 300.0	0.20	0.050		05/22/13 15:59	1
Nitrate (as N)	mg/L	1.4	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Nitrite (as N)	mg/L	0.02 I	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Phosphorous - Total as P	mg/L	0.30	SM 4500P-E	0.040	0.010	05/30/13 14:01	06/05/13 09:30	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		05/22/13 15:45	1
Total Kjeldahl Nitrogen	mg/L	0.74	EPA 351.2	0.20	0.05	05/31/13 10:02	06/04/13 13:18	1
Nitrate+Nitrite (N)	mg/L	1.4	EPA 300.0	0.08	0.02		05/22/13 15:59	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-03I-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-09**						
Date/Time Collected		**05/21/13 12:56**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		5.66						
Temperature		27.3 °C						
Conductivity		48.6 umhos						
Dissolved Oxygen		6.15 mg/L						
Inorganics								
Ammonia as N	mg/L	0.14	EPA 350.1	0.040	0.009		05/31/13 14:44	1
Chloride	mg/L	1.5	EPA 300.0	0.20	0.050		05/22/13 15:59	1
Nitrate (as N)	mg/L	0.55	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Nitrite (as N)	mg/L	0.03 I	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		05/22/13 15:45	1
Total Kjeldahl Nitrogen	mg/L	1.0	EPA 351.2	0.20	0.05	05/31/13 10:02	06/04/13 13:19	1
Nitrate+Nitrite (N)	mg/L	0.58	EPA 300.0	0.08	0.02		05/22/13 15:59	1

Sample Description		**PZ-03I-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-10**						
Date/Time Collected		**05/21/13 13:12**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		4.89						
Temperature		27.4 °C						
Conductivity		172.7 umhos						
Dissolved Oxygen		3.78 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		05/31/13 14:46	1
Chloride	mg/L	7.8	EPA 300.0	0.20	0.050		05/22/13 15:59	1
Nitrate (as N)	mg/L	6.9	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Nitrite (as N)	mg/L	0.13	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		05/22/13 15:45	1
Total Kjeldahl Nitrogen	mg/L	1.1	EPA 351.2	0.20	0.05	05/31/13 10:02	06/04/13 13:21	1
Nitrate+Nitrite (N)	mg/L	7.0	EPA 300.0	0.08	0.02		05/22/13 15:59	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-03K-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-11**						
Date/Time Collected		**05/21/13 10:23**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		6.75						
Temperature		26.3 °C						
Conductivity		130.6 umhos						
Dissolved Oxygen		5.41 mg/L						
Inorganics								
Ammonia as N	mg/L	0.080	EPA 350.1	0.040	0.009		05/31/13 14:56	1
Chemical Oxygen Demand	mg/L	22 I	EPA 410.4	25	10	05/28/13 08:29	05/28/13 16:56	1
Chloride	mg/L	3.9	EPA 300.0	0.20	0.050		05/22/13 15:59	1
Fluoride	mg/L	0.13	EPA 300.0	0.040	0.010		05/22/13 15:59	1
Nitrate (as N)	mg/L	4.2	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Orthophosphate as P	mg/L	2.0	EPA 300.0	0.040	0.010		05/22/13 15:59	1
Phosphorous - Total as P	mg/L	4.2	SM 4500P-E	0.20	0.050	05/30/13 14:01	06/05/13 09:44	5
Sulfate	mg/L	5.0	EPA 300.0	0.60	0.20		05/22/13 15:59	1
Total Alkalinity	mg/L	33	SM 2320B	8.0	2.0		05/22/13 15:45	1
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	05/31/13 10:02	06/04/13 13:30	1
Total Organic Carbon	mg/L	3.6	SM 5310B	1.0	0.50		05/22/13 10:04	1
Nitrate+Nitrite (N)	mg/L	4.2	EPA 300.0	0.08	0.02		05/22/13 15:59	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	2.7	SM 5310B	1.0	0.50		05/22/13 10:04	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	05/23/13 08:20	05/23/13 14:29	1
Calcium	mg/L	19	EPA 200.7	0.50	0.042	05/23/13 08:20	05/23/13 14:29	1
Iron	mg/L	0.16	EPA 200.7	0.10	0.020	05/23/13 08:20	05/23/13 14:29	1
Magnesium	mg/L	2.6	EPA 200.7	0.50	0.020	05/23/13 08:20	05/23/13 14:29	1
Manganese	mg/L	0.0052 I	EPA 200.7	0.010	0.0010	05/23/13 08:20	05/23/13 14:29	1
Potassium	mg/L	3.7	EPA 200.7	0.050	0.010	05/23/13 08:20	05/23/13 14:29	1
Sodium	mg/L	4.6	EPA 200.7	0.50	0.13	05/23/13 08:20	05/23/13 14:29	1

Sample Description	**PZ-03K-17**
Matrix	**Groundwater**
SAL Sample Number	**1304718-12**
Date/Time Collected	**05/21/13 10:46**
Collected by	**Sean Schmidt**
Date/Time Received	**05/21/13 15:45**

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-03K-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-12**						
Date/Time Collected		**05/21/13 10:46**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		6.18						
Temperature		26.7 °C						
Conductivity		45.8 umhos						
Dissolved Oxygen		5.98 mg/L						
Inorganics								
Ammonia as N	mg/L	0.10	EPA 350.1	0.040	0.009		05/31/13 14:58	1
Chloride	mg/L	1.0	EPA 300.0	0.20	0.050		05/22/13 15:59	1
Nitrate (as N)	mg/L	0.46	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/22/13 15:45	1
Total Kjeldahl Nitrogen	mg/L	0.72	EPA 351.2	0.20	0.05	05/29/13 08:19	06/06/13 12:07	1
Nitrate+Nitrite (N)	mg/L	0.50	EPA 300.0	0.08	0.02		05/22/13 15:59	1

Sample Description		**PZ-03K-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-13**						
Date/Time Collected		**05/21/13 11:01**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		5.86						
Temperature		26.2 °C						
Conductivity		178.7 umhos						
Dissolved Oxygen		3.03 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		05/31/13 15:00	1
Chloride	mg/L	6.6	EPA 300.0	0.20	0.050		05/22/13 15:59	1
Nitrate (as N)	mg/L	3.9	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Nitrite (as N)	mg/L	0.15	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Total Alkalinity	mg/L	33	SM 2320B	8.0	2.0		05/22/13 15:45	1
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	05/29/13 08:19	06/06/13 12:09	1
Nitrate+Nitrite (N)	mg/L	4.0	EPA 300.0	0.08	0.02		05/22/13 15:59	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-02L-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-14**						
Date/Time Collected		**05/21/13 10:06**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		6.30						
Temperature		26.2 °C						
Conductivity		62.3 umhos						
Dissolved Oxygen		5.47 mg/L						
Inorganics								
Ammonia as N	mg/L	0.015 I	EPA 350.1	0.040	0.009		05/31/13 15:02	1
Chemical Oxygen Demand	mg/L	28	EPA 410.4	25	10	05/28/13 08:29	05/28/13 16:56	1
Chloride	mg/L	1.4	EPA 300.0	0.20	0.050		05/22/13 15:59	1
Nitrate (as N)	mg/L	1.2	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Nitrite (as N)	mg/L	0.03 I	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Phosphorous - Total as P	mg/L	0.45	SM 4500P-E	0.040	0.010	05/30/13 14:01	06/05/13 09:31	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/22/13 15:45	1
Total Kjeldahl Nitrogen	mg/L	0.59	EPA 351.2	0.20	0.05	05/29/13 08:19	06/06/13 12:10	1
Nitrate+Nitrite (N)	mg/L	1.2	EPA 300.0	0.08	0.02		05/22/13 15:59	1

Sample Description		**PZ-02L-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-15**						
Date/Time Collected		**05/21/13 10:20**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		6.86						
Temperature		26.0 °C						
Conductivity		75.1 umhos						
Dissolved Oxygen		5.44 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		05/31/13 15:05	1
Chloride	mg/L	1.6	EPA 300.0	0.20	0.050		05/22/13 15:59	1
Nitrate (as N)	mg/L	0.58	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/22/13 15:45	1
Total Kjeldahl Nitrogen	mg/L	0.33	EPA 351.2	0.20	0.05	05/29/13 08:19	06/06/13 12:12	1
Nitrate+Nitrite (N)	mg/L	0.64	EPA 300.0	0.08	0.02		05/22/13 15:59	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-02L-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-16**						
Date/Time Collected		**05/21/13 10:36**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		5.14						
Temperature		26.2 °C						
Conductivity		194.5 umhos						
Dissolved Oxygen		2.72 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		05/31/13 15:06	1
Chloride	mg/L	6.7	EPA 300.0	0.20	0.050		05/22/13 15:59	1
Nitrate (as N)	mg/L	5.2	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Nitrite (as N)	mg/L	0.14	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		05/22/13 15:45	1
Total Kjeldahl Nitrogen	mg/L	1.8	EPA 351.2	0.20	0.05	05/29/13 08:19	06/06/13 12:13	1
Nitrate+Nitrite (N)	mg/L	5.4	EPA 300.0	0.08	0.02		05/22/13 15:59	1
Sample Description		**PZ-04L-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-17**						
Date/Time Collected		**05/21/13 10:55**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		6.63						
Temperature		26.4 °C						
Conductivity		247 umhos						
Dissolved Oxygen		5.56 mg/L						
Inorganics								
Ammonia as N	mg/L	0.018 I	EPA 350.1	0.040	0.009		05/31/13 15:08	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	05/29/13 08:00	05/29/13 15:08	1
Chloride	mg/L	7.9	EPA 300.0	0.20	0.050		05/22/13 15:59	1
Fluoride	mg/L	0.12	EPA 300.0	0.040	0.010		05/22/13 15:59	1
Nitrate (as N)	mg/L	7.3	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Nitrite (as N)	mg/L	0.12	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Orthophosphate as P	mg/L	2.2	EPA 300.0	0.040	0.010		05/22/13 15:59	1
Phosphorous - Total as P	mg/L	4.1	SM 4500P-E	0.40	0.10	06/03/13 14:26	06/05/13 15:09	10
Sulfate	mg/L	7.9	EPA 300.0	0.60	0.20		05/22/13 15:59	1
Total Alkalinity	mg/L	33	SM 2320B	8.0	2.0		05/22/13 15:45	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	05/29/13 08:19	06/06/13 12:14	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04L-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-17**						
Date/Time Collected		**05/21/13 10:55**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		6.63						
Temperature		26.4 °C						
Conductivity		247 umhos						
Dissolved Oxygen		5.56 mg/L						
Total Organic Carbon	mg/L	3.3	SM 5310B	1.0	0.50		05/22/13 10:04	1
Nitrate+Nitrite (N)	mg/L	7.4	EPA 300.0	0.08	0.02		05/22/13 15:59	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	2.4	SM 5310B	1.0	0.50		05/22/13 10:04	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	05/23/13 08:20	05/23/13 14:33	1
Calcium	mg/L	27	EPA 200.7	0.50	0.042	05/23/13 08:20	05/23/13 14:33	1
Iron	mg/L	0.11	EPA 200.7	0.10	0.020	05/23/13 08:20	05/23/13 14:33	1
Magnesium	mg/L	5.1	EPA 200.7	0.50	0.020	05/23/13 08:20	05/23/13 14:33	1
Manganese	mg/L	0.0016 I	EPA 200.7	0.010	0.0010	05/23/13 08:20	05/23/13 14:33	1
Potassium	mg/L	4.2	EPA 200.7	0.050	0.010	05/23/13 08:20	05/23/13 14:33	1
Sodium	mg/L	9.5	EPA 200.7	0.50	0.13	05/23/13 08:20	05/23/13 14:33	1

Sample Description		**PZ-04L-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-18**						
Date/Time Collected		**05/21/13 11:15**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		6.00						
Temperature		26.2 °C						
Conductivity		49.6 umhos						
Dissolved Oxygen		6.13 mg/L						
Inorganics								
Ammonia as N	mg/L	0.095	EPA 350.1	0.040	0.009		05/31/13 10:56	1
Chloride	mg/L	0.97	EPA 300.0	0.20	0.050		05/22/13 15:59	1
Nitrate (as N)	mg/L	0.45	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Nitrite (as N)	mg/L	0.02 I	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/22/13 15:45	1
Total Kjeldahl Nitrogen	mg/L	0.51	EPA 351.2	0.20	0.05	05/29/13 08:19	06/06/13 12:16	1
Nitrate+Nitrite (N)	mg/L	0.47	EPA 300.0	0.08	0.02		05/22/13 15:59	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04L-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-19**						
Date/Time Collected		**05/21/13 11:31**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		5.97						
Temperature		26.4 °C						
Conductivity		205.3 umhos						
Dissolved Oxygen		2.69 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		05/31/13 10:58	1
Chloride	mg/L	5.7	EPA 300.0	0.20	0.050		05/22/13 15:59	1
Nitrate (as N)	mg/L	3.2	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Nitrite (as N)	mg/L	0.15	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Total Alkalinity	mg/L	33	SM 2320B	8.0	2.0		05/22/13 15:45	1
Total Kjeldahl Nitrogen	mg/L	1.2	EPA 351.2	0.20	0.05	05/29/13 08:19	06/06/13 12:17	1
Nitrate+Nitrite (N)	mg/L	3.3	EPA 300.0	0.08	0.02		05/22/13 15:59	1
Sample Description		**PZ-07L-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-20**						
Date/Time Collected		**05/21/13 12:14**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		6.12						
Temperature		27.6 °C						
Conductivity		54.1 umhos						
Dissolved Oxygen		2.89 mg/L						
Inorganics								
Ammonia as N	mg/L	0.11	EPA 350.1	0.040	0.009		05/31/13 11:01	1
Chemical Oxygen Demand	mg/L	71	EPA 410.4	25	10	05/28/13 08:29	05/28/13 16:56	1
Chloride	mg/L	0.78	EPA 300.0	0.20	0.050		05/22/13 15:59	1
Nitrate (as N)	mg/L	0.40	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Phosphorous - Total as P	mg/L	3.1	SM 4500P-E	0.40	0.10	06/03/13 14:26	06/05/13 15:09	10
Total Alkalinity	mg/L	33	SM 2320B	8.0	2.0		05/22/13 15:45	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	05/29/13 08:19	06/06/13 12:18	1
Nitrate+Nitrite (N)	mg/L	0.44	EPA 300.0	0.08	0.02		05/22/13 15:59	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-07L-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-21**						
Date/Time Collected		**05/21/13 12:30**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		6.40						
Temperature		26.5 °C						
Conductivity		49.6 umhos						
Dissolved Oxygen		5.69 mg/L						
Inorganics								
Ammonia as N	mg/L	0.12	EPA 350.1	0.040	0.009		05/31/13 11:03	1
Chloride	mg/L	0.94	EPA 300.0	0.20	0.050		05/22/13 15:59	1
Nitrate (as N)	mg/L	0.58	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Nitrite (as N)	mg/L	0.03 I	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/22/13 15:45	1
Total Kjeldahl Nitrogen	mg/L	0.82	EPA 351.2	0.20	0.05	06/10/13 09:22	06/11/13 10:01	1
Nitrate+Nitrite (N)	mg/L	0.62	EPA 300.0	0.08	0.02		05/22/13 15:59	1

Sample Description		**PZ-07L-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-22**						
Date/Time Collected		**05/21/13 12:45**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		5.12						
Temperature		26.9 °C						
Conductivity		121.9 umhos						
Dissolved Oxygen		2.37 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		05/31/13 11:05	1
Chloride	mg/L	4.3	EPA 300.0	0.20	0.050		05/22/13 15:59	1
Nitrate (as N)	mg/L	3.3	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Nitrite (as N)	mg/L	0.13	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		05/22/13 15:45	1
Total Kjeldahl Nitrogen	mg/L	1.1	EPA 351.2	0.20	0.05	05/29/13 08:17	06/05/13 13:28	1
Nitrate+Nitrite (N)	mg/L	3.4	EPA 300.0	0.08	0.02		05/22/13 15:59	1

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Project Name **C-HS3 SE#4**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-03ML-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-23**						
Date/Time Collected		**05/20/13 09:11**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		6.77						
Temperature		26.2 °C						
Conductivity		286 umhos						
Dissolved Oxygen		5.38 mg/L						
Inorganics								
Ammonia as N	mg/L	0.032 I	EPA 350.1	0.040	0.009		05/31/13 11:07	1
Chemical Oxygen Demand	mg/L	12 I	EPA 410.4	25	10	05/28/13 08:29	05/28/13 16:56	1
Chloride	mg/L	6.1	EPA 300.0	0.20	0.050		05/21/13 14:22	1
Fluoride	mg/L	0.11	EPA 300.0	0.040	0.010		05/21/13 14:22	1
Nitrate (as N)	mg/L	6.2	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Nitrite (as N)	mg/L	0.13	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Orthophosphate as P	mg/L	2.2	EPA 300.0	0.040	0.010		05/21/13 14:22	1
Phosphorous - Total as P	mg/L	4.4	SM 4500P-E	0.40	0.10	06/03/13 14:26	06/05/13 15:10	10
Sulfate	mg/L	5.6	EPA 300.0	0.60	0.20		05/21/13 14:22	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/21/13 13:00	1
Total Kjeldahl Nitrogen	mg/L	1.4	EPA 351.2	0.20	0.05	05/29/13 08:17	06/05/13 13:30	1
Total Organic Carbon	mg/L	3.1	SM 5310B	1.0	0.50		05/22/13 10:04	1
Nitrate+Nitrite (N)	mg/L	6.3	EPA 300.0	0.08	0.02		05/21/13 14:22	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	2.5	SM 5310B	1.0	0.50		05/22/13 10:04	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	05/23/13 08:28	05/24/13 10:49	1
Calcium	mg/L	21	EPA 200.7	0.50	0.042	05/23/13 08:28	05/24/13 10:49	1
Iron	mg/L	0.10	EPA 200.7	0.10	0.020	05/23/13 08:28	05/24/13 10:49	1
Magnesium	mg/L	4.0	EPA 200.7	0.50	0.020	05/23/13 08:28	05/24/13 10:49	1
Manganese	mg/L	0.0015 I	EPA 200.7	0.010	0.0010	05/23/13 08:28	05/24/13 10:49	1
Potassium	mg/L	3.7	EPA 200.7	0.050	0.010	05/23/13 08:28	05/24/13 10:49	1
Sodium	mg/L	7.9	EPA 200.7	0.50	0.13	05/23/13 08:28	05/24/13 10:49	1

Sample Description	**PZ-03ML-17**
Matrix	**Groundwater**
SAL Sample Number	**1304718-24**
Date/Time Collected	**05/20/13 09:43**
Collected by	**Sean Schmidt**
Date/Time Received	**05/20/13 15:00**

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-03ML-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-24**						
Date/Time Collected		**05/20/13 09:43**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		6.46						
Temperature		26.5 °C						
Conductivity		51.4 umhos						
Dissolved Oxygen		5.88 mg/L						
Inorganics								
Ammonia as N	mg/L	0.12	EPA 350.1	0.040	0.009		05/31/13 11:09	1
Chemical Oxygen Demand	mg/L	44	EPA 410.4	25	10	05/24/13 08:16	05/28/13 17:21	1
Chloride	mg/L	1.1	EPA 300.0	0.20	0.050		05/21/13 14:22	1
Fluoride	mg/L	0.070	EPA 300.0	0.040	0.010		05/21/13 14:22	1
Nitrate (as N)	mg/L	0.53	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Orthophosphate as P	mg/L	1.2	EPA 300.0	0.040	0.010		05/21/13 14:22	1
Phosphorous - Total as P	mg/L	3.9	SM 4500P-E	0.40	0.10	06/03/13 14:26	06/05/13 15:11	10
Sulfate	mg/L	2.5	EPA 300.0	0.60	0.20		05/21/13 14:22	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/21/13 13:00	1
Total Kjeldahl Nitrogen	mg/L	0.78	EPA 351.2	0.20	0.05	05/29/13 08:17	06/05/13 13:32	1
Total Organic Carbon	mg/L	4.5	SM 5310B	1.0	0.50		05/22/13 10:04	1
Nitrate+Nitrite (N)	mg/L	0.57	EPA 300.0	0.08	0.02		05/21/13 14:22	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	3.8	SM 5310B	1.0	0.50		05/22/13 10:04	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	05/23/13 08:28	05/24/13 10:53	1
Calcium	mg/L	7.7	EPA 200.7	0.50	0.042	05/23/13 08:28	05/24/13 10:53	1
Iron	mg/L	0.25	EPA 200.7	0.10	0.020	05/23/13 08:28	05/24/13 10:53	1
Magnesium	mg/L	1.5	EPA 200.7	0.50	0.020	05/23/13 08:28	05/24/13 10:53	1
Manganese	mg/L	0.0018 I	EPA 200.7	0.010	0.0010	05/23/13 08:28	05/24/13 10:53	1
Potassium	mg/L	1.5	EPA 200.7	0.050	0.010	05/23/13 08:28	05/24/13 10:53	1
Sodium	mg/L	0.77	EPA 200.7	0.50	0.13	05/23/13 08:28	05/24/13 10:53	1

Sample Description	**PZ-03ML-21**
Matrix	**Groundwater**
SAL Sample Number	**1304718-25**
Date/Time Collected	**05/20/13 10:15**
Collected by	**Sean Schmidt**
Date/Time Received	**05/20/13 15:00**

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-03ML-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-25**						
Date/Time Collected		**05/20/13 10:15**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		6.03						
Temperature		26.8 °C						
Conductivity		207.1 umhos						
Dissolved Oxygen		1.92 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		05/31/13 11:11	1
Chemical Oxygen Demand	mg/L	16 I	EPA 410.4	25	10	05/24/13 08:16	05/28/13 17:21	1
Chloride	mg/L	6.5	EPA 300.0	0.20	0.050		05/21/13 14:22	1
Fluoride	mg/L	0.010 U	EPA 300.0	0.040	0.010		05/21/13 14:22	1
Nitrate (as N)	mg/L	3.6	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Nitrite (as N)	mg/L	0.16	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Orthophosphate as P	mg/L	0.34	EPA 300.0	0.040	0.010		05/21/13 14:22	1
Phosphorous - Total as P	mg/L	0.62	SM 4500P-E	0.040	0.010	06/03/13 14:26	06/05/13 14:18	1
Sulfate	mg/L	22	EPA 300.0	0.60	0.20		05/21/13 14:22	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/21/13 13:00	1
Total Kjeldahl Nitrogen	mg/L	1.0	EPA 351.2	0.20	0.05	05/29/13 08:17	06/05/13 13:33	1
Total Organic Carbon	mg/L	2.4	SM 5310B	1.0	0.50		05/22/13 10:04	1
Nitrate+Nitrite (N)	mg/L	3.7	EPA 300.0	0.08	0.02		05/21/13 14:22	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	2.0	SM 5310B	1.0	0.50		05/22/13 10:04	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	05/23/13 08:28	05/24/13 10:56	1
Calcium	mg/L	24	EPA 200.7	0.50	0.042	05/23/13 08:28	05/24/13 10:56	1
Iron	mg/L	0.020 I	EPA 200.7	0.10	0.020	05/23/13 08:28	05/24/13 10:56	1
Magnesium	mg/L	4.0	EPA 200.7	0.50	0.020	05/23/13 08:28	05/24/13 10:56	1
Manganese	mg/L	0.0018 I	EPA 200.7	0.010	0.0010	05/23/13 08:28	05/24/13 10:56	1
Potassium	mg/L	4.4	EPA 200.7	0.050	0.010	05/23/13 08:28	05/24/13 10:56	1
Sodium	mg/L	3.9	EPA 200.7	0.50	0.13	05/23/13 08:28	05/24/13 10:56	1

Sample Description	**PZ-00N-15**
Matrix	**Groundwater**
SAL Sample Number	**1304718-26**
Date/Time Collected	**05/21/13 09:17**
Collected by	**Sean Schmidt**
Date/Time Received	**05/21/13 15:45**

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-00N-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-26**						
Date/Time Collected		**05/21/13 09:17**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		6.55						
Temperature		25.4 °C						
Conductivity		74.9 umhos						
Dissolved Oxygen		5.10 mg/L						
Inorganics								
Ammonia as N	mg/L	0.016 I	EPA 350.1	0.040	0.009		05/31/13 11:13	1
Chemical Oxygen Demand	mg/L	18 I	EPA 410.4	25	10	05/24/13 08:16	05/28/13 17:21	1
Chloride	mg/L	0.86	EPA 300.0	0.20	0.050		05/22/13 15:59	1
Nitrate (as N)	mg/L	0.20	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Nitrite (as N)	mg/L	0.03 I	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Phosphorous - Total as P	mg/L	0.55	SM 4500P-E	0.040	0.010	06/03/13 14:26	06/05/13 14:19	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/22/13 15:45	1
Total Kjeldahl Nitrogen	mg/L	0.30	EPA 351.2	0.20	0.05	05/29/13 08:17	06/05/13 13:35	1
Nitrate+Nitrite (N)	mg/L	0.24	EPA 300.0	0.08	0.02		05/22/13 15:59	1

Sample Description		**PZ-00N-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-27**						
Date/Time Collected		**05/21/13 09:33**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		6.28						
Temperature		25.4 °C						
Conductivity		57.5 umhos						
Dissolved Oxygen		4.62 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		05/31/13 11:15	1
Chloride	mg/L	1.1	EPA 300.0	0.20	0.050		05/22/13 15:59	1
Nitrate (as N)	mg/L	0.46	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Nitrite (as N)	mg/L	0.06	EPA 300.0	0.04	0.01		05/22/13 15:59	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/22/13 15:45	1
Total Kjeldahl Nitrogen	mg/L	0.26	EPA 351.2	0.20	0.05	05/29/13 08:17	06/05/13 13:37	1
Nitrate+Nitrite (N)	mg/L	0.52	EPA 300.0	0.08	0.02		05/22/13 15:59	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-00N-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-28**						
Date/Time Collected		**05/21/13 09:49**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		4.81						
Temperature		25.5 °C						
Conductivity		207.9 umhos						
Dissolved Oxygen		2.42 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		05/31/13 11:25	1
Chloride	mg/L	7.7	EPA 300.0	0.20	0.050		05/22/13 20:50	1
Nitrate (as N)	mg/L	3.9	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Nitrite (as N)	mg/L	0.12	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		05/22/13 15:45	1
Total Kjeldahl Nitrogen	mg/L	0.87	EPA 351.2	0.20	0.05	05/29/13 08:17	06/05/13 13:38	1
Nitrate+Nitrite (N)	mg/L	4.0	EPA 300.0	0.08	0.02		05/22/13 20:50	1
Sample Description		**PZ-02N-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-29**						
Date/Time Collected		**05/21/13 09:26**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		6.64						
Temperature		25.7 °C						
Conductivity		56.4 umhos						
Dissolved Oxygen		6.06 mg/L						
Inorganics								
Ammonia as N	mg/L	0.023 I	EPA 350.1	0.040	0.009		05/31/13 11:27	1
Chemical Oxygen Demand	mg/L	22 I	EPA 410.4	25	10	05/24/13 08:16	05/28/13 17:21	1
Chloride	mg/L	1.2	EPA 300.0	0.20	0.050		05/22/13 20:50	1
Nitrate (as N)	mg/L	0.51	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Nitrite (as N)	mg/L	0.03 I	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/22/13 15:45	1
Total Kjeldahl Nitrogen	mg/L	0.34	EPA 351.2	0.20	0.05	05/29/13 08:17	06/05/13 13:40	1
Nitrate+Nitrite (N)	mg/L	0.54	EPA 300.0	0.08	0.02		05/22/13 20:50	1

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Sample Description		**PZ-02N-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-30**						
Date/Time Collected		**05/21/13 09:42**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		6.29						
Temperature		25.6 °C						
Conductivity		52.2 umhos						
Dissolved Oxygen		5.04 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		05/31/13 11:29	1
Chloride	mg/L	1.1	EPA 300.0	0.20	0.050		05/22/13 20:50	1
Nitrate (as N)	mg/L	0.48	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Nitrite (as N)	mg/L	0.03 I	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/29/13 12:15	1
Total Kjeldahl Nitrogen	mg/L	0.39	EPA 351.2	0.20	0.05	05/29/13 08:17	06/05/13 13:42	1
Nitrate+Nitrite (N)	mg/L	0.51	EPA 300.0	0.08	0.02		05/22/13 20:50	1

Sample Description		**PZ-02N-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-31**						
Date/Time Collected		**05/21/13 09:56**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		4.93						
Temperature		25.7 °C						
Conductivity		184.3 umhos						
Dissolved Oxygen		2.02 mg/L						
Inorganics								
Ammonia as N	mg/L	0.010 I	EPA 350.1	0.040	0.009		05/31/13 11:31	1
Chloride	mg/L	5.7	EPA 300.0	0.20	0.050		05/22/13 20:50	1
Nitrate (as N)	mg/L	3.4	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Nitrite (as N)	mg/L	0.14	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		05/29/13 12:15	1
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	05/29/13 08:17	06/05/13 14:39	1
Nitrate+Nitrite (N)	mg/L	3.6	EPA 300.0	0.08	0.02		05/22/13 20:50	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-02N-21-DUP**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-32**						
Date/Time Collected		**05/21/13 10:01**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		4.93						
Temperature		25.7 °C						
Conductivity		184.3 umhos						
Dissolved Oxygen		2.02 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		05/31/13 11:33	1
Chloride	mg/L	6.0	EPA 300.0	0.20	0.050		05/22/13 20:50	1
Nitrate (as N)	mg/L	3.6	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Nitrite (as N)	mg/L	0.14	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		05/29/13 12:15	1
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	05/29/13 08:17	06/05/13 14:44	1
Nitrate+Nitrite (N)	mg/L	3.8	EPA 300.0	0.08	0.02		05/22/13 20:50	1
Sample Description		**PZ-04N-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-33**						
Date/Time Collected		**05/21/13 11:19**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		5.99						
Temperature		26.1 °C						
Conductivity		249 umhos						
Dissolved Oxygen		5.03 mg/L						
Inorganics								
Ammonia as N	mg/L	0.027 I	EPA 350.1	0.040	0.009		05/31/13 11:35	1
Chemical Oxygen Demand	mg/L	44	EPA 410.4	25	10	05/24/13 08:16	05/28/13 17:21	1
Chloride	mg/L	15	EPA 300.0	0.20	0.050		05/22/13 20:50	1
Nitrate (as N)	mg/L	11	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Nitrite (as N)	mg/L	0.10	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Phosphorous - Total as P	mg/L	0.85	SM 4500P-E	0.040	0.010	06/03/13 14:26	06/05/13 14:20	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/29/13 12:15	1
Total Kjeldahl Nitrogen	mg/L	1.4	EPA 351.2	0.20	0.05	05/29/13 08:17	06/05/13 13:53	1
Total Organic Carbon	mg/L	4.6	SM 5310B	1.0	0.50		05/22/13 10:04	1
Nitrate+Nitrite (N)	mg/L	11	EPA 300.0	0.08	0.02		05/22/13 20:50	1
Inorganic, Dissolved								

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04N-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-33**						
Date/Time Collected		**05/21/13 11:19**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		5.99						
Temperature		26.1 °C						
Conductivity		249 umhos						
Dissolved Oxygen		5.03 mg/L						
Dissolved Organic Carbon	mg/L	3.7	SM 5310B	1.0	0.50		05/22/13 10:04	1
Sample Description		**PZ-04N-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-34**						
Date/Time Collected		**05/21/13 11:39**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		6.50						
Temperature		26.5 °C						
Conductivity		69.9 umhos						
Dissolved Oxygen		3.19 mg/L						
Inorganics								
Ammonia as N	mg/L	0.12	EPA 350.1	0.040	0.009		05/31/13 11:37	1
Chemical Oxygen Demand	mg/L	73	EPA 410.4	25	10	05/24/13 08:16	05/28/13 17:21	1
Chloride	mg/L	0.98	EPA 300.0	0.20	0.050		05/22/13 20:50	1
Nitrate (as N)	mg/L	0.37	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Phosphorous - Total as P	mg/L	3.4	SM 4500P-E	0.40	0.10	06/03/13 14:26	06/05/13 15:12	10
Total Alkalinity	mg/L	33	SM 2320B	8.0	2.0		05/29/13 12:15	1
Total Kjeldahl Nitrogen	mg/L	1.6	EPA 351.2	0.20	0.05	05/29/13 08:17	06/05/13 13:55	1
Nitrate+Nitrite (N)	mg/L	0.41	EPA 300.0	0.08	0.02		05/22/13 20:50	1
Sample Description		**PZ-04N-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-35**						
Date/Time Collected		**05/21/13 11:55**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								

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Sample Description		**PZ-04N-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-35**						
Date/Time Collected		**05/21/13 11:55**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		5.66						
Temperature		27.0 °C						
Conductivity		157.8 umhos						
Dissolved Oxygen		2.89 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		05/31/13 11:39	1
Chloride	mg/L	5.6	EPA 300.0	0.20	0.050		05/22/13 20:50	1
Nitrate (as N)	mg/L	3.9	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Nitrite (as N)	mg/L	0.11	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		05/29/13 12:15	1
Total Kjeldahl Nitrogen	mg/L	1.6	EPA 351.2	0.20	0.05	05/29/13 08:17	06/05/13 13:56	1
Nitrate+Nitrite (N)	mg/L	4.0	EPA 300.0	0.08	0.02		05/22/13 20:50	1

Sample Description		**PZ-06N-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-36**						
Date/Time Collected		**05/21/13 11:49**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		5.91						
Temperature		27.0 °C						
Conductivity		521 umhos						
Dissolved Oxygen		4.35 mg/L						
Inorganics								
Ammonia as N	mg/L	0.059	EPA 350.1	0.040	0.009		05/31/13 11:41	1
Chloride	mg/L	33	EPA 300.0	0.20	0.050		05/29/13 11:24	1
Fluoride	mg/L	0.15	EPA 300.0	0.040	0.010		05/22/13 20:50	1
Nitrate (as N)	mg/L	24	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Nitrite (as N)	mg/L	0.24	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Orthophosphate as P	mg/L	0.093	EPA 300.0	0.040	0.010		05/22/13 20:50	1
Phosphorous - Total as P	mg/L	0.50	SM 4500P-E	0.040	0.010	06/03/13 14:26	06/05/13 14:21	1
Sulfate	mg/L	23	EPA 300.0	0.60	0.20		05/22/13 20:50	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/29/13 12:15	1
Total Kjeldahl Nitrogen	mg/L	2.1	EPA 351.2	0.20	0.05	05/29/13 08:17	06/05/13 13:58	1
Total Organic Carbon	mg/L	3.2	SM 5310B	1.0	0.50		05/22/13 10:04	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-06N-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-36**						
Date/Time Collected		**05/21/13 11:49**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		5.91						
Temperature		27.0 °C						
Conductivity		521 umhos						
Dissolved Oxygen		4.35 mg/L						
Nitrate+Nitrite (N)	mg/L	24	EPA 300.0	0.08	0.02		05/22/13 20:50	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	2.7	SM 5310B	1.0	0.50		05/22/13 10:04	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	05/23/13 08:28	05/24/13 11:00	1
Calcium	mg/L	41	EPA 200.7	0.50	0.042	05/23/13 08:28	05/24/13 11:00	1
Iron	mg/L	0.074 I	EPA 200.7	0.10	0.020	05/23/13 08:28	05/24/13 11:00	1
Magnesium	mg/L	11	EPA 200.7	0.50	0.020	05/23/13 08:28	05/24/13 11:00	1
Manganese	mg/L	0.0014 I	EPA 200.7	0.010	0.0010	05/23/13 08:28	05/24/13 11:00	1
Potassium	mg/L	11	EPA 200.7	0.050	0.010	05/23/13 08:28	05/24/13 11:00	1
Sodium	mg/L	28	EPA 200.7	0.50	0.13	05/23/13 08:28	05/24/13 11:00	1
Sample Description		**PZ-06N-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-37**						
Date/Time Collected		**05/21/13 12:09**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		5.85						
Temperature		27.2 °C						
Conductivity		169.1 umhos						
Dissolved Oxygen		5.21 mg/L						
Inorganics								
Ammonia as N	mg/L	0.041	EPA 350.1	0.040	0.009		05/31/13 11:43	1
Chloride	mg/L	10	EPA 300.0	0.20	0.050		05/22/13 20:50	1
Nitrate (as N)	mg/L	8.7	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Nitrite (as N)	mg/L	0.09	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/29/13 12:15	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	05/29/13 08:17	06/05/13 13:59	1
Nitrate+Nitrite (N)	mg/L	8.8	EPA 300.0	0.08	0.02		05/22/13 20:50	1

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Sample Description		**PZ-06N-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-38**						
Date/Time Collected		**05/21/13 12:25**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/21/13 15:45**						
Client Provided Field Data								
pH		4.76						
Temperature		26.8 °C						
Conductivity		94.8 umhos						
Dissolved Oxygen		4.04 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		05/30/13 11:36	1
Chloride	mg/L	3.2	EPA 300.0	0.20	0.050		05/22/13 20:50	1
Nitrate (as N)	mg/L	2.5	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Nitrite (as N)	mg/L	0.06	EPA 300.0	0.04	0.01		05/22/13 20:50	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		05/29/13 12:15	1
Total Kjeldahl Nitrogen	mg/L	0.65	EPA 351.2	0.20	0.05	05/29/13 08:17	06/05/13 14:00	1
Nitrate+Nitrite (N)	mg/L	2.5	EPA 300.0	0.08	0.02		05/22/13 20:50	1

Sample Description		**PZ-03O-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-39**						
Date/Time Collected		**05/22/13 11:18**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.57						
Temperature		25.0 °C						
Conductivity		91.9 umhos						
Dissolved Oxygen		5.66 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/10/13 10:43	1
Chloride	mg/L	2.2	EPA 300.0	0.20	0.050		05/23/13 13:11	1
Nitrate (as N)	mg/L	1.0	EPA 300.0	0.04	0.01		05/23/13 13:11	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		05/23/13 13:11	1
Total Alkalinity	mg/L	33	SM 2320B	8.0	2.0		05/31/13 08:30	1
Total Kjeldahl Nitrogen	mg/L	0.48	EPA 351.2	0.20	0.05	06/06/13 08:52	06/07/13 14:03	1
Nitrate+Nitrite (N)	mg/L	1.1	EPA 300.0	0.08	0.02		05/23/13 13:11	1

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Sample Description		**PZ-03O-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-40**						
Date/Time Collected		**05/22/13 11:32**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.34						
Temperature		25.2 °C						
Conductivity		63.0 umhos						
Dissolved Oxygen		3.54 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/10/13 10:45	1
Chloride	mg/L	1.8	EPA 300.0	0.20	0.050		05/23/13 13:11	1
Nitrate (as N)	mg/L	0.66	EPA 300.0	0.04	0.01		05/23/13 13:11	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01		05/23/13 13:11	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/31/13 08:30	1
Total Kjeldahl Nitrogen	mg/L	0.28	EPA 351.2	0.20	0.05	06/06/13 08:52	06/07/13 14:04	1
Nitrate+Nitrite (N)	mg/L	0.71	EPA 300.0	0.08	0.02		05/23/13 13:11	1

Sample Description		**PZ-03O-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-41**						
Date/Time Collected		**05/22/13 11:46**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		5.06						
Temperature		26.2 °C						
Conductivity		256 umhos						
Dissolved Oxygen		1.87 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/10/13 10:47	1
Chloride	mg/L	9.0	EPA 300.0	0.20	0.050		05/23/13 13:11	1
Nitrate (as N)	mg/L	5.7	EPA 300.0	0.04	0.01		05/23/13 13:11	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		05/23/13 13:11	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		05/31/13 08:30	1
Total Kjeldahl Nitrogen	mg/L	0.94	EPA 351.2	0.20	0.05	06/06/13 08:52	06/07/13 14:06	1
Nitrate+Nitrite (N)	mg/L	5.7	EPA 300.0	0.08	0.02		05/23/13 13:11	1

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Project Name **C-HS3 SE#4**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04O-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-42**						
Date/Time Collected		**05/22/13 11:12**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.35						
Temperature		25.1 °C						
Conductivity		98.3 umhos						
Dissolved Oxygen		4.46 mg/L						
Inorganics								
Ammonia as N	mg/L	0.011 I	EPA 350.1	0.040	0.009		06/10/13 10:49	1
Chemical Oxygen Demand	mg/L	14 I	EPA 410.4	25	10	05/30/13 08:26	05/30/13 13:30	1
Chloride	mg/L	2.6	EPA 300.0	0.20	0.050		05/23/13 13:11	1
Fluoride	mg/L	0.47	EPA 300.0	0.040	0.010		05/23/13 13:11	1
Nitrate (as N)	mg/L	2.4	EPA 300.0	0.04	0.01		05/23/13 13:11	1
Nitrite (as N)	mg/L	0.07	EPA 300.0	0.04	0.01		05/23/13 13:11	1
Orthophosphate as P	mg/L	2.4	EPA 300.0	0.040	0.010		05/23/13 13:11	1
Phosphorous - Total as P	mg/L	2.9	SM 4500P-E	0.40	0.10	06/03/13 14:32	06/05/13 15:19	10
Sulfate	mg/L	3.7	EPA 300.0	0.60	0.20		05/23/13 13:11	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/31/13 08:30	1
Total Kjeldahl Nitrogen	mg/L	0.59	EPA 351.2	0.20	0.05	06/06/13 08:52	06/07/13 14:08	1
Total Organic Carbon	mg/L	4.1	SM 5310B	1.0	0.50		05/23/13 10:30	1
Nitrate+Nitrite (N)	mg/L	2.5	EPA 300.0	0.08	0.02		05/23/13 13:11	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	2.6	SM 5310B	1.0	0.50		05/23/13 10:30	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	05/23/13 08:28	05/24/13 11:03	1
Calcium	mg/L	12	EPA 200.7	0.50	0.042	05/23/13 08:28	05/24/13 11:03	1
Iron	mg/L	0.24	EPA 200.7	0.10	0.020	05/23/13 08:28	05/24/13 11:03	1
Magnesium	mg/L	1.4	EPA 200.7	0.50	0.020	05/23/13 08:28	05/24/13 11:03	1
Manganese	mg/L	0.0025 I	EPA 200.7	0.010	0.0010	05/23/13 08:28	05/24/13 11:03	1
Potassium	mg/L	3.2	EPA 200.7	0.050	0.010	05/23/13 08:28	05/24/13 11:03	1
Sodium	mg/L	1.8	EPA 200.7	0.50	0.13	05/23/13 08:28	05/24/13 11:03	1

Sample Description	**PZ-04O-17**
Matrix	**Groundwater**
SAL Sample Number	**1304718-43**
Date/Time Collected	**05/22/13 11:30**
Collected by	**Sean Schmidt**
Date/Time Received	**05/22/13 15:00**

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04O-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-43**						
Date/Time Collected		**05/22/13 11:30**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.42						
Temperature		25.3 °C						
Conductivity		81.0 umhos						
Dissolved Oxygen		1.21 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/10/13 10:51	1
Chemical Oxygen Demand	mg/L	14 I	EPA 410.4	25	10	05/30/13 08:26	05/30/13 13:30	1
Chloride	mg/L	1.6	EPA 300.0	0.20	0.050		05/23/13 13:11	1
Nitrate (as N)	mg/L	0.71	EPA 300.0	0.04	0.01		05/23/13 13:11	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		05/23/13 13:11	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/31/13 08:30	1
Total Kjeldahl Nitrogen	mg/L	0.37	EPA 351.2	0.20	0.05	06/06/13 08:52	06/07/13 15:36	1
Nitrate+Nitrite (N)	mg/L	0.75	EPA 300.0	0.08	0.02		05/23/13 13:11	1

Sample Description		**PZ-04O-17-DUP**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-44**						
Date/Time Collected		**05/22/13 11:35**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		6.42						
Temperature		25.3 °C						
Conductivity		81.0 umhos						
Dissolved Oxygen		1.21 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/10/13 10:53	1
Chemical Oxygen Demand	mg/L	14 I	EPA 410.4	25	10	05/30/13 08:26	05/30/13 13:30	1
Chloride	mg/L	1.6	EPA 300.0	0.20	0.050		05/23/13 13:11	1
Nitrate (as N)	mg/L	0.72	EPA 300.0	0.04	0.01		05/23/13 13:11	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		05/23/13 13:11	1
Phosphorous - Total as P	mg/L	0.38	SM 4500P-E	0.040	0.010	06/03/13 14:32	06/05/13 14:42	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/31/13 08:30	1
Total Kjeldahl Nitrogen	mg/L	0.39	EPA 351.2	0.20	0.05	06/06/13 08:52	06/07/13 15:37	1
Nitrate+Nitrite (N)	mg/L	0.76	EPA 300.0	0.08	0.02		05/23/13 13:11	1

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Project Name **C-HS3 SE#4**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04O-21**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-45**						
Date/Time Collected		**05/22/13 11:47**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		5.74						
Temperature		26.4 °C						
Conductivity		276 umhos						
Dissolved Oxygen		1.76 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/10/13 10:55	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	05/30/13 08:26	05/30/13 13:30	1
Chloride	mg/L	7.8	EPA 300.0	0.20	0.050		05/23/13 13:11	1
Nitrate (as N)	mg/L	5.2	EPA 300.0	0.04	0.01		05/23/13 13:11	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		05/23/13 13:11	1
Phosphorous - Total as P	mg/L	0.058	SM 4500P-E	0.040	0.010	06/03/13 14:32	06/05/13 14:43	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		05/31/13 08:30	1
Total Kjeldahl Nitrogen	mg/L	0.96	EPA 351.2	0.20	0.05	06/06/13 08:52	06/07/13 14:13	1
Nitrate+Nitrite (N)	mg/L	5.2	EPA 300.0	0.08	0.02		05/23/13 13:11	1
Sample Description		**PZ-07O-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-46**						
Date/Time Collected		**05/22/13 09:39**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.35						
Temperature		25.6 °C						
Conductivity		298 umhos						
Dissolved Oxygen		4.25 mg/L						
Inorganics								
Chloride	mg/L	11	EPA 300.0	0.20	0.050		05/23/13 20:53	1
Fluoride	mg/L	0.35	EPA 300.0	0.040	0.010		05/23/13 20:53	1
Nitrate (as N)	mg/L	14	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Nitrite (as N)	mg/L	0.08	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Orthophosphate as P	mg/L	0.29	EPA 300.0	0.040	0.010		05/23/13 20:53	1
Sulfate	mg/L	13	EPA 300.0	0.60	0.20		05/23/13 20:53	1
Total Alkalinity	mg/L	33	SM 2320B	8.0	2.0		05/31/13 08:30	1
Total Organic Carbon	mg/L	5.6	SM 5310B	1.0	0.50		05/23/13 10:30	1
Nitrate+Nitrite (N)	mg/L	14	EPA 300.0	0.08	0.02		05/23/13 20:53	1

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Project Name **C-HS3 SE#4**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-07O-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-46**						
Date/Time Collected		**05/22/13 09:39**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.35						
Temperature		25.6 °C						
Conductivity		298 umhos						
Dissolved Oxygen		4.25 mg/L						
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	4.6	SM 5310B	1.0	0.50		05/23/13 10:30	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	05/23/13 08:28	05/24/13 11:07	1
Calcium	mg/L	31	EPA 200.7	0.50	0.042	05/23/13 08:28	05/24/13 11:07	1
Iron	mg/L	0.097 I	EPA 200.7	0.10	0.020	05/23/13 08:28	05/24/13 11:07	1
Magnesium	mg/L	4.1	EPA 200.7	0.50	0.020	05/23/13 08:28	05/24/13 11:07	1
Manganese	mg/L	0.0015 I	EPA 200.7	0.010	0.0010	05/23/13 08:28	05/24/13 11:07	1
Potassium	mg/L	7.4	EPA 200.7	0.050	0.010	05/23/13 08:28	05/24/13 11:07	1
Sodium	mg/L	7.9	EPA 200.7	0.50	0.13	05/23/13 08:28	05/24/13 11:07	1

Sample Description		**PZ-07O-17**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-47**						
Date/Time Collected		**05/22/13 09:56**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.38						
Temperature		25.5 °C						
Conductivity		112.7 umhos						
Dissolved Oxygen		2.24 mg/L						
Inorganics								
Ammonia as N	mg/L	0.054	EPA 350.1	0.040	0.009		06/10/13 10:57	1
Chloride	mg/L	0.90	EPA 300.0	0.20	0.050		05/23/13 20:53	1
Nitrate (as N)	mg/L	0.41	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Nitrite (as N)	mg/L	0.03 I	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Total Alkalinity	mg/L	33	SM 2320B	8.0	2.0		05/31/13 08:30	1
Total Kjeldahl Nitrogen	mg/L	0.61	EPA 351.2	0.20	0.05	06/06/13 08:52	06/07/13 14:15	1
Nitrate+Nitrite (N)	mg/L	0.44	EPA 300.0	0.08	0.02		05/23/13 20:53	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-07O-20**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-48**						
Date/Time Collected		**05/22/13 10:14**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.04						
Temperature		25.9 °C						
Conductivity		88.6 umhos						
Dissolved Oxygen		0.59 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/10/13 10:59	1
Chloride	mg/L	4.9	EPA 300.0	0.20	0.050		05/23/13 20:53	1
Nitrate (as N)	mg/L	2.6	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		05/31/13 08:30	1
Total Kjeldahl Nitrogen	mg/L	1.7	EPA 351.2	0.20	0.05	06/06/13 08:52	06/07/13 14:16	1
Nitrate+Nitrite (N)	mg/L	2.6	EPA 300.0	0.08	0.02		05/23/13 20:53	1
Sample Description		**PZ-01Q-13**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-49**						
Date/Time Collected		**05/22/13 12:03**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.51						
Temperature		25.7 °C						
Conductivity		75.8 umhos						
Dissolved Oxygen		4.67 mg/L						
Inorganics								
Ammonia as N	mg/L	0.032 I	EPA 350.1	0.040	0.009		06/10/13 11:01	1
Chemical Oxygen Demand	mg/L	26	EPA 410.4	25	10	05/30/13 08:26	05/30/13 13:30	1
Chloride	mg/L	1.2	EPA 300.0	0.20	0.050		05/23/13 20:53	1
Nitrate (as N)	mg/L	0.30	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Nitrite (as N)	mg/L	0.06	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Phosphorous - Total as P	mg/L	0.21	SM 4500P-E	0.040	0.010	06/03/13 14:32	06/05/13 14:44	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/31/13 08:30	1
Total Kjeldahl Nitrogen	mg/L	0.49	EPA 351.2	0.20	0.05	06/06/13 08:52	06/07/13 14:18	1
Nitrate+Nitrite (N)	mg/L	0.36	EPA 300.0	0.08	0.02		05/23/13 20:53	1

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Project Name **C-HS3 SE#4**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-01Q-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-50**						
Date/Time Collected		**05/22/13 12:30**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		4.99						
Temperature		26.0 °C						
Conductivity		77.7 umhos						
Dissolved Oxygen		3.05 mg/L						
Inorganics								
Ammonia as N	mg/L	0.028 I	EPA 350.1	0.040	0.009		06/10/13 11:11	1
Chemical Oxygen Demand	mg/L	28	EPA 410.4	25	10	05/30/13 08:26	05/30/13 13:30	1
Chloride	mg/L	1.2	EPA 300.0	0.20	0.050		05/23/13 20:53	1
Nitrate (as N)	mg/L	0.79	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Phosphorous - Total as P	mg/L	0.32	SM 4500P-E	0.040	0.010	06/03/13 14:32	06/05/13 14:45	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/31/13 08:30	1
Total Kjeldahl Nitrogen	mg/L	0.59	EPA 351.2	0.20	0.05	06/06/13 08:52	06/07/13 14:26	1
Nitrate+Nitrite (N)	mg/L	0.83	EPA 300.0	0.08	0.02		05/23/13 20:53	1

Sample Description		**PZ-01Q-19**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-51**						
Date/Time Collected		**05/22/13 12:17**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.09						
Temperature		25.5 °C						
Conductivity		49.7 umhos						
Dissolved Oxygen		5.55 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/10/13 11:13	1
Chloride	mg/L	3.8	EPA 300.0	0.20	0.050		05/23/13 20:53	1
Nitrate (as N)	mg/L	1.5	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Nitrite (as N)	mg/L	0.08	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		05/31/13 08:30	1
Total Kjeldahl Nitrogen	mg/L	0.47	EPA 351.2	0.20	0.05	06/06/13 08:52	06/07/13 14:28	1
Nitrate+Nitrite (N)	mg/L	1.6	EPA 300.0	0.08	0.02		05/23/13 20:53	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04Q-13**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-52**						
Date/Time Collected		**05/22/13 10:33**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.50						
Temperature		26.4 °C						
Conductivity		95.1 umhos						
Dissolved Oxygen		4.37 mg/L						
Inorganics								
Ammonia as N	mg/L	0.011 I	EPA 350.1	0.040	0.009		06/10/13 11:15	1
Chemical Oxygen Demand	mg/L	22 I	EPA 410.4	25	10	05/30/13 08:26	05/30/13 13:30	1
Chloride	mg/L	1.6	EPA 300.0	0.20	0.050		05/23/13 20:53	1
Nitrate (as N)	mg/L	2.2	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Nitrite (as N)	mg/L	0.08	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Total Alkalinity	mg/L	33	SM 2320B	8.0	2.0		05/31/13 08:30	1
Total Kjeldahl Nitrogen	mg/L	0.85	EPA 351.2	0.20	0.05	06/06/13 08:52	06/07/13 14:30	1
Nitrate+Nitrite (N)	mg/L	2.2	EPA 300.0	0.08	0.02		05/23/13 20:53	1

Sample Description		**PZ-04Q-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-53**						
Date/Time Collected		**05/22/13 11:00**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.67						
Temperature		25.5 °C						
Conductivity		74.8 umhos						
Dissolved Oxygen		3.58 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/10/13 11:17	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	05/29/13 08:00	05/29/13 15:08	1
Chloride	mg/L	1.3	EPA 300.0	0.20	0.050		05/23/13 20:53	1
Nitrate (as N)	mg/L	0.78	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Nitrite (as N)	mg/L	0.06	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Phosphorous - Total as P	mg/L	2.0	SM 4500P-E	0.40	0.10	06/03/13 14:32	06/05/13 15:19	10
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/31/13 08:30	1
Total Kjeldahl Nitrogen	mg/L	0.41	EPA 351.2	0.20	0.05	06/06/13 08:52	06/07/13 14:31	1
Total Organic Carbon	mg/L	3.9	SM 5310B	1.0	0.50		05/23/13 10:30	1
Nitrate+Nitrite (N)	mg/L	0.85	EPA 300.0	0.08	0.02		05/23/13 20:53	1

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Tampa, FL 33619

June 27, 2013
Work Order: 1304718

Laboratory Report

Project Name **C-HS3 SE#4**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04Q-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-53**						
Date/Time Collected		**05/22/13 11:00**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.67						
Temperature		25.5 °C						
Conductivity		74.8 umhos						
Dissolved Oxygen		3.58 mg/L						
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	3.4	SM 5310B	1.0	0.50		05/23/13 10:30	1
Sample Description		**PZ-04Q-19**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-54**						
Date/Time Collected		**05/22/13 10:45**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.16						
Temperature		25.8 °C						
Conductivity		94.3 umhos						
Dissolved Oxygen		3.40 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/10/13 11:19	1
Chloride	mg/L	4.0	EPA 300.0	0.20	0.050		05/23/13 20:53	1
Nitrate (as N)	mg/L	1.1	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Nitrite (as N)	mg/L	0.08	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/31/13 08:30	1
Total Kjeldahl Nitrogen	mg/L	0.37	EPA 351.2	0.20	0.05	06/06/13 08:52	06/07/13 14:33	1
Nitrate+Nitrite (N)	mg/L	1.2	EPA 300.0	0.08	0.02		05/23/13 20:53	1
Sample Description		**PZ-06Q-13**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-55**						
Date/Time Collected		**05/22/13 10:27**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.48						

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-06Q-13**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-55**						
Date/Time Collected		**05/22/13 10:27**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.48						
Temperature		26.3 °C						
Conductivity		445 umhos						
Dissolved Oxygen		4.90 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/10/13 11:21	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	05/29/13 08:00	05/29/13 15:08	1
Chloride	mg/L	22	EPA 300.0	0.20	0.050		05/23/13 20:53	1
Nitrate (as N)	mg/L	19	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Nitrite (as N)	mg/L	0.06	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Phosphorous - Total as P	mg/L	0.97	SM 4500P-E	0.040	0.010	06/03/13 14:32	06/05/13 14:47	1
Total Alkalinity	mg/L	55	SM 2320B	8.0	2.0		06/03/13 15:15	1
Total Kjeldahl Nitrogen	mg/L	2.0	EPA 351.2	0.20	0.05	06/06/13 08:52	06/07/13 14:35	1
Nitrate+Nitrite (N)	mg/L	19	EPA 300.0	0.08	0.02		05/23/13 20:53	1

Sample Description		**PZ-06Q-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-56**						
Date/Time Collected		**05/22/13 10:42**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.06						
Temperature		25.4 °C						
Conductivity		599 umhos						
Dissolved Oxygen		3.47 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/10/13 11:23	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	05/29/13 08:00	05/29/13 15:08	1
Chloride	mg/L	30	EPA 300.0	0.20	0.050		05/23/13 20:53	1
Nitrate (as N)	mg/L	27	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Total Alkalinity	mg/L	44	SM 2320B	8.0	2.0		06/03/13 15:15	1
Total Kjeldahl Nitrogen	mg/L	2.2	EPA 351.2	0.20	0.05	06/06/13 08:52	06/07/13 14:36	1
Nitrate+Nitrite (N)	mg/L	27	EPA 300.0	0.08	0.02		05/23/13 20:53	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-06Q-15-DUP**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-57**						
Date/Time Collected		**05/22/13 10:47**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.06						
Temperature		25.4 °C						
Conductivity		599 umhos						
Dissolved Oxygen		3.42 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/10/13 11:24	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	05/29/13 08:00	05/29/13 15:08	1
Chloride	mg/L	30	EPA 300.0	0.20	0.050		05/23/13 20:53	1
Nitrate (as N)	mg/L	27	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Total Alkalinity	mg/L	44	SM 2320B	8.0	2.0		06/03/13 15:15	1
Total Kjeldahl Nitrogen	mg/L	2.1	EPA 351.2	0.20	0.05	06/06/13 08:49	06/07/13 10:32	1
Nitrate+Nitrite (N)	mg/L	27	EPA 300.0	0.08	0.02		05/23/13 20:53	1

Sample Description		**PZ-06Q-19**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-58**						
Date/Time Collected		**05/22/13 10:57**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.20						
Temperature		25.4 °C						
Conductivity		84.8 umhos						
Dissolved Oxygen		0.30 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/10/13 11:10	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	05/29/13 08:00	05/29/13 15:08	1
Chloride	mg/L	2.3	EPA 300.0	0.20	0.050		05/23/13 20:53	1
Nitrate (as N)	mg/L	0.62	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Nitrite (as N)	mg/L	0.09	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Phosphorous - Total as P	mg/L	0.054	SM 4500P-E	0.040	0.010	06/03/13 14:32	06/05/13 14:48	1
Total Alkalinity	mg/L	33	SM 2320B	8.0	2.0		06/03/13 15:15	1
Total Kjeldahl Nitrogen	mg/L	0.33	EPA 351.2	0.20	0.05	06/06/13 08:49	06/07/13 10:34	1
Nitrate+Nitrite (N)	mg/L	0.71	EPA 300.0	0.08	0.02		05/23/13 20:53	1

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Project Name **C-HS3 SE#4**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-07Q-13**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-59**						
Date/Time Collected		**05/22/13 09:36**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.49						
Temperature		25.9 °C						
Conductivity		262.4 umhos						
Dissolved Oxygen		4.56 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/10/13 11:12	1
Chemical Oxygen Demand	mg/L	14 I	EPA 410.4	25	10	05/29/13 08:00	05/29/13 15:08	1
Chloride	mg/L	17	EPA 300.0	0.20	0.050		05/23/13 20:53	1
Fluoride	mg/L	0.49	EPA 300.0	0.040	0.010		05/23/13 20:53	1
Nitrate (as N)	mg/L	14	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Orthophosphate as P	mg/L	0.29	EPA 300.0	0.040	0.010		05/23/13 20:53	1
Phosphorous - Total as P	mg/L	0.37	SM 4500P-E	0.040	0.010	06/03/13 14:29	06/07/13 13:01	1
Sulfate	mg/L	19	EPA 300.0	0.60	0.20		05/23/13 20:53	1
Total Alkalinity	mg/L	44	SM 2320B	8.0	2.0		06/03/13 15:15	1
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	06/06/13 08:49	06/07/13 10:35	1
Total Organic Carbon	mg/L	5.1	SM 5310B	1.0	0.50		05/23/13 10:30	1
Nitrate+Nitrite (N)	mg/L	14	EPA 300.0	0.08	0.02		05/23/13 20:53	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	4.7	SM 5310B	1.0	0.50		05/23/13 10:30	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	05/23/13 08:28	05/24/13 11:17	1
Calcium	mg/L	30	EPA 200.7	0.50	0.042	05/23/13 08:28	05/24/13 11:17	1
Iron	mg/L	0.026 I	EPA 200.7	0.10	0.020	05/23/13 08:28	05/24/13 11:17	1
Magnesium	mg/L	5.1	EPA 200.7	0.50	0.020	05/23/13 08:28	05/24/13 11:17	1
Manganese	mg/L	0.0012 I	EPA 200.7	0.010	0.0010	05/23/13 08:28	05/24/13 11:17	1
Potassium	mg/L	5.8	EPA 200.7	0.050	0.010	05/23/13 08:28	05/24/13 11:17	1
Sodium	mg/L	12	EPA 200.7	0.50	0.13	05/23/13 08:28	05/24/13 11:17	1

Sample Description	**PZ-07Q-15**
Matrix	**Groundwater**
SAL Sample Number	**1304718-60**
Date/Time Collected	**05/22/13 09:56**
Collected by	**Sean Schmidt**
Date/Time Received	**05/22/13 15:00**

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Project Name **C-HS3 SE#4**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-07Q-15**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-60**						
Date/Time Collected		**05/22/13 09:56**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.31						
Temperature		25.5 °C						
Conductivity		75.3 umhos						
Dissolved Oxygen		1.87 mg/L						
Inorganics								
Ammonia as N	mg/L	0.038 I	EPA 350.1	0.040	0.009		06/10/13 11:14	1
Chloride	mg/L	1.4	EPA 300.0	0.20	0.050		05/23/13 20:53	1
Nitrate (as N)	mg/L	1.8	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Total Alkalinity	mg/L	44	SM 2320B	8.0	2.0		06/03/13 15:15	1
Total Kjeldahl Nitrogen	mg/L	0.58	EPA 351.2	0.20	0.05	06/06/13 08:49	06/07/13 10:37	1
Nitrate+Nitrite (N)	mg/L	1.8	EPA 300.0	0.08	0.02		05/23/13 20:53	1
Sample Description		**PZ-07Q-19**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-61**						
Date/Time Collected		**05/22/13 10:10**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		5.57						
Temperature		25.6 °C						
Conductivity		148 umhos						
Dissolved Oxygen		3.54 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/10/13 11:16	1
Chloride	mg/L	2.8	EPA 300.0	0.20	0.050		05/23/13 20:53	1
Nitrate (as N)	mg/L	0.96	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Nitrite (as N)	mg/L	0.07	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/03/13 15:15	1
Total Kjeldahl Nitrogen	mg/L	0.54	EPA 351.2	0.20	0.05	06/06/13 08:49	06/07/13 10:39	1
Nitrate+Nitrite (N)	mg/L	1.0	EPA 300.0	0.08	0.02		05/23/13 20:53	1

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Project Name **C-HS3 SE#4**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04U-12**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-62**						
Date/Time Collected		**05/20/13 11:30**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		6.61						
Temperature		26.1 °C						
Conductivity		97.5 umhos						
Dissolved Oxygen		5.86 mg/L						
Inorganics								
Ammonia as N	mg/L	0.046	EPA 350.1	0.040	0.009		05/30/13 11:38	1
Chemical Oxygen Demand	mg/L	49	EPA 410.4	25	10	05/24/13 08:16	05/28/13 17:21	1
Chloride	mg/L	1.2	EPA 300.0	0.20	0.050		05/21/13 14:22	1
Nitrate (as N)	mg/L	0.32	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Phosphorous - Total as P	mg/L	0.67	SM 4500P-E	0.040	0.010	06/03/13 14:26	06/05/13 14:22	1
Total Alkalinity	mg/L	44	SM 2320B	8.0	2.0		05/21/13 13:00	1
Total Kjeldahl Nitrogen	mg/L	0.78	EPA 351.2	0.20	0.05	05/29/13 08:17	06/05/13 14:01	1
Nitrate+Nitrite (N)	mg/L	0.36	EPA 300.0	0.08	0.02		05/21/13 14:22	1

Sample Description		**PZ-04U-14**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-63**						
Date/Time Collected		**05/20/13 11:45**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		6.25						
Temperature		26.2 °C						
Conductivity		114.6 umhos						
Dissolved Oxygen		4.82 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		05/30/13 11:40	1
Chloride	mg/L	1.7	EPA 300.0	0.20	0.050		05/21/13 14:22	1
Nitrate (as N)	mg/L	1.0	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Nitrite (as N)	mg/L	0.06	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Total Alkalinity	mg/L	33	SM 2320B	8.0	2.0		05/21/13 13:00	1
Total Kjeldahl Nitrogen	mg/L	0.49	EPA 351.2	0.20	0.05	05/29/13 08:17	06/05/13 14:45	1
Nitrate+Nitrite (N)	mg/L	1.1	EPA 300.0	0.08	0.02		05/21/13 14:22	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-04U-14-DUP**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-64**						
Date/Time Collected		**05/20/13 11:50**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		6.25						
Temperature		26.2 °C						
Conductivity		114.6 umhos						
Dissolved Oxygen		4.82 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		05/30/13 11:42	1
Chloride	mg/L	1.4	EPA 300.0	0.20	0.050		05/21/13 14:22	1
Nitrate (as N)	mg/L	0.83	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Total Alkalinity	mg/L	33	SM 2320B	8.0	2.0		05/21/13 13:00	1
Total Kjeldahl Nitrogen	mg/L	0.47	EPA 351.2	0.20	0.05	05/29/13 08:17	06/05/13 14:46	1
Nitrate+Nitrite (N)	mg/L	0.88	EPA 300.0	0.08	0.02		05/21/13 14:22	1

Sample Description		**PZ-04U-18**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-65**						
Date/Time Collected		**05/20/13 12:00**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		6.06						
Temperature		26.8 °C						
Conductivity		66.8 umhos						
Dissolved Oxygen		5.29 mg/L						
Inorganics								
Ammonia as N	mg/L	0.052	EPA 350.1	0.040	0.009		05/30/13 11:44	1
Chloride	mg/L	3.4	EPA 300.0	0.20	0.050		05/21/13 14:22	1
Nitrate (as N)	mg/L	0.97	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Nitrite (as N)	mg/L	0.06	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		05/21/13 13:00	1
Total Kjeldahl Nitrogen	mg/L	0.55	EPA 351.2	0.20	0.05	05/29/13 08:12	05/30/13 14:13	1
Nitrate+Nitrite (N)	mg/L	1.0	EPA 300.0	0.08	0.02		05/21/13 14:22	1

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-06U-12**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-66**						
Date/Time Collected		**05/20/13 11:22**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		6.28						
Temperature		26.7 °C						
Conductivity		202.7 umhos						
Dissolved Oxygen		5.14 mg/L						
Inorganics								
Ammonia as N	mg/L	0.093	EPA 350.1	0.040	0.009		05/30/13 11:46	1
Chloride	mg/L	6.5	EPA 300.0	0.20	0.050		05/21/13 20:01	1
Nitrate (as N)	mg/L	7.0	EPA 300.0	0.04	0.01		05/21/13 20:01	1
Nitrite (as N)	mg/L	0.13	EPA 300.0	0.04	0.01		05/21/13 20:01	1
Phosphorous - Total as P	mg/L	0.30	SM 4500P-E	0.040	0.010	06/03/13 14:26	06/05/13 14:27	1
Total Alkalinity	mg/L	33	SM 2320B	8.0	2.0		05/21/13 13:00	1
Total Kjeldahl Nitrogen	mg/L	1.1	EPA 351.2	0.20	0.05	05/29/13 08:12	05/30/13 14:14	1
Total Organic Carbon	mg/L	2.5	SM 5310B	1.0	0.50		05/22/13 10:04	1
Nitrate+Nitrite (N)	mg/L	7.1	EPA 300.0	0.08	0.02		05/21/13 20:01	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	2.1	SM 5310B	1.0	0.50		05/22/13 10:04	1

Sample Description		**PZ-06U-14**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-67**						
Date/Time Collected		**05/20/13 11:47**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		5.89						
Temperature		26.7 °C						
Conductivity		471 umhos						
Dissolved Oxygen		2.46 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		05/30/13 11:48	1
Chloride	mg/L	19	EPA 300.0	0.20	0.050		05/21/13 20:01	1
Fluoride	mg/L	0.092	EPA 300.0	0.040	0.010		05/21/13 20:01	1
Nitrate (as N)	mg/L	22	EPA 300.0	0.04	0.01		05/21/13 14:22	1
Nitrite (as N)	mg/L	0.11	EPA 300.0	0.04	0.01		05/21/13 20:01	1
Orthophosphate as P	mg/L	0.60	EPA 300.0	0.040	0.010		05/21/13 20:01	1
Phosphorous - Total as P	mg/L	0.90	SM 4500P-E	0.040	0.010	06/03/13 14:26	06/05/13 14:28	1

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June 27, 2013
Work Order: 1304718

Laboratory Report

Project Name **C-HS3 SE#4**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-06U-14**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-67**						
Date/Time Collected		**05/20/13 11:47**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		5.89						
Temperature		26.7 °C						
Conductivity		471 umhos						
Dissolved Oxygen		2.46 mg/L						
Sulfate	mg/L	18	EPA 300.0	0.60	0.20		05/21/13 20:01	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		05/21/13 13:00	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	05/29/13 08:12	05/30/13 15:52	1
Total Organic Carbon	mg/L	1.6	SM 5310B	1.0	0.50		05/22/13 10:04	1
Nitrate+Nitrite (N)	mg/L	22	EPA 300.0	0.08	0.02		05/21/13 20:01	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	1.5	SM 5310B	1.0	0.50		05/22/13 10:04	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	05/23/13 08:28	05/24/13 11:21	1
Calcium	mg/L	46	EPA 200.7	0.50	0.042	05/23/13 08:28	05/24/13 11:21	1
Iron	mg/L	0.094 I	EPA 200.7	0.10	0.020	05/23/13 08:28	05/24/13 11:21	1
Magnesium	mg/L	8.7	EPA 200.7	0.50	0.020	05/23/13 08:28	05/24/13 11:21	1
Manganese	mg/L	0.11	EPA 200.7	0.010	0.0010	05/23/13 08:28	05/24/13 11:21	1
Potassium	mg/L	6.9	EPA 200.7	0.050	0.010	05/23/13 08:28	05/24/13 11:21	1
Sodium	mg/L	18	EPA 200.7	0.50	0.13	05/23/13 08:28	05/24/13 11:21	1

Sample Description		**PZ-06U-14-DUP**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-68**						
Date/Time Collected		**05/20/13 11:52**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		5.89						
Temperature		26.7 °C						
Conductivity		471 umhos						
Dissolved Oxygen		2.46 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		05/30/13 11:50	1
Chloride	mg/L	19	EPA 300.0	0.20	0.050		05/21/13 20:01	1
Fluoride	mg/L	0.093	EPA 300.0	0.040	0.010		05/21/13 20:01	1
Nitrate (as N)	mg/L	24	EPA 300.0	0.04	0.01		05/21/13 14:22	1

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Laboratory Report

Project Name **C-HS3 SE#4**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-06U-14-DUP**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-68**						
Date/Time Collected		**05/20/13 11:52**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		5.89						
Temperature		26.7 °C						
Conductivity		471 umhos						
Dissolved Oxygen		2.46 mg/L						
Nitrite (as N)	mg/L	0.11	EPA 300.0	0.04	0.01		05/21/13 20:01	1
Orthophosphate as P	mg/L	0.58	EPA 300.0	0.040	0.010		05/21/13 20:01	1
Phosphorous - Total as P	mg/L	0.90	SM 4500P-E	0.040	0.010	06/03/13 14:26	06/05/13 14:29	1
Sulfate	mg/L	18	EPA 300.0	0.60	0.20		05/21/13 20:01	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		05/21/13 13:00	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	05/29/13 08:12	05/30/13 15:54	1
Total Organic Carbon	mg/L	1.7	SM 5310B	1.0	0.50		05/22/13 10:04	1
Nitrate+Nitrite (N)	mg/L	24	EPA 300.0	0.08	0.02		05/21/13 20:01	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	1.6	SM 5310B	1.0	0.50		05/22/13 10:04	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	05/23/13 08:28	05/24/13 11:24	1
Calcium	mg/L	47	EPA 200.7	0.50	0.042	05/23/13 08:28	05/24/13 11:24	1
Iron	mg/L	0.020 U	EPA 200.7	0.10	0.020	05/23/13 08:28	05/24/13 11:24	1
Magnesium	mg/L	8.9	EPA 200.7	0.50	0.020	05/23/13 08:28	05/24/13 11:24	1
Manganese	mg/L	0.098	EPA 200.7	0.010	0.0010	05/23/13 08:28	05/24/13 11:24	1
Potassium	mg/L	7.3	EPA 200.7	0.050	0.010	05/23/13 08:28	05/24/13 11:24	1
Sodium	mg/L	19	EPA 200.7	0.50	0.13	05/23/13 08:28	05/24/13 11:24	1

Sample Description		**PZ-06U-34**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-69**						
Date/Time Collected		**05/20/13 12:15**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		5.92						
Temperature		27.2 °C						
Conductivity		116.4 umhos						
Dissolved Oxygen		0.85 mg/L						
Inorganics								
Ammonia as N	mg/L	0.22	EPA 350.1	0.040	0.009		05/30/13 11:52	1

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Laboratory Report

Project Name **C-HS3 SE#4**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-06U-34**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-69**						
Date/Time Collected		**05/20/13 12:15**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		5.92						
Temperature		27.2 °C						
Conductivity		116.4 umhos						
Dissolved Oxygen		0.85 mg/L						
Chloride	mg/L	4.5	EPA 300.0	0.20	0.050		05/21/13 20:01	1
Nitrate (as N)	mg/L	0.80	EPA 300.0	0.04	0.01		05/21/13 20:01	1
Nitrite (as N)	mg/L	0.27	EPA 300.0	0.04	0.01		05/21/13 20:01	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		05/21/13 13:00	1
Total Kjeldahl Nitrogen	mg/L	1.0	EPA 351.2	0.20	0.05	05/29/13 08:12	05/30/13 14:19	1
Nitrate+Nitrite (N)	mg/L	1.1	EPA 300.0	0.08	0.02		05/21/13 20:01	1
Sample Description		**PZ-02BKG**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-71**						
Date/Time Collected		**05/22/13 12:48**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		4.72						
Temperature		29.1 °C						
Conductivity		195.1 umhos						
Dissolved Oxygen		5.37 mg/L						
Inorganics								
Ammonia as N	mg/L	0.33	EPA 350.1	0.040	0.009		06/10/13 11:18	1
Chemical Oxygen Demand	mg/L	63	EPA 410.4	25	10	05/29/13 08:00	05/29/13 15:08	1
Chloride	mg/L	3.4	EPA 300.0	0.20	0.050		05/23/13 20:53	1
Nitrate (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Phosphorous - Total as P	mg/L	0.61	SM 4500P-E	0.040	0.010	06/03/13 14:29	06/07/13 13:02	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/03/13 15:15	1
Total Kjeldahl Nitrogen	mg/L	2.5	EPA 351.2	0.20	0.05	06/06/13 08:49	06/07/13 10:40	1
Nitrate+Nitrite (N)	mg/L	0.05 I	EPA 300.0	0.08	0.02		05/23/13 20:53	1

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Laboratory Report

Project Name **C-HS3 SE#4**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**PZ-03BKG**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-72**						
Date/Time Collected		**05/22/13 12:06**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		6.32						
Temperature		26.1 °C						
Conductivity		137.9 umhos						
Dissolved Oxygen		4.58 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/10/13 11:20	1
Chemical Oxygen Demand	mg/L	12 I	EPA 410.4	25	10	05/29/13 08:00	05/29/13 15:08	1
Chloride	mg/L	1.7	EPA 300.0	0.20	0.050		05/23/13 20:53	1
Nitrate (as N)	mg/L	0.18	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Phosphorous - Total as P	mg/L	0.43	SM 4500P-E	0.040	0.010	06/03/13 14:29	06/07/13 13:03	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/03/13 15:15	1
Total Kjeldahl Nitrogen	mg/L	0.57	EPA 351.2	0.20	0.05	05/22/13 16:19	05/30/13 13:46	1
Nitrate+Nitrite (N)	mg/L	0.21	EPA 300.0	0.08	0.02		05/23/13 20:53	1

Sample Description		**PZ-05BKG**						
Matrix		**Groundwater**						
SAL Sample Number		**1304718-75**						
Date/Time Collected		**05/22/13 12:21**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/22/13 15:00**						
Client Provided Field Data								
pH		5.85						
Temperature		26.7 °C						
Conductivity		55.9 umhos						
Dissolved Oxygen		0.15 mg/L						
Inorganics								
Ammonia as N	mg/L	0.048	EPA 350.1	0.040	0.009		06/10/13 11:22	1
Chemical Oxygen Demand	mg/L	18 I	EPA 410.4	25	10	05/29/13 08:00	05/29/13 15:08	1
Chloride	mg/L	2.4	EPA 300.0	0.20	0.050		05/23/13 20:53	1
Nitrate (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		05/23/13 20:53	1
Phosphorous - Total as P	mg/L	0.21	SM 4500P-E	0.040	0.010	06/03/13 14:29	06/07/13 13:04	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/03/13 15:15	1
Total Kjeldahl Nitrogen	mg/L	0.74	EPA 351.2	0.20	0.05	05/22/13 16:19	05/30/13 13:47	1
Nitrate+Nitrite (N)	mg/L	0.04 I	EPA 300.0	0.08	0.02		05/23/13 20:53	1

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June 27, 2013
Work Order: 1304718

Laboratory Report

Project Name **C-HS3 SE#4**

Parameters	Units	Results *		Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**FB-DI**							
Matrix		**Reagent Water**							
SAL Sample Number		**1304718-76**							
Date/Time Collected		**05/20/13 10:55**							
Collected by		**Sean Schmidt**							
Date/Time Received		**05/20/13 15:00**							
Client Provided Field Data									
pH		7.34							
Temperature		28.0 °C							
Conductivity		1.68 umhos							
Dissolved Oxygen		7.88 mg/L							
Inorganics									
Ammonia as N	mg/L	0.009	U	EPA 350.1	0.040	0.009		05/30/13 11:54	1
Carbonaceous BOD	mg/L	2	U	SM 5210B	2	2	05/20/13 15:04	05/25/13 10:47	1
Chemical Oxygen Demand	mg/L	10	U	EPA 410.4	25	10	05/24/13 08:16	05/28/13 17:21	1
Chloride	mg/L	0.22		EPA 300.0	0.20	0.050		05/21/13 20:01	1
Fluoride	mg/L	0.010	U	EPA 300.0	0.040	0.010		05/21/13 20:01	1
Nitrate (as N)	mg/L	0.01	U	EPA 300.0	0.04	0.01		05/21/13 20:01	1
Nitrite (as N)	mg/L	0.01	U	EPA 300.0	0.04	0.01		05/21/13 20:01	1
Orthophosphate as P	mg/L	0.010	U	EPA 300.0	0.040	0.010		05/21/13 20:01	1
Phosphorous - Total as P	mg/L	0.010	U	SM 4500P-E	0.040	0.010	06/03/13 14:26	06/05/13 15:40	1
Sulfate	mg/L	0.28	I	EPA 300.0	0.60	0.20		05/21/13 20:01	1
Total Alkalinity	mg/L	2.0	U	SM 2320B	8.0	2.0		05/21/13 13:00	1
Total Kjeldahl Nitrogen	mg/L	0.05	U	EPA 351.2	0.20	0.05	05/22/13 16:19	05/30/13 13:49	1
Total Organic Carbon	mg/L	0.50	U	SM 5310B	1.0	0.50		05/22/13 10:04	1
Total Solids	mg/L	10	U	SM 2540B	10	10	05/24/13 09:36	05/25/13 09:35	1
Total Suspended Solids	mg/L	1		SM 2540D	1	1	05/22/13 13:09	05/23/13 15:31	1
Nitrate+Nitrite (N)	mg/L	0.02	U	EPA 300.0	0.08	0.02		05/21/13 20:01	1
Inorganic, Dissolved									
Dissolved Organic Carbon	mg/L	0.50	U	SM 5310B	1.0	0.50		05/22/13 10:04	1
Metals									
Boron	mg/L	0.050	U	EPA 200.7	0.10	0.050	05/23/13 08:28	05/24/13 11:28	1
Calcium	mg/L	0.042	U	EPA 200.7	0.50	0.042	05/23/13 08:28	05/24/13 11:28	1
Iron	mg/L	0.020	U	EPA 200.7	0.10	0.020	05/23/13 08:28	06/12/13 10:55	1
Magnesium	mg/L	0.020	U	EPA 200.7	0.50	0.020	05/23/13 08:28	06/12/13 10:55	1
Manganese	mg/L	0.0010	U	EPA 200.7	0.010	0.0010	05/23/13 08:28	05/24/13 11:28	1
Potassium	mg/L	0.010	U	EPA 200.7	0.050	0.010	05/23/13 08:28	05/29/13 11:59	1
Sodium	mg/L	0.13	U	EPA 200.7	0.50	0.13	05/23/13 08:28	05/24/13 11:28	1
Microbiology									
Fecal Coliforms	CFU/100 ml	1	U	SM 9222D	1	1	05/20/13 15:49	05/21/13 14:41	1

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June 27, 2013
Work Order: 1304718

Laboratory Report

Project Name **C-HS3 SE#4**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**FB-TAP**						
Matrix		**Drinking Water**						
SAL Sample Number		**1304718-77**						
Date/Time Collected		**05/20/13 10:45**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		6.5						
Temperature		25.7 °C						
Conductivity		328 umhos						
Dissolved Oxygen		3.05 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		05/30/13 12:05	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	05/20/13 15:04	05/25/13 10:47	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	05/24/13 08:16	05/28/13 17:21	1
Chloride	mg/L	10	EPA 300.0	0.20	0.050		05/21/13 20:01	1
Fluoride	mg/L	0.079	EPA 300.0	0.040	0.010		05/21/13 20:01	1
Nitrate (as N)	mg/L	0.34	EPA 300.0	0.04	0.01		05/21/13 20:01	1
Nitrite (as N)	mg/L	0.16	EPA 300.0	0.04	0.01		05/21/13 20:01	1
Orthophosphate as P	mg/L	0.010 U	EPA 300.0	0.040	0.010		05/21/13 20:01	1
Phosphorous - Total as P	mg/L	0.039 I	SM 4500P-E	0.040	0.010	06/03/13 14:26	06/05/13 14:31	1
Sulfate	mg/L	29	EPA 300.0	0.60	0.20		05/21/13 20:01	1
Total Alkalinity	mg/L	96	SM 2320B	8.0	2.0		05/21/13 13:00	1
Total Kjeldahl Nitrogen	mg/L	0.14 I	EPA 351.2	0.20	0.05	05/22/13 16:19	05/30/13 13:51	1
Total Organic Carbon	mg/L	0.86 I	SM 5310B	1.0	0.50		05/22/13 10:04	1
Total Solids	mg/L	250	SM 2540B	10	10	05/24/13 09:36	05/25/13 09:35	1
Total Suspended Solids	mg/L	1 U	SM 2540D	1	1	05/22/13 13:09	05/23/13 15:31	1
Nitrate+Nitrite (N)	mg/L	0.50	EPA 300.0	0.08	0.02		05/21/13 20:01	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	0.50 U	SM 5310B	1.0	0.50		05/22/13 10:04	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	05/23/13 08:28	05/24/13 11:31	1
Calcium	mg/L	41	EPA 200.7	0.50	0.042	05/23/13 08:28	05/24/13 11:31	1
Iron	mg/L	0.020 U	EPA 200.7	0.10	0.020	05/23/13 08:28	05/24/13 11:31	1
Magnesium	mg/L	10	EPA 200.7	0.50	0.020	05/23/13 08:28	05/24/13 11:31	1
Manganese	mg/L	0.0010 U	EPA 200.7	0.010	0.0010	05/23/13 08:28	05/24/13 11:31	1
Potassium	mg/L	3.8	EPA 200.7	0.050	0.010	05/23/13 08:28	05/24/13 11:31	1
Sodium	mg/L	6.8	EPA 200.7	0.50	0.13	05/23/13 08:28	05/24/13 11:31	1
Microbiology								
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	05/20/13 15:49	05/21/13 14:41	1

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June 27, 2013
Work Order: 1304718

Laboratory Report

Project Name **C-HS3 SE#4**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		**EB**						
Matrix		**Reagent Water**						
SAL Sample Number		**1304718-78**						
Date/Time Collected		**05/20/13 10:50**						
Collected by		**Sean Schmidt**						
Date/Time Received		**05/20/13 15:00**						
Client Provided Field Data								
pH		7.34						
Temperature		28.0 °C						
Conductivity		1.68 umhos						
Dissolved Oxygen		7.88 mg/L						
Inorganics								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		05/30/13 12:07	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	05/20/13 15:04	05/25/13 10:47	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	05/24/13 08:16	05/28/13 17:21	1
Chloride	mg/L	0.21	EPA 300.0	0.20	0.050		05/21/13 20:01	1
Fluoride	mg/L	0.010 U	EPA 300.0	0.040	0.010		05/21/13 20:01	1
Nitrate (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		05/21/13 20:01	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		05/21/13 20:01	1
Orthophosphate as P	mg/L	0.010 U	EPA 300.0	0.040	0.010		05/21/13 20:01	1
Phosphorous - Total as P	mg/L	0.010 U	SM 4500P-E	0.040	0.010	06/03/13 14:26	06/05/13 15:57	1
Sulfate	mg/L	0.27 I	EPA 300.0	0.60	0.20		05/21/13 20:01	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		05/21/13 13:00	1
Total Kjeldahl Nitrogen	mg/L	0.05 U	EPA 351.2	0.20	0.05	05/22/13 16:19	05/30/13 13:52	1
Total Organic Carbon	mg/L	0.50 U	SM 5310B	1.0	0.50		05/22/13 10:04	1
Total Solids	mg/L	10 U	SM 2540B	10	10	05/24/13 09:36	05/25/13 09:35	1
Total Suspended Solids	mg/L	1 U	SM 2540D	1	1	05/22/13 13:09	05/23/13 15:31	1
Nitrate+Nitrite (N)	mg/L	0.02 U	EPA 300.0	0.08	0.02		05/21/13 20:01	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	0.50 U	SM 5310B	1.0	0.50		05/22/13 10:04	1
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	05/23/13 10:38	05/23/13 12:21	1
Calcium	mg/L	0.042 U	EPA 200.7	0.50	0.042	05/23/13 10:38	05/23/13 12:21	1
Iron	mg/L	0.020 U	EPA 200.7	0.10	0.020	05/23/13 10:38	05/23/13 12:21	1
Magnesium	mg/L	0.020 U	EPA 200.7	0.50	0.020	05/23/13 10:38	05/23/13 12:21	1
Manganese	mg/L	0.0010 U	EPA 200.7	0.010	0.0010	05/23/13 10:38	05/23/13 12:21	1
Potassium	mg/L	0.010 U	EPA 200.7	0.050	0.010	05/23/13 10:38	05/29/13 11:42	1
Sodium	mg/L	0.13 U	EPA 200.7	0.50	0.13	05/23/13 10:38	05/23/13 12:21	1
Microbiology								
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	05/20/13 15:49	05/21/13 14:41	1

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE32031 - BOD										
Blank (BE32031-BLK1)					Prepared: 05/20/13 Analyzed: 05/25/13					
Carbonaceous BOD	2 U	2	2	mg/L						
LCS (BE32031-BS1)					Prepared: 05/20/13 Analyzed: 05/25/13					
Carbonaceous BOD	213	2	2	mg/L	200		107	85-115		
LCS Dup (BE32031-BSD1)					Prepared: 05/20/13 Analyzed: 05/25/13					
Carbonaceous BOD	215	2	2	mg/L	200		107	85-115	0.7	200
Duplicate (BE32031-DUP1)		**Source: 1305273-01**			Prepared: 05/20/13 Analyzed: 05/25/13					
Carbonaceous BOD	170	2	2	mg/L		160			5	25
Batch BE32112 - Ion Chromatography 300.0 Prep										
Blank (BE32112-BLK1)					Prepared & Analyzed: 05/21/13					
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						
Fluoride	0.010 U	0.040	0.010	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						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
LCS (BE32112-BS1)					Prepared & Analyzed: 05/21/13					
Nitrate (as N)	1.70	0.04	0.01	mg/L	1.7		100	85-115		
Chloride	2.82	0.20	0.050	mg/L	3.0		94	85-115		
Orthophosphate as P	0.249	0.040	0.010	mg/L	0.25		100	85-115		
Nitrite (as N)	1.39	0.04	0.01	mg/L	1.4		99	85-115		
Fluoride	0.866	0.040	0.010	mg/L	0.90		96	85-115		
Sulfate	8.68	0.60	0.20	mg/L	9.0		96	85-115		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE32112 - Ion Chromatography 300.0 Prep										
LCS Dup (BE32112-BSD1)					Prepared & Analyzed: 05/21/13					
Nitrite (as N)	1.34	0.04	0.01	mg/L	1.4		96	85-115	4	200
Fluoride	0.835	0.040	0.010	mg/L	0.90		93	85-115	4	200
Chloride	2.72	0.20	0.050	mg/L	3.0		91	85-115	3	200
Sulfate	8.14	0.60	0.20	mg/L	9.0		90	85-115	6	200
Orthophosphate as P	0.229	0.040	0.010	mg/L	0.25		91	85-115	8	200
Nitrate (as N)	1.63	0.04	0.01	mg/L	1.7		96	85-115	4	200
Matrix Spike (BE32112-MS1)		**Source: 1304718-03**			Prepared & Analyzed: 05/21/13					
Nitrite (as N)	1.31	0.04	0.01	mg/L	1.4	0.0290	91	85-115		
Chloride	3.55	0.20	0.050	mg/L	3.0	1.08	82	80-120		
Fluoride	0.813	0.040	0.010	mg/L	0.90	ND	90	85-115		
Nitrate (as N)	1.93	0.04	0.01	mg/L	1.7	0.460	87	85-115		
Sulfate	8.40 J5	0.60	0.20	mg/L	9.0	1.73	74	85-115		
Orthophosphate as P	0.266	0.040	0.010	mg/L	0.25	0.0334	93	85-115		
Matrix Spike (BE32112-MS2)		**Source: 1304718-65**			Prepared & Analyzed: 05/21/13					
Nitrate (as N)	2.59	0.04	0.01	mg/L	1.7	0.966	96	85-115		
Fluoride	0.881	0.040	0.010	mg/L	0.90	0.0583	91	85-115		
Chloride	5.91	0.20	0.050	mg/L	3.0	3.36	85	80-120		
Orthophosphate as P	0.246	0.040	0.010	mg/L	0.25	0.0184	91	85-115		
Sulfate	13.8	0.60	0.20	mg/L	9.0	5.59	91	85-115		
Nitrite (as N)	1.36	0.04	0.01	mg/L	1.4	0.0602	93	85-115		
Batch BE32113 - Ion Chromatography 300.0 Prep										
Blank (BE32113-BLK1)					Prepared & Analyzed: 05/21/13					
Orthophosphate as P	0.010 U	0.040	0.010	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						
Chloride	0.050 U	0.20	0.050	mg/L						
Sulfate	0.20 U	0.60	0.20	mg/L						
Fluoride	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 BE32113 - Ion Chromatography 300.0 Prep										
LCS (BE32113-BS1)					Prepared & Analyzed: 05/21/13					
Fluoride	0.866	0.040	0.010	mg/L	0.90		96	85-115		
Sulfate	8.34	0.60	0.20	mg/L	9.0		93	85-115		
Nitrite (as N)	1.38	0.04	0.01	mg/L	1.4		98	85-115		
Chloride	2.81	0.20	0.050	mg/L	3.0		94	85-115		
Orthophosphate as P	0.242	0.040	0.010	mg/L	0.25		97	85-115		
Nitrate (as N)	1.68	0.04	0.01	mg/L	1.7		99	85-115		
LCS Dup (BE32113-BSD1)					Prepared & Analyzed: 05/21/13					
Chloride	2.79	0.20	0.050	mg/L	3.0		93	85-115	0.7	200
Orthophosphate as P	0.240	0.040	0.010	mg/L	0.25		96	85-115	0.7	200
Sulfate	8.54	0.60	0.20	mg/L	9.0		95	85-115	2	200
Nitrite (as N)	1.37	0.04	0.01	mg/L	1.4		98	85-115	0.1	200
Fluoride	0.860	0.040	0.010	mg/L	0.90		96	85-115	0.7	200
Nitrate (as N)	1.67	0.04	0.01	mg/L	1.7		98	85-115	0.7	200
Matrix Spike (BE32113-MS1)		**Source: 1305305-02**			Prepared & Analyzed: 05/21/13					
Orthophosphate as P	3.90	0.040	0.010	mg/L	0.25	3.67	91	85-115		
Nitrite (as N)	1.53	0.04	0.01	mg/L	1.4	ND	109	85-115		
Fluoride	1.07	0.040	0.010	mg/L	0.90	0.185	98	85-115		
Nitrate (as N)	6.04	0.04	0.01	mg/L	1.7	4.59	85	85-115		
Chloride	30.0 L	0.20	0.050	mg/L	3.0	154	NR	80-120		
Sulfate	27.4	0.60	0.20	mg/L	9.0	18.6	98	85-115		
Batch BE32209 - alkalinity										
Blank (BE32209-BLK1)					Prepared & Analyzed: 05/21/13					
Total Alkalinity	2.0 U	8.0	2.0	mg/L						

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE32209 - alkalinity										
LCS (BE32209-BS1)					Prepared & Analyzed: 05/21/13					
Total Alkalinity	130	8.0	2.0	mg/L	120		105	90-110		
Matrix Spike (BE32209-MS1)		**Source: 1304718-63**			Prepared & Analyzed: 05/21/13					
Total Alkalinity	160	8.0	2.0	mg/L	120	33	105	80-120		
Matrix Spike Dup (BE32209-MSD1)		**Source: 1304718-63**			Prepared & Analyzed: 05/21/13					
Total Alkalinity	160	8.0	2.0	mg/L	120	33	105	80-120	0	26
Batch BE32218 - Ion Chromatography 300.0 Prep										
Blank (BE32218-BLK1)					Prepared & Analyzed: 05/22/13					
Fluoride	0.010 U	0.040	0.010	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
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						
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BE32218-BS1)					Prepared & Analyzed: 05/22/13					
Sulfate	8.17	0.60	0.20	mg/L	9.0		91	85-115		
Orthophosphate as P	0.273	0.040	0.010	mg/L	0.25		109	85-115		
Fluoride	0.905	0.040	0.010	mg/L	0.90		101	85-115		
Nitrite (as N)	1.26	0.04	0.01	mg/L	1.4		90	85-115		
Nitrate (as N)	1.55	0.04	0.01	mg/L	1.7		91	85-115		
Chloride	2.75	0.20	0.050	mg/L	3.0		92	85-115		
LCS Dup (BE32218-BSD1)					Prepared & Analyzed: 05/22/13					
Nitrate (as N)	1.54	0.04	0.01	mg/L	1.7		91	85-115	0.6	200
Nitrite (as N)	1.32	0.04	0.01	mg/L	1.4		95	85-115	5	200
Sulfate	8.68	0.60	0.20	mg/L	9.0		96	85-115	6	200
Fluoride	0.903	0.040	0.010	mg/L	0.90		100	85-115	0.2	200
Orthophosphate as P	0.267	0.040	0.010	mg/L	0.25		107	85-115	2	200
Chloride	2.75	0.20	0.050	mg/L	3.0		92	85-115	0.1	200

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE32218 - Ion Chromatography 300.0 Prep										
Matrix Spike (BE32218-MS1)		**Source: 1304718-14**			Prepared & Analyzed: 05/22/13					
Nitrate (as N)	2.69	0.04	0.01	mg/L	1.7	1.18	89	85-115		
Sulfate	11.0	0.60	0.20	mg/L	9.0	2.88	90	85-115		
Orthophosphate as P	0.447	0.040	0.010	mg/L	0.25	0.217	92	85-115		
Nitrite (as N)	1.33	0.04	0.01	mg/L	1.4	0.0258	93	85-115		
Fluoride	0.941	0.040	0.010	mg/L	0.90	0.127	90	85-115		
Chloride	3.82	0.20	0.050	mg/L	3.0	1.36	82	80-120		
Matrix Spike (BE32218-MS2)		**Source: 1304718-27**			Prepared & Analyzed: 05/22/13					
Nitrite (as N)	1.29	0.04	0.01	mg/L	1.4	0.0644	87	85-115		
Chloride	3.50	0.20	0.050	mg/L	3.0	1.06	81	80-120		
Nitrate (as N)	1.97	0.04	0.01	mg/L	1.7	0.458	89	85-115		
Orthophosphate as P	0.250 J5	0.040	0.010	mg/L	0.25	0.0628	75	85-115		
Sulfate	11.8 J5	0.60	0.20	mg/L	9.0	4.71	78	85-115		
Fluoride	0.969	0.040	0.010	mg/L	0.90	0.153	91	85-115		
Batch BE32219 - Ion Chromatography 300.0 Prep										
Blank (BE32219-BLK1)					Prepared & Analyzed: 05/22/13					
Sulfate	0.20 U	0.60	0.20	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						
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 (BE32219-BS1)					Prepared & Analyzed: 05/22/13					
Nitrate (as N)	1.81	0.04	0.01	mg/L	1.7		107	85-115		
Fluoride	0.844	0.040	0.010	mg/L	0.90		94	85-115		
Nitrite (as N)	1.50	0.04	0.01	mg/L	1.4		107	85-115		
Chloride	2.90	0.20	0.050	mg/L	3.0		97	85-115		
Sulfate	8.71	0.60	0.20	mg/L	9.0		97	85-115		
Orthophosphate as P	0.247	0.040	0.010	mg/L	0.25		99	85-115		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE32219 - Ion Chromatography 300.0 Prep										
LCS Dup (BE32219-BSD1)					Prepared & Analyzed: 05/22/13					
Sulfate	8.28	0.60	0.20	mg/L	9.0		92	85-115	5	200
Chloride	2.81	0.20	0.050	mg/L	3.0		94	85-115	3	200
Orthophosphate as P	0.248	0.040	0.010	mg/L	0.25		99	85-115	0.6	200
Nitrite (as N)	1.28	0.04	0.01	mg/L	1.4		91	85-115	16	200
Fluoride	0.908	0.040	0.010	mg/L	0.90		101	85-115	7	200
Nitrate (as N)	1.59	0.04	0.01	mg/L	1.7		93	85-115	13	200
Matrix Spike (BE32219-MS1)		**Source: 1304718-37**			Prepared & Analyzed: 05/22/13					
Nitrite (as N)	1.67	0.04	0.01	mg/L	1.4	0.0905	112	85-115		
Sulfate	16.9	0.60	0.20	mg/L	9.0	7.05	109	85-115		
Fluoride	0.941	0.040	0.010	mg/L	0.90	0.0870	95	85-115		
Chloride	13.4	0.20	0.050	mg/L	3.0	10.4	97	80-120		
Orthophosphate as P	0.288	0.040	0.010	mg/L	0.25	0.0510	95	85-115		
Nitrate (as N)	10.5	0.04	0.01	mg/L	1.7	8.70	108	85-115		
Matrix Spike (BE32219-MS2)		**Source: 1305233-07**			Prepared & Analyzed: 05/22/13					
Nitrate (as N)	1.63	0.04	0.01	mg/L	1.7	0.0139	95	85-115		
Sulfate	7.83 J5	0.60	0.20	mg/L	9.0	1.25	73	85-115		
Orthophosphate as P	0.269	0.040	0.010	mg/L	0.25	ND	108	85-115		
Fluoride	1.68	0.040	0.010	mg/L	0.90	0.733	105	85-115		
Chloride	15.4	0.20	0.050	mg/L	3.0	12.4	98	80-120		
Nitrite (as N)	1.45	0.04	0.01	mg/L	1.4	ND	104	85-115		
Batch BE32222 - TOC prep										
Blank (BE32222-BLK1)					Prepared & Analyzed: 05/22/13					
Total Organic Carbon	0.50 U	1.0	0.50	mg/L						

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE32222 - TOC prep										
Blank (BE32222-BLK2)					Prepared & Analyzed: 05/22/13					
Total Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BE32222-BS1)					Prepared & Analyzed: 05/22/13					
Total Organic Carbon	9.94	1.0	0.50	mg/L	10		99	90-110		
LCS (BE32222-BS2)					Prepared & Analyzed: 05/22/13					
Total Organic Carbon	9.48	1.0	0.50	mg/L	10		95	90-110		
Matrix Spike (BE32222-MS1)		**Source: 1304718-24**			Prepared & Analyzed: 05/22/13					
Total Organic Carbon	14.4	1.0	0.50	mg/L	10	4.50	99	85-115		
Matrix Spike (BE32222-MS2)		**Source: 1304718-78**			Prepared & Analyzed: 05/22/13					
Total Organic Carbon	10.6	1.0	0.50	mg/L	10	ND	106	85-115		
Matrix Spike Dup (BE32222-MSD1)		**Source: 1304718-24**			Prepared & Analyzed: 05/22/13					
Total Organic Carbon	15.1	1.0	0.50	mg/L	10	4.50	106	85-115	5	10
Matrix Spike Dup (BE32222-MSD2)		**Source: 1304718-78**			Prepared & Analyzed: 05/22/13					
Total Organic Carbon	10.4	1.0	0.50	mg/L	10	ND	104	85-115	1	10
Batch BE32233 - TSS prep										
Blank (BE32233-BLK1)					Prepared: 05/22/13 Analyzed: 05/23/13					
Total Suspended Solids	1 U	1	1	mg/L						
LCS (BE32233-BS1)					Prepared: 05/22/13 Analyzed: 05/23/13					
Total Suspended Solids	43.0	1	1	mg/L				85-115		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE32233 - TSS prep										
Duplicate (BE32233-DUP1)		**Source: 1304718-01**			Prepared: 05/22/13 Analyzed: 05/23/13					
Total Suspended Solids	40.0	1	1	mg/L		42.0			5	30
Batch BE32256 - Digestion for TKN by EPA 351.2										
Blank (BE32256-BLK1)					Prepared: 05/22/13 Analyzed: 05/30/13					
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BE32256-BS1)					Prepared: 05/22/13 Analyzed: 05/30/13					
Total Kjeldahl Nitrogen	2.75	0.20	0.05	mg/L	2.5		108	90-110		
Matrix Spike (BE32256-MS1)		**Source: 1304718-78**			Prepared: 05/22/13 Analyzed: 05/30/13					
Total Kjeldahl Nitrogen	2.59	0.20	0.05	mg/L	2.5	ND	102	90-110		
Matrix Spike Dup (BE32256-MSD1)		**Source: 1304718-78**			Prepared: 05/22/13 Analyzed: 05/30/13					
Total Kjeldahl Nitrogen	2.76	0.20	0.05	mg/L	2.5	ND	109	90-110	6	20
Batch BE32314 - TOC prep										
Blank (BE32314-BLK1)					Prepared & Analyzed: 05/23/13					
Total Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BE32314-BS1)					Prepared & Analyzed: 05/23/13					
Total Organic Carbon	9.62	1.0	0.50	mg/L	10		96	90-110		
Matrix Spike (BE32314-MS1)		**Source: 1304718-59**			Prepared & Analyzed: 05/23/13					
Total Organic Carbon	14.8	1.0	0.50	mg/L	10	5.11	97	85-115		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE32314 - TOC prep										
Matrix Spike Dup (BE32314-MSD1)		**Source: 1304718-59**			Prepared & Analyzed: 05/23/13					
Total Organic Carbon	14.2	1.0	0.50	mg/L	10	5.11	91	85-115	4	10
Batch BE32317 - Ion Chromatography 300.0 Prep										
Blank (BE32317-BLK1)					Prepared & Analyzed: 05/23/13					
Sulfate	0.20 U	0.60	0.20	mg/L						
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						
Fluoride	0.010 U	0.040	0.010	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
LCS (BE32317-BS1)					Prepared & Analyzed: 05/23/13					
Fluoride	0.814	0.040	0.010	mg/L	0.90		90	85-115		
Nitrate (as N)	1.62	0.04	0.01	mg/L	1.7		95	85-115		
Sulfate	8.23	0.60	0.20	mg/L	9.0		91	85-115		
Chloride	2.71	0.20	0.050	mg/L	3.0		90	85-115		
Nitrite (as N)	1.32	0.04	0.01	mg/L	1.4		95	85-115		
Orthophosphate as P	0.226	0.040	0.010	mg/L	0.25		90	85-115		
LCS Dup (BE32317-BSD1)					Prepared & Analyzed: 05/23/13					
Orthophosphate as P	0.234	0.040	0.010	mg/L	0.25		93	85-115	3	200
Nitrite (as N)	1.35	0.04	0.01	mg/L	1.4		96	85-115	2	200
Fluoride	0.837	0.040	0.010	mg/L	0.90		93	85-115	3	200
Chloride	2.75	0.20	0.050	mg/L	3.0		92	85-115	1	200
Nitrate (as N)	1.65	0.04	0.01	mg/L	1.7		97	85-115	2	200
Sulfate	8.33	0.60	0.20	mg/L	9.0		93	85-115	1	200

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE32317 - Ion Chromatography 300.0 Prep										
Matrix Spike (BE32317-MS1)		**Source: 1305422-05**			Prepared & Analyzed: 05/23/13					
Orthophosphate as P	0.364	0.040	0.010	mg/L	0.25	0.139	90	85-115		
Nitrate (as N)	1.86	0.04	0.01	mg/L	1.7	0.0229	108	85-115		
Chloride	26.0	0.20	0.050	mg/L	3.0	23.2	96	80-120		
Sulfate	15.2	0.60	0.20	mg/L	9.0	6.76	94	85-115		
Fluoride	1.39	0.040	0.010	mg/L	0.90	0.514	97	85-115		
Nitrite (as N)	1.46	0.04	0.01	mg/L	1.4	0.109	96	85-115		
Matrix Spike (BE32317-MS2)		**Source: 1304718-45**			Prepared & Analyzed: 05/23/13					
Nitrate (as N)	7.00	0.04	0.01	mg/L	1.7	5.17	108	85-115		
Nitrite (as N)	1.35	0.04	0.01	mg/L	1.4	ND	96	85-115		
Chloride	10.7	0.20	0.050	mg/L	3.0	7.84	94	80-120		
Fluoride	0.827	0.040	0.010	mg/L	0.90	ND	92	85-115		
Orthophosphate as P	0.171 J5	0.040	0.010	mg/L	0.25	ND	69	85-115		
Sulfate	71.9 J5	0.60	0.20	mg/L	9.0	64.9	77	85-115		
Batch BE32318 - Ion Chromatography 300.0 Prep										
Blank (BE32318-BLK1)					Prepared & Analyzed: 05/23/13					
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Sulfate	0.20 U	0.60	0.20	mg/L						
Nitrite (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						
LCS (BE32318-BS1)					Prepared & Analyzed: 05/23/13					
Sulfate	8.67	0.60	0.20	mg/L	9.0		96	85-115		
Chloride	2.97	0.20	0.050	mg/L	3.0		99	85-115		
Nitrite (as N)	1.48	0.04	0.01	mg/L	1.4		106	85-115		
Fluoride	0.873	0.040	0.010	mg/L	0.90		97	85-115		
Nitrate (as N)	1.71	0.04	0.01	mg/L	1.7		101	85-115		
Orthophosphate as P	0.241	0.040	0.010	mg/L	0.25		96	85-115		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE32318 - Ion Chromatography 300.0 Prep										
LCS Dup (BE32318-BSD1)					Prepared & Analyzed: 05/23/13					
Nitrate (as N)	1.69	0.04	0.01	mg/L	1.7		99	85-115	1	200
Chloride	2.81	0.20	0.050	mg/L	3.0		94	85-115	6	200
Nitrite (as N)	1.38	0.04	0.01	mg/L	1.4		99	85-115	7	200
Orthophosphate as P	0.251	0.040	0.010	mg/L	0.25		100	85-115	4	200
Sulfate	8.54	0.60	0.20	mg/L	9.0		95	85-115	2	200
Fluoride	0.862	0.040	0.010	mg/L	0.90		96	85-115	1	200
Matrix Spike (BE32318-MS1)		**Source: 1304718-55**			Prepared & Analyzed: 05/23/13					
Chloride	24.8	0.20	0.050	mg/L	3.0	21.9	99	80-120		
Fluoride	0.894	0.040	0.010	mg/L	0.90	0.0828	90	85-115		
Sulfate	33.2	0.60	0.20	mg/L	9.0	23.6	106	85-115		
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4	0.0625	89	85-115		
Orthophosphate as P	1.01	0.040	0.010	mg/L	0.25	0.767	96	85-115		
Nitrate (as N)	20.2	0.04	0.01	mg/L	1.7	18.6	92	85-115		
Matrix Spike (BE32318-MS2)		**Source: 1305403-01**			Prepared & Analyzed: 05/23/13					
Sulfate	11,100	0.60	0.20	mg/L	9000	2580	95	85-115		
Chloride	16,900 J5	0.20	0.050	mg/L	3000	16100	28	80-120		
Fluoride	835	0.040	0.010	mg/L	900	ND	93	85-115		
Nitrite (as N)	1,320	0.04	0.01	mg/L	1400	ND	94	85-115		
Nitrate (as N)	1,650	0.04	0.01	mg/L	1700	ND	97	85-115		
Orthophosphate as P	211 J5	0.040	0.010	mg/L	250	ND	84	85-115		
Batch BE32319 - Ion Chromatography 300.0 Prep										
Blank (BE32319-BLK1)					Prepared & Analyzed: 05/24/13					
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 BE32319 - Ion Chromatography 300.0 Prep										
LCS (BE32319-BS1)					Prepared & Analyzed: 05/24/13					
Chloride	2.86	0.20	0.050	mg/L	3.0		95	85-115		
LCS Dup (BE32319-BSD1)					Prepared & Analyzed: 05/24/13					
Chloride	2.91	0.20	0.050	mg/L	3.0		97	85-115	2	200
Matrix Spike (BE32319-MS1)		**Source: 1305235-05**			Prepared & Analyzed: 05/24/13					
Chloride	300 L	0.20	0.050	mg/L	30	441	NR	80-120		
Matrix Spike (BE32319-MS2)		**Source: 1304718-02**			Prepared & Analyzed: 05/24/13					
Chloride	30.0 L	0.20	0.050	mg/L	6.0	44.2	NR	80-120		
Nitrite (as N)	2.68	0.04	0.01	mg/L	2.8	ND	96	85-115		
Nitrate (as N)	3.36	0.04	0.01	mg/L	3.4	ND	99	85-115		
Batch BE32402 - COD prep										
Blank (BE32402-BLK1)					Prepared: 05/24/13 Analyzed: 05/28/13					
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BE32402-BS1)					Prepared: 05/24/13 Analyzed: 05/28/13					
Chemical Oxygen Demand	55	25	10	mg/L	50		110	90-110		
Matrix Spike (BE32402-MS1)		**Source: 1304718-76**			Prepared: 05/24/13 Analyzed: 05/28/13					
Chemical Oxygen Demand	55	25	10	mg/L	50	ND	110	85-115		
Matrix Spike Dup (BE32402-MSD1)		**Source: 1304718-76**			Prepared: 05/24/13 Analyzed: 05/28/13					
Chemical Oxygen Demand	57	25	10	mg/L	50	ND	114	85-115	4	32

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE32408 - alkalinity										
Blank (BE32408-BLK1)					Prepared & Analyzed: 05/22/13					
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BE32408-BS1)					Prepared & Analyzed: 05/22/13					
Total Alkalinity	130	8.0	2.0	mg/L	120		105	90-110		
Matrix Spike (BE32408-MS1)		**Source: 1304718-07**			Prepared & Analyzed: 05/22/13					
Total Alkalinity	130	8.0	2.0	mg/L	120	11	96	80-120		
Matrix Spike Dup (BE32408-MSD1)		**Source: 1304718-07**			Prepared & Analyzed: 05/22/13					
Total Alkalinity	130	8.0	2.0	mg/L	120	11	96	80-120	0	26
Batch BE32802 - COD prep										
Blank (BE32802-BLK1)					Prepared & Analyzed: 05/28/13					
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BE32802-BS1)					Prepared & Analyzed: 05/28/13					
Chemical Oxygen Demand	55	25	10	mg/L	50		110	90-110		
Matrix Spike (BE32802-MS1)		**Source: 1304718-03**			Prepared & Analyzed: 05/28/13					
Chemical Oxygen Demand	69	25	10	mg/L	50	22	94	85-115		
Matrix Spike Dup (BE32802-MSD1)		**Source: 1304718-03**			Prepared & Analyzed: 05/28/13					
Chemical Oxygen Demand	75	25	10	mg/L	50	22	106	85-115	8	32
Batch BE32901 - COD prep										
Blank (BE32901-BLK1)					Prepared & Analyzed: 05/29/13					
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 BE32901 - COD prep										
LCS (BE32901-BS1)					Prepared & Analyzed: 05/29/13					
Chemical Oxygen Demand	51	25	10	mg/L	50		102	90-110		
Matrix Spike (BE32901-MS1)		**Source: 1304718-17**			Prepared & Analyzed: 05/29/13					
Chemical Oxygen Demand	51	25	10	mg/L	50	ND	102	85-115		
Matrix Spike Dup (BE32901-MSD1)		**Source: 1304718-17**			Prepared & Analyzed: 05/29/13					
Chemical Oxygen Demand	46	25	10	mg/L	50	ND	92	85-115	10	32
Batch BE32902 - Digestion for TKN by EPA 351.2										
Blank (BE32902-BLK1)					Prepared: 05/29/13 Analyzed: 05/30/13					
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BE32902-BS1)					Prepared: 05/29/13 Analyzed: 05/30/13					
Total Kjeldahl Nitrogen	2.30	0.20	0.05	mg/L	2.5		91	90-110		
Matrix Spike (BE32902-MS1)		**Source: 1305426-02**			Prepared: 05/29/13 Analyzed: 05/30/13					
Total Kjeldahl Nitrogen	3.34	0.20	0.05	mg/L	2.5	0.690	105	90-110		
Matrix Spike (BE32902-MS2)		**Source: 1305505-02**			Prepared: 05/29/13 Analyzed: 05/31/13					
Total Kjeldahl Nitrogen	3.03	0.20	0.05	mg/L	2.5	0.972	81	90-110		
Matrix Spike Dup (BE32902-MSD1)		**Source: 1305426-02**			Prepared: 05/29/13 Analyzed: 05/30/13					
Total Kjeldahl Nitrogen	3.38	0.20	0.05	mg/L	2.5	0.690	106	90-110	1	20
Matrix Spike Dup (BE32902-MSD2)		**Source: 1305505-02**			Prepared: 05/29/13 Analyzed: 05/31/13					
Total Kjeldahl Nitrogen	ses at 90%	0.20	0.05	mg/L	2.5	0.972	89	90-110	6	20

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE32903 - Digestion for TKN by EPA 351.2										
Blank (BE32903-BLK1)					Prepared: 05/29/13 Analyzed: 06/05/13					
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BE32903-BS1)					Prepared: 05/29/13 Analyzed: 06/05/13					
Total Kjeldahl Nitrogen	2.67	0.20	0.05	mg/L	2.5		106	90-110		
Matrix Spike (BE32903-MS1)		**Source: 1304718-22**			Prepared: 05/29/13 Analyzed: 06/05/13					
Total Kjeldahl Nitrogen	3.72	0.20	0.05	mg/L	2.5	1.12	103	90-110		
Matrix Spike (BE32903-MS2)		**Source: 1304718-23**			Prepared: 05/29/13 Analyzed: 06/05/13					
Total Kjeldahl Nitrogen	4.10	0.20	0.05	mg/L	2.5	1.37	108	90-110		
Matrix Spike Dup (BE32903-MSD1)		**Source: 1304718-22**			Prepared: 05/29/13 Analyzed: 06/05/13					
Total Kjeldahl Nitrogen	3.71	0.20	0.05	mg/L	2.5	1.12	102	90-110	0.5	20
Matrix Spike Dup (BE32903-MSD2)		**Source: 1304718-23**			Prepared: 05/29/13 Analyzed: 06/05/13					
Total Kjeldahl Nitrogen	3.77	0.20	0.05	mg/L	2.5	1.37	95	90-110	9	20
Batch BE32904 - Digestion for TKN by EPA 351.2										
LCS (BE32904-BS1)					Prepared: 05/29/13 Analyzed: 06/06/13					
Total Kjeldahl Nitrogen	2.50	0.20	0.05	mg/L	2.5		99	90-110		
Matrix Spike (BE32904-MS1)		**Source: 1304718-12**			Prepared: 05/29/13 Analyzed: 06/06/13					
Total Kjeldahl Nitrogen	3.17	0.20	0.05	mg/L	2.5	0.724	97	90-110		
Matrix Spike Dup (BE32904-MSD1)		**Source: 1304718-12**			Prepared: 05/29/13 Analyzed: 06/06/13					
Total Kjeldahl Nitrogen	3.01	0.20	0.05	mg/L	2.5	0.724	90	90-110	5	20

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE32906 - Ion Chromatography 300.0 Prep										
Blank (BE32906-BLK1)					Prepared & Analyzed: 05/29/13					
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BE32906-BS1)					Prepared & Analyzed: 05/29/13					
Chloride	2.71	0.20	0.050	mg/L	3.0		90	85-115		
LCS Dup (BE32906-BSD1)					Prepared & Analyzed: 05/29/13					
Chloride	2.87	0.20	0.050	mg/L	3.0		96	85-115	6	200
Matrix Spike (BE32906-MS1)		**Source: 1305351-03**			Prepared & Analyzed: 05/29/13					
Chloride	29.7	0.20	0.050	mg/L	3.0	26.9	94	80-120		
Matrix Spike (BE32906-MS2)		**Source: 1305534-02**			Prepared & Analyzed: 05/29/13					
Chloride	21.3	0.20	0.050	mg/L	3.0	18.2	106	80-120		
Batch BE32908 - TS prep										
Blank (BE32908-BLK1)					Prepared: 05/24/13 Analyzed: 05/25/13					
Total Solids	10 U	10	10	mg/L						
Duplicate (BE32908-DUP1)		**Source: 1304718-01**			Prepared: 05/24/13 Analyzed: 05/25/13					
Total Solids	426	10	10	mg/L		428			0.5	20
Batch BE33001 - Ammonia by SEAL										
Blank (BE33001-BLK1)					Prepared & Analyzed: 05/30/13					
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 BE33001 - Ammonia by SEAL										
LCS (BE33001-BS1)					Prepared & Analyzed: 05/30/13					
Ammonia as N	0.48	0.040	0.009	mg/L	0.50		96	90-110		
Matrix Spike (BE33001-MS1)		**Source: 1304718-76**			Prepared & Analyzed: 05/30/13					
Ammonia as N	0.48	0.040	0.009	mg/L	0.50	ND	96	90-110		
Matrix Spike (BE33001-MS2)		**Source: 1304718-78**			Prepared & Analyzed: 05/30/13					
Ammonia as N	0.49	0.040	0.009	mg/L	0.50	ND	98	90-110		
Matrix Spike Dup (BE33001-MSD1)		**Source: 1304718-76**			Prepared & Analyzed: 05/30/13					
Ammonia as N	0.46	0.040	0.009	mg/L	0.50	ND	93	90-110	4	10
Matrix Spike Dup (BE33001-MSD2)		**Source: 1304718-78**			Prepared & Analyzed: 05/30/13					
Ammonia as N	0.47	0.040	0.009	mg/L	0.50	ND	94	90-110	4	10
Batch BE33002 - Ammonia by SEAL										
Blank (BE33002-BLK1)					Prepared & Analyzed: 05/31/13					
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BE33002-BS1)					Prepared & Analyzed: 05/31/13					
Ammonia as N	0.49	0.040	0.009	mg/L	0.50		98	90-110		
Matrix Spike (BE33002-MS1)		**Source: 1304718-19**			Prepared & Analyzed: 05/31/13					
Ammonia as N	0.47	0.040	0.009	mg/L	0.50	ND	93	90-110		
Matrix Spike (BE33002-MS2)		**Source: 1304718-27**			Prepared & Analyzed: 05/31/13					
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	ND	100	90-110		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE33002 - Ammonia by SEAL										
Matrix Spike Dup (BE33002-MSD1)		**Source: 1304718-19**			Prepared & Analyzed: 05/31/13					
Ammonia as N	0.48	0.040	0.009	mg/L	0.50	ND	96	90-110	4	10
Matrix Spike Dup (BE33002-MSD2)		**Source: 1304718-27**			Prepared & Analyzed: 05/31/13					
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	103	90-110	3	10
Batch BE33003 - COD prep										
Blank (BE33003-BLK1)					Prepared & Analyzed: 05/30/13					
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BE33003-BS1)					Prepared & Analyzed: 05/30/13					
Chemical Oxygen Demand	46	25	10	mg/L	50		92	90-110		
Matrix Spike (BE33003-MS1)		**Source: 1304718-42**			Prepared & Analyzed: 05/30/13					
Chemical Oxygen Demand	61	25	10	mg/L	50	14	94	85-115		
Matrix Spike Dup (BE33003-MSD1)		**Source: 1304718-42**			Prepared & Analyzed: 05/30/13					
Chemical Oxygen Demand	61	25	10	mg/L	50	14	94	85-115	0	32
Batch BE33007 - alkalinity										
Blank (BE33007-BLK1)					Prepared & Analyzed: 05/29/13					
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BE33007-BS1)					Prepared & Analyzed: 05/29/13					
Total Alkalinity	120	8.0	2.0	mg/L	120		96	90-110		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE33007 - alkalinity										
Matrix Spike (BE33007-MS1)		**Source: 1304718-31**			Prepared & Analyzed: 05/29/13					
Total Alkalinity	120	8.0	2.0	mg/L	120	11	87	80-120		
Matrix Spike Dup (BE33007-MSD1)		**Source: 1304718-31**			Prepared & Analyzed: 05/29/13					
Total Alkalinity	130	8.0	2.0	mg/L	120	11	96	80-120	9	26
Batch BE33026 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BE33026-BLK1)					Prepared: 05/30/13 Analyzed: 06/05/13					
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						
LCS (BE33026-BS1)					Prepared: 05/30/13 Analyzed: 06/05/13					
Phosphorous - Total as P	0.736	0.040	0.010	mg/L	0.80		92	90-110		
Matrix Spike (BE33026-MS1)		**Source: 1304718-03**			Prepared: 05/30/13 Analyzed: 06/05/13					
Phosphorous - Total as P	1.34	0.040	0.010	mg/L	1.0	0.431	91	90-110		
Matrix Spike Dup (BE33026-MSD1)		**Source: 1304718-03**			Prepared: 05/30/13 Analyzed: 06/05/13					
Phosphorous - Total as P	1.34	0.040	0.010	mg/L	1.0	0.431	91	90-110	0.3	25
Batch BE33116 - alkalinity										
Blank (BE33116-BLK1)					Prepared & Analyzed: 05/31/13					
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BE33116-BS1)					Prepared & Analyzed: 05/31/13					
Total Alkalinity	130	8.0	2.0	mg/L	120		105	90-110		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE33116 - alkalinity										
Matrix Spike (BE33116-MS1)		**Source: 1304718-39**			Prepared & Analyzed: 05/31/13					
Total Alkalinity	150	8.0	2.0	mg/L	120	33	96	80-120		
Matrix Spike Dup (BE33116-MSD1)		**Source: 1304718-39**			Prepared & Analyzed: 05/31/13					
Total Alkalinity	150	8.0	2.0	mg/L	120	33	96	80-120	0	26
Batch BE33117 - Digestion for TKN by EPA 351.2										
Blank (BE33117-BLK1)					Prepared: 05/31/13 Analyzed: 06/04/13					
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BE33117-BS1)					Prepared: 05/31/13 Analyzed: 06/04/13					
Total Kjeldahl Nitrogen	2.55	0.20	0.05	mg/L	2.5		101	90-110		
Matrix Spike (BE33117-MS1)		**Source: 1305543-02**			Prepared: 05/31/13 Analyzed: 06/04/13					
Total Kjeldahl Nitrogen	3.37	0.20	0.05	mg/L	2.5	0.759	103	90-110		
Matrix Spike (BE33117-MS2)		**Source: 1305578-07**			Prepared: 05/31/13 Analyzed: 06/04/13					
Total Kjeldahl Nitrogen	3.47	0.20	0.05	mg/L	2.5	0.872	103	90-110		
Matrix Spike Dup (BE33117-MSD1)		**Source: 1305543-02**			Prepared: 05/31/13 Analyzed: 06/04/13					
Total Kjeldahl Nitrogen	3.50	0.20	0.05	mg/L	2.5	0.759	108	90-110	4	20
Matrix Spike Dup (BE33117-MSD2)		**Source: 1305578-07**			Prepared: 05/31/13 Analyzed: 06/04/13					
Total Kjeldahl Nitrogen	3.28	0.20	0.05	mg/L	2.5	0.872	95	90-110	6	20
Batch BE33125 - Ammonia by SEAL										
Blank (BE33125-BLK1)					Prepared & Analyzed: 05/31/13					
Ammonia as N	0.009 U	0.040	0.009	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 BE33125 - Ammonia by SEAL										
LCS (BE33125-BS1)					Prepared & Analyzed: 05/31/13					
Ammonia as N	0.54	0.040	0.009	mg/L	0.50		108	90-110		
Matrix Spike (BE33125-MS1)		**Source: 1304718-10**			Prepared & Analyzed: 05/31/13					
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	102	90-110		
Matrix Spike (BE33125-MS2)		**Source: 1305578-07**			Prepared & Analyzed: 05/31/13					
Ammonia as N	0.66	0.040	0.009	mg/L	0.50	0.12	109	90-110		
Matrix Spike Dup (BE33125-MSD1)		**Source: 1304718-10**			Prepared & Analyzed: 05/31/13					
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	103	90-110	0.8	10
Matrix Spike Dup (BE33125-MSD2)		**Source: 1305578-07**			Prepared & Analyzed: 05/31/13					
Ammonia as N	0.60	0.040	0.009	mg/L	0.50	0.12	97	90-110	9	10
Batch BF30320 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF30320-BLK1)					Prepared: 06/03/13 Analyzed: 06/05/13					
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						
LCS (BF30320-BS1)					Prepared: 06/03/13 Analyzed: 06/05/13					
Phosphorous - Total as P	0.838	0.040	0.010	mg/L	0.80		105	90-110		
Matrix Spike (BF30320-MS1)		**Source: 1304718-76**			Prepared: 06/03/13 Analyzed: 06/05/13					
Phosphorous - Total as P	1.02	0.040	0.010	mg/L	1.0	ND	102	90-110		
Matrix Spike (BF30320-MS2)		**Source: 1305578-07**			Prepared: 06/03/13 Analyzed: 06/05/13					
Phosphorous - Total as P	1.19	0.040	0.010	mg/L	1.0	0.192	100	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 BF30320 - Digestion for TP by EPA 365.2/SM4500PE										
Matrix Spike Dup (BF30320-MSD1)		**Source: 1304718-76**			Prepared: 06/03/13 Analyzed: 06/05/13					
Phosphorous - Total as P	1.00	0.040	0.010	mg/L	1.0	ND	100	90-110	2	25
Matrix Spike Dup (BF30320-MSD2)		**Source: 1305578-07**			Prepared: 06/03/13 Analyzed: 06/05/13					
Phosphorous - Total as P	1.27	0.040	0.010	mg/L	1.0	0.192	108	90-110	7	25
Batch BF30322 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF30322-BLK1)					Prepared: 06/03/13 Analyzed: 06/07/13					
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						
LCS (BF30322-BS1)					Prepared: 06/03/13 Analyzed: 06/07/13					
Phosphorous - Total as P	0.811	0.040	0.010	mg/L	0.80		101	90-110		
Matrix Spike (BF30322-MS1)		**Source: 1304718-59**			Prepared: 06/03/13 Analyzed: 06/07/13					
Phosphorous - Total as P	1.30	0.040	0.010	mg/L	1.0	0.370	93	90-110		
Matrix Spike (BF30322-MS2)		**Source: 1305543-02**			Prepared: 06/03/13 Analyzed: 06/07/13					
Phosphorous - Total as P	1.07	0.040	0.010	mg/L	1.0	0.0552	102	90-110		
Matrix Spike Dup (BF30322-MSD1)		**Source: 1304718-59**			Prepared: 06/03/13 Analyzed: 06/07/13					
Phosphorous - Total as P	1.28	0.040	0.010	mg/L	1.0	0.370	91	90-110	1	25
Matrix Spike Dup (BF30322-MSD2)		**Source: 1305543-02**			Prepared: 06/03/13 Analyzed: 06/07/13					
Phosphorous - Total as P	1.01	0.040	0.010	mg/L	1.0	0.0552	95	90-110	6	25
Batch BF30323 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF30323-BLK1)					Prepared: 06/03/13 Analyzed: 06/05/13					
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 BF30323 - Digestion for TP by EPA 365.2/SM4500PE										
LCS (BF30323-BS1)					Prepared: 06/03/13 Analyzed: 06/05/13					
Phosphorous - Total as P	0.736	0.040	0.010	mg/L	0.80		92	90-110		
Matrix Spike (BF30323-MS1)		**Source: 1305624-07**			Prepared: 06/03/13 Analyzed: 06/05/13					
Phosphorous - Total as P	1.01	0.040	0.010	mg/L	1.0	0.0784	93	90-110		
Matrix Spike Dup (BF30323-MSD1)		**Source: 1305624-07**			Prepared: 06/03/13 Analyzed: 06/05/13					
Phosphorous - Total as P	1.05	0.040	0.010	mg/L	1.0	0.0784	97	90-110	4	25
Batch BF30602 - Digestion for TKN by EPA 351.2										
Blank (BF30602-BLK1)					Prepared: 06/06/13 Analyzed: 06/07/13					
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF30602-BS1)					Prepared: 06/06/13 Analyzed: 06/07/13					
Total Kjeldahl Nitrogen	2.46	0.20	0.05	mg/L	2.5		97	90-110		
Matrix Spike (BF30602-MS1)		**Source: 1304718-58**			Prepared: 06/06/13 Analyzed: 06/07/13					
Total Kjeldahl Nitrogen	2.76	0.20	0.05	mg/L	2.5	0.334	96	90-110		
Matrix Spike (BF30602-MS2)		**Source: 1305233-01**			Prepared: 06/06/13 Analyzed: 06/07/13					
Total Kjeldahl Nitrogen	3.24	0.20	0.05	mg/L	2.5	0.830	95	90-110		
Matrix Spike Dup (BF30602-MSD1)		**Source: 1304718-58**			Prepared: 06/06/13 Analyzed: 06/07/13					
Total Kjeldahl Nitrogen	2.84	0.20	0.05	mg/L	2.5	0.334	99	90-110	3	20
Matrix Spike Dup (BF30602-MSD2)		**Source: 1305233-01**			Prepared: 06/06/13 Analyzed: 06/07/13					
Total Kjeldahl Nitrogen	3.34	0.20	0.05	mg/L	2.5	0.830	99	90-110	3	20

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF30603 - Digestion for TKN by EPA 351.2										
Blank (BF30603-BLK1)					Prepared: 06/06/13 Analyzed: 06/07/13					
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF30603-BS1)					Prepared: 06/06/13 Analyzed: 06/07/13					
Total Kjeldahl Nitrogen	2.57	0.20	0.05	mg/L	2.5		101	90-110		
Matrix Spike (BF30603-MS1)		**Source: 1305616-02**			Prepared: 06/06/13 Analyzed: 06/07/13					
Total Kjeldahl Nitrogen	2.67	0.20	0.05	mg/L	2.5	0.0901	102	90-110		
Matrix Spike (BF30603-MS2)		**Source: 1305624-07**			Prepared: 06/06/13 Analyzed: 06/07/13					
Total Kjeldahl Nitrogen	3.26	0.20	0.05	mg/L	2.5	0.697	101	90-110		
Matrix Spike Dup (BF30603-MSD1)		**Source: 1305616-02**			Prepared: 06/06/13 Analyzed: 06/07/13					
Total Kjeldahl Nitrogen	2.76	0.20	0.05	mg/L	2.5	0.0901	105	90-110	3	20
Matrix Spike Dup (BF30603-MSD2)		**Source: 1305624-07**			Prepared: 06/06/13 Analyzed: 06/07/13					
Total Kjeldahl Nitrogen	3.26	0.20	0.05	mg/L	2.5	0.697	101	90-110	0.03	20
Batch BF30702 - Ammonia by SEAL										
Blank (BF30702-BLK1)					Prepared & Analyzed: 06/10/13					
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BF30702-BS1)					Prepared & Analyzed: 06/10/13					
Ammonia as N	0.48	0.040	0.009	mg/L	0.50		97	90-110		
Matrix Spike (BF30702-MS1)		**Source: 1305233-01**			Prepared & Analyzed: 06/10/13					
Ammonia as N	0.54	0.040	0.009	mg/L	0.50	0.017	105	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 BF30702 - Ammonia by SEAL										
Matrix Spike (BF30702-MS2)		**Source: 1305233-05**			Prepared & Analyzed: 06/10/13					
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	ND	105	90-110		
Matrix Spike Dup (BF30702-MSD1)		**Source: 1305233-01**			Prepared & Analyzed: 06/10/13					
Ammonia as N	0.54	0.040	0.009	mg/L	0.50	0.017	105	90-110	0.4	10
Matrix Spike Dup (BF30702-MSD2)		**Source: 1305233-05**			Prepared & Analyzed: 06/10/13					
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	ND	100	90-110	5	10
Batch BF30901 - alkalinity										
Blank (BF30901-BLK1)					Prepared & Analyzed: 06/03/13					
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BF30901-BS1)					Prepared & Analyzed: 06/03/13					
Total Alkalinity	130	8.0	2.0	mg/L	120		105	90-110		
Matrix Spike (BF30901-MS1)		**Source: 1304718-56**			Prepared & Analyzed: 06/03/13					
Total Alkalinity	160	8.0	2.0	mg/L	120	44	96	80-120		
Matrix Spike Dup (BF30901-MSD1)		**Source: 1304718-56**			Prepared & Analyzed: 06/03/13					
Total Alkalinity	160	8.0	2.0	mg/L	120	44	96	80-120	0	26
Batch BF31001 - Ammonia by SEAL										
Blank (BF31001-BLK1)					Prepared & Analyzed: 06/10/13					
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 BF31001 - Ammonia by SEAL										
LCS (BF31001-BS1)					Prepared & Analyzed: 06/10/13					
Ammonia as N	0.50	0.040	0.009	mg/L	0.50		100	90-110		
Matrix Spike (BF31001-MS1)		**Source: 1304718-39**			Prepared & Analyzed: 06/10/13					
Ammonia as N	0.49	0.040	0.009	mg/L	0.50	ND	99	90-110		
Matrix Spike (BF31001-MS2)		**Source: 1305624-07**			Prepared & Analyzed: 06/10/13					
Ammonia as N	0.52	0.040	0.009	mg/L	0.50	0.020	100	90-110		
Matrix Spike Dup (BF31001-MSD1)		**Source: 1304718-39**			Prepared & Analyzed: 06/10/13					
Ammonia as N	0.49	0.040	0.009	mg/L	0.50	ND	98	90-110	0.2	10
Matrix Spike Dup (BF31001-MSD2)		**Source: 1305624-07**			Prepared & Analyzed: 06/10/13					
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	0.020	102	90-110	2	10
Batch BF31006 - Digestion for TKN by EPA 351.2										
Blank (BF31006-BLK1)					Prepared: 06/10/13 Analyzed: 06/11/13					
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF31006-BS1)					Prepared: 06/10/13 Analyzed: 06/11/13					
Total Kjeldahl Nitrogen	2.75	0.20	0.05	mg/L	2.5		109	90-110		
Matrix Spike (BF31006-MS1)		**Source: 1305483-04**			Prepared: 06/10/13 Analyzed: 06/11/13					
Total Kjeldahl Nitrogen	2.77	0.20	0.05	mg/L	2.5	0.0750	106	90-110		
Matrix Spike (BF31006-MS2)		**Source: 1305673-07**			Prepared: 06/10/13 Analyzed: 06/11/13					
Total Kjeldahl Nitrogen	3.84	0.20	0.05	mg/L	2.5	1.35	98	90-110		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31006 - Digestion for TKN by EPA 351.2										
Matrix Spike Dup (BF31006-MSD1)		**Source: 1305483-04**			Prepared: 06/10/13 Analyzed: 06/11/13					
Total Kjeldahl Nitrogen	2.69	0.20	0.05	mg/L	2.5	0.0750	103	90-110	3	20
Matrix Spike Dup (BF31006-MSD2)		**Source: 1305673-07**			Prepared: 06/10/13 Analyzed: 06/11/13					
Total Kjeldahl Nitrogen	3.63	0.20	0.05	mg/L	2.5	1.35	90	90-110	5	20

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Inorganic, Dissolved - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE32223 - DOC prep										
Blank (BE32223-BLK1)					Prepared & Analyzed: 05/22/13					
Dissolved Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BE32223-BS1)					Prepared & Analyzed: 05/22/13					
Dissolved Organic Carbon	10.4	1.0	0.50	mg/L	10		104	90-110		
Matrix Spike (BE32223-MS1)		**Source: 1304718-24**			Prepared & Analyzed: 05/22/13					
Dissolved Organic Carbon	13.3	1.0	0.50	mg/L	10	3.78	95	85-125		
Matrix Spike (BE32223-MS2)		**Source: 1304718-78**			Prepared & Analyzed: 05/22/13					
Dissolved Organic Carbon	9.51	1.0	0.50	mg/L	10	ND	95	85-125		
Matrix Spike Dup (BE32223-MSD1)		**Source: 1304718-24**			Prepared & Analyzed: 05/22/13					
Dissolved Organic Carbon	13.0	1.0	0.50	mg/L	10	3.78	92	85-125	2	25
Matrix Spike Dup (BE32223-MSD2)		**Source: 1304718-78**			Prepared & Analyzed: 05/22/13					
Dissolved Organic Carbon	9.77	1.0	0.50	mg/L	10	ND	98	85-125	3	25
Batch BE32315 - DOC prep										
Blank (BE32315-BLK1)					Prepared & Analyzed: 05/23/13					
Dissolved Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BE32315-BS1)					Prepared & Analyzed: 05/23/13					
Dissolved Organic Carbon	9.35	1.0	0.50	mg/L	10		93	90-110		
Matrix Spike (BE32315-MS1)		**Source: 1304718-59**			Prepared & Analyzed: 05/23/13					
Dissolved Organic Carbon	14.0	1.0	0.50	mg/L	10	4.72	93	85-125		

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Inorganic, Dissolved - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE32315 - DOC prep										
Matrix Spike Dup (BE32315-MSD1)		**Source: 1304718-59**			Prepared & Analyzed: 05/23/13					
Dissolved Organic Carbon	14.1	1.0	0.50	mg/L	10	4.72	94	85-125	0.4	25

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Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE32302 - Metals Preparation for EPA Method 200.7										
Blank (BE32302-BLK1)					Prepared & Analyzed: 05/23/13					
Sodium	0.13 U	0.50	0.13	mg/L						
Magnesium	0.020 U	0.50	0.020	mg/L						
Boron	0.050 U	0.10	0.050	mg/L						
Calcium	0.042 U	0.50	0.042	mg/L						
Manganese	0.0010 U	0.010	0.0010	mg/L						
Potassium	0.035 I	0.050	0.010	mg/L						
Iron	0.020 U	0.10	0.020	mg/L						
LCS (BE32302-BS1)					Prepared & Analyzed: 05/23/13					
Sodium	21	0.50	0.13	mg/L	20		106	85-115		
Iron	8.5	0.10	0.020	mg/L	8.0		106	85-115		
Potassium	19	0.050	0.010	mg/L	20		96	85-115		
Magnesium	20	0.50	0.020	mg/L	20		102	85-115		
Manganese	0.42	0.010	0.0010	mg/L	0.40		105	85-115		
Calcium	20	0.50	0.042	mg/L	20		100	85-115		
Boron	0.43	0.10	0.050	mg/L	0.40		106	85-115		
Matrix Spike (BE32302-MS1)		**Source: 1305235-01**			Prepared & Analyzed: 05/23/13					
Sodium	140	0.50	0.13	mg/L	20	110	103	70-130		
Magnesium	27	0.50	0.020	mg/L	20	6.2	103	70-130		
Boron	0.60	0.10	0.050	mg/L	0.40	0.19	102	70-130		
Manganese	0.41	0.010	0.0010	mg/L	0.40	0.0022	102	70-130		
Potassium	42	0.050	0.010	mg/L	20	22	96	70-130		
Iron	8.6	0.10	0.020	mg/L	8.0	0.19	105	70-130		
Calcium	43	0.50	0.042	mg/L	20	23	101	70-130		
Matrix Spike (BE32302-MS2)		**Source: 1305402-01**			Prepared & Analyzed: 05/23/13					
Boron	0.78	0.10	0.050	mg/L	0.40	0.39	97	70-130		
Sodium	120	0.50	0.13	mg/L	20	100	103	70-130		
Iron	8.8	0.10	0.020	mg/L	8.0	0.37	105	70-130		
Manganese	0.44	0.010	0.0010	mg/L	0.40	0.032	101	70-130		
Magnesium	27	0.50	0.020	mg/L	20	5.9	105	70-130		
Calcium	91	0.50	0.042	mg/L	20	67	121	70-130		
Potassium	35	0.050	0.010	mg/L	20	14	103	70-130		

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

June 27, 2013
Work Order: 1304718

Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE32302 - Metals Preparation for EPA Method 200.7										
Matrix Spike Dup (BE32302-MSD1)		**Source: 1305235-01**			Prepared & Analyzed: 05/23/13					
Manganese	0.40	0.010	0.0010	mg/L	0.40	0.0022	100	70-130	3	20
Sodium	140	0.50	0.13	mg/L	20	110	105	70-130	0.3	20
Boron	0.59	0.10	0.050	mg/L	0.40	0.19	101	70-130	0.7	20
Iron	8.3	0.10	0.020	mg/L	8.0	0.19	102	70-130	3	20
Magnesium	25	0.50	0.020	mg/L	20	6.2	96	70-130	5	20
Calcium	41	0.50	0.042	mg/L	20	23	92	70-130	4	20
Potassium	40	0.050	0.010	mg/L	20	22	86	70-130	5	20
Matrix Spike Dup (BE32302-MSD2)		**Source: 1305402-01**			Prepared & Analyzed: 05/23/13					
Manganese	0.44	0.010	0.0010	mg/L	0.40	0.032	103	70-130	1	20
Iron	9.0	0.10	0.020	mg/L	8.0	0.37	108	70-130	2	20
Magnesium	26	0.50	0.020	mg/L	20	5.9	102	70-130	3	20
Sodium	120	0.50	0.13	mg/L	20	100	82	70-130	3	20
Potassium	35	0.050	0.010	mg/L	20	14	104	70-130	0.4	20
Boron	0.79	0.10	0.050	mg/L	0.40	0.39	100	70-130	1	20
Calcium	90	0.50	0.042	mg/L	20	67	117	70-130	1	20
Batch BE32303 - Metals Preparation for EPA Method 200.7										
Blank (BE32303-BLK1)					Prepared: 05/23/13 Analyzed: 05/24/13					
Boron	0.050 U	0.10	0.050	mg/L						
Calcium	0.042 U	0.50	0.042	mg/L						
Potassium	0.010 U	0.050	0.010	mg/L						
Manganese	0.0010 U	0.010	0.0010	mg/L						
Sodium	0.13 U	0.50	0.13	mg/L						
Magnesium	0.020 U	0.50	0.020	mg/L						
Iron	0.020 U	0.10	0.020	mg/L						

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

June 27, 2013
Work Order: 1304718

Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE32303 - Metals Preparation for EPA Method 200.7										
LCS (BE32303-BS1)					Prepared: 05/23/13 Analyzed: 05/24/13					
Sodium	21	0.50	0.13	mg/L	20		104	85-115		
Boron	0.40	0.10	0.050	mg/L	0.40		100	85-115		
Potassium	19	0.050	0.010	mg/L	20		95	85-115		
Manganese	0.41	0.010	0.0010	mg/L	0.40		102	85-115		
Iron	8.3	0.10	0.020	mg/L	8.0		104	85-115		
Calcium	20	0.50	0.042	mg/L	20		99	85-115		
Magnesium	20	0.50	0.020	mg/L	20		100	85-115		
Matrix Spike (BE32303-MS1)		**Source: 1304718-77**			Prepared: 05/23/13 Analyzed: 05/24/13					
Potassium	23	0.050	0.010	mg/L	20	3.8	94	70-130		
Magnesium	30	0.50	0.020	mg/L	20	10	97	70-130		
Boron	0.44	0.10	0.050	mg/L	0.40	ND	110	70-130		
Manganese	0.42	0.010	0.0010	mg/L	0.40	ND	105	70-130		
Calcium	59	0.50	0.042	mg/L	20	41	92	70-130		
Iron	8.5	0.10	0.020	mg/L	8.0	ND	106	70-130		
Sodium	26	0.50	0.13	mg/L	20	6.8	94	70-130		
Matrix Spike (BE32303-MS2)		**Source: 1305303-01**			Prepared: 05/23/13 Analyzed: 05/24/13					
Iron	8.4	0.10	0.020	mg/L	8.0	0.51	98	70-130		
Sodium	250	0.50	0.13	mg/L	20	220	163	70-130		
Magnesium	60	0.50	0.020	mg/L	20	40	100	70-130		
Manganese	0.42	0.010	0.0010	mg/L	0.40	0.036	97	70-130		
Boron	0.80	0.10	0.050	mg/L	0.40	0.40	99	70-130		
Potassium	37	0.050	0.010	mg/L	20	18	93	70-130		
Calcium	100	0.50	0.042	mg/L	20	81	104	70-130		
Matrix Spike Dup (BE32303-MSD1)		**Source: 1304718-77**			Prepared: 05/23/13 Analyzed: 05/24/13					
Boron	0.43	0.10	0.050	mg/L	0.40	ND	108	70-130	2	20
Iron	8.2	0.10	0.020	mg/L	8.0	ND	103	70-130	3	20
Potassium	22	0.050	0.010	mg/L	20	3.8	91	70-130	3	20
Sodium	27	0.50	0.13	mg/L	20	6.8	99	70-130	4	20
Magnesium	29	0.50	0.020	mg/L	20	10	96	70-130	0.8	20
Calcium	60	0.50	0.042	mg/L	20	41	92	70-130	0.2	20
Manganese	0.41	0.010	0.0010	mg/L	0.40	ND	102	70-130	2	20

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

June 27, 2013
Work Order: 1304718

Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE32303 - Metals Preparation for EPA Method 200.7										
Matrix Spike Dup (BE32303-MSD2)		**Source: 1305303-01**			Prepared: 05/23/13 Analyzed: 05/24/13					
Potassium	37	0.050	0.010	mg/L	20	18	97	70-130	2	20
Sodium	240	0.50	0.13	mg/L	20	220	107	70-130	5	20
Manganese	0.43	0.010	0.0010	mg/L	0.40	0.036	97	70-130	0.6	20
Boron	0.79	0.10	0.050	mg/L	0.40	0.40	97	70-130	0.9	20
Calcium	100	0.50	0.042	mg/L	20	81	99	70-130	1	20
Magnesium	59	0.50	0.020	mg/L	20	40	99	70-130	0.4	20
Iron	8.5	0.10	0.020	mg/L	8.0	0.51	100	70-130	1	20
Batch BE32313 - Metals Preparation for EPA Method 200.7										
Blank (BE32313-BLK1)					Prepared & Analyzed: 05/23/13					
Calcium	0.042 U	0.50	0.042	mg/L						
Potassium	0.010 U	0.050	0.010	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						
Iron	0.020 U	0.10	0.020	mg/L						
Boron	0.050 U	0.10	0.050	mg/L						
LCS (BE32313-BS1)					Prepared & Analyzed: 05/23/13					
Manganese	0.41	0.010	0.0010	mg/L	0.40		103	85-115		
Calcium	21	0.50	0.042	mg/L	20		104	85-115		
Potassium	21	0.050	0.010	mg/L	20		105	85-115		
Sodium	21	0.50	0.13	mg/L	20		107	85-115		
Magnesium	21	0.50	0.020	mg/L	20		103	85-115		
Iron	8.4	0.10	0.020	mg/L	8.0		105	85-115		
Boron	0.40	0.10	0.050	mg/L	0.40		101	85-115		

Hazen and Sawyer
10002 Princess Palm Ave, Suite 200
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Work Order: 1304718

Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE32313 - Metals Preparation for EPA Method 200.7										
Matrix Spike (BE32313-MS1)		**Source: 1305378-01**			Prepared & Analyzed: 05/23/13					
Manganese	0.38	0.010	0.0010	mg/L	0.40	0.0063	93	70-130		
Iron	7.6	0.10	0.020	mg/L	8.0	0.069	94	70-130		
Potassium	18	0.050	0.010	mg/L	20	0.98	86	70-130		
Boron	0.38	0.10	0.050	mg/L	0.40	ND	94	70-130		
Calcium	63	0.50	0.042	mg/L	20	47	82	70-130		
Sodium	32	0.50	0.13	mg/L	20	15	87	70-130		
Magnesium	22	0.50	0.020	mg/L	20	4.1	92	70-130		
Matrix Spike (BE32313-MS2)		**Source: 1305422-01**			Prepared & Analyzed: 05/23/13					
Potassium	22	0.050	0.010	mg/L	20	4.4	87	70-130		
Sodium	97	0.50	0.13	mg/L	20	82	74	70-130		
Calcium	80	0.50	0.042	mg/L	20	64	79	70-130		
Boron	0.44	0.10	0.050	mg/L	0.40	0.077	90	70-130		
Magnesium	32	0.50	0.020	mg/L	20	15	84	70-130		
Iron	7.6	0.10	0.020	mg/L	8.0	ND	95	70-130		
Manganese	0.38	0.010	0.0010	mg/L	0.40	ND	94	70-130		
Matrix Spike Dup (BE32313-MSD1)		**Source: 1305378-01**			Prepared & Analyzed: 05/23/13					
Calcium	62	0.50	0.042	mg/L	20	47	77	70-130	2	20
Sodium	33	0.50	0.13	mg/L	20	15	89	70-130	0.7	20
Magnesium	22	0.50	0.020	mg/L	20	4.1	91	70-130	0.8	20
Boron	0.39	0.10	0.050	mg/L	0.40	ND	97	70-130	3	20
Iron	7.8	0.10	0.020	mg/L	8.0	0.069	96	70-130	2	20
Manganese	0.39	0.010	0.0010	mg/L	0.40	0.0063	95	70-130	2	20
Potassium	18	0.050	0.010	mg/L	20	0.98	84	70-130	3	20
Matrix Spike Dup (BE32313-MSD2)		**Source: 1305422-01**			Prepared & Analyzed: 05/23/13					
Calcium	81	0.50	0.042	mg/L	20	64	82	70-130	0.9	20
Sodium	97	0.50	0.13	mg/L	20	82	76	70-130	0.4	20
Boron	0.45	0.10	0.050	mg/L	0.40	0.077	94	70-130	4	20
Manganese	0.39	0.010	0.0010	mg/L	0.40	ND	96	70-130	3	20
Magnesium	33	0.50	0.020	mg/L	20	15	88	70-130	2	20
Iron	7.8	0.10	0.020	mg/L	8.0	ND	98	70-130	3	20
Potassium	22	0.050	0.010	mg/L	20	4.4	87	70-130	0.3	20

Hazen and Sawyer
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Tampa, FL 33619

June 27, 2013
Work Order: 1304718

Microbiology - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BE32033 - FC-MF										
Blank (BE32033-BLK1)					Prepared: 05/20/13 Analyzed: 05/21/13					
Fecal Coliforms	1 U	1	1	CFU/100 ml						
Duplicate (BE32033-DUP1)		**Source: 1304718-76**			Prepared: 05/20/13 Analyzed: 05/21/13					
Fecal Coliforms	1 U	1	1	CFU/100 ml		ND				200

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

June 27, 2013
Work Order: 1304718

* 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.

L	Off-scale high. Result exceeded highest calibration standard.
J5	Matrix spike of this sample was outside typical range. All other QC criteria were acceptable.

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.

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

SAL Project No. 1304716

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3/SE#4

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	500mLP, Cool Total Alkalinity, TSS, TS, CBOD, NOx, Cl	125mLP, H_2SO_4 TKN, NH_3, TP	125mLP, $Na_2S_2O_3$ FC-MF	500mLP, Cool Total Alkalinity, NOx, Cl	125mLP, H_2SO_4 COD, TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl, F, OP, SO_4	40mLaV, HCl TOC	250mLaG, Cool DOC	250mLP, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	250mLP, H_2SO_4 TKN, NH_3	pH	Temperature	Conductivity	DO	No. of Containers (Total per each location)
01	STE	5/20/13	1010	WW		X	1	1	2								7.09	23.4	1346	0.09	
02	STE-DUP		1015	WW		X	1	1	2								7.09	23.4	1346	0.09	
03	PZ-03A-15		0912	GW		X				1	1						6.90	25.8	385	7.14	
04	PZ-03A-17		0931	GW		X				1	1						6.43	26.2	87.4	6.33	
05	PZ-03A-17-DUP		0936	GW		X				1	1						6.43	26.2	87.4	6.33	
06	PZ-03A-21		0947	GW		X					1	1	2	1	1	5.84	[illegible]	26.5	240	4.20	
07	PZ-03A-34			GW		X				1	1										
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			GW		X					1	1	2	1	1						
12	PZ-03K-17			GW		X				1						1					

Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:
Chambers	5-19-13 10:00		5/20/13 0900
Relinquished:	Date/Time: 5/20/13 1500	Received:	Date/Time: 5-20-13 1500
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. 1304718

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#4

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	500mLP, Cool Total Alkalinity, TSS, TS, CBOD, NOx, Cl	125mLP, H_2SO_4 TKN, NH_3, TP	125mLP, $Na_2S_2O_3$ FC-MF	500mLP, Cool Total Alkalinity, NOx, Cl	125mLP, H_2SO_4 COD, TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl, F, OP, SO_4	40mLaV, HCl TOC	250mLaG, Cool DOC	250mLP, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	250mLP, H_2SO_4 TKN, NH_3	pH	Temperature	Conductivity	DO	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	2	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	5/20/13	0911	GW		X					1	1	2	1	1		6.77	26.2	286	5.58	
24	PZ-03ML-17		0943	GW		X					1	1	2	1	1		6.46	26.5	57.4	5.88	

Containers Prepared/ Relinquished:	Date/Time: 1150 05-10-13	Received:	Date/Time: 5/20/13 0900
Relinquished:	Date/Time: 5/20/13 1500	Received:	Date/Time: 5-20-13 1500
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 11/18/01

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 1304718

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#4

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	500mLP, Cool Total Alkalinity, TSS, TS, CBOD, NOx, Cl	125mLP, H_2SO_4 TKN, NH_3, COD	125mLP, H_2SO_4 TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl	125mLP, H_2SO_4 COD, TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl, F, OP, SO_4	40mLaV, HCl TOC	250mLaG, Cool DOC	250mLP, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	250mLP, H_2SO_4 TKN, NH_3	pH	Temperature	Conductivity	DO	No. of Containers (Total per each location)
25	PZ-03ML-21	5/20/13	1016	GW		X					1	1	2	1	1		6.05	26.2	2071	1.92	
26	PZ00N-15			GW		X				1	1										
27	PZ-00N-17			GW		X				1						1					
28	PZ-00N-21			GW		X				1						1					
29	PZ-02N-15			GW		X		1		1											
30	PZ-02N-17			GW		X				1						1					
31	PZ-02N-21			GW		X				1						1					
32	PZ-02N-21-DUP			GW		X				1						1					
33	PZ-04N-15			GW		X				1	1		2	1							
34	PZ-04N-17			GW		X				1	1										
35	PZ-04N-21			GW		X				1						1					
36	PZ-06N-15			GW		X			1			1	2	1	1						

Containers Prepared/ Relinquished:	Date/Time: 5-10-13 1200	Received:	Date/Time: 5/20/13 0900
Relinquished:	Date/Time: 5/20/13 1500	Received:	Date/Time: 5-20-13 1500
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.

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

SAL Project No. 1304718

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#4

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	500mLP, Cool Total Alkalinity, TSS, TS, CBOD, NOx, Cl	125mLP, H_2SO_4 TKN, NH_3, COD	125mLP, H_2SO_4 TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl	125mLP, H_2SO_4 COD, TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl, F, OP, SO_4	40mLaV, HCl TOC	250mLaG, Cool DOC	250mLP, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	250mLP, H_2SO_4 TKN, NH_3	pH	Temperature	Conductivity	DO	No. of Containers (Total per each location)
61	PZ-07Q-19			GW		X				1						1					
62	PZ-04U-12	5/20/13	1130	GW		X				1	1						6.61	26.1	97.5	5.96	
63	PZ-04U-14		1145	GW		X				1						1	6.25	26.2	114.6	4.82	
64	PZ-04U-14-DUP		1150	GW		X				1						1	6.25	26.2	114.6	4.82	
65	PZ-04U-18		1200	GW		X				1						1	6.06	26.8	66.8	5.28	
66	PZ-06U-12		1122	GW		X			1	1			2	1			6.28	26.7	202.7	5.14	
67	PZ-06U-14		1147	GW		X			1			1	2	1	1		5.89	26.7	471	2.46	
68	PZ-06U-14-DUP		1152	GW		X			1			1	2	1	1		5.89	26.7	471	2.46	
69	PZ-06U-34		1215	GW		X				1						1	5.92	27.2	1164	0.85	
70	PZ01-BKG			GW		X				1	1										
71	PZ-02BKG			GW		X				1	1										
72	PZ-03BKG			GW		X				1	1										

Relinquished	Date/Time	Received	Date/Time
Containers Prepared/ Relinquished: J. Chambers	Date/Time: 5-10-13 11:00	Received:	Date/Time: 5/20/13 0900
Relinquished:	Date/Time: 5/20/13 1500	Received:	Date/Time: 5-20-13 1500
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. 1304718

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#4

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	500mLP, Cool Total Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	125mLP, $Na_2S_2O_3$ FC-MF	125mLP, H_2SO_4 TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl	125mLP, H_2SO_4 COD, TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl, F, OP, SO_4	40mLaV, HCl TOC	250mLaG, Cool DOC	250mLP, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	250mLP, H_2SO_4 TKN, NH_3	pH	Temperature	Conductivity	DO	No. of Containers (Total per each location)
73	PZ-04BKG			GW		X				1	1										
74	PZ-04BKG-DUP			GW		X				1	1										
75	PZ-05BKG			GW		X				1	1										
76	FB-DI	5/20/13	1055	R		X	1	2			1		2	1	1		7.34	28.0	1.68	7.88	
77	FB-TAP		1045	DW		X	1	2			1		2	1	1		6.50	25.7	328	3.05	
78	EB		1050	R		X	1	2			1		2	1	1		7.34	28.0	1.68	7.88	

Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:
J. Champeau	5-20-13 10:00		5/20/13 0900
Relinquished:	Date/Time: 5/20/13 1500	Received:	Date/Time: 5-20-13 1500
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

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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. 1304718

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#4

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	500mLP, Cool Total Alkalinity, TSS, TS, CBOD, NOx, Cl	125mLP, H_2SO_4 TKN, NH_3, TP	125mLP, $Na_2S_2O_3$ FC-MF	500mLP, Cool Total Alkalinity, NOx, Cl	125mLP, H_2SO_4 COD, TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl, F, OP, SO_4	40mLaV, HCl TOC	250mLaG, Cool DOC	250mLP, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	250mLP, H_2SO_4 TKN, NH_3	pH	Temperature	Conductivity	DO	No. of Containers (Total per each location)
01	STE			WW		X	1	1	2												
02	STE-DUP			WW		X	1	1	2												
03	PZ-03A-15			GW		X				1	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	2	1	1						
07	PZ-03A-34	5/21/13	1302	GW		X				1	1						4.47	26.6	191.6	1.38	
08	PZ-03I-15	5/21/13	1241	GW		X				1	1						5.79	27.6	44.3	5.26	
09	PZ-03I-17		1256	GW		X				1						1	5.66	27.3	48.6	6.15	
10	PZ-03I-21		1312	GW		X				1						1	4.89	27.4	172.7	3.78	
11	PZ-03K-15		1023	GW		X					1	1	2	1	1		6.75	26.3	170.6	5.41	
12	PZ-03K-17		1046	GW		X				1						1	6.18	26.7	45.8	5.98	

Relinquished	Date/Time	Received	Date/Time
Containers Prepared/ Relinquished: J Chambers	5-10-13 10:00		5/20/13 0900
Relinquished:	5/20/13 1545	K Mudmeck	1545 5/21/13
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

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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. 1304718

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#4

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	500mLP, Cool Total Alkalinity, TSS, TS, CBOD, NOx, Cl	125mLP, H_2SO_4 TKN, NH_3, TP	125mLP, $Na_2S_2O_3$ FC-MF	500mLP, Cool Total Alkalinity, NOx, Cl	125mLP, H_2SO_4 COD, TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl, F, OP, SO_4	40mLaV, HCl TOC	250mLaG, Cool DOC	250mLP, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	250mLP, H_2SO_4 TKN, NH_3	pH	Temperature	Conductivity	DO	No. of Containers (Total per each location)
13	PZ-03K-21	5/21/13	1101	GW		X				1						1	5.86	26.2	178.7	3.03	
14	PZ-02L-15	5/21/13	1006	GW		X				1	1						6.30	26.2	62.3	5.47	
15	PZ-02L-17		1020	GW		X				1						1	6.86	26.0	95.1	5.44	
16	PZ-02L-21		1036	GW		X				1						1	5.14	26.2	194.5	2.72	
17	PZ-04L-15		1055	GW		X					1	1	2	1	1		6.63	26.4	247	5.56	
18	PZ-04L-17		1115	GW		X				1						1	6.00	26.2	49.6	6.13	
19	PZ-04L-21		1131	GW		X				1						1	5.97	26.4	205.3	2.69	
20	PZ-07L-15		1214	GW		X				1	1						6.12	27.6	54.1	5.89	
21	PZ-07L-17		1230	GW		X				1						1	6.04	26.5	49.6	5.69	
22	PZ-07L-21		1245	GW		X				1						1	5.12	26.9	124.9	2.37	
23	PZ-03ML-15			GW		X					1	1	2	1	1						
24	PZ-03ML-17			GW		X					1	1	2	1	1						

Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:
[signature]	1150 05-10-13	[signature]	5/20/13 0900
Relinquished: [signature]	Date/Time: 5/21/13 1545	Received: [signature]	Date/Time: 1545 5/21/13
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

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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. 1304718

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#4

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	500mLP, Cool Total Alkalinity, TSS, TS, CBOD, NOx, Cl	125mLP, H_2SO_4 TKN, NH_3, COD	125mLP, H_2SO_4 TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl	125mLP, H_2SO_4 COD, TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl, F, OP, SO_4	40mLaV, HCl TOC	250mLaG, Cool DOC	250mLP, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	250mLP, H_2SO_4 TKN, NH_3	pH	Temperature	Conductivity	DO	No. of Containers (Total per each location)
25	PZ-03ML-21			GW		X					1	1	2	1	1						
26	PZ00N-15	5/21/13	0917	GW		X				1	1						6.55	25.4	74.9	5.16	
27	PZ-00N-17		0933	GW		X				1						1	6.28	25.4	57.5	4.62	
28	PZ-00N-21		0949	GW		X				1						1	4.81	25.5	207.9	2.42	
29	PZ-02N-15		0926	GW		X		1		1							6.64	25.7	59.4	6.06	
30	PZ-02N-17		0942	GW		X				1						1	6.29	25.6	52.2	5.04	
31	PZ-02N-21		0956	GW		X				1						1	4.93	25.7	184.3	2.02	
32	PZ-02N-21-DUP		1001	GW		X				1						1	4.93	25.7	184.3	2.02	
33	PZ-04N-15		1119	GW		X				1	1		2	1			5.99	26.1	249	5.03	
34	PZ-04N-17		1139	GW		X				1	1						6.50	26.5	69.9	3.19	
35	PZ-04N-21		1155	GW		X				1						1	5.66	27.2	157.8	2.89	
36	PZ-06N-15		1149	GW		X			1			1	2	1	1		5.91	27.0	52.1	4.35	

Containers Prepared/ Relinquished:	Date/Time: 5-10-13 1200	Received:	Date/Time: 5/20/13 0900
Relinquished:	Date/Time: 5/21/13 1545	Received: K Nudmeck	Date/Time: 5/21/13 1545
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
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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. 1304718

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#4

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	500mLP, Cool Total Alkalinity, TSS, TS, CBOD, NOx, Cl	125mLP, H_2SO_4 TKN, NH_3, COD	125mLP, H_2SO_4 TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl	125mLP, H_2SO_4 COD, TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl, F, OP, SO_4	40mLaV, HCl TOC	250mLaG, Cool DOC	250mLP, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	250mLP, H_2SO_4 TKN, NH_3	pH	Temperature	Conductivity	DO	No. of Containers (Total per each location)
37	PZ-06N-17	5/21/13	1209	GW		X				1						1	5.85	27.2	169.1	5.21	
38	PZ-06N-21		1225	GW		X				1						1	4.76	26.8	94.5	4.04	
39	PZ-03O-15			GW		X				1						1					
40	PZ-03O-17			GW		X				1						1					
41	PZ-03O-21			GW		X				1						1					
42	PZ-04O-15			GW		X					1	1	2	1	1						
43	PZ-04O-17			GW		X		1		1											
44	PZ-04O-17-DUP			GW		X				1	1										
45	PZ-04O-21			GW		X				1	1										
46	PZ-07O-15			GW		X						1	2	1	1						
47	PZ-07O-17			GW		X				1						1					
48	PZ-07O-20			GW		X				1						1					

Containers Prepared/ Relinquished:	Date/Time: 5-10-13 11:10	Received:	Date/Time: 5/20/13 0900
Relinquished:	Date/Time: 5/21/13 1545	Received: K Muldmeat	Date/Time: 5/21/13 1545
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. 1304718

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#4

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	500mLP, Cool Total Alkalinity, TSS, TS, CBOD, NOx, Cl	125mLP, H_2SO_4 TKN, NH_3, COD	125mLP, H_2SO_4 TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl	125mLP, H_2SO_4 COD, TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl, F, OP, SO_4	40mLaV, HCl TOC	250mLaG, Cool DOC	250mLP, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	250mLP, H_2SO_4 TKN, NH_3	pH	Temperature	Conductivity	DO	No. of Containers (Total per each location)
37	PZ-06N-17			GW		X				1						1					
38	PZ-06N-21			GW		X				1						1					
39	PZ-03O-15	5/22/13	1118	GW		X				1						1	6.57	25	91.9	5.66	
40	PZ-03O-17		1132	GW		X				1						1	6.34	25.2	63	3.54	
41	PZ-03O-21		1146	GW		X				1						1	5.06	26.2	256	1.57	
42	PZ-04O-15		1112	GW		X					1	1	2	1	1		6.35	25.1	98.3	4.46	
43	PZ-04O-17		1130	GW		X		1		1							6.42	25.3	81	1.21	
44	PZ-04O-17-DUP		1135	GW		X				1	1						6.42	25.3	81	1.21	
45	PZ-04O-21		1147	GW		X				1	1						5.77	26.4	276	1.76	
46	PZ-07O-15		0839	GW		X						1	2	1	1		6.35	25.6	298	4.25	
47	PZ-07O-17		0956	GW		X				1						1	6.38	25.5	1127	2.24	
48	PZ-07O-20		1014	GW		X				1						1	6.04	25.9	88.6	0.59	

Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:
J. Chambers	5-10-13 11:10		5/20/13 0900
Relinquished:	Date/Time: 5/22/13 1500	Received: K Mudmark	Date/Time: 5/22/13 1500
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
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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. 1304718

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE44

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	500mLP, Cool Total Alkalinity, TSS, TS, CBOD, NOx, Cl	125mLP, H_2SO_4 TKN, NH_3, COD	125mLP, H_2SO_4 TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl	125mLP, H_2SO_4 COD, TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl, F, OP, SO_4	40mLaV, HCl TOC	250mLaG, Cool DOC	250mLP, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	250mLP, H_2SO_4 TKN, NH_3	pH	Temperature	Conductivity	DO	No. of Containers (Total per each location)
49	PZ-01Q-13	5/22/13	1203	GW		X				1	1						6.51	25.7	75.8	4.67	
50	PZ-01Q-15		1230	GW		X				1	1						4.49	26.0	77.7	3.05	
51	PZ-01Q-19		1237	GW		X				1						1	6.09	25.5	99.7	5.96	
52	PZ-04Q-13		1033	GW		X		1		1							6.50	26.4	95.1	4.37	
53	PZ-04Q-15		1100	GW		X				1	1		2	1			6.67	25.5	74.8	3.58	
54	PZ-04Q-19		1045	GW		X				1						1	6.16	25.8	94.3	3.40	
55	PZ-06Q-13		1027	GW		X				1	1						6.48	26.3	445	4.90	
56	PZ-06Q-15		1042	GW		X		1		1							6.06	25.4	599	3.47	
57	PZ-06Q-15-DUP		1047	GW		X		1		1							6.06	25.4	599	3.42	
58	PZ-06Q-19		1057	GW		X				1	1						6.20	25.4	84.8	0.30	
59	PZ-07Q-13		0936	GW		X					1	1	2	1	1		6.49	25.9	76.4	4.56	
60	PZ-07Q-15		0956	GW		X				1						1	6.31	25.5	75.3	1.87	

Containers Prepared/ Relinquished:	Date/Time: 1110 05-10-13	Received:	Date/Time: 5/20/13 0900
Relinquished:	Date/Time: 5/22/13 1500	Received: K Mdmeat	Date/Time: 5/22/13 1500
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. 1304718

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#4

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	500mLP, Cool Total Alkalinity, TSS, TS, CBOD, NOx, Cl	125mLP, H_2SO_4 TKN, NH_3, COD	125mLP, H_2SO_4 TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl	125mLP, H_2SO_4 COD, TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl, F, OP, SO_4	40mLaV, HCl TOC	250mLaG, Cool DOC	250mLP, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	250mLP, H_2SO_4 TKN, NH_3	pH	Temperature	Conductivity	DO	No. of Containers (Total per each location)
61	PZ-07Q-19	5/22/13	1010	GW		X				1						1	5.59	25.6	148	3.54	
62	PZ-04U-12			GW		X				1	1										
63	PZ-04U-14			GW		X				1						1					
64	PZ-04U-14-DUP			GW		X				1						1					
65	PZ-04U-18			GW		X				1						1					
66	PZ-06U-12			GW		X			1	1			2	1							
67	PZ-06U-14			GW		X			1			1	2	1	1						
68	PZ-06U-14-DUP			GW		X			1			1	2	1	1						
69	PZ-06U-34			GW		X				1						1					
70	PZ01-BKG			GW		X				1	1										
71	PZ-02BKG	5/22/13	1248	GW		X				1	1						4.72	29.1	195.1	5.37	
72	PZ-03BKG		1206	GW		X				1	1						6.72	26.1	37.9	4.58	

Relinquished:	Date/Time:	Received:	Date/Time:
Containers Prepared/ Relinquished:	5/10/13 11:00		5/20/13 0900
Relinquished:	5/22/13 1500	K Nordmeyer	5/22/13 1500
Relinquished:			
Relinquished:			
Relinquished:			

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. 1304718

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#4

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	500mLP, Cool Total Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	125mLP, $Na_2S_2O_3$ FC-MF	125mLP, H_2SO_4 TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl	125mLP, H_2SO_4 COD, TKN, NH_3, TP	500mLP, Cool Total Alkalinity, NOx, Cl, F, OP, SO_4	40mLaV, HCl TOC	250mLaG, Cool DOC	250mLP, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	250mLP, H_2SO_4 TKN, NH_3	pH	Temperature	Conductivity	DO	No. of Containers (Total per each location)
73	PZ-04BKG			GW		X				1	1										
74	PZ-04BKG-DUP			GW		X				1	1										
75	PZ-05BKG	5/22/13	1221	GW		X				1	1						5.85	26.1	55.9	0.15	
76	FB-DI			R		X	1	2			1		2	1	1						
77	FB-TAP			DW		X	1	2			1		2	1	1						
78	EB			R		X	1	2			1		2	1	1						

Relinquished:	Date/Time:	Received:	Date/Time:
Containers Prepared/ Relinquished: J. Champeau	5-10-13 10:00		5/20/13 0900
Relinquished:	5/22/13 01500	K Mudmark	5/22/13 1500
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

BENCHMARK
EnviroAnalytical Inc.

NELAC Certification # E84167

ANALYTICAL TEST REPORT
THESE RESULTS MEET NELAC STANDARDS

Submission Number : 13050726

Pace Analytical Services, Inc.
8 East Tower Circle
Ormond Beach, Fl 32174

Project Name : HAZEN & SAWYER WW
Date Received : 05/20/2013
Time Received : 1436

Submission Number 13050726

Sample Number: 001 **Sample Description:** STE
Sample Date: 05/20/2013 **Sample Method:** Grab
Sample Time: 1010

Parameter	Result	Units	MDL	PQL	Procedure	Analysis Date	Analysis Time	Analyst
E-COLI BY MPN	100000	#/100 ML	100000	100000	SM9223B	05/20/2013	15:25	KD/MR

Submission Number 13050726

Sample Number: 002 **Sample Description:** STE
Sample Date: 05/20/2013 **Sample Method:** Grab
Sample Time: 1010

Parameter	Result	Units	MDL	PQL	Procedure	Analysis Date	Analysis Time	Analyst
FECAL COLIFORM	200000 B	#/100 ML	100000	100000	SM9222D	05/20/2013	15:55	KD

BENCHMARK
EnviroAnalytical Inc.

NELAC Certification # E84167

05/23/2013

Dale D. Dixon / Laboratory Director — Date

Tülay Tanrisever/ QC Officer

Jennifer Hatfield / QC Officer

DATA QUALIFIERS THAT MAY APPLY:

A = Value reported is an average of two or more determinations.

B = Results based upon colony counts outside the ideal range.

H = Value based on field kit determination. Results may not be accurate.

I = Reported value is between the laboratory MDL and the PQL.

J = Estimated value.

J1 = Est. value surrogate recovery limits exceeded.

J2 = Est. value. No quality control criteria exists for component.

J3 = Est. value quality control criteria for precision or accuracy not met.

J4 = Est. value. Sample matrix interference suspected.

J5 = Est. value. Data questionable due to improper lab or field protocols

K = Off-scale low. Value is known to be < the value reported.

L = Off-scale high. Value is known to be > the value reported

NOTES:

PQL = 4xMDL.

MBAS calculated as LAS; molecular weight = 348.

X = Value exceed MCL.

N = Presumptive evidence of presence of material.

O = Sampled, but analysis lost or not performed.

Q = Sample held beyond accepted hold time.

T = Value reported is < MDL. Reported for informational purposes only and shall not be used in statistical analysis.

U = Analyte analyzed but not detected at the value indicated.

V = Analyte detected in sample and method blank.Results for this analyte in associated samples may be biased high. Standard , Duplicate and Spike values are within control limits. Reported data are usable

Y = Analysis performed on an improperly preserved sample. Data may be inaccurate.

Z = Too many colonies were present (TNTC). The numeric value represents the filtration volume.

! = Data deviate from historically established concentration ranges.

? = Data rejected and should not be used. Some or all of QC data were outside criteria, and the Presence or absence of the analyte cannot be determined from the data.

* = Not reported due to interference.

ND = Not Detected at or above adjusted reporting limit.

NOTES:

For questions and comments regarding these results, please contact Bettina Beilfuss at (941) 723-9986

Results relate only to the samples.

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: of

1623948

Section A Required Client Information:

Company: Hazen & Sawyer
Address: 10002 Princess Palm Ave, Tampa, FL 33647
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To:
Copy To:
Purchase Order No.:
Project Name:
Project Number:

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: _____

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	E Coli Blue	Fecal Coli.	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	STE	WW	G			5/20/13	10:10	23.5							✓				✓			1
2	STE	WW	G			1	1	1							✓					✓		2
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

Fecal 10^4-10^8

13050726

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Empty containers	Pace	5/16/13	12:00		5/20/13	10:00				
	(PCE)	5/20/13	1250							
	(PCE)				5/20/13	1436	2.4	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER:
SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

3 of 3

hemical nal sis eport

DOH-2013-05-21-01

lorida epartment of n ironmental rotection
entral aborator
lair tone oad
allahassee,
O ccreditation

ent escription	**Nitrogen Reduction Study**
e uest	**RQ-2013-05-20-39**
ustomer	**DOH**
ro ect	**NIT-REDUCT**

end eports to
ept of ealth and ehabilitati e er ices
epartment of ealth
allahassee,
ttn l e rsin

or additional information please contact
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NON-CONFORMANCE REPORT INCLUDED

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 **Collection Date/Time: 05/20/2013 09:47 AM**

Field ID: 03A-21 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 nsufficient sample to perform matri spi es

Sample Location: LAKE WALES **Collection Date/Time: 05/20/2013 09:11 AM**

Field ID: 03ML-15 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 nsufficient sample to perform matri spi es

Sample Location: LAKE WALES **Collection Date/Time: 05/20/2013 09:43 AM**

Field ID: 03ML-17 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 nsufficient sample to perform matri spi es

Sample Location: LAKE WALES **Collection Date/Time: 05/20/2013 11:22 AM**

Field ID: 060-12 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 nsufficient sample to perform matri spi es esults confirmed in re e traction

Sample Location: LAKE WALES **Collection Date/Time: 05/20/2013 10:10 AM**

Field ID: STE 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 nsufficient sample to perform matri spi es esults confirmed in re e traction

Sample Location: LAKE WALES 06U-14 **Collection Date/Time: 05/20/2013 11:47 AM**

Field ID: 06U-14 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 nsufficient sample to perform matri spi es esults confirmed in re e traction

Non-Conformance Report

Non-Conformance Report

NCR ID: 4484

Event(s)	Job(s)	Sample(s)	Test(s)
O			

NCR Type: SHIPPING/RECEIVING **NCR Category: Receiving**

Obser ation ecei ed samples for onl two sites
ite a e ales, field id
ite a e ales,field id

No samples were recei ed for
ite a e ales, ield d ml
ite a e ales, ield d
ite a e ales, ield d
ite a e ales, ield d M

esolution ontacted customer aw er ustomer notified that samples will be arri ing tomorrow due to shipping complications with ed

Missing samples were recei ed on ednesda

uthorised b ate amse hite

he Non onformance eport details e ceptions or problems encountered with the e ents obs samples test
lease address uestions to

hemistr im it patric
iolog a id hiting

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: LC-001-2 (based on EPA 8321B)
Batch ID: P253261

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: P253261

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: P253261

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

Quality Assurance Report
Precision

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: 1505537
Field Sample ID: 060-12

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

Lab Sample ID: 1505538
Field Sample ID: 06U-14

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

Lab Sample ID: 1506052
Field Sample ID: 03ML-17

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

Lab Sample ID: 1506053
Field Sample ID: 03A-21

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

Lab Sample ID: 1506054
Field Sample ID: STE

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

Lab Sample ID: 1506055
Field Sample ID: 03ML-15

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: A50609
Included Lab Sample IDs: 1505537, 1505538, 1506052, 1506053, 1506054, 1506055

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

Quality Assurance Report
Calibration Verification

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					

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		Mohammad haffari	, ,
				Mohammad haffari		Mohammad haffari	, ,