FLORIDA DEPARTMENT OF HEALTH

Florida Onsite Sewage Nitrogen Reduction Strategies Study

Task C.25

C-HS2 Monitoring Data Summary Report No. 2

Progress Report

December 2011

4423-001

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In association with

SCHOOL OF MINES 1874 COLORADO

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Florida Onsite Sewage Nitrogen Reduction Strategies Study

TASK C.25
PROGRESS REPORT

C-HS2 Monitoring
Data Summary Report No. 2

Prepared for:

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1.0 Background

Task C of the Florida Onsite Sewage Nitrogen Reduction Strategies Study includes monitoring at field sites in Florida to evaluate nitrogen reduction in soil and groundwater, to assess groundwater impacts from various onsite wastewater systems, and to provide data for parameter estimation, verification, and validation of models developed in Task D. The Task C.5 QAPP documents the objectives, monitoring framework, sample frequency and duration, and analytical methods to be used at the field sites. The Task C.23 Instrumentation of C-HS2 mound system and plume documents the test area design, number and location of monitoring points, and preliminary field parameters from monitoring points for this Seminole County, Florida field site, and preliminary sample collection and analyses.

2.0 Purpose

This report documents data that was collected in the second C-HS2 mound monitoring and sampling event which was conducted November 30, 2011 and December 1, 2011. The corresponding sample event report was submitted as C-HS2 Sample Event Report No. 2, December 2011, as a deliverable under Task C.24. The monitoring event consisted of measurement of household water meters, 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-HS2 field site is located in Seminole County, FL in a neighborhood less than a mile from the Little Wekiva River. The onsite sewage treatment and disposal system (OSTDS) for the residence consists of a 1,050 gallon fiberglass baffled septic tank located adjacent to the drainfield mound and has a gravity fed standard bed mounded drainfield.

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3.2 Monitoring and Sampling Locations and Identification

A sampling grid for groundwater screening was developed downgradient of the OSTDS as depicted in Figure 1. A 10-foot by 40-foot grid was staked then locations surveyed (x, y, and z). Transect lines A through D were located perpendicular to the groundwater flow direction (southwest) and increase (higher letter identification) moving southward from the mound. Transect lines 0 through 15 were located parallel to the groundwater flow direction and increase moving from southeast to northwest. Groundwater monitoring points were installed in June and July 2011. One type of monitoring point was installed using either hand or drilling methods: standpipe piezometers. Standpipe piezometers consist of either ¾-inch or 2-inch diameter PVC with a 1-foot, 2-foot, or 4-foot screen (0.010-inch slots) and riser extending to the ground surface (refer to the Task C QAPP and Task C.23 C-HS2 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 drive point or well screen in feet). For example A09-7 is a standpipe piezometer sampler located on the grid at A09 at 7-feet below ground surface. A schematic of the C-HS2 monitoring network is shown in Figure 1. A complete list of all installed standpipe piezometers is included in Appendix A. A total of 63 specific monitoring locations were sampled during this second C-HS2 sampling event.

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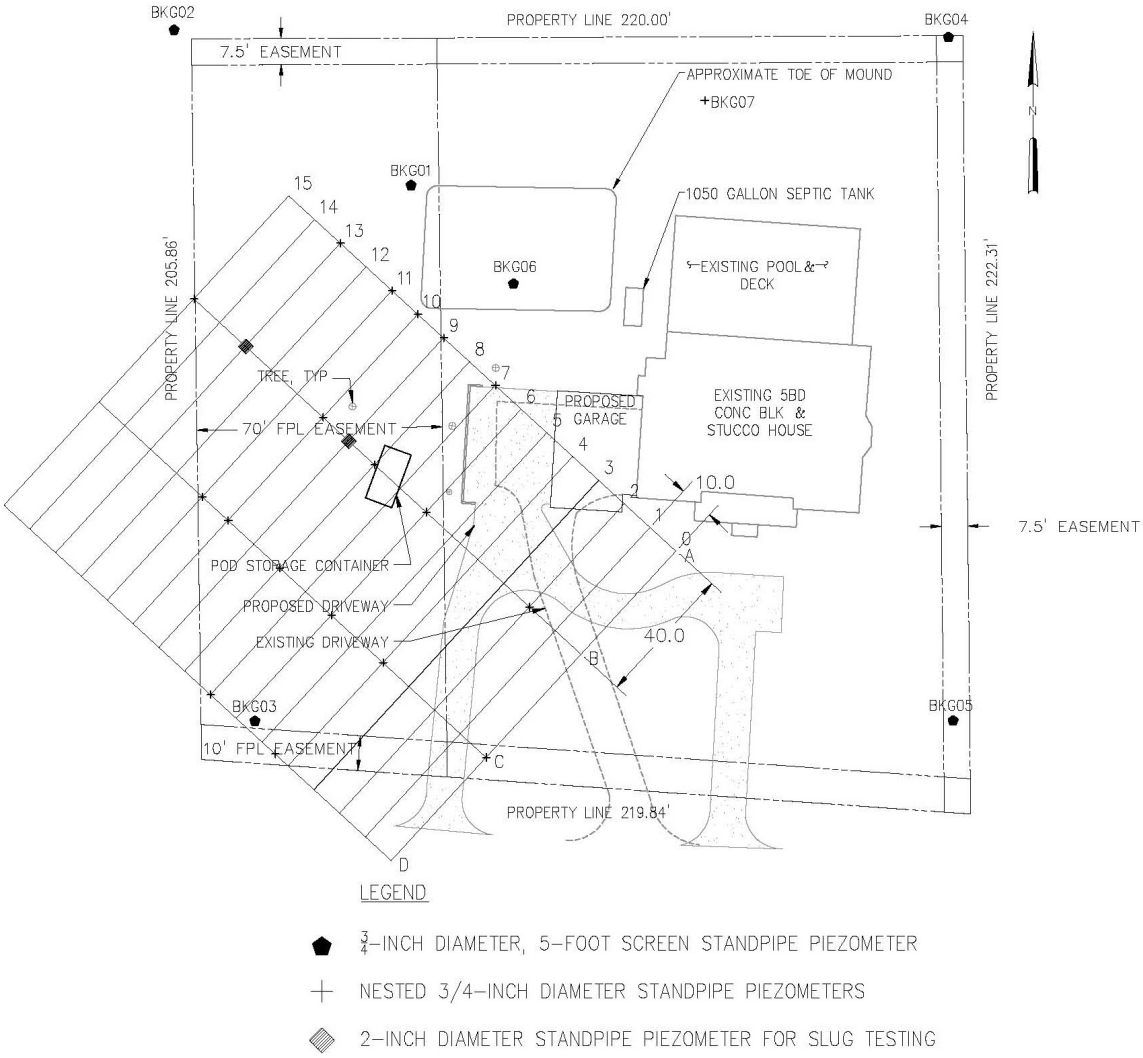

Figure 1
C-HS2 Monitoring Network

3.3 Operational Monitoring

The water meter for the house site was read and recorded. The residence has a garden with irrigation thus the actual wastewater flow can only be estimated. A weather station (Sheffield in the Crossings, Longwood, FL) is located approximately 5 miles from the

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site. Data from this weather station is available at the following website: http://www.wunderground.com.

3.4 Soil Characteristics

Continuous soil samples were collected using the direct push method at grid locations A09, A11, B08 and C10 during the groundwater monitoring network instrumentation. The soil descriptions are provided in Appendix B, Table B.1. The soil samples were submitted to the University of Florida IFAS Analytical Services Laboratory and University of Florida SWS Mineralogy Core Laboratory for analysis. The soil samples were analyzed for particle size distribution (see Table B.2), pH, organic matter, cation exchange capacity (CEC), ammonia, nitrate, TKN, phosphorus, potassium, calcium, magnesium, and sodium concentrations (see Table B.3). The complete soil data set is included in Appendix B.

3.5 Groundwater Elevation Measurements

Groundwater level measurements are used to determine hydraulic gradients and directions of flow. Groundwater levels were measured using a flat tape water level meter graduated in feet (measurement accuracy is 0.01 feet). The groundwater level within the standpipe piezometers sampled was measured for this sampling event.

3.6 Water Quality Sample Collection and Analyses

Groundwater and septic tank effluent (STE) were collected November 30, 2011 and December 1, 2011 for water quality analysis. A sample was collected from the septic tank outlet filter 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. Storm water samples were obtained from the storm water catch basin southwest of the property using a sampling pole. The C-HS2-SW-6-inch sample refers to the sample collected directly from the 6-inch PVC pipe that appears to collect storm water from the property. The C-HS-SW-M sample refers to the sample collected directly from the bottom of the catch basin (see Figure 2).

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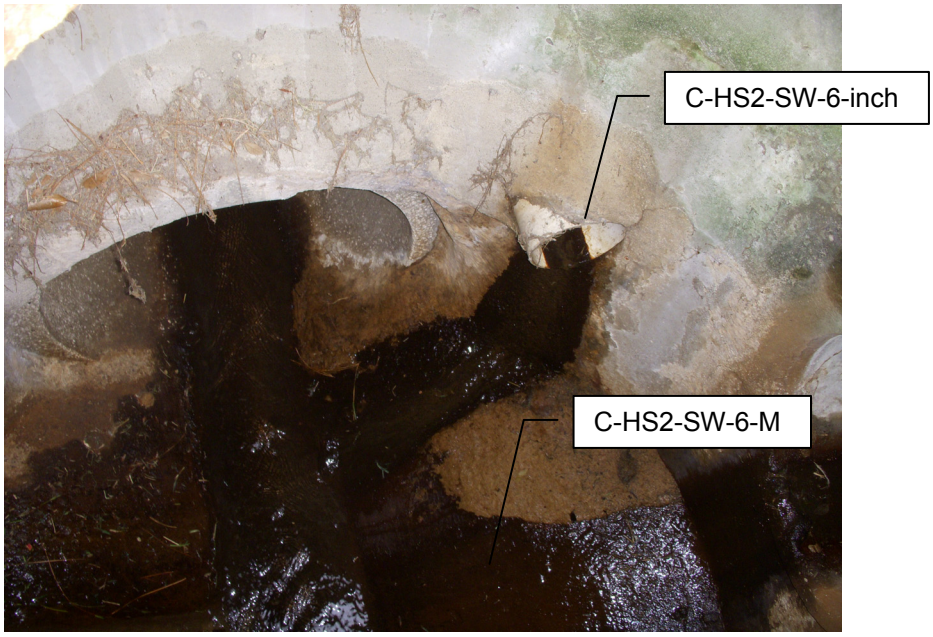

Figure 2
Photo of Storm water Catch Basin Southwest of Property

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-HS2-STE
- C-HS2-A09-7
- C-HS2-B08-5
- C-HS2-C00-7
- C-HS2-C08-5
- C-HS2-D07-6

Field parameters (pH, specific conductance, temperature (Temp), and dissolved oxygen (DO)) were measured using portable electronic probes with probe tips placed in an over-

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flowing 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). Additionally, at some of the locations with elevated nitrogen in previous preliminary sampling, anions, cations, total organic carbon (TOC) and dissolved organic carbon (DOC) analyses were included. All analyses were performed by an independent and fully certified analytical laboratory (Southern Analytical Laboratory). Table 1 lists the analytical parameters, analytical methods, and detection limits for these analyses.

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

Analytical Parameter	Method of Analysis	Laboratory Detection Limit
Total Alkalinity as $CaCO_3$	SM 2320B	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
Dissolved Organic Carbon (DOC)	SM 5310B	0.5 mg/L
Total Organic Carbon (TOC)	SM 5310B	0.5 mg/L
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

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 Kriging 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-HS2.

Table 2
Water Meter Readings and Water Usage for C-HS2

Residence	Date and Time Read	Meter Reading	Gallons/day
C-HS2 Residence	7/13/2011 14:45	5302677.9	
	7/20/2011 17:50	5304207.8	215
	7/26/2011 15:19	5305257.9	178
	10/27/2011 15:19	5327920.4	244
	11/30/2011 8:00	5355610.4	822[1]

[1]Homeowner refilled swimming pool between readings.

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

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Table 3
Meteorological Data Daily Averages Measured November 23, 2011 – December 2, 2011

Date	Temperature (°F)			Humidity (%)	Wind (mph)	Rain Total (inches)
	High	Avg	Low	Avg	Avg	Sum
11/23/2011	79	71	63	83	4	0
11/24/2011	75	65	55	72	4	0
11/25/2011	77	64	53	77	2	0
11/26/2011	78	67	57	79	2	0
11/27/2011	80	68	60	77	3	0
11/28/2011	82	67	59	84	5	0.08
11/29/2011	68	59	51	78	3	0
11/30/2011	63	55	46	76	2	0
12/1/2011	69	54	41	79	4	0
12/2/2011	73	60	51	77	4	0

4.2 Groundwater Levels

Water levels were measured within the standpipe piezometers sampled on November 30, 2011 for this sampling event as summarized in Table 4. Figure 3 illustrates the surficial groundwater contours as measured within the standpipe piezometers on July 27, 2011 during the first sample event. Figure 4 illustrates the surficial groundwater contours as measured within the standpipe piezometers on November 30, 2011. The groundwater elevations have been found to fluctuate due to periods of dry weather and/or heavy precipitation; however, the general flow-path does not change. The vertical head differential on nested wells is generally within measurement and survey error, and thus no real vertical gradient is indicated within the limited vertical extent of these nested wells.

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Table 4
Standpipe Piezometer Groundwater Levels
Measured on November 30, 2011

Identification	Water Table Elevation (feet)	Identification	Water Table Elevation (feet)
C-HS2-BKG01	92.36	C-HS2-B10-10	92.08
C-HS2-BKG02	92.20	C-HS2-B15-5	91.99
C-HS2-BKG03	91.30	C-HS2-B15-7	92.01
C-HS2-BKG04	93.67	C-HS2-B15-10	91.98
C-HS2-BKG05	92.23	C-HS2-C00-5	91.67
C-HS2-BKG06	92.53	C-HS2-C00-7	91.65
C-HS2-A07-6	92.31	C-HS2-C00-10	91.66
C-HS2-A07-8	92.34	C-HS2-C04-5	91.62
C-HS2-A07-11	92.30	C-HS2-C04-7	91.64
C-HS2-A09-7	92.33	C-HS2-C04-10	91.64
C-HS2-A09-9	92.32	C-HS2-C06-5	91.65
C-HS2-A09-12	92.32	C-HS2-C06-7	91.65
C-HS2-A10-7	92.35	C-HS2-C06-10	91.66
C-HS2-A10-9	92.34	C-HS2-C08-5	91.66
C-HS2-A10-12	92.32	C-HS2-C08-7	91.72
C-HS2-A11-5	92.28	C-HS2-C08-10	91.67
C-HS2-A11-7	92.26	C-HS2-C10-6	91.69
C-HS2-A11-10	92.28	C-HS2-C10-8	91.70
C-HS2-A13-5	92.30	C-HS2-C10-11	91.71
C-HS2-A13-7	92.31	C-HS2-C11-5	91.70
C-HS2-A13-10	92.31	C-HS2-C11-7	91.70
C-HS2-B02-6	91.95	C-HS2-C11-10	91.70
C-HS2-B02-8	91.95	C-HS2-D04-5	91.38
C-HS2-B02-11	91.95	C-HS2-D04-7	91.41
C-HS2-B06-6	91.98	C-HS2-D04-10	91.42
C-HS2-B06-8	92.05	C-HS2-D07-6	91.39
C-HS2-B06-11	92.03	C-HS2-D07-8	91.39
C-HS2-B08-5	91.96	C-HS2-D07-11	91.43
C-HS2-B08-7	91.99	C-HS2-BKG07-5	93.12
C-HS2-B08-10	92.01	C-HS2-BKG07-7	93.12
C-HS2-B10-5	92.07	C-HS2-BKG07-10	93.11
C-HS2-B10-7	92.08		

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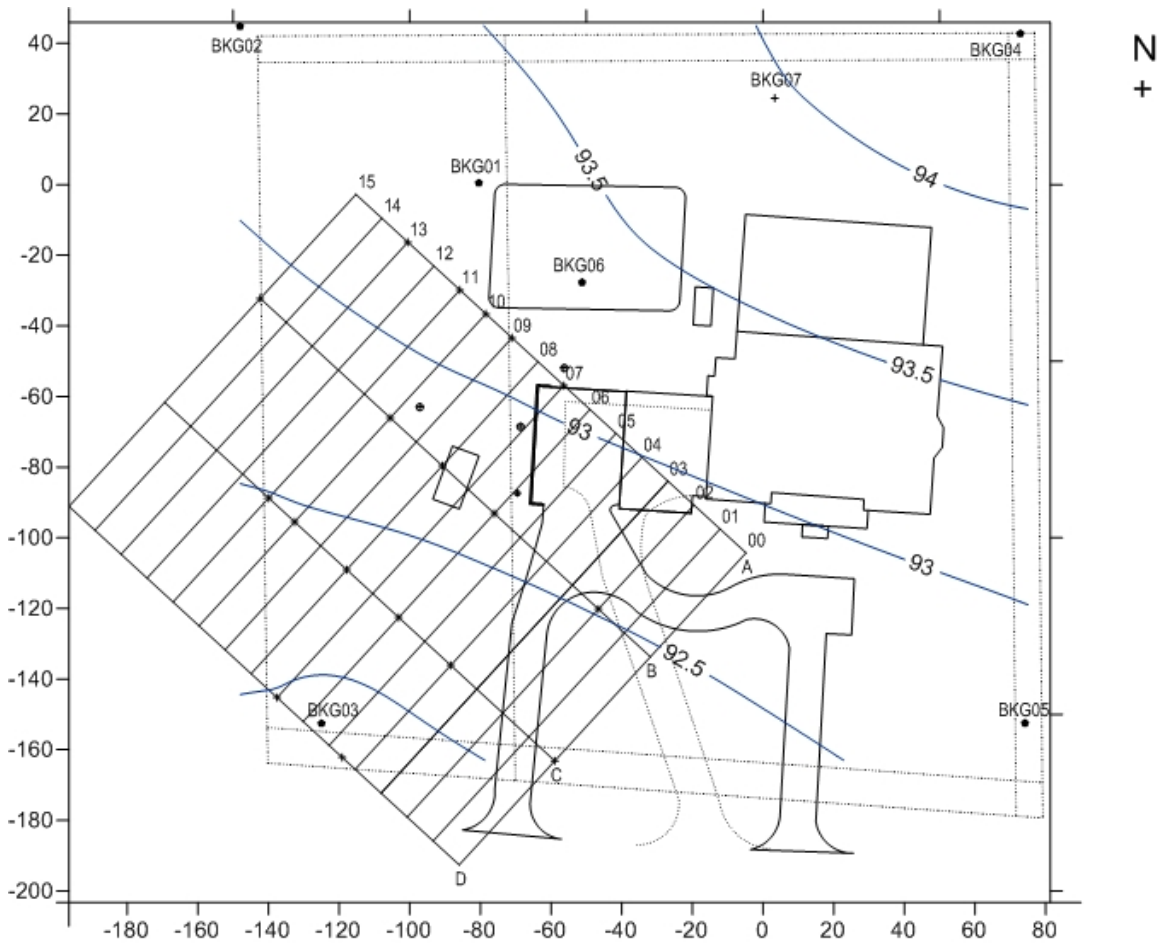

Figure 3
Surficial Groundwater Contours July 27, 2011

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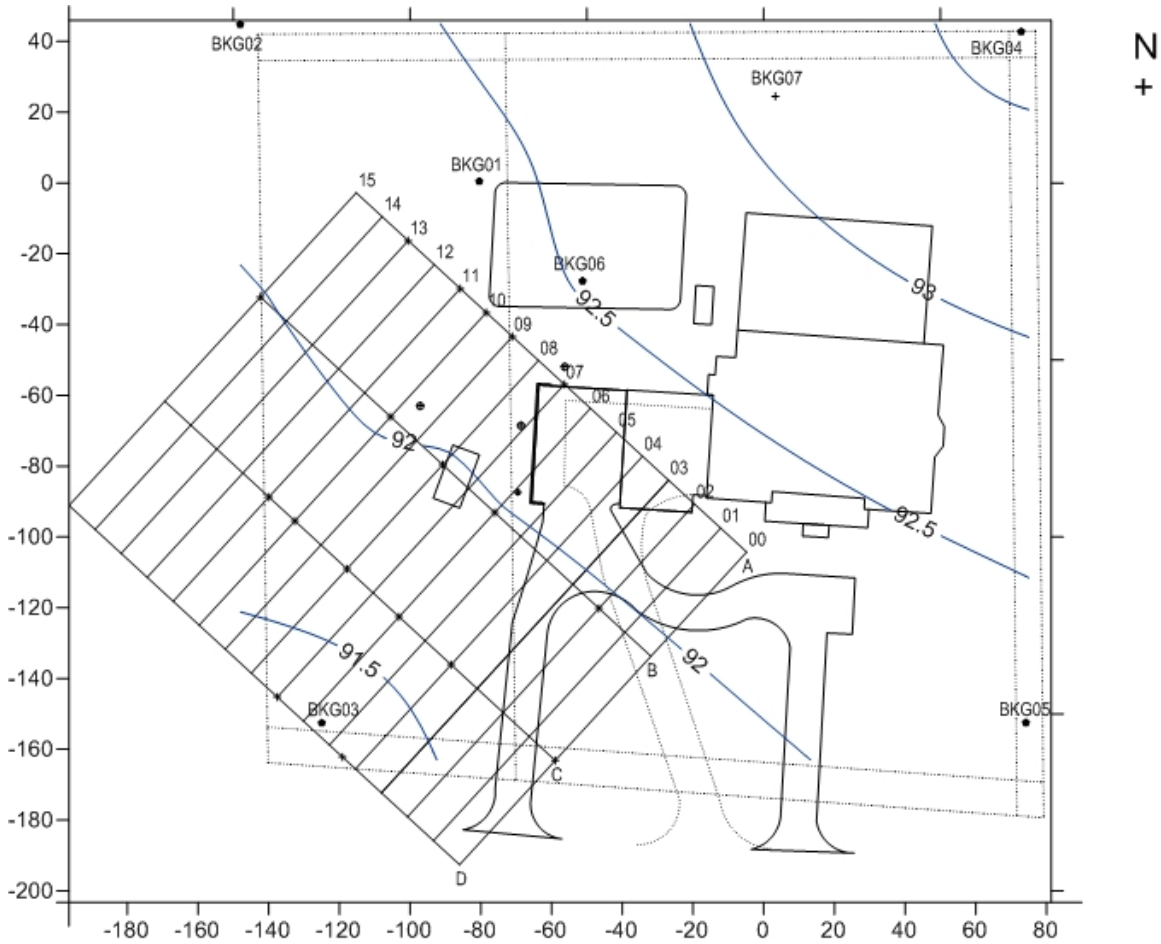

Figure 4
Surficial Groundwater Contours November 30, 2011

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 during the sampling event and are provided in Appendix D. Variations in measured values were expected as the chemical composition of the groundwater varied due to the discharge of STE. Table 5 depicts the range for all samples taken to date for both the "impacted" (BKG03, BKG06, A07, A09, A10, A11, B02, B06, B08, B10, C00, C04, C06, C08, C10, C11, D04, D07) and "non-

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impacted" (A13, B15, BKG01, BKG02, BKG04, BKG07) groundwater monitoring locations.

Table 5
Field Parameter Ranges

Field Parameters	"Impacted" Range	"Non-Impacted" Range
Temperature (°C)	19.9 - 29.3	21.1 - 29.6
pH	4.4 – 6.8	4.6 – 7.3
DO (mg/L)	0.1 – 5.5	0.1 – 1.2
Specific conductance (µS)	123 – 809	125 – 442

4.3.2 Correlations

Correlations between various field parameters and nitrogen concentration were conducted. Such correlations can provide insight into expected nitrogen removal or can be used to approximate difficult to obtain parameter values. However, no significant correlations were observed including the relationship between specific conductance and the concentrations of total nitrogen or NOx-N (Figure 5).

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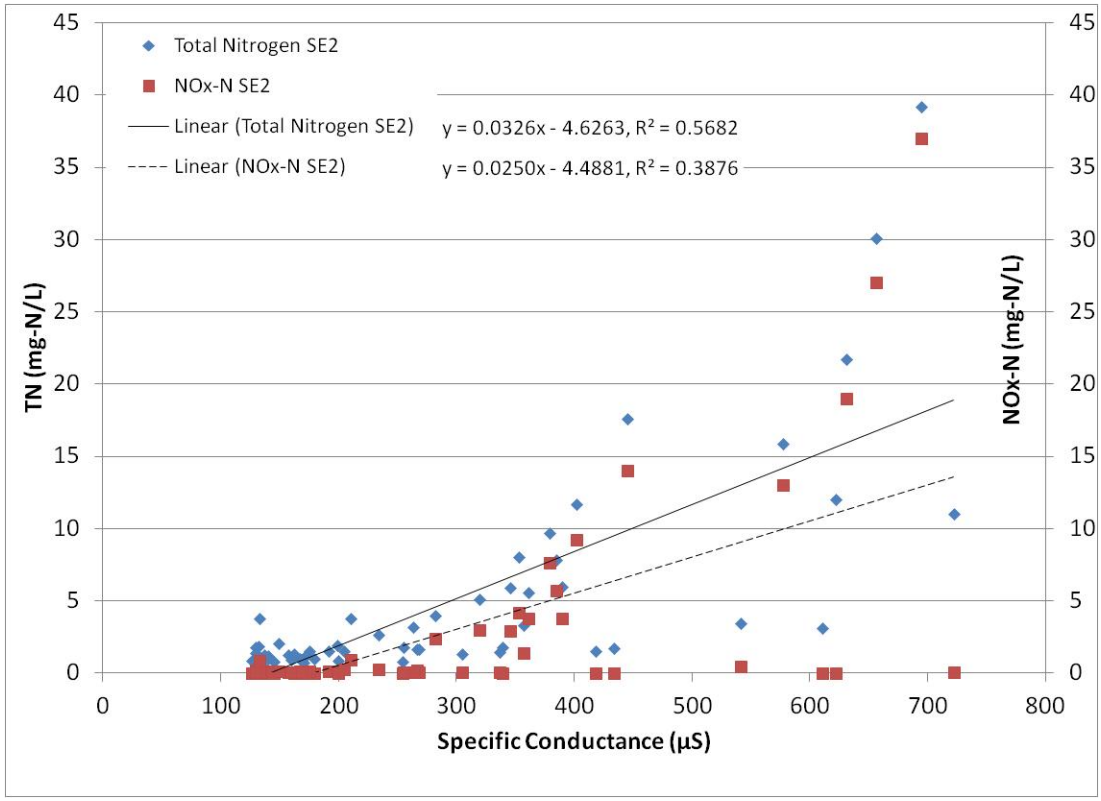

Figure 5
Correlation Between the Specific Conductance (uS) and the Concentrations of Total Nitrogen (mg-N/L) and NOX (mg-N/L)

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). By analyzing for the different nitrogen species, a clearer picture will be gained on the transformation of nitrogen within the plume. The complete water quality analytical results for Sample Event No. 2 are listed in Table 1 of Appendix D. The summary of the water quality is presented in Table 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 Depth

The general trend of the nitrogen plume at the site can be somewhat determined. Although **Surfer** is an excellent tool for mapping the information from the site, it cannot project a 3-dimensional view of concentrations with depth. The 65 piezometers installed at different locations and depths below the ground surface were mapped in **Surfer**. The concentrations of NOX at all locations that groundwater sample was obtained are illustrated in Figures 6 and 7 respectively. The maps show contours of the concentrations as estimated using the Kriging method in Surfer. As is evident, an overall trend is visible. The highest concentration of NOX (Figure 7) is close to the southwest corner of the mound with a maximum concentration in A07-8.

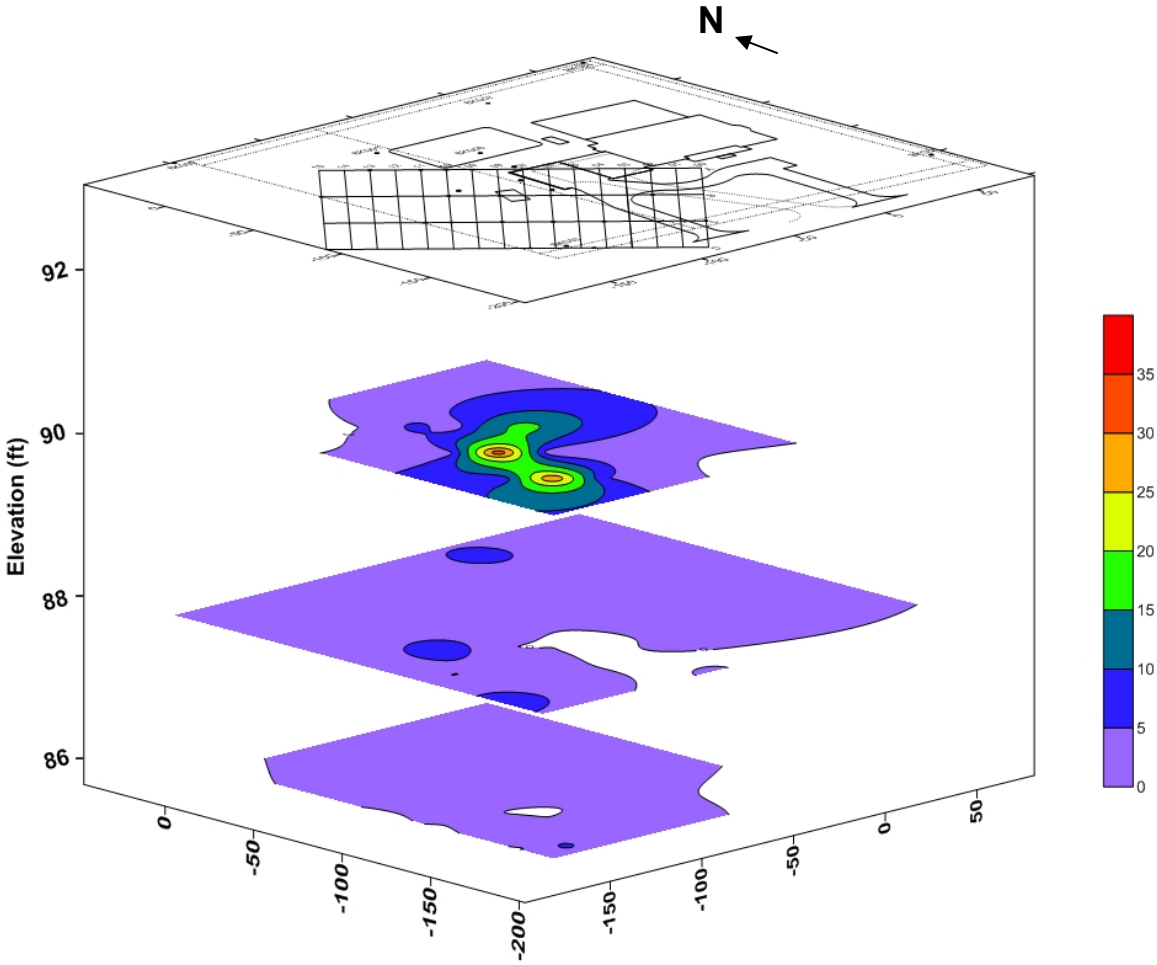

Figure 6
A layered schematic (using Surfer) illustrating NOX Concentrations (mg-N/L) in the subsurface at three different elevation intervals (based on July 2011 sampling event).

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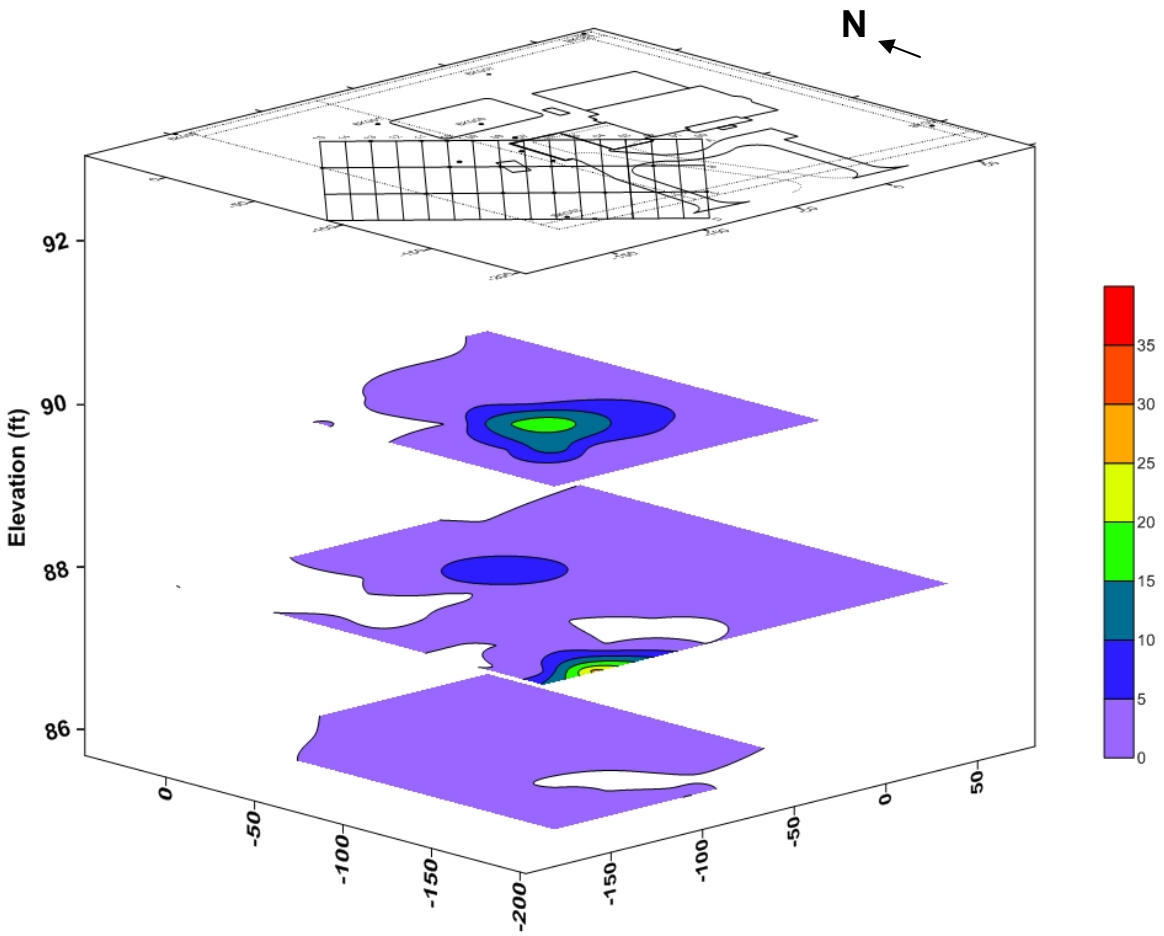

Figure 7

A layered schematic (using Surfer) illustrating NOX Concentrations (mg-N/L) in the subsurface at three different elevation intervals (based on Nov 2011 sampling event).

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5.0 C-HS2 Data Summary Report No. 2: Summary and Recommendations

5.1 Summary

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

- There are small variations in field parameters over the site with no clear correlations between field parameters and NOX concentrations identified.
- The nitrogen plume appears to be flowing in a southwesterly direction and similar to the groundwater contours.

5.2 Recommendation

The following recommendation is based on the existing available information in context of the overriding goal to develop a field-monitoring framework at home sites and a simple groundwater model (Task D). The project team will continue to evaluate all results including those that result from implementation of the recommendations and make further adaptations as needed (observational method). Following is a list with select recommendations which the next sample event will address:

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

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Appendix A: C-HS2 Sample Identification

Table A.1
C-HS2 Sample Identification

	Sample ID	Type of Monitoring Point	Surface Elevation (ft)	Bottom Elevation (ft)
1	STE	Waste Water	N/A	N/A
2	C-HS2-SW-6 inch	Storm sewer catch basin southwest of home	N/A	N/A
3	C-HS2-SW-M	Storm sewer catch basin southwest of home	N/A	N/A
4	C-HS2-BKG01-7	3/4" Standpipe Piezometer, 5' screen	96.11	88.93
5	C-HS2-BKG02-6	3/4" Standpipe Piezometer, 5' screen	94.48	88.20
6	C-HS2-BKG03-7	3/4" Standpipe Piezometer, 5' screen	93.52	86.56
7	C-HS2-BKG04-7	3/4" Standpipe Piezometer, 5' screen	96.00	88.94
8	C-HS2-BKG05-8	3/4" Standpipe Piezometer, 5' screen	95.21	87.26
9	C-HS2-BKG06-12	3/4" Standpipe Piezometer, 5' screen	99.55	87.93
10	C-HS2-A07-6	3/4" Standpipe Piezometer, 2' screen	97.33	91.67
11	C-HS2-A07-8	3/4" Standpipe Piezometer, 1' screen	97.34	89.69
12	C-HS2-A07-11	3/4" Standpipe Piezometer, 1' screen	97.33	86.78
13	C-HS2-A09-7	3/4" Standpipe Piezometer, 2' screen	98.23	91.34
14	C-HS2-A09-9	3/4" Standpipe Piezometer, 1' screen	98.22	89.01
15	C-HS2-A09-12	3/4" Standpipe Piezometer, 1' screen	98.22	86.47
16	C-HS2-A10-7	3/4" Standpipe Piezometer, 2' screen	97.63	90.76
17	C-HS2-A10-9	3/4" Standpipe Piezometer, 1' screen	97.65	88.84
18	C-HS2-A10-12	3/4" Standpipe Piezometer, 1' screen	97.65	85.65
19	C-HS2-A11-5	3/4" Standpipe Piezometer, 2' screen	96.45	91.46
20	C-HS2-A11-7	3/4" Standpipe Piezometer, 1' screen	96.45	89.63
21	C-HS2-A11-10	3/4" Standpipe Piezometer, 1' screen	96.45	86.59
22	C-HS2-A13-5	3/4" Standpipe Piezometer, 2' screen	95.76	90.77
23	C-HS2-A13-7	3/4" Standpipe Piezometer, 1' screen	95.76	88.78
24	C-HS2-A13-10	3/4" Standpipe Piezometer, 1' screen	95.77	86.03
25	C-HS2-B02-6	3/4" Standpipe Piezometer, 2' screen	95.85	90.29
26	C-HS2-B02-8	3/4" Standpipe Piezometer, 1' screen	95.85	88.06
27	C-HS2-B02-11	3/4" Standpipe Piezometer, 1' screen	95.85	85.12
28	C-HS2-B06-6	3/4" Standpipe Piezometer, 2' screen	95.85	90.17

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Table A.1
C-HS2 Sample Identification

	Sample ID	Type of Monitoring Point	Surface Elevation (ft)	Bottom Elevation (ft)
29	C-HS2-B06-8	3/4" Standpipe Piezometer, 1' screen	95.85	88.03
30	C-HS2-B06-11	3/4" Standpipe Piezometer, 1' screen	95.84	85.08
31	C-HS2-B08-5	3/4" Standpipe Piezometer, 2' screen	95.38	90.41
32	C-HS2-B08-7	3/4" Standpipe Piezometer, 1' screen	95.40	88.62
33	C-HS2-B08-10	3/4" Standpipe Piezometer, 1' screen	95.42	85.52
34	C-HS2-B09-15	2" Standpipe Piezometer, 5' screen	95.37	80.20
35	C-HS2-B10-5	3/4" Standpipe Piezometer, 2' screen	95.40	90.42
36	C-HS2-B10-7	3/4" Standpipe Piezometer, 1' screen	95.40	88.60
37	C-HS2-B10-10	3/4" Standpipe Piezometer, 1' screen	95.40	85.55
38	C-HS2-B13-15	2" Standpipe Piezometer, 5' screen	95.34	80.12
39	C-HS2-B15-5	3/4" Standpipe Piezometer, 2' screen	95.28	90.43
40	C-HS2-B15-7	3/4" Standpipe Piezometer, 1' screen	95.28	88.78
41	C-HS2-B15-10	3/4" Standpipe Piezometer, 1' screen	95.26	85.60
42	C-HS2-C00-5	3/4" Standpipe Piezometer, 2' screen	94.50	89.81
43	C-HS2-C00-7	3/4" Standpipe Piezometer, 1' screen	94.50	87.69
44	C-HS2-C00-10	3/4" Standpipe Piezometer, 1' screen	94.51	84.66
45	C-HS2-C04-5	3/4" Standpipe Piezometer, 2' screen	94.61	89.91
46	C-HS2-C04-7	3/4" Standpipe Piezometer, 1' screen	94.60	87.79
47	C-HS2-C04-10	3/4" Standpipe Piezometer, 1' screen	94.61	84.76
48	C-HS2-C06-5	3/4" Standpipe Piezometer, 2' screen	94.53	89.55
49	C-HS2-C06-7	3/4" Standpipe Piezometer, 1' screen	94.53	87.74
50	C-HS2-C06-10	3/4" Standpipe Piezometer, 1' screen	94.53	84.68
51	C-HS2-C08-5	3/4" Standpipe Piezometer, 2' screen	95.18	90.21
52	C-HS2-C08-7	3/4" Standpipe Piezometer, 1' screen	95.25	88.47
53	C-HS2-C08-10	3/4" Standpipe Piezometer, 1' screen	95.20	85.33
54	C-HS2-C10-6	3/4" Standpipe Piezometer, 2' screen	95.77	90.12
55	C-HS2-C10-8	3/4" Standpipe Piezometer, 1' screen	95.78	88.00
56	C-HS2-C10-12	3/4" Standpipe Piezometer, 1' screen	95.78	84.01
57	C-HS2-C11-5	3/4" Standpipe Piezometer, 2' screen	95.30	90.63
58	C-HS2-C11-7	3/4" Standpipe Piezometer, 1' screen	95.30	88.51
59	C-HS2-C11-10	3/4" Standpipe Piezometer, 1' screen	95.31	85.46

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Table A.1
C-HS2 Sample Identification

	Sample ID	Type of Monitoring Point	Surface Elevation (ft)	Bottom Elevation (ft)
60	C-HS2-D04-5	3/4" Standpipe Piezometer, 2' screen	93.98	89.09
61	C-HS2-D04-7	3/4" Standpipe Piezometer, 1' screen	93.98	87.14
62	C-HS2-D04-10	3/4" Standpipe Piezometer, 1' screen	94.00	84.31
63	C-HS2-D07-6	3/4" Standpipe Piezometer, 2' screen	95.41	89.43
64	C-HS2-D07-8	3/4" Standpipe Piezometer, 1' screen	95.39	87.53
65	C-HS2-D07-11	3/4" Standpipe Piezometer, 1' screen	95.43	84.59
66	C-HS2-BKG07-5	3/4" Standpipe Piezometer, 2' screen	96.01	91.36
67	C-HS2-BKG07-7	3/4" Standpipe Piezometer, 1' screen	96.01	89.43
68	C-HS2-BKG07-10	3/4" Standpipe Piezometer, 1' screen	96.01	86.40

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Appendix B: Soil Sample

Table B.1
Site C-HS2 Descriptions[1]

Sample ID#	Location	Depth (ft bgs)	Munsell Soil Color	Description
1	A11	0-2.0	10YR 3/1	very dark gray fine sand
2		2.0-2.7	10YR 5/2	grayish brown fine sand
3		2.7-4.0	10YR 2/1	black fine sand
4		4.0-5.0	10YR 3/2	dark brown fine sand
5		5-5.9	10YR 3/4	dark yellowish brown fine sand
6		5.9-10	10YR 5/3	brown fine sand
7		10.0-20.0	10YR 3/2	very dark grayish brown fine sand
8		20.0-21.2	10YR 5/2	grayish brown fine sand
		21.2-21.8	10YR 5/2	grayish brown clayey fine sand
		21.8-23.0	10YR 5/1	gray clay
		23.0-30	10YR 6/2	light brownish gray fine sand
9	A09	0-1.0	10YR 5/2	grayish brown fine sand
10		1.0-2.6	10YR 8/2	very pale brown very fine sand
11		2.6-3.1	10YR 6/3	pale brown very fine sand
12		3.1-4.3	10YR 5/1	gray fine sand
13		4.3-5.7	10YR 2/2	very dark brown fine sand
14		5.7-6.9	10YR 3/6	dark yellowish brown fine sand
15		6.9-7.5	10YR 6/4	light yellowish brown fine sand
16		7.5-8.5	10YR 4/4	dark yellowish brown fine sand
17		8.5-15	10YR 3/3	dark brown fine sand w/black intermittent
18		15-21.5	10YR 5/3	brown fine sand
19		21.5-23.9	10YR 5/2	grayish brown clayey fine sand
20		23.9-25.5	10YR 5/1	gray clay
21		25.5-30	10YR 6/2	light brownish gray fine sand
	B08	0-1.1	10YR 4/1	dark gray fine sand
22		1.1-2.3	10YR 2/2	very dark brown fine sand
23		2.3-3.5	10YR 3/6	dark yellowish brown fine sand
24		3.5-7.5	10YR 5/3	brown fine sand
25		7.5-13.7	10YR 3/2	very dark grayish brown fine sand

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Table B.1
Site C-HS2 Descriptions[1]

Sample ID#	Location	Depth (ft bgs)	Munsell Soil Color	Description
26	B08	13.7-19.0	10YR 5/3	brown fine sand
27		19.0-21.5	10YR 5/2	grayish brown clayey fine sand
28		21.5-22.6	10YR 5/1	gray clay
29		22.6-30	10YR 6/2	light brownish gray fine sand
	C10	0-1.2	10YR 4/1	dark gray fine sand
30		1.2-2.0	10YR 5/2	grayish brown fine sand
31		2.0-3.9	10YR 3/2	very dark grayish brown fine sand
32		3.9-4.9	10YR 3/3	dark brown fine sand
33		4.9-6.4	10YR 5/3	brown fine sand
34		6.4-6.9	10YR 2/1	black fine sand
35		6.9-14.3	10YR 4/3	brown fine sand
		14.3-22.2	10YR 5/2	grayish brown clayey fine sand
		22.2-23.5	10YR 5/1	gray clay
		23.5-30	10YR 6/2	light brownish gray fine sand

[1]Soil samples collected from direct push intact soil cores and described in the field using the Munsell tools.

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Table B.2
Site C-HS2 Soil Particle Size Distribution

Particle Size Ditribution (% <2mm)											Textural Class
Sample ID#	Location	Depth (ft)	Sand Fractions (%)					Total (%)			
			Very Coarse	Coarse	Medium	Fine	Very Fine	Sand	Silt	Clay	
			2.0-1.0 mm	1.0-0.5 mm	0.5-0.25 mm	0.25-0.10 mm	0.10-0.05 mm	2.0-0.05	0.05-0.002	<0.002	
1	A11	0-2.0	0.2	4.3	29.9	49.8	2.3	86.8	10.9	2.3	Sand
2	A11	2.0-2.7	0.1	3.3	33.5	56.0	3.2	97.0	1.2	1.8	Sand
2-Dup	A11	2.0-2.7	0.1	4.2	36.9	47.7	2.2	91.5	4.6	3.8	Sand
3	A11	2.7-4.0	0.1	4.3	36.7	50.0	2.5	94.1	2.3	3.5	Sand
3-Dup	A11	2.7-4.0	0.0	4.2	37.3	50.0	2.5	94.8	1.2	4.1	Sand
4	A11	4.0-5.0	0.0	2.9	29.1	58.2	3.8	94.5	1.9	3.6	Sand
5	A11	5-5.9	0.1	5.3	33.9	56.2	2.3	98.0	0.0	2.9	Sand
6	A11	5.9-10	0.1	4.8	34.4	56.7	2.6	99.0	0.0	1.4	Sand
7	A11	10.0-20.0	0.1	3.2	30.8	59.1	2.6	96.3	0.0	5.4	Sand
8	A11	20.0-21.2	0.2	2.9	25.0	57.0	2.3	87.7	0.0	13.3	Loamy Sand
9	A09	0-1.0	0.3	5.9	32.4	55.4	1.9	96.1	0.0	4.4	Sand
10	A09	1.0-2.6	0.0	0.9	13.8	77.3	5.2	97.8	0.0	2.9	Sand
10-Dup	A09	1.0-2.6	0.1	5.4	42.2	44.8	1.9	94.8	3.5	1.7	Sand
11	A09	2.6-3.1	0.0	0.3	9.7	81.1	5.2	96.7	0.6	2.7	Sand
12	A09	3.1-4.3	0.0	3.5	34.5	56.1	3.2	97.7	0.2	2.1	Sand
13	A09	4.3-5.7	0.0	3.7	35.7	52.3	2.6	94.8	0.1	5.1	Sand
13-Dup	A09	4.3-5.7	0.1	4.1	35.5	52.1	2.7	94.9	1.2	4.0	Sand
14	A09	5.7-6.9	0.2	5.1	32.1	47.6	1.6	87.1	10.2	2.7	Sand
15	A09	6.9-7.5	0.1	2.3	18.8	47.8	3.1	72.5	25.6	1.9	Loamy Sand
16	A09	7.5-8.5	0.0	2.5	23.9	38.2	2.0	67.0	31.4	1.6	Sandy Loam
17	A09	8.5-15	0.1	3.3	27.8	53.2	2.4	86.8	10.2	2.9	Sand
18	A09	15-21.5	0.3	3.7	25.9	44.3	1.5	75.9	18.3	5.8	Loamy Sand
19	A09	21.5-23.9	0.1	0.8	12.0	40.2	1.7	55.0	32.9	12.1	Sandy Loam
20	A09	23.9-25.5	0.0	0.6	12.7	48.3	3.9	65.7	11.6	22.7	Sandy Clay Loam
21	A09	25.5-30	0.1	0.6	12.0	47.1	2.7	62.6	27.6	9.8	Sandy Loam
22	B08	1.1-2.3	0.1	2.2	22.4	32.5	0.0	59.1	36.6	4.3	Sandy Loam
23	B08	2.3-3.5	0.0	3.0	22.5	38.0	2.3	70.1	25.1	4.9	Sandy Loam
24	B08	3.5-7.5	0.0	2.6	24.8	37.6	2.2	63.7	33.7	2.6	Sandy Loam
25	B08	7.5-13.7	0.1	2.4	17.0	30.4	1.5	51.6	44.2	4.2	Sandy Loam
26	B08	13.7-19.0	0.0	1.0	10.7	27.5	0.8	40.2	47.3	12.5	Loam
27	B08	19.0-21.5	0.0	1.4	16.2	43.2	1.2	62.3	24.9	12.7	Sandy Loam
28	B08	21.5-22.6	0.0	0.8	13.6	48.9	3.5	67.5	7.5	25.0	Sandy Clay Loam
29	B08	22.6-30	0.0	1.1	19.5	65.3	3.6	89.9	0.8	9.3	Sand
30	C10	1.2-2.0	0.1	5.7	43.0	46.7	2.1	97.9	0.1	1.9	Sand
31	C10	2.0-3.9	0.1	4.6	39.1	43.6	2.6	96.5	0.1	3.4	Sand
32	C10	3.9-4.9	0.1	6.7	43.3	45.6	1.5	97.4	0.1	2.5	Sand
33	C10	4.9-6.4	0.1	5.3	33.7	56.1	2.3	97.8	1.8	0.4	Sand
34	C10	6.4-6.9	0.3	6.6	35.0	53.2	2.1	97.6	0.0	3.0	Sand
35	C10	6.9-14.3	0.1	5.9	38.3	48.2	1.4	94.5	2.4	3.1	Sand

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Table B.3
Site C-HS2 Soil Quality Analytical Results

ID#	Location	Depth (ft)	BufpH	pH	OrgMt	TN	TKN	Organic N	NH3-N	NOx-N	Inorganic N	P	K	Ca	Mg	Na	CEC (calc)
					%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
1	A11	0-2.0	7.78	6.50	1.52	358.80	356.26	355.65	0.61	2.54	3.15	68.70	17.04	5.52	-0.06	167.2	9.49
2	A11	2.0-2.7	7.96	6.60	0.25	61.08	58.85	58.61	0.24	2.22	2.46	18.59	8.82	-0.10	-1.59	213.4	9.82
3	A11	2.7-4.0	7.30	5.60	3.34	390.42	387.41	387.03	0.39	3.01	3.40	51.60	15.69	-1.31	-1.35	177.6	13.72
4	A11	4.0-5.0	7.63	6.40	1.84	212.57	212.09	211.64	0.45	0.47	0.93	90.30	13.39	-0.96	-1.94	183.1	11.26
5	A11	5-5.9	7.85	5.40	0.37	57.13	56.79	56.34	0.46	0.33	0.79	33.15	7.51	0.66	3.37	184.6	9.45
6	A11	5.9-10	7.94	6.20	0.17	33.44	33.18	33.16	0.02	0.26	0.28	28.44	11.22	-1.82	-1.21	180.8	8.63
7	A11	10.0-20.0	7.78	5.10	0.57	87.01	86.74	86.55	0.19	0.27	0.46	24.13	6.57	1.40	10.19	139.1	8.07
8	A11	20.0-21.2	7.78	5.00	1.12	77.35	76.57	74.41	2.16	0.78	2.94	33.74	21.01	0.01	18.37	162.4	9.51
9	A09	0-1.0	7.75	6.00	3.75	1594.68	1583.45	1582.10	1.35	11.23	12.58	141.3	35.55	-0.90	0.72	176.5	10.59
10	A09	1.0-2.6	7.93	6.20	0.43	104.83	103.04	102.80	0.24	1.79	2.03	59.30	12.41	-2.87	0.02	147.5	7.29
11	A09	2.6-3.1	7.90	6.10	0.53	131.27	130.02	129.57	0.46	1.25	1.71	60.10	12.95	-2.81	1.29	157.7	8
12	A09	3.1-4.3	7.92	6.20	0.50	97.95	96.85	96.53	0.32	1.10	1.42	19.06	8.95	-0.44	-1.66	218.1	10.35
13	A09	4.3-5.7	7.30	5.30	3.69	399.67	398.45	398.26	0.19	1.22	1.41	49.98	13.77	-2.59	-1.42	182.0	13.87
14	A09	5.7-6.9	7.92	6.30	0.27	45.40	44.48	44.48	-0.00	0.92	0.92	56.00	8.42	-1.52	-0.63	190.5	9.14
15	A09	6.9-7.5	7.96	6.40	0.17	38.45	35.63	35.57	0.06	2.81	2.87	46.79	10.46	-2.69	-0.54	150.3	7.12
16	A09	7.5-8.5	7.75	5.50	0.96	156.71	153.05	152.25	0.80	3.66	4.45	130.2	18.48	-2.04	9.24	141.8	8.72
17	A09	8.5-15	7.70	5.00	0.98	140.47	140.15	139.81	0.34	0.32	0.66	40.32	6.25	1.65	8.70	154.4	9.35
18	A09	15-21.5	7.86	4.50	0.38	47.90	47.51	47.13	0.38	0.39	0.77	7.93	7.49	155.2	65.10	64.50	5.43
19	A09	21.5-23.9	7.78	4.80	0.63	88.90	88.08	86.12	1.96	0.82	2.78	10.54	32.50	334.0	163.0	66.50	8.51
20	A09	23.9-25.5	7.89	7.30	1.68	123.83	122.87	119.57	3.30	0.96	4.26	227.0	164.4	1306	351.7	375.7	30.89
21	A09	25.5-30	7.88	5.80	0.87	61.50	60.69	58.40	2.28	0.81	3.10	14.16	26.71	281.5	129.4	63.00	6.87
22	B08	1.1-2.3	7.38	4.60	3.13	412.81	406.39	405.92	0.48	6.42	6.90	16.07	3.29	504.0	29.90	56.00	10.25
23	B08	2.3-3.5	7.59	5.20	1.29	204.53	201.76	201.19	0.57	2.77	3.34	76.80	5.35	216.6	23.62	55.20	7.1
24	B08	3.5-7.5	7.86	5.70	0.39	61.57	60.81	60.55	0.26	0.76	1.02	31.34	0.95	96.60	10.46	50.80	3.92
25	B08	7.5-13.7	7.71	5.40	0.85	119.18	118.61	118.27	0.34	0.57	0.91	34.02	0.04	49.85	8.48	59.50	5.23
26	B08	13.7-19.0	7.71	4.70	0.95	76.55	76.23	75.13	1.10	0.32	1.42	11.87	12.95	195.1	95.60	66.60	7.32
27	B08	19.0-21.5	7.79	5.90	1.18	83.56	83.11	81.34	1.77	0.45	2.22	364.9	42.63	1159	197.2	115.1	15.22
28	B08	21.5-22.6	7.79	6.40	2.34	119.07	118.33	114.65	3.69	0.74	4.42	55.10	88.70	918.0	359.9	182.7	19.49
29	B08	22.6-30	7.89	6.10	0.82	61.12	60.72	59.89	0.82	0.41	1.23	10.01	21.00	309.8	141.0	54.20	6.5
30	C10	1.2-2.0	7.91	5.70	0.30	85.78	82.62	81.85	0.77	3.16	3.93	3.06	-3.40	136.5	8.39	44.87	3.42
31	C10	2.0-3.9	7.70	5.30	1.10	218.57	210.18	209.27	0.90	8.39	9.30	10.66	2.17	326.9	21.60	52.50	6.55
32	C10	3.9-4.9	7.68	5.20	0.76	104.93	101.77	101.22	0.55	3.17	3.72	68.90	-0.77	91.90	8.77	56.30	5.54
33	C10	4.9-6.4	7.87	5.40	0.28	37.04	36.68	36.24	0.44	0.36	0.80	9.28	-2.96	38.33	5.58	49.50	3.43
34	C10	6.4-6.9	7.75	5.10	0.75	108.37	107.98	107.04	0.95	0.38	1.33	35.49	6.26	42.96	8.15	55.40	4.85
35	C10	6.9-14.3	7.84	5.50	0.40	58.81	58.53	58.28	0.25	0.27	0.53	33.29	-2.45	38.00	5.39	50.50	3.71

Value < MDL Non-detect

Value >= MDL but < PQL

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Appendix C: Weather Station Data

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Table C.1
Monthly Recorded Meteorological Data
Sheffield in the Crossings, Longwood, FL

Period	Temp high (°F)	Temp avg (°F)	Temp low (°F)	Humidity high (%)	Humidity avg (%)	Humidity low (%)	Wind high (mph)	Wind avg (mph)	Rain max (in)	Rain total (in)
Jan-10	65	52	41	90	73	48	18	5	0.61	2.31
Feb-10	64	53	42	92	73	49	19	5	0.94	3.52
Mar-10	72	60	49	93	71	43	20	6	3.43	7.22
Apr-10	84	71	59	95	73	44	17	4	1.45	3.34
May-10	91	78	69	93	76	50	16	4	1.82	3.88
Jun-10	95	82	73	95	79	50	18	3	0.97	5.15
Jul-10	94	82	75	96	80	56	15	3	1.29	4.26
Aug-10	94	84	76	96	80	56	79	3	2.23	4.37
Sep-10	92	80	72	97	81	53	17	3	0.79	3.35
Oct-10	87	72	61	95	72	40	15	3	0.00	0.00
Nov-10	77	64	54	94	78	53	15	3	1.10	2.09
Dec-10	63	49	37	89	70	44	18	5	0.47	0.62
Jan-11	68	57	45	92	74	48	19	4	1.27	4.18
Feb-11	76	62	52	95	76	49	17	4	1.27	1.78
Mar-11	80	66	55	94	73	46	16	4	3.61	5.57
Apr-11	88	74	62	95	71	41	17	4	0.55	0.65
May-11	92	77	65	94	68	38	18	3	0.58	1.21
Jun-11	92	80	71	96	77	51	15	2	1.99	6.50
Jul-11	95	86	76	95	68	50	15	2	2.65	3.99
Aug-11	95	84	76	96	78	53	17	3	1.28	6.02
Sep-11	92	80	72	97	80	51	15	2	1.71	7.19
Oct-11	81	70	62	94	78	54	16	3	5.37	7.90
Nov-11	76	66	57	94	79	57	16	3	0.13	0.27

Source: www.wunderground.com

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Appendix D: Water Quality Analytical Results

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Table D.1
Water Quality Analytical Results
(Nov 30 – Dec 1, 2011)

Sample ID	Sample Date/Time	Sample Type	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	TDS (mg/L)	TS (% by wt)	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]	NH3-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						
																							F^-	Cl^-	NO_3-N	NO_2-N	PO_4-P	SO_4^-	B	Ca	Fe	Mg	Mn	K	Na
STE Sample																																			
C-HS2-STE	01-Dec-11 10:35	G	21.3	7.4	330	0.9	906						66.03	66	11	55	0.03	55.03						53											
C-HS2-STE-DUP	01-Dec-11 10:40	G	21.3	7.4	350	0.9	906						66.02	66	11	55	0.02	55.02						51											
Standpipe Piezometers																																			
C-HS2-BKG01-7	01-Dec-11 09:15	G	22.3	5.6	19	0.3	267						1.68	1.5	1.29	0.21	0.18	0.39						50											
C-HS2-BKG02-6	01-Dec-11 09:30	G	21.1	7.3	130	0.1	418						1.51	1.5	0.7	0.8	0.01	0.81						34											
C-HS2-BKG03-7	01-Dec-11 10:25	G	22.6	5.9	48	0.1	346						5.9	3	2.956	0.044	2.9	2.944						38											
C-HS2-BKG04-7	01-Dec-11 10:10	G	21.4	5.3	9.6	0.1	268						1.64	1.6	1.21	0.39	0.04	0.43						65											
C-HS2-BKG06-12	01-Dec-11 09:00	G	22.9	6.4	58	0.3	402						11.7	2.5	2.414	0.086	9.2	9.286						30											
C-HS2-BKG07-5	01-Dec-11 09:40	G	21.2	5.7	2	0.1	192						1.5	1.4	1.06	0.34	0.1	0.44			36	23	0.28	44	0.47		0.01	3.9	0.05	2.5	1.1	2.3	0.0097	1.9	26
C-HS2-BKG07-7	01-Dec-11 09:50	G	21.8	5.9	29	0.1	199						1.93	1.8	1.39	0.41	0.13	0.54						43											
C-HS2-BKG07-10	01-Dec-11 10:00	G	22.3	5.2	2	0.1	179						1.01	1	0.55	0.45	0.01	0.46						42											
C-HS2-A07-6	01-Dec-11 07:30	G	19.9	6.3	58	5.5	263						3.15	3.1	2.75	0.35	0.05	0.4			120	110	0.24	18	0.4		1	27	0.078	28	0.97	6.4	0.0073	24	17
C-HS2-A07-8	01-Dec-11 07:40	G	22.9	6.3	29	0.2	695						39.2	2.2	2.19	0.01	37	37.01						39											
C-HS2-A07-11	01-Dec-11 07:50	G	23.1	5.8	2	0.2	167						0.96	0.85	0.35	0.5	0.11	0.61						38											
C-HS2-A09-7	01-Dec-11 07:00	G	22.1	6.4	87	0.6	390						6	2.2	2.144	0.056	3.8	3.856						22											
C-HS2-A09-7-Dup	01-Dec-11 07:05	G	22.1	6.4	96	0.6	390						5.9	2.2	2.15	0.05	3.7	3.75						22											
C-HS2-A09-9	01-Dec-11 07:15	G	22.6	6.5	48	0.7	254						0.79	0.77	0.59	0.18	0.02	0.2						35											
C-HS2-A09-12	01-Dec-11 07:20	G	22.7	6.2	9.6	0.7	135						0.55	0.54	0.06	0.48	0.01	0.49						31											
C-HS2-A10-9	30-Nov-11 15:15	G	22.7	6.6	220	0.6	622						12.01	12	2.6	9.4	0.01	9.41						28											
C-HS2-A10-12	30-Nov-11 15:25	G	23.1	6.3	29	0.5	145						0.78	0.76	0.33	0.43	0.02	0.45						37											
C-HS2-A11-7	30-Nov-11 14:55	G	23.2	6	67	0.3	357						3.3	1.9	1.72	0.18	1.4	1.58						35											
C-HS2-A11-10	30-Nov-11 15:05	G	23.6	6.2	9.6	0.1	135						0.4	0.37	0.03	0.34	0.03	0.37						32											
C-HS2-A13-5	30-Nov-11 14:35	G	22.6	5.8	48	0.1	305						1.34	1.3	1.04	0.26	0.04	0.3						35											
C-HS2-A13-7	30-Nov-11 14:45	G	22.9	5.5	9.6	0.1	170						0.74	0.73	0.28	0.45	0.01	0.46						40											
C-HS2-A13-10	30-Nov-11 14:50	G	23.2	4.8	9.6	0.1	134						0.53	0.52	0.17	0.35	0.01	0.36						32											
C-HS2-B02-6	30-Nov-11 12:00	G	22.6	5.8	77	0.1	385						7.8	2.1	1.63	0.47	5.7	6.17						24											
C-HS2-B02-8	30-Nov-11 12:10	G	22.7	6.7	190	0.1	611						3.12	3.1	2.1	1	0.02	1.02						63											
C-HS2-B02-11	30-Nov-11 12:15	G	23.1	6.6	29	0.2	200						0.83	0.81	0.38	0.43	0.02	0.45						39											
C-HS2-B06-6	30-Nov-11 12:30	G	23.3	5.6	29	0.4	631						21.7	2.7	2.682	0.018	19	19.018						53											
C-HS2-B06-8	30-Nov-11 12:40	G	23.6	5.7	19	0.4	175						1.5	1.4	0.68	0.72	0.1	0.82						35											
C-HS2-B06-11	30-Nov-11 12:50	G	23.6	4.6	9.6	0.4	157						1.24	1.2	0.6	0.6	0.04	0.64						33											
C-HS2-B08-5	30-Nov-11 13:10	G	22.2	6	67	0.2	445						17.6	3.6	3.531	0.069	14	14.069			41	38	0.12	23	15		0.62	40	0.075	45	0.38	7.4	0.0076	12	30
C-HS2-B08-5-Dup	30-Nov-11 13:15	G	22.2	6	67	0.2	445						17.5	3.5	3.442	0.058	14	14.058			40	38	0.01	23	14		0.64	39	0.074	43	0.29	7	0.0074	10	29
C-HS2-B08-7	30-Nov-11 13:20	G	22.6	6.1	58	0.1	282						4	1.6	1.538	0.062	2.4	2.462						29											
C-HS2-B08-10	30-Nov-11 13:30	G	22.6	6.2	9.6	0.2	140						1.19	1.1	0.65	0.45	0.09	0.54						32											
C-HS2-B10-5	30-Nov-11 13:40	G	22.8	6.4	300	0.1	722						11.05	11	8.6	2.4	0.05	2.45						25											
C-HS2-B10-7	30-Nov-11 13:50	G	23	6.6	38	0.8	205						1.55	1.3	0.59	0.71	0.25	0.96						37											
C-HS2-B10-10	30-Nov-11 13:55	G	23	5.9	9.6	0.7	137						1.26	1.2	0.74	0.46	0.06	0.52						33											
C-HS2-B15-5	30-Nov-11 14:05	G	22.7	4.7	9.6	0.1	132						1.83	1.7	1.34	0.36	0.13	0.49						21											
C-HS2-B15-7	30-Nov-11 14:15	G	23.1	4.8	9.6	0.1	149						2.03	1.9	1.11	0.79	0.13	0.92						36											
C-HS2-B15-10	30-Nov-11 14:25	G	23.4	4.6	9.6	0.2	126						0.84	0.83	0.5	0.33	0.01	0.34						28											
C-HS2-C00-5	30-Nov-11 11:30	G	24.7	6	48	0.1	320						5.1	2.1	1.92	0.18	3	3.18						25											
C-HS2-C00-7	30-Nov-11 11:40	G	24.8	5.5	38	0.1	434						1.72	1.7	0.89	0.81	0.02	0.83						86											
C-HS2-C00-7-Dup	30-Nov-11 11:45	G	24.8	5.5	38	0.1	434						1.71	1.7	0.87	0.83	0.01	0.84						85											
C-HS2-C00-10	30-Nov-11 11:50	G	24.9	5.3	9.6	0.1	172						1.21	1.2	0.65	0.55	0.01	0.56						43											
C-HS2-C04-5	30-Nov-11 11:00	G	22.7	5.8	58	0.1	339						1.81	1.8	1.42	0.38	0.01	0.39						20											
C-HS2-C04-7	30-Nov-11 11:10	G	23	5.3	9.6	0.1	162						1.31	1.3	0.6	0.7	0.01	0.71						32											
C-HS2-C04-10	30-Nov-11 11:20	G	23	5.5	9.6	0.1	140						1	0.99	0.52	0.47	0.01	0.48						44											
C-HS2-C06-5	30-Nov-11 10:30	G	21.6	5.7	48	0.1	577						15.9	2.9	2.851	0.049	13	13.049			31	22	0.01	42	21		2.1	56	0.095	37	0.27	8.8	0.018	9.4	58
C-HS2-C06-7	30-Nov-11 10:40	G	21.8	6	38	0.3	361						5.6	1.8	1.68	0.12	3.8	3.92						40											
C-HS2-C06-10	30-Nov-11 10:50	G	22.6	5.3	9.6	0.2	130						0.83	0.78	0.48	0.3	0.05	0.35						29											
C-HS2-C08-5	30-Nov-11 10:00	G	21.6	5.9	77	0.7	353						8	3.8	3.39	0.41	4.2	4.61						28											
C-HS2-C08-5-Dup	30-Nov-11 10:05	G	21.6	5.9	67	0.7	353						8.3	3.8	3.39	0.41	4.5	4.91						28											
C-HS2-C08-7	30-Nov-11 10:10	G	22.1	6.3	48	0.4	255						1.75	1.7	1.1	0.6	0.05	0.65						37											
C-HS2-C08-10	30-Nov-11 10:20	G	22.4	6	9.6	0.3	134						0.98	0.95	0.49	0.46	0.03	0.49						32											
C-HS2-C10-6	30-Nov-11 09:35	G	22.8	5.7	19	0.1	210						3.8	2.9	2.52	0.38	0.9	1.28			61	44	0.35	31	1.1		0.01	13	0.05	21	0.42	2.7	0.023	4	17
C-HS2-C10-8	30-Nov-11 09:45	G	23.1	5.1	9.6	0.1	160						0.94	0.91	0.49	0.42	0.03	0.45						40											
C-HS2-C10-12	30-Nov-11 09:55	G	24	4.7	9.6	0.7	130						1.76	1.6	1	0.6	0.16	0.76						31											

Table D.1 (con't)
Water Quality Analytical Results
(Nov 30 – Dec 1, 2011)

Sample ID	Sample Date/Time	Sample Type	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	TDS (mg/L)	TS (% by wt)	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]	NH3-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						
																							F^-	Cl^-	NO_3-N	NO_2-N	PO_4-P	SO_4^-	B	Ca	Fe	Mg	Mn	K	Na
C-HS2-C11-5	30-Nov-11 09:05	G	21.8	5.3	19	0.7	133						3.78	2.9	2.77	0.13	0.88	1.01						5.7											
C-HS2-C11-7	30-Nov-11 09:15	G	22.4	5.3	9.6	0.7	234						2.64	2.4	1.7	0.7	0.24	0.94						41											
C-HS2-C11-10	30-Nov-11 09:25	G	22.7	5.2	2	0.2	133						1.03	0.99	0.53	0.46	0.04	0.5						28											
C-HS2-D04-5	30-Nov-11 07:36	G	23.2	5.7	29	0.1	656						30.1	3.1	3.073	0.027	27	27.027			27	19	0.01	38	30		1.6	64	0.093	51	0.12	12	0.0074	15	47
C-HS2-D04-7	30-Nov-11 07:45	G	23.3	5.9	38	0.1	379						9.7	2.1	2.08	0.02	7.6	7.62						35											
C-HS2-D04-10	30-Nov-11 07:55	G	23.1	5.8	19	0.5	169						0.89	0.85	0.67	0.18	0.04	0.22						32											
C-HS2-D07-6	30-Nov-11 08:05	G	22.4	6.2	140	0.2	541						3.45	3	2.37	0.63	0.45	1.08						40											
C-HS2-D07-6-Dup	30-Nov-11 08:10	G	22.4	6.2	130	0.2	541						3.33	2.9	2.29	0.61	0.43	1.04						40											
C-HS2-D07-8	30-Nov-11 08:20	G	22.9	6	87	0.4	337						1.43	1.4	0.76	0.64	0.03	0.67						29											
C-HS2-D07-11	30-Nov-11 08:25	G	23.3	5.9	9.6	0.5	130						1.37	1.3	0.71	0.59	0.07	0.66						29											
Storm Water Sample																																			
C-HS2-SW-6 inch	01-Dec-11 08:15	G	21.1	6.5	48	5.6	304						2.96	2.6	2.14	0.46	0.36	0.82						50											
C-HS2-SW-M	01-Dec-11 08:05	G	19.8	7.1	96	6.4	345						1.65	1.1	0.82	0.28	0.55	0.83						31											
Blanks																																			
FB-Tap	01-Dec-11 11:00	G	21.7	8.2	120	5.2	329						0.06	0.05	0.04	0.01	0.01	0.02						20											
FB-DI	01-Dec-11 11:10	G	16.2	8	2	8.5	3						0.06	0.05	0.04	0.01	0.01	0.02						0.05											
EB	30-Nov-11 07:30	G	13.2	7.7	2	5.2	4						0.06	0.05	0.04	0.01	0.01	0.02						0.05											

[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

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

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

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Appendix E: Summary of Water Quality Data

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Table E.1
Summary of Water Quality Data

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	TDS (mg/L)	TS (% by wt)	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]	NH3-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						
																						F^-	Cl^-	NO_3-N^-	NO_2-N^-	PO_4-P^-	SO_4^-	B	Ca	Fe	Mg	Mn	K	Na
STE Sample																																		
C-HS2-STE	n	2	2	2	2	2	0	1	1	1	0	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.5		345.0	1.1	967.0		0.1	20.0	130.0		73.1	73.0	28.0	45.0	0.07	45.1	8.3					53.0											
	STD. DEV.			21.2	0.2	86.3							9.9		14.1	0.05																		
	MIN	21.3	7.0	330.0	0.9	906.0		0.1	20.0	130.0		66.0	66.0	11.0	35.0	0.03	35.1	8.3					53.0											
	MAX	29.6	7.4	360.0	1.2	1028.0		0.1	20.0	130.0		80.1	80.0	45.0	55.0	0.10	55.0	8.3					53.0											
Standpipe																																		
C-HS2-BKG01-7	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.4		14.5	0.6	257.5					86.0	1.9	1.3	1.0	0.2	0.7	0.9	0.1					50.0											
	STD. DEV.			6.4	0.4	13.4						0.4	0.4	0.4	0.0	0.7	0.7																	
	MIN	22.3	4.9	9.9	0.3	248.0					86.0	1.7	1.0	0.8	0.2	0.2	0.4	0.1					50.0											
	MAX	26.5	5.6	19.0	0.8	267.0					86.0	2.2	1.5	1.3	0.2	1.2	1.4	0.1					50.0											
C-HS2-BKG02-6	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	23.6		150.0	0.7	430.0					59.0	1.4	1.3	0.5	0.8	0.06	0.9	0.04					34.0											
	STD. DEV.			28.3	0.8	17.0						0.2	0.3	0.3	0.1	0.06	0.1																	
	MIN	21.1	6.9	130.0	0.1	418.0					59.0	1.2	1.1	0.2	0.8	0.01	0.8	0.04					34.0											
	MAX	26.1	7.3	170.0	1.2	442.0					59.0	1.5	1.5	0.7	0.9	0.10	1.0	0.04					34.0											
C-HS2-BKG03-7	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.1		39.0	0.1	391.0					65.0	7.5	2.7	2.6	0.1	4.8	4.8	0.03					38.0											
	STD. DEV.			12.7	0.0	63.6						2.2	0.4	0.4	0.0	2.6	2.6																	
	MIN	22.6	5.7	30.0	0.1	346.0					65.0	5.9	2.4	2.3	0.0	2.9	2.9	0.03					38.0											
	MAX	27.5	5.9	48.0	0.1	436.0					65.0	9.0	3.0	3.0	0.1	6.6	6.7	0.03					38.0											
C-HS2-BKG04-7	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	23.9		9.8	0.7	240.0					120.0	1.5	1.5	1.2	0.4	0.03	0.4	0.1					65.0											
	STD. DEV.			0.2	0.8	39.6						0.2	0.1	0.1	0.1	0.02	0.1																	
	MIN	21.4	5.2	9.6	0.1	212.0					120.0	1.4	1.4	1.1	0.3	0.01	0.3	0.1					65.0											
	MAX	26.3	5.3	9.9	1.2	268.0					120.0	1.6	1.6	1.2	0.4	0.04	0.4	0.1					65.0											
C-HS2-PZ05	n																																	
	MEAN																																	
	STD. DEV.																																	
	MIN																																	
	MAX																																	
C-HS2-BKG06-12	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.8		54.0	0.8	413.5					63.0	9.7	2.2	1.9	0.2	7.6	7.8	1.3					30.0											
	STD. DEV.			5.7	0.7	16.3						2.8	0.5	0.7	0.2	2.3	2.1																	
	MIN	22.9	6.1	50.0	0.3	402.0					63.0	7.7	1.8	1.5	0.1	5.9	6.3	1.3					30.0											
	MAX	26.7	6.4	58.0	1.3	425.0					63.0	11.7	2.5	2.4	0.4	9.2	9.3	1.3					30.0											
C-HS2-BKG07-5	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
	MEAN	23.8	5.5	3.1	0.1	190.5					130.0	1.3	1.3	0.9	0.3	0.1	0.4	0.2		36.0	23.0	0.3	44.0	0.5		0.01	3.9	0.05	2.5	1.1	2.3	0.01	1.9	26.0
	STD. DEV.	3.7	0.4	1.6	0.0	2.1						0.2	0.2	0.2	0.0	0.0	0.0																	
	MIN	21.2	5.2	2.0	0.1	189.0					130.0	1.2	1.1	0.8	0.3	0.1	0.4	0.2		36.0	23.0	0.3	44.0	0.5		0.01	3.9	0.05	2.5	1.1	2.3	0.01	1.9	26.0
	MAX	26.4	5.7	4.2	0.1	192.0					130.0	1.5	1.4	1.1	0.3	0.1	0.4	0.2		36.0	23.0	0.3	44.0	0.5		0.01	3.9	0.05	2.5	1.1	2.3	0.01	1.9	26.0
C-HS2-BKG07-7	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	23.6	5.8	18.7	0.2	190.5					31.0	1.3	1.3	0.9	0.4	0.08	0.4	0.1					43.0											
	STD. DEV.	2.5	0.1	14.6	0.1	12.0						0.8	0.8	0.7	0.1	0.07	0.1																	
	MIN	21.8	5.7	8.3	0.1	182.0					31.0	0.7	0.7	0.4	0.3	0.03	0.3	0.1					43.0											
	MAX	25.4	5.9	29.0	0.2	199.0					31.0	1.9	1.8	1.4	0.4	0.13	0.5	0.1					43.0											
C-HS2-BKG07-10	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	23.8	5.2	2.1	0.1	154.5					27.0	0.8	0.8	0.4	0.4	0.02	0.4	0.1					42.0											
	STD. DEV.	2.1	0.0	0.1	0.0	34.6						0.3	0.3	0.2	0.1	0.01	0.1																	
	MIN	22.3	5.2	2.0	0.1	130.0					27.0	0.6	0.5	0.2	0.3	0.01	0.3	0.1					42.0											
	MAX	25.2	5.2	2.1	0.1	179.0					27.0	1.0	1.0	0.6	0.5	0.03	0.5	0.1					42.0											
C-HS2-A07-6	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
	MEAN	23.0	6.3	63.5	3.2	482.0					170.0	11.9	3.4	3.0	0.3	8.5	8.9	0.3		120.0	110.0	0.2	18.0	0.4		1.0	27.0	0.08	28.0	1.0	6.4	0.01	24.0	17.0
	STD. DEV.	4.4	0.0	7.8	3.3	309.7						12.3	0.4	0.4	0.0	12.0	12.0																	
	MIN	19.9	6.3	58.0	0.9	263.0					170.0	3.2	3.1	2.8	0.3	0.1	0.4	0.3		120.0	110.0	0.2	18.0	0.4		1.0	27.0	0.08	28.0	1.0	6.4	0.01	24.0	17.0
	MAX	26.1	6.3	69.0	5.5	701.0					170.0	20.6	3.6	3.3	0.4	17.0	17.3	0.3		120.0	110.0	0.2	18.0	0.4		1.0	27.0	0.08	28.0	1.0	6.4	0.01	24.0	17.0

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

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	TDS (mg/L)	TS (% by wt)	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]	NH3-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						
																						F^-	Cl^-	NO_3-N$^-$	NO_2-N$^-$	PO_4-P$^-$	SO_4^-	B	Ca	Fe	Mg	Mn	K	Na
C-HS2-A07-8	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.4	6.2	24.5	0.5	601.5					46.0	28.0	2.5	2.4	0.09	25.5	25.6	4.7					39.0												
	STD. DEV.	2.1	0.2	6.4	0.4	132.2						15.8	0.4	0.3	0.11	16.3	16.2																		
	MIN	22.9	6.0	20.0	0.2	508.0					46.0	16.8	2.2	2.2	0.01	14.0	14.2	4.7					39.0												
	MAX	25.8	6.3	29.0	0.8	695.0					46.0	39.2	2.8	2.6	0.16	37.0	37.0	4.7					39.0												
C-HS2-A07-11	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	23.9	5.8	6.0	0.3	153.5					42.0	0.9	0.8	0.1	0.7	0.1	0.8	0.1					38.0												
	STD. DEV.	1.1	0.0	5.6	0.1	19.1						0.0	0.1	0.3	0.2	0.0	0.3																		
	MIN	23.1	5.8	2.0	0.2	140.0					42.0	0.9	0.8	-0.1	0.5	0.1	0.6	0.1					38.0												
	MAX	24.7	5.8	9.9	0.3	167.0					42.0	1.0	0.9	0.4	0.8	0.2	1.0	0.1					38.0												
C-HS2-A09-7	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.7	6.3	78.0	0.4	436.0					110.0	8.5	2.5	2.4	0.1	6.1	6.1	0.3					22.0												
	STD. DEV.	5.0	0.2	12.7	0.4	65.1						3.5	0.4	0.3	0.0	3.2	3.2																		
	MIN	22.1	6.1	69.0	0.1	390.0					110.0	6.0	2.2	2.1	0.1	3.8	3.9	0.3					22.0												
	MAX	29.2	6.4	87.0	0.6	482.0					110.0	11.0	2.7	2.6	0.1	8.3	8.4	0.3					22.0												
C-HS2-A09-9	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.2	6.3	44.0	0.4	246.0					67.0	0.9	0.7	0.5	0.2	0.21	0.4	0.2					35.0												
	STD. DEV.	3.6	0.3	5.7	0.4	11.3						0.2	0.1	0.1	0.0	0.27	0.3																		
	MIN	22.6	6.1	40.0	0.1	238.0					67.0	0.8	0.6	0.4	0.2	0.02	0.2	0.2					35.0												
	MAX	27.7	6.5	48.0	0.7	254.0					67.0	1.0	0.8	0.6	0.2	0.40	0.6	0.2					35.0												
C-HS2-A09-12	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.6	5.7	9.8	0.4	132.0					36.0	0.6	0.6	0.1	0.5	0.03	0.5	0.2					31.0												
	STD. DEV.	2.6	0.7	0.2	0.4	4.2						0.0	0.0	0.0	0.0	0.03	0.0																		
	MIN	22.7	5.2	9.6	0.1	129.0					36.0	0.6	0.5	0.1	0.5	0.01	0.5	0.2					31.0												
	MAX	26.4	6.2	9.9	0.7	135.0					36.0	0.6	0.6	0.1	0.5	0.05	0.5	0.2					31.0												
C-HS2-A10-7	n	1	1	1	1	1	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	28.3	6.8	350.0	0.3	809.0					100.0	15.1	15.0	4.0	11.0	0.1	11.1	0.2																	
	STD. DEV.																																		
	MIN	28.3	6.8	350.0	0.3	809.0					100.0	15.1	15.0	4.0	11.0	0.1	11.1	0.2																	
	MAX	28.3	6.8	350.0	0.3	809.0					100.0	15.1	15.0	4.0	11.0	0.1	11.1	0.2																	
C-HS2-A10-9	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.8	6.6	200.0	0.5	585.0					100.0	10.7	10.7	1.7	9.1	0.02	9.1	0.5					28.0												
	STD. DEV.	3.0	0.0	28.3	0.1	52.3						1.8	1.8	1.3	0.5	0.01	0.5																		
	MIN	22.7	6.6	180.0	0.4	548.0					100.0	9.4	9.4	0.7	8.7	0.01	8.7	0.5					28.0												
	MAX	26.9	6.6	220.0	0.6	622.0					100.0	12.0	12.0	2.6	9.4	0.03	9.4	0.5					28.0												
C-HS2-A10-12	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.5	6.0	34.5	0.4	139.5					34.0	0.7	0.7	0.3	0.4	0.03	0.5	0.1					37.0												
	STD. DEV.	2.0	0.4	7.8	0.1	7.8						0.1	0.1	0.1	0.0	0.01	0.0																		
	MIN	23.1	5.7	29.0	0.3	134.0					34.0	0.6	0.6	0.2	0.4	0.02	0.5	0.1					37.0												
	MAX	25.9	6.3	40.0	0.5	145.0					34.0	0.8	0.8	0.3	0.4	0.03	0.5	0.1					37.0												
C-HS2-A11-5	n	1	1	1	1	1	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	29.3	6.3	140.0	0.6	706.0					90.0	9.9	2.5	2.3	0.2	7.4	7.6	0.1																	
	STD. DEV.																																		
	MIN	29.3	6.3	140.0	0.6	706.0					90.0	9.9	2.5	2.3	0.2	7.4	7.6	0.1																	
	MAX	29.3	6.3	140.0	0.6	706.0					90.0	9.9	2.5	2.3	0.2	7.4	7.6	0.1																	
C-HS2-A11-7	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.5	6.2	193.5	0.3	433.0					98.0	7.4	5.3	1.8	3.5	2.1	5.5	0.1					35.0												
	STD. DEV.	3.3	0.2	178.9	0.0	107.5						5.7	4.8	0.1	4.7	0.9	5.6																		
	MIN	23.2	6.0	67.0	0.3	357.0					98.0	3.3	1.9	1.7	0.2	1.4	1.6	0.1					35.0												
	MAX	27.8	6.3	320.0	0.3	509.0					98.0	11.4	8.7	1.9	6.8	2.7	9.5	0.1					35.0												
C-HS2-A11-10	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.3	5.8	7.3	0.3	133.5					30.0	0.5	0.5	0.1	0.4	0.04	0.4	0.1					32.0												
	STD. DEV.	2.3	0.6	3.3	0.2	2.1						0.2	0.2	0.2	0.0	0.01	0.0																		
	MIN	23.6	5.3	5.0	0.1	132.0					30.0	0.4	0.4	0.0	0.3	0.03	0.4	0.1					32.0												
	MAX	26.9	6.2	9.6	0.4	135.0					30.0	0.7	0.6	0.3	0.4	0.05	0.4	0.1					32.0												
C-HS2-A13-5	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.1	5.8	63.5	0.1	278.5					92.0	1.7	1.5	1.3	0.2	0.2	0.3	0.1					35.0												
	STD. DEV.	4.9	0.0	21.9	0.0	37.5						0.5	0.3	0.4	0.1	0.2	0.1																		
	MIN	22.6	5.8	48.0	0.1	252.0					92.0	1.3	1.3	1.0	0.1	0.0	0.3	0.1					35.0												
	MAX	29.6	5.8	79.0	0.1	305.0					92.0	2.0	1.7	1.6	0.3	0.3	0.4	0.1					35.0												

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

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	TDS (mg/L)	TS (% by wt)	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]	NH3-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						
																						F^-	Cl^-	NO_3-N^-	NO_2-N^-	PO_4-P^-	SO_4^-	B	Ca	Fe	Mg	Mn	K	Na
C-HS2-A13-7	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.8	5.1	9.8	0.1	164.5					36.0	0.8	0.8	0.3	0.5	0.03	0.5	0.0					40.0										
	STD. DEV.	4.1	0.6	0.2	0.0	7.8						0.1	0.1	0.0	0.0	0.03	0.1																
	MIN	22.9	4.6	9.6	0.1	159.0					36.0	0.7	0.7	0.3	0.5	0.01	0.5	0.0					40.0										
	MAX	28.7	5.5	9.9	0.1	170.0					36.0	0.9	0.8	0.3	0.5	0.05	0.6	0.0					40.0										
C-HS2-A13-10	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	MEAN	25.6	4.8	7.3	0.1	129.5					26.0	0.6	0.6	0.2	0.4	0.02	0.4	0.02					32.0										
	STD. DEV.	3.3	0.1	3.3	0.0	6.4						0.1	0.1	0.0	0.0	0.01	0.0																
	MIN	23.2	4.7	4.9	0.1	125.0					26.0	0.5	0.5	0.2	0.4	0.01	0.4	0.02					32.0										
	MAX	27.9	4.8	9.6	0.1	134.0					26.0	0.7	0.6	0.2	0.4	0.03	0.4	0.02					32.0										
C-HS2-B02-6	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	MEAN	25.2	6.0	73.0	0.2	388.5					67.0	4.9	1.6	1.3	0.3	3.3	3.7	0.1					24.0										
	STD. DEV.	3.7	0.3	5.7	0.1	4.9						4.1	0.7	0.5	0.2	3.3	3.5																
	MIN	22.6	5.8	69.0	0.1	385.0					67.0	2.1	1.1	0.9	0.2	1.0	1.2	0.1					24.0										
	MAX	27.8	6.2	77.0	0.2	392.0					67.0	7.8	2.1	1.6	0.5	5.7	6.2	0.1					24.0										
C-HS2-B02-8	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	MEAN	24.8	6.6	180.0	0.2	632.5					42.0	2.2	2.2	1.4	0.8	0.02	0.8	0.0					63.0										
	STD. DEV.	3.0	0.1	14.1	0.1	30.4						1.3	1.3	1.0	0.3	0.00	0.3																
	MIN	22.7	6.5	170.0	0.1	611.0					42.0	1.3	1.3	0.7	0.6	0.02	0.6	0.0					63.0										
	MAX	26.9	6.7	190.0	0.2	654.0					42.0	3.1	3.1	2.1	1.0	0.02	1.0	0.0					63.0										
C-HS2-B02-11	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	MEAN	24.6	6.3	29.5	0.2	230.0					30.0	0.8	0.8	0.3	0.5	0.02	0.5	0.03					39.0										
	STD. DEV.	2.1	0.4	0.7	0.0	42.4						0.0	0.0	0.1	0.1	0.00	0.1																
	MIN	23.1	6.0	29.0	0.2	200.0					30.0	0.8	0.8	0.3	0.4	0.02	0.5	0.03					39.0										
	MAX	26.1	6.6	30.0	0.2	260.0					30.0	0.9	0.8	0.4	0.6	0.02	0.6	0.03					39.0										
C-HS2-B06-6	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	MEAN	24.4	5.8	29.5	0.3	453.0					110.0	12.0	1.9	1.8	0.089	10.1	10.1	1.6					53.0										
	STD. DEV.	1.5	0.3	0.7	0.2	251.7						13.8	1.1	1.2	0.100	12.7	12.6																
	MIN	23.3	5.6	29.0	0.1	275.0					110.0	2.2	1.1	0.9	0.018	1.1	1.3	1.6					53.0										
	MAX	25.4	6.0	30.0	0.4	631.0					110.0	21.7	2.7	2.7	0.160	19.0	19.0	1.6					53.0										
C-HS2-B06-8	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	MEAN	24.2	5.8	14.5	0.3	159.5					83.0	1.4	1.3	0.7	0.7	0.1	0.8	0.3					35.0										
	STD. DEV.	0.8	0.1	6.4	0.2	21.9						0.1	0.1	0.0	0.1	0.0	0.1																
	MIN	23.6	5.7	9.9	0.1	144.0					83.0	1.3	1.2	0.6	0.6	0.1	0.7	0.3					35.0										
	MAX	24.8	5.8	19.0	0.4	175.0					83.0	1.5	1.4	0.7	0.7	0.1	0.8	0.3					35.0										
C-HS2-B06-11	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	MEAN	24.0	5.2	9.8	0.3	143.5					44.0	1.1	1.0	0.4	0.6	0.1	0.6	0.1					33.0										
	STD. DEV.	0.5	0.8	0.2	0.2	19.1						0.2	0.3	0.2	0.1	0.0	0.0																
	MIN	23.6	4.6	9.6	0.1	130.0					44.0	0.9	0.8	0.3	0.5	0.0	0.6	0.1					33.0										
	MAX	24.3	5.7	9.9	0.4	157.0					44.0	1.2	1.2	0.6	0.6	0.1	0.6	0.1					33.0										
C-HS2-B08-5	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1
	MEAN	24.3	5.8	44.0	0.2	475.5					100.0	27.2	3.2	3.1	0.1	24.0	24.1	0.1		41.0	38.0	0.1	23.0	15.0		0.6	40.0	0.08	45.0	0.4	7.4	0.01	12.0	30.0
	STD. DEV.	3.0	0.4	32.5	0.1	43.1						13.6	0.6	0.6	0.0	14.1	14.1																
	MIN	22.2	5.5	21.0	0.1	445.0					100.0	17.6	2.8	2.7	0.1	14.0	14.1	0.1		41.0	38.0	0.1	23.0	15.0		0.6	40.0	0.08	45.0	0.4	7.4	0.01	12.0	30.0
	MAX	26.4	6.0	67.0	0.2	506.0					100.0	36.8	3.6	3.5	0.1	34.0	34.1	0.1		41.0	38.0	0.1	23.0	15.0		0.6	40.0	0.08	45.0	0.4	7.4	0.01	12.0	30.0
C-HS2-B08-7	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	MEAN	24.6	6.0	48.0	0.1	400.0					46.0	7.7	2.0	2.0	0.1	5.7	5.8	0.2					29.0										
	STD. DEV.	2.8	0.1	14.1	0.0	166.9						5.2	0.6	0.6	0.0	4.7	4.6																
	MIN	22.6	5.9	38.0	0.1	282.0					46.0	4.0	1.6	1.5	0.0	2.4	2.5	0.2					29.0										
	MAX	26.5	6.1	58.0	0.1	518.0					46.0	11.4	2.4	2.4	0.1	9.0	9.0	0.2					29.0										
C-HS2-B08-10	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	MEAN	24.8	5.9	6.9	0.2	136.0					20.0	1.1	1.0	0.5	0.5	0.1	0.6	0.1					32.0										
	STD. DEV.	3.1	0.5	3.8	0.0	5.7						0.2	0.2	0.2	0.1	0.0	0.1																
	MIN	22.6	5.5	4.2	0.2	132.0					20.0	1.0	0.9	0.3	0.5	0.1	0.5	0.1					32.0										
	MAX	27.0	6.2	9.6	0.2	140.0					20.0	1.2	1.1	0.7	0.5	0.1	0.7	0.1					32.0										
C-HS2-B10-5	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	MEAN	25.1	6.5	220.0	0.1	587.0					94.0	10.5	9.3	4.8	4.5	1.3	5.8	0.1					25.0										
	STD. DEV.	3.3	0.1	113.1	0.0	190.9						0.7	2.5	5.4	3.0	1.7	4.7																
	MIN	22.8	6.4	140.0	0.1	452.0					94.0	10.0	7.5	0.9	2.4	0.1	2.5	0.1					25.0										
	MAX	27.4	6.5	300.0	0.1	722.0					94.0	11.1	11.0	8.6	6.6	2.5	9.1	0.1					25.0										

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

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	TDS (mg/L)	TS (% by wt)	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]	NH3-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						
																						F^-	Cl^-	NO_3-N^-	NO_2-N^-	PO_4-P^-	SO_4^-	B	Ca	Fe	Mg	Mn	K	Na
C-HS2-B10-7	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.2	6.5	30.0	0.7	189.0					38.0	1.3	1.1	0.4	0.7	0.2	0.9	0.1					37.0											
	STD. DEV.	3.1	0.2	11.3	0.2	22.6						0.4	0.3	0.3	0.0	0.1	0.1																	
	MIN	23.0	6.3	22.0	0.5	173.0					38.0	1.0	0.9	0.2	0.7	0.1	0.8	0.1					37.0											
	MAX	27.4	6.6	38.0	0.8	205.0					38.0	1.6	1.3	0.6	0.7	0.3	1.0	0.1					37.0											
C-HS2-B10-10	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.9	5.7	5.8	0.4	130.0					22.0	0.9	0.8	0.4	0.4	0.1	0.5	0.1					33.0											
	STD. DEV.	2.6	0.4	5.4	0.4	9.9						0.6	0.6	0.5	0.0	0.0	0.0																	
	MIN	23.0	5.4	2.0	0.1	123.0					22.0	0.5	0.4	0.0	0.4	0.1	0.5	0.1					33.0											
	MAX	26.7	5.9	9.6	0.7	137.0					22.0	1.3	1.2	0.7	0.5	0.1	0.5	0.1					33.0											
C-HS2-B15-5	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.2	5.1	9.8	0.3	158.0					75.0	1.4	1.3	1.0	0.4	0.1	0.4	0.1					21.0											
	STD. DEV.	3.5	0.5	0.3	0.2	36.8						0.6	0.5	0.5	0.0	0.1	0.1																	
	MIN	22.7	4.7	9.6	0.1	132.0					75.0	1.0	1.0	0.6	0.3	0.0	0.4	0.1					21.0											
	MAX	27.7	5.4	10.0	0.4	184.0					75.0	1.8	1.7	1.3	0.4	0.1	0.5	0.1					21.0											
C-HS2-B15-7	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.0	5.2	9.8	0.3	144.5					36.0	1.4	1.3	0.7	0.6	0.1	0.7	0.1					36.0											
	STD. DEV.	2.7	0.5	0.2	0.3	6.4						0.9	0.9	0.6	0.2	0.1	0.3																	
	MIN	23.1	4.8	9.6	0.1	140.0					36.0	0.7	0.7	0.2	0.5	0.1	0.5	0.1					36.0											
	MAX	26.9	5.5	9.9	0.5	149.0					36.0	2.0	1.9	1.1	0.8	0.1	0.9	0.1					36.0											
C-HS2-B15-10	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.2	4.9	5.8	0.5	125.5					10.0	0.7	0.7	0.4	0.3	0.02	0.4	0.02					28.0											
	STD. DEV.	2.5	0.4	5.4	0.4	0.7						0.2	0.2	0.2	0.0	0.01	0.0																	
	MIN	23.4	4.6	2.0	0.2	125.0					10.0	0.6	0.5	0.2	0.3	0.01	0.3	0.02					28.0											
	MAX	27.0	5.1	9.6	0.7	126.0					10.0	0.8	0.8	0.5	0.3	0.03	0.4	0.02					28.0											
C-HS2-C00-5	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	26.2	5.2	39.5	0.1	305.5					77.0	3.1	1.6	1.4	0.2	1.5	1.7	0.1					25.0											
	STD. DEV.	2.1	1.1	12.0	0.0	20.5						2.8	0.8	0.8	0.0	2.1	2.1																	
	MIN	24.7	4.4	31.0	0.1	291.0					77.0	1.1	1.0	0.8	0.2	0.1	0.3	0.1					25.0											
	MAX	27.6	6.0	48.0	0.1	320.0					77.0	5.1	2.1	1.9	0.2	3.0	3.2	0.1					25.0											
C-HS2-C00-7	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.9	5.5	28.0	0.1	368.5					18.0	1.2	1.1	0.5	0.6	0.06	0.7	0.0					86.0											
	STD. DEV.	1.5	0.0	14.1	0.0	92.6						0.7	0.8	0.6	0.2	0.06	0.2																	
	MIN	24.8	5.5	18.0	0.1	303.0					18.0	0.7	0.6	0.1	0.5	0.02	0.6	0.0					86.0											
	MAX	26.9	5.5	38.0	0.1	434.0					18.0	1.7	1.7	0.9	0.8	0.10	0.8	0.0					86.0											
C-HS2-C00-10	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.5	5.5	9.0	0.1	167.0					120.0	0.9	0.9	0.4	0.5	0.04	0.6	0.1					43.0											
	STD. DEV.	0.8	0.3	0.9	0.0	7.1						0.4	0.4	0.4	0.0	0.04	0.0																	
	MIN	24.9	5.3	8.3	0.1	162.0					120.0	0.7	0.6	0.1	0.5	0.01	0.6	0.1					43.0											
	MAX	26.1	5.7	9.6	0.1	172.0					120.0	1.2	1.2	0.7	0.6	0.06	0.6	0.1					43.0											
C-HS2-C04-5	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.5	5.8	44.5	0.5	314.0					140.0	5.1	2.4	1.8	0.5	2.76	3.3	0.3					20.0											
	STD. DEV.	2.5	0.0	19.1	0.5	35.4						4.7	0.8	0.5	0.2	3.88	4.1																	
	MIN	22.7	5.8	31.0	0.1	289.0					140.0	1.8	1.8	1.4	0.4	0.01	0.4	0.3					20.0											
	MAX	26.3	5.8	58.0	0.8	339.0					140.0	8.4	2.9	2.2	0.7	5.50	6.2	0.3					20.0											
C-HS2-C04-7	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.5	5.5	6.4	0.7	152.0					240.0	1.7	1.4	0.4	1.1	0.29	1.3	0.9					32.0											
	STD. DEV.	2.1	0.2	4.6	0.8	14.1						0.5	0.1	0.4	0.5	0.39	0.9																	
	MIN	23.0	5.3	3.1	0.1	142.0					240.0	1.3	1.3	0.1	0.7	0.01	0.7	0.9					32.0											
	MAX	25.9	5.6	9.6	1.3	162.0					240.0	2.1	1.5	0.6	1.4	0.56	2.0	0.9					32.0											
C-HS2-C04-10	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.0	5.5	6.4	0.6	138.0					22.0	0.9	0.8	0.3	0.5	0.15	0.6	0.3																
	STD. DEV.	1.4	0.1	4.6	0.6	2.8						0.1	0.3	0.3	0.0	0.20	0.2																	
	MIN	23.0	5.4	3.1	0.1	136.0					22.0	0.8	0.6	0.1	0.5	0.01	0.5	0.3																
	MAX	25.0	5.5	9.6	1.0	140.0					22.0	1.0	1.0	0.5	0.5	0.29	0.7	0.3																
C-HS2-C06-5	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
	MEAN	24.2	5.9	38.5	0.2	605.5					36.0	24.3	2.8	2.7	0.037	21.5	21.5	1.9		31.0	22.0	0.01	42.0	21.0		2.1	56.0	0.10	37.0	0.3	8.8	0.0	9.4	58.0
	STD. DEV.	3.7	0.3	13.4	0.1	40.3						11.8	0.2	0.2	0.018	12.0	12.0																	
	MIN	21.6	5.7	29.0	0.1	577.0					36.0	15.9	2.6	2.6	0.024	13.0	13.0	1.9		31.0	22.0	0.01	42.0	21.0		2.1	56.0	0.10	37.0	0.3	8.8	0.0	9.4	58.0
	MAX	26.8	6.1	48.0	0.2	634.0					36.0	32.6	2.9	2.9	0.049	30.0	30.0	1.9		31.0	22.0	0.01	42.0	21.0		2.1	56.0	0.10	37.0	0.3	8.8	0.0	9.4	58.0

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

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	TDS (mg/L)	TS (% by wt)	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]	NH3-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						
																						F^-	Cl^-	NO_3-N^-	NO_2-N^-	PO_4-P^-	SO_4^-	B	Ca	Fe	Mg	Mn	K	Na
C-HS2-C06-7	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	23.8	6.0	36.5	0.4	333.5					69.0	4.8	1.8	1.5	0.2	3.0	3.2	1.5					40.0												
	STD. DEV.	2.8	0.1	2.1	0.1	38.9						1.2	0.1	0.2	0.1	1.1	1.0																		
	MIN	21.8	5.9	35.0	0.3	306.0					69.0	3.9	1.7	1.4	0.1	2.2	2.5	1.5					40.0												
	MAX	25.7	6.0	38.0	0.5	361.0					69.0	5.6	1.8	1.7	0.3	3.8	3.9	1.5					40.0												
C-HS2-C06-10	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	23.7	5.2	6.9	0.2	135.5					26.0	0.7	0.6	0.2	0.4	0.1	0.5	0.03					29.0												
	STD. DEV.	1.5	0.1	3.8	0.1	7.8						0.2	0.2	0.4	0.2	0.0	0.2																		
	MIN	22.6	5.1	4.2	0.1	130.0					26.0	0.5	0.5	-0.1	0.3	0.1	0.4	0.03					29.0												
	MAX	24.7	5.3	9.6	0.2	141.0					26.0	0.8	0.8	0.5	0.5	0.1	0.6	0.03					29.0												
C-HS2-C08-5	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.4	6.0	62.5	0.4	455.5					98.0	8.6	3.3	3.1	0.2	5.3	5.5	0.1					28.0												
	STD. DEV.	4.0	0.1	20.5	0.4	145.0						0.8	0.7	0.4	0.3	1.6	1.3																		
	MIN	21.6	5.9	48.0	0.1	353.0					98.0	8.0	2.8	2.8	0.0	4.2	4.6	0.1					28.0												
	MAX	27.2	6.0	77.0	0.7	558.0					98.0	9.2	3.8	3.4	0.4	6.4	6.4	0.1					28.0												
C-HS2-C08-7	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.4	6.2	51.5	0.3	415.5					59.0	4.6	1.9	1.6	0.3	2.7	3.0	0.1					37.0												
	STD. DEV.	3.2	0.1	4.9	0.2	227.0						4.0	0.3	0.7	0.4	3.7	3.3																		
	MIN	22.1	6.1	48.0	0.1	255.0					59.0	1.8	1.7	1.1	0.1	0.1	0.7	0.1					37.0												
	MAX	26.6	6.3	55.0	0.4	576.0					59.0	7.4	2.1	2.0	0.6	5.3	5.4	0.1					37.0												
C-HS2-C08-10	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.2	5.7	6.9	0.2	128.5					36.0	0.9	0.9	0.4	0.4	0.06	0.5	0.1					32.0												
	STD. DEV.	2.5	0.5	3.8	0.1	7.8						0.1	0.1	0.1	0.0	0.04	0.0																		
	MIN	22.4	5.3	4.2	0.1	123.0					36.0	0.9	0.8	0.4	0.4	0.03	0.5	0.1					32.0												
	MAX	25.9	6.0	9.6	0.3	134.0					36.0	1.0	1.0	0.5	0.5	0.09	0.5	0.1					32.0												
C-HS2-C10-6	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1
	MEAN	24.9	5.4	17.0	0.1	237.0					94.0	7.9	2.8	2.5	0.3	5.1	5.4	0.1		61.0	44.0	0.4	31.0	1.1		0.01	13.0	0.05	21.0	0.4	2.7	0.0	4.0	17.0
	STD. DEV.	2.9	0.4	2.8	0.0	38.2						5.7	0.1	0.1	0.0	5.9	5.8																		
	MIN	22.8	5.1	15.0	0.1	210.0					94.0	3.8	2.7	2.4	0.3	0.9	1.3	0.1		61.0	44.0	0.4	31.0	1.1		0.01	13.0	0.05	21.0	0.4	2.7	0.0	4.0	17.0
	MAX	26.9	5.7	19.0	0.1	264.0					94.0	11.9	2.9	2.5	0.4	9.2	9.5	0.1		61.0	44.0	0.4	31.0	1.1		0.01	13.0	0.05	21.0	0.4	2.7	0.0	4.0	17.0
C-HS2-C10-8	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.7	5.4	9.8	0.1	150.0					51.0	1.0	0.9	0.4	0.5	0.05	0.5	0.1					40.0												
	STD. DEV.	2.3	0.4	0.3	0.0	14.1						0.1	0.0	0.1	0.1	0.03	0.1																		
	MIN	23.1	5.1	9.6	0.1	140.0					51.0	0.9	0.9	0.4	0.4	0.03	0.5	0.1					40.0												
	MAX	26.3	5.6	10.0	0.1	160.0					51.0	1.0	1.0	0.5	0.6	0.07	0.6	0.1					40.0												
C-HS2-C10-11	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.9	5.0	6.4	0.4	127.0					51.0	1.2	1.1	0.6	0.5	0.1	0.6	0.1					31.0												
	STD. DEV.	1.2	0.4	4.6	0.4	4.2						0.8	0.7	0.5	0.2	0.1	0.3																		
	MIN	24.0	4.7	3.1	0.1	124.0					51.0	0.6	0.6	0.2	0.3	0.01	0.3	0.1					31.0												
	MAX	25.7	5.2	9.6	0.7	130.0					51.0	1.8	1.6	1.0	0.6	0.2	0.8	0.1					31.0												
C-HS2-C11-5	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.4	5.1	11.6	0.5	218.5					53.0	6.4	2.1	1.9	0.2	4.3	4.5	0.1					5.7												
	STD. DEV.	3.6	0.4	10.5	0.4	120.9						3.8	1.1	1.2	0.0	4.9	4.9																		
	MIN	21.8	4.8	4.2	0.2	133.0					53.0	3.8	1.3	1.1	0.1	0.9	1.0	0.1					5.7												
	MAX	26.9	5.3	19.0	0.7	304.0					53.0	9.1	2.9	2.8	0.2	7.8	8.0	0.1					5.7												
C-HS2-C11-7	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.3	5.3	7.9	0.4	212.0					72.0	1.9	1.7	1.1	0.6	0.2	0.8	0.1					41.0												
	STD. DEV.	2.6	0.0	2.4	0.4	31.1						1.1	1.1	0.9	0.2	0.0	0.2																		
	MIN	22.4	5.3	6.2	0.1	190.0					72.0	1.2	0.9	0.5	0.4	0.2	0.7	0.1					41.0												
	MAX	26.1	5.3	9.6	0.7	234.0					72.0	2.6	2.4	1.7	0.7	0.3	0.9	0.1					41.0												
C-HS2-C11-10	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.0	5.1	2.1	0.2	129.0					34.0	0.8	0.8	0.5	0.2	0.03	0.3	0.1					28.0												
	STD. DEV.	1.8	0.1	0.1	0.1	5.7						0.3	0.3	0.0	0.3	0.01	0.3																		
	MIN	22.7	5.0	2.0	0.1	125.0					34.0	0.6	0.6	0.5	0.0	0.02	0.1	0.1					28.0												
	MAX	25.2	5.2	2.1	0.2	133.0					34.0	1.0	1.0	0.5	0.5	0.04	0.5	0.1					28.0												

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

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	TDS (mg/L)	TS (% by wt)	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]	NH3-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						
																						F^-	Cl^-	NO_3-N^-	NO_2-N^-	PO_4-P^-	SO_4^-	B	Ca	Fe	Mg	Mn	K	Na
C-HS2-D04-5	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
	MEAN	24.9	5.8	30.5	0.1	567.0					93.0	19.8	2.8	2.7	0.074	17.0	17.1	0.9		27.0	19.0	0.01	38.0	30.0		1.6	64.0	0.09	51.0	0.1	12.0	0.01	15.0	47.0
	STD. DEV.	2.4	0.1	2.1	0.0	125.9						14.6	0.4	0.5	0.066	14.1	14.1																	
	MIN	23.2	5.7	29.0	0.1	478.0					93.0	9.5	2.5	2.4	0.027	7.0	7.1	0.9		27.0	19.0	0.01	38.0	30.0		1.6	64.0	0.09	51.0	0.1	12.0	0.01	15.0	47.0
	MAX	26.6	5.8	32.0	0.1	656.0					93.0	30.1	3.1	3.1	0.120	27.0	27.0	0.9		27.0	19.0	0.01	38.0	30.0		1.6	64.0	0.09	51.0	0.1	12.0	0.01	15.0	47.0
C-HS2-D04-7	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.6	5.9	33.0	0.1	345.5					97.0	7.8	1.8	1.7	0.1	6.0	6.1	0.3					35.0											
	STD. DEV.	1.8	0.0	7.1	0.0	47.4						2.8	0.4	0.6	0.1	2.3	2.2																	
	MIN	23.3	5.9	28.0	0.1	312.0					97.0	5.8	1.5	1.3	0.0	4.3	4.5	0.3					35.0											
	MAX	25.9	5.9	38.0	0.1	379.0					97.0	9.7	2.1	2.1	0.2	7.6	7.6	0.3					35.0											
C-HS2-D04-10	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.2	5.8	14.5	0.3	156.5					84.0	0.8	0.7	0.6	0.1	0.1	0.3	0.3					32.0											
	STD. DEV.	1.6	0.1	6.4	0.3	17.7						0.1	0.2	0.1	0.1	0.1	0.1																	
	MIN	23.1	5.7	10.0	0.1	144.0					84.0	0.8	0.6	0.5	0.1	0.0	0.2	0.3					32.0											
	MAX	25.3	5.8	19.0	0.5	169.0					84.0	0.9	0.9	0.7	0.2	0.2	0.3	0.3					32.0											
C-HS2-D07-6	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.8	6.1	96.5	0.2	452.5					140.0	5.1	2.3	2.0	0.3	2.8	3.1	0.2					40.0											
	STD. DEV.	3.3	0.2	61.5	0.1	125.2						2.3	1.0	0.6	0.4	3.3	2.9																	
	MIN	22.4	5.9	53.0	0.1	364.0					140.0	3.5	1.6	1.6	0.0	0.5	1.1	0.2					40.0											
	MAX	27.1	6.2	140.0	0.2	541.0					140.0	6.7	3.0	2.4	0.6	5.1	5.1	0.2					40.0											
C-HS2-D07-8	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.6	5.9	59.0	0.3	315.5					110.0	1.5	1.3	0.7	0.6	0.16	0.8	0.2					29.0											
	STD. DEV.	2.3	0.1	39.6	0.2	30.4						0.0	0.1	0.1	0.0	0.18	0.1																	
	MIN	22.9	5.8	31.0	0.1	294.0					110.0	1.4	1.2	0.6	0.6	0.03	0.7	0.2					29.0											
	MAX	26.2	6.0	87.0	0.4	337.0					110.0	1.5	1.4	0.8	0.6	0.28	0.9	0.2					29.0											
C-HS2-D07-11	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.6	6.1	12.3	0.3	138.5					51.0	1.2	1.1	0.7	0.5	0.1	0.5	0.1					29.0											
	STD. DEV.	1.8	0.2	3.8	0.3	12.0						0.2	0.2	0.1	0.1	0.0	0.2																	
	MIN	23.3	5.9	9.6	0.1	130.0					51.0	1.0	1.0	0.6	0.4	0.1	0.4	0.1					29.0											
	MAX	25.8	6.2	15.0	0.5	147.0					51.0	1.4	1.3	0.7	0.6	0.1	0.7	0.1					29.0											
Storm Water																																		
C-HS2-SW-6 inch	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.6	6.2	44.0	4.5	294.0					40.0	2.6	1.8	1.3	0.5	0.8	1.2	0.03					50.0											
	STD. DEV.	4.9	0.4	5.7	1.6	14.1						0.5	1.1	1.1	0.0	0.6	0.6																	
	MIN	21.1	5.9	40.0	3.4	284.0					40.0	2.2	1.0	0.6	0.5	0.4	0.8	0.03					50.0											
	MAX	28.0	6.5	48.0	5.6	304.0					40.0	3.0	2.6	2.1	0.5	1.2	1.7	0.03					50.0											
C-HS2-SW-M	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	24.1	7.0	103.0	5.6	367.0					24.0	2.0	0.9	0.6	0.3	1.1	1.4	0.1					31.0											
	STD. DEV.	6.1	0.1	9.9	1.1	31.1						0.5	0.3	0.3	0.1	0.7	0.8																	
	MIN	19.8	6.9	96.0	4.8	345.0					24.0	1.7	0.7	0.4	0.3	0.6	0.8	0.1					31.0											
	MAX	28.4	7.1	110.0	6.4	389.0					24.0	2.3	1.1	0.8	0.4	1.6	2.0	0.1					31.0											

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

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	TDS (mg/L)	TS (% by wt)	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]	NH3-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						
																						F^-	Cl^-	NO_3-N^-	NO_2-N^-	PO_4-P^-	SO_4^-	B	Ca	Fe	Mg	Mn	K	Na
Blanks																																		
FB-EB	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	22.0	7.2	2.0	3.6	3.5					10.0	0.06	0.05	0.04	0.01	0.01	0.02	0.06					0.05											
	STD. DEV.	12.4	0.8	0.0	2.3	0.7						0.00	0.00	0.00	0.00	0.00	0.00																	
	MIN	13.2	6.6	2.0	2.0	3.0					10.0	0.06	0.05	0.04	0.005	0.01	0.02	0.06					0.05											
	MAX	30.8	7.7	2.0	5.2	4.0					10.0	0.06	0.05	0.05	0.01	0.01	0.02	0.06					0.05											
FB-DI	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	21.1	8.5	2.0	5.3	3.5					10.0	0.06	0.05	0.04	0.01	0.01	0.02	0.37					0.05											
	STD. DEV.	6.9	0.6	0.0	4.6	0.7						0.00	0.00	0.00	0.00	0.00	0.00																	
	MIN	16.2	8.0	2.0	2.0	3.0					10.0	0.06	0.05	0.04	0.007	0.01	0.02	0.37					0.05											
	MAX	26.0	8.9	2.0	8.5	4.0					10.0	0.06	0.05	0.04	0.01	0.01	0.02	0.37					0.05											
FB-Tap	n	2	2	2	2	2	0	0	0	0	1	2	2	2	2	2	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	MEAN	25.8	7.6	120.0	5.1	327.0					10.0	0.06	0.05	0.04	0.01	0.01	0.02	0.30					20.0											
	STD. DEV.	5.8	0.9	0.0	0.1	2.8						0.00	0.00	0.00	0.00	0.00	0.00																	
	MIN	21.7	6.9	120.0	5.0	325.0					10.0	0.06	0.05	0.04	0.005	0.01	0.02	0.30					20.0											
	MAX	29.9	8.2	120.0	5.2	329.0					10.0	0.06	0.05	0.05	0.01	0.01	0.02	0.30					20.0											

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
EC: expanded clay, CL: clinoptilolite, PS: polystyrene, SU: elemental sulfur, LS: lignocellulosic, GL: glycerol, OS: oyster shell, NS: sodium sesquicarbonate, GR: gravel
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 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

December 20, 2011
Work Order: 1111095

Laboratory Report

Project Name **Seminole County C-HS2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-STE**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-01**						
Date/Time Collected		**12/01/11 10:35**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	7.4	DEP FT1100	0.1	0.1		12/01/11 10:35	SDH
Water Temperature	°C	21.3	DEP FT1400	0.1	0.1		12/01/11 10:35	SDH
Specific conductance	umhos/cm	906	DEP FT1200	0.1	0.1		12/01/11 10:35	SDH
Dissolved Oxygen	mg/L	0.9	DEP FT1500	0.1	0.1		12/01/11 10:35	SDH
Inorganics								
Ammonia as N	mg/L	55	EPA 350.1	1.0	0.25		12/08/11 18:01	MMF
Chloride	mg/L	53	EPA 300.0	0.20	0.050		12/02/11 15:29	MEJ
Total Alkalinity	mg/L	330	SM 2320B	8.0	2.0		12/07/11 12:25	SCD
Total Kjeldahl Nitrogen	mg/L	66	EPA 351.2	0.20	0.05	12/06/11 11:58	12/09/11 12:36	KTC
Nitrate+Nitrite (N)	mg/L	0.03 I	EPA 353.2	0.04	0.01		12/02/11 13:11	MMF

Sample Description		**C-HS2-STE-Dup**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-02**						
Date/Time Collected		**12/01/11 10:40**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	7.4	DEP FT1100	0.1	0.1		12/01/11 10:40	SDH
Water Temperature	°C	21.3	DEP FT1400	0.1	0.1		12/01/11 10:40	SDH
Specific conductance	umhos/cm	906	DEP FT1200	0.1	0.1		12/01/11 10:40	SDH
Dissolved Oxygen	mg/L	0.9	DEP FT1500	0.1	0.1		12/01/11 10:40	SDH
Inorganics								
Ammonia as N	mg/L	55	EPA 350.1	1.0	0.25		12/08/11 18:03	MMF
Chloride	mg/L	51	EPA 300.0	0.20	0.050		12/02/11 15:29	MEJ
Total Alkalinity	mg/L	350	SM 2320B	8.0	2.0		12/07/11 12:25	SCD
Total Kjeldahl Nitrogen	mg/L	66	EPA 351.2	0.20	0.05	12/06/11 11:58	12/09/11 12:37	KTC
Nitrate+Nitrite (N)	mg/L	0.02 I	EPA 353.2	0.04	0.01		12/02/11 13:14	MMF

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

December 20, 2011
Work Order: 1111095

Laboratory Report

Project Name **Seminole County C-HS2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-SW-6 inch**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-03**						
Date/Time Collected		**12/01/11 08:15**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.5	DEP FT1100	0.1	0.1		12/01/11 08:15	SDH
Water Temperature	°C	21.1	DEP FT1400	0.1	0.1		12/01/11 08:15	SDH
Specific conductance	umhos/cm	304	DEP FT1200	0.1	0.1		12/01/11 08:15	SDH
Dissolved Oxygen	mg/L	5.6	DEP FT1500	0.1	0.1		12/01/11 08:15	SDH
Inorganics								
Ammonia as N	mg/L	0.46	EPA 350.1	0.040	0.010		12/08/11 16:43	MMF
Chloride	mg/L	50	EPA 300.0	0.20	0.050		12/02/11 15:29	MEJ
Total Alkalinity	mg/L	48	SM 2320B	8.0	2.0		12/07/11 12:09	SCD
Total Kjeldahl Nitrogen	mg/L	2.6	EPA 351.2	0.20	0.05	12/06/11 11:58	12/09/11 11:13	KTC
Nitrate+Nitrite (N)	mg/L	0.36	EPA 353.2	0.04	0.01		12/02/11 13:16	MMF
Sample Description		**C-HS2-SW-M**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-04**						
Date/Time Collected		**12/01/11 08:05**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	7.1	DEP FT1100	0.1	0.1		12/01/11 08:05	SDH
Water Temperature	°C	19.8	DEP FT1400	0.1	0.1		12/01/11 08:05	SDH
Specific conductance	umhos/cm	345	DEP FT1200	0.1	0.1		12/01/11 08:05	SDH
Dissolved Oxygen	mg/L	6.4	DEP FT1500	0.1	0.1		12/01/11 08:05	SDH
Inorganics								
Ammonia as N	mg/L	0.28	EPA 350.1	0.040	0.010		12/08/11 16:46	MMF
Chloride	mg/L	31	EPA 300.0	0.20	0.050		12/02/11 15:29	MEJ
Total Alkalinity	mg/L	96	SM 2320B	8.0	2.0		12/07/11 12:09	SCD
Total Kjeldahl Nitrogen	mg/L	1.1	EPA 351.2	0.20	0.05	12/06/11 11:58	12/09/11 11:18	KTC
Nitrate+Nitrite (N)	mg/L	0.55	EPA 353.2	0.04	0.01		12/02/11 13:18	MMF
Sample Description		**C-HS2-BKG01-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-05**						
Date/Time Collected		**12/01/11 09:15**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-BKG01-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-05**						
Date/Time Collected		**12/01/11 09:15**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.6	DEP FT1100	0.1	0.1		12/01/11 09:15	SDH
Water Temperature	°C	22.3	DEP FT1400	0.1	0.1		12/01/11 09:15	SDH
Specific conductance	umhos/cm	267	DEP FT1200	0.1	0.1		12/01/11 09:15	SDH
Dissolved Oxygen	mg/L	0.3	DEP FT1500	0.1	0.1		12/01/11 09:15	SDH
Inorganics								
Ammonia as N	mg/L	0.21	EPA 350.1	0.040	0.010		12/08/11 16:48	MMF
Chloride	mg/L	50	EPA 300.0	0.20	0.050		12/02/11 15:29	MEJ
Total Alkalinity	mg/L	19	SM 2320B	8.0	2.0		12/07/11 12:09	SCD
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	12/06/11 11:58	12/09/11 11:20	KTC
Nitrate+Nitrite (N)	mg/L	0.18	EPA 353.2	0.04	0.01		12/02/11 13:20	MMF
Sample Description		**C-HS2-BKG02-6**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-06**						
Date/Time Collected		**12/01/11 09:30**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	7.3	DEP FT1100	0.1	0.1		12/01/11 09:30	SDH
Water Temperature	°C	21.1	DEP FT1400	0.1	0.1		12/01/11 09:30	SDH
Specific conductance	umhos/cm	418	DEP FT1200	0.1	0.1		12/01/11 09:30	SDH
Dissolved Oxygen	mg/L	0.1	DEP FT1500	0.1	0.1		12/01/11 09:30	SDH
Inorganics								
Ammonia as N	mg/L	0.80	EPA 350.1	0.040	0.010		12/08/11 16:50	MMF
Chloride	mg/L	34	EPA 300.0	0.20	0.050		12/02/11 15:29	MEJ
Total Alkalinity	mg/L	130	SM 2320B	8.0	2.0		12/07/11 12:09	SCD
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	12/06/11 11:58	12/09/11 11:21	KTC
Nitrate+Nitrite (N)	mg/L	0.01 U	EPA 353.2	0.04	0.01		12/02/11 13:23	MMF
Sample Description		**C-HS2-BKG03-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-07**						
Date/Time Collected		**12/01/11 10:25**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-BKG03-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-07**						
Date/Time Collected		**12/01/11 10:25**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.9	DEP FT1100	0.1	0.1		12/01/11 10:25	SDH
Water Temperature	°C	22.6	DEP FT1400	0.1	0.1		12/01/11 10:25	SDH
Specific conductance	umhos/cm	346	DEP FT1200	0.1	0.1		12/01/11 10:25	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		12/01/11 10:25	SDH
Inorganics								
Ammonia as N	mg/L	0.044	EPA 350.1	0.040	0.010		12/08/11 16:52	MMF
Chloride	mg/L	38	EPA 300.0	0.20	0.050		12/02/11 15:29	MEJ
Total Alkalinity	mg/L	48	SM 2320B	8.0	2.0		12/07/11 12:09	SCD
Total Kjeldahl Nitrogen	mg/L	3.0	EPA 351.2	0.20	0.05	12/06/11 11:58	12/09/11 11:23	KTC
Nitrate+Nitrite (N)	mg/L	2.9	EPA 353.2	0.20	0.05		12/02/11 15:09	MMF
Sample Description		**C-HS2-BKG04-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-08**						
Date/Time Collected		**12/01/11 10:10**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.3	DEP FT1100	0.1	0.1		12/01/11 10:10	SDH
Water Temperature	°C	21.4	DEP FT1400	0.1	0.1		12/01/11 10:10	SDH
Specific conductance	umhos/cm	268	DEP FT1200	0.1	0.1		12/01/11 10:10	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		12/01/11 10:10	SDH
Inorganics								
Ammonia as N	mg/L	0.39	EPA 350.1	0.040	0.010		12/08/11 16:54	MMF
Chloride	mg/L	65	EPA 300.0	0.20	0.050		12/02/11 15:29	MEJ
Total Alkalinity	mg/L	9.6	SM 2320B	8.0	2.0		12/07/11 12:09	SCD
Total Kjeldahl Nitrogen	mg/L	1.6	EPA 351.2	0.20	0.05	12/06/11 11:58	12/09/11 11:24	KTC
Nitrate+Nitrite (N)	mg/L	0.04	EPA 353.2	0.04	0.01		12/02/11 13:27	MMF
Sample Description		**C-HS2-BKG06-12**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-09**						
Date/Time Collected		**12/01/11 09:00**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-BKG06-12**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-09**						
Date/Time Collected		**12/01/11 09:00**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.4	DEP FT1100	0.1	0.1		12/01/11 09:00	SDH
Water Temperature	°C	22.9	DEP FT1400	0.1	0.1		12/01/11 09:00	SDH
Specific conductance	umhos/cm	402	DEP FT1200	0.1	0.1		12/01/11 09:00	SDH
Dissolved Oxygen	mg/L	0.3	DEP FT1500	0.1	0.1		12/01/11 09:00	SDH
Inorganics								
Ammonia as N	mg/L	0.086	EPA 350.1	0.040	0.010		12/08/11 16:56	MMF
Chloride	mg/L	30	EPA 300.0	0.20	0.050		12/02/11 15:29	MEJ
Total Alkalinity	mg/L	58	SM 2320B	8.0	2.0		12/07/11 12:09	SCD
Total Kjeldahl Nitrogen	mg/L	2.5	EPA 351.2	0.20	0.05	12/06/11 11:58	12/09/11 11:25	KTC
Nitrate+Nitrite (N)	mg/L	9.2	EPA 353.2	0.20	0.05		12/02/11 15:11	MMF
Sample Description		**C-HS2-BKG07-5**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-10**						
Date/Time Collected		**12/01/11 09:40**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.7	DEP FT1100	0.1	0.1		12/01/11 09:40	SDH
Water Temperature	°C	21.2	DEP FT1400	0.1	0.1		12/01/11 09:40	SDH
Specific conductance	umhos/cm	192	DEP FT1200	0.1	0.1		12/01/11 09:40	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		12/01/11 09:40	SDH
Inorganics								
Ammonia as N	mg/L	0.34	EPA 350.1	0.040	0.010		12/08/11 16:58	MMF
Chloride	mg/L	44	EPA 300.0	0.20	0.050		12/02/11 03:24	MEJ
Fluoride	mg/L	0.28	EPA 300.0	0.040	0.010		12/02/11 03:24	MEJ
Nitrate (as N)	mg/L	0.47	EPA 300.0	0.04	0.01		12/02/11 03:24	MEJ
Orthophosphate as P	mg/L	0.010 U	EPA 300.0	0.040	0.010		12/02/11 03:24	MEJ
Sulfate	mg/L	3.9	EPA 300.0	0.60	0.20		12/02/11 03:24	MEJ
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		12/07/11 12:09	SCD
Total Kjeldahl Nitrogen	mg/L	1.4	EPA 351.2	0.20	0.05	12/06/11 11:58	12/09/11 11:26	KTC
Total Organic Carbon	mg/L	36	SM 5310B	1.0	0.50		12/03/11 11:50	MEJ
Nitrate+Nitrite (N)	mg/L	0.10	EPA 353.2	0.04	0.01		12/02/11 13:31	MMF
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	23	SM 5310B	1.0	0.50		12/06/11 17:49	MEJ

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NELAP Accredited

Francis I. Daniels, Laboratory Director
Leslie C. Boardman, Q.A. Manager

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-BKG07-5**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-10**						
Date/Time Collected		**12/01/11 09:40**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	12/02/11 11:43	12/05/11 15:56	VWC
Calcium	mg/L	2.5	EPA 200.7	0.50	0.042	12/02/11 11:43	12/05/11 15:56	VWC
Iron	mg/L	1.1	EPA 200.7	0.10	0.020	12/02/11 11:43	12/05/11 15:56	VWC
Magnesium	mg/L	2.3	EPA 200.7	0.50	0.020	12/02/11 11:43	12/05/11 15:56	VWC
Manganese	mg/L	0.0097 I	EPA 200.7	0.010	0.0010	12/02/11 11:43	12/05/11 15:56	VWC
Potassium	mg/L	1.9	EPA 200.7	0.050	0.010	12/02/11 11:43	12/05/11 15:56	VWC
Sodium	mg/L	26	EPA 200.7	0.50	0.13	12/02/11 11:43	12/05/11 15:56	VWC
Sample Description		**C-HS2-BKG07-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-11**						
Date/Time Collected		**12/01/11 09:50**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.9	DEP FT1100	0.1	0.1		12/01/11 09:50	SDH
Water Temperature	°C	21.8	DEP FT1400	0.1	0.1		12/01/11 09:50	SDH
Specific conductance	umhos/cm	199	DEP FT1200	0.1	0.1		12/01/11 09:50	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		12/01/11 09:50	SDH
Inorganics								
Ammonia as N	mg/L	0.41	EPA 350.1	0.040	0.010		12/08/11 17:04	MMF
Chloride	mg/L	43	EPA 300.0	0.20	0.050		12/02/11 15:29	MEJ
Total Alkalinity	mg/L	29	SM 2320B	8.0	2.0		12/07/11 12:09	SCD
Total Kjeldahl Nitrogen	mg/L	1.8	EPA 351.2	0.20	0.05	12/12/11 09:48	12/16/11 13:26	MMF
Nitrate+Nitrite (N)	mg/L	0.13	EPA 353.2	0.04	0.01		12/02/11 13:38	MMF
Sample Description		**C-HS2-BKG07-10**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-12**						
Date/Time Collected		**12/01/11 10:00**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.2	DEP FT1100	0.1	0.1		12/01/11 10:00	SDH
Water Temperature	°C	22.3	DEP FT1400	0.1	0.1		12/01/11 10:00	SDH

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-BKG07-10**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-12**						
Date/Time Collected		**12/01/11 10:00**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Specific conductance	umhos/cm	179	DEP FT1200	0.1	0.1		12/01/11 10:00	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		12/01/11 10:00	SDH
Inorganics								
Ammonia as N	mg/L	0.45	EPA 350.1	0.040	0.010		12/08/11 17:06	MMF
Chloride	mg/L	42	EPA 300.0	0.20	0.050		12/02/11 15:29	MEJ
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		12/07/11 12:09	SCD
Total Kjeldahl Nitrogen	mg/L	1.0	EPA 351.2	0.20	0.05	12/12/11 09:48	12/16/11 13:28	MMF
Nitrate+Nitrite (N)	mg/L	0.01 I	EPA 353.2	0.04	0.01		12/02/11 13:40	MMF
Sample Description		**C-HS2-A07-6**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-13**						
Date/Time Collected		**12/01/11 07:30**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.3	DEP FT1100	0.1	0.1		12/01/11 07:30	SDH
Water Temperature	°C	19.9	DEP FT1400	0.1	0.1		12/01/11 07:30	SDH
Specific conductance	umhos/cm	263	DEP FT1200	0.1	0.1		12/01/11 07:30	SDH
Dissolved Oxygen	mg/L	5.5	DEP FT1500	0.1	0.1		12/01/11 07:30	SDH
Inorganics								
Ammonia as N	mg/L	0.35	EPA 350.1	0.040	0.010		12/08/11 17:08	MMF
Chloride	mg/L	18	EPA 300.0	0.20	0.050		12/02/11 03:24	MEJ
Fluoride	mg/L	0.24	EPA 300.0	0.040	0.010		12/02/11 03:24	MEJ
Nitrate (as N)	mg/L	0.40	EPA 300.0	0.04	0.01		12/02/11 03:24	MEJ
Orthophosphate as P	mg/L	1.0	EPA 300.0	0.040	0.010		12/02/11 03:24	MEJ
Sulfate	mg/L	27	EPA 300.0	0.60	0.20		12/02/11 03:24	MEJ
Total Alkalinity	mg/L	58	SM 2320B	8.0	2.0		12/07/11 12:09	SCD
Total Kjeldahl Nitrogen	mg/L	3.1	EPA 351.2	0.20	0.05	12/12/11 09:48	12/16/11 13:30	MMF
Total Organic Carbon	mg/L	120	SM 5310B	1.0	0.50		12/03/11 11:50	MEJ
Nitrate+Nitrite (N)	mg/L	0.05	EPA 353.2	0.04	0.01		12/02/11 13:42	MMF
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	110	SM 5310B	1.0	0.50		12/06/11 17:49	MEJ
Metals								
Boron	mg/L	0.078 I	EPA 200.7	0.10	0.050	12/02/11 11:43	12/05/11 15:59	VWC
Calcium	mg/L	28	EPA 200.7	0.50	0.042	12/02/11 11:43	12/05/11 15:59	VWC

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-A07-6**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-13**						
Date/Time Collected		**12/01/11 07:30**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Iron	mg/L	0.97	EPA 200.7	0.10	0.020	12/02/11 11:43	12/05/11 15:59	VWC
Magnesium	mg/L	6.4	EPA 200.7	0.50	0.020	12/02/11 11:43	12/05/11 15:59	VWC
Manganese	mg/L	0.0073 I	EPA 200.7	0.010	0.0010	12/02/11 11:43	12/05/11 15:59	VWC
Potassium	mg/L	24	EPA 200.7	0.050	0.010	12/02/11 11:43	12/05/11 15:59	VWC
Sodium	mg/L	17	EPA 200.7	0.50	0.13	12/02/11 11:43	12/05/11 15:59	VWC
Sample Description		**C-HS2-A07-8**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-14**						
Date/Time Collected		**12/01/11 07:40**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.3	DEP FT1100	0.1	0.1		12/01/11 07:40	SDH
Water Temperature	°C	22.9	DEP FT1400	0.1	0.1		12/01/11 07:40	SDH
Specific conductance	umhos/cm	695	DEP FT1200	0.1	0.1		12/01/11 07:40	SDH
Dissolved Oxygen	mg/L	0.2	DEP FT1500	0.1	0.1		12/01/11 07:40	SDH
Inorganics								
Ammonia as N	mg/L	0.010 U	EPA 350.1	0.040	0.010		12/08/11 17:10	MMF
Chloride	mg/L	39	EPA 300.0	0.20	0.050		12/02/11 15:29	MEJ
Total Alkalinity	mg/L	29	SM 2320B	8.0	2.0		12/07/11 12:09	SCD
Total Kjeldahl Nitrogen	mg/L	2.2	EPA 351.2	0.20	0.05	12/12/11 09:48	12/16/11 13:31	MMF
Nitrate+Nitrite (N)	mg/L	37	EPA 353.2	1.0	0.25		12/02/11 15:34	MMF
Sample Description		**C-HS2-A07-11**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-15**						
Date/Time Collected		**12/01/11 07:50**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.8	DEP FT1100	0.1	0.1		12/01/11 07:50	SDH
Water Temperature	°C	23.1	DEP FT1400	0.1	0.1		12/01/11 07:50	SDH
Specific conductance	umhos/cm	167	DEP FT1200	0.1	0.1		12/01/11 07:50	SDH
Dissolved Oxygen	mg/L	0.2	DEP FT1500	0.1	0.1		12/01/11 07:50	SDH
Inorganics								

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Project Name **Seminole County C-HS2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-A07-11**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-15**						
Date/Time Collected		**12/01/11 07:50**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Ammonia as N	mg/L	0.50	EPA 350.1	0.040	0.010		12/08/11 17:12	MMF
Chloride	mg/L	38	EPA 300.0	0.20	0.050		12/02/11 15:29	MEJ
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		12/07/11 12:09	SCD
Total Kjeldahl Nitrogen	mg/L	0.85	EPA 351.2	0.20	0.05	12/12/11 09:48	12/16/11 13:33	MMF
Nitrate+Nitrite (N)	mg/L	0.11	EPA 353.2	0.04	0.01		12/02/11 13:47	MMF
Sample Description		**C-HS2-A09-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-16**						
Date/Time Collected		**12/01/11 07:00**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.4	DEP FT1100	0.1	0.1		12/01/11 07:00	SDH
Water Temperature	°C	22.1	DEP FT1400	0.1	0.1		12/01/11 07:00	SDH
Specific conductance	umhos/cm	390	DEP FT1200	0.1	0.1		12/01/11 07:00	SDH
Dissolved Oxygen	mg/L	0.6	DEP FT1500	0.1	0.1		12/01/11 07:00	SDH
Inorganics								
Ammonia as N	mg/L	0.056	EPA 350.1	0.040	0.010		12/08/11 17:14	MMF
Chloride	mg/L	22	EPA 300.0	0.20	0.050		12/08/11 01:38	MEJ
Total Alkalinity	mg/L	87	SM 2320B	8.0	2.0		12/07/11 12:00	SCD
Total Kjeldahl Nitrogen	mg/L	2.2	EPA 351.2	0.20	0.05	12/12/11 09:48	12/16/11 13:35	MMF
Nitrate+Nitrite (N)	mg/L	3.8	EPA 353.2	0.20	0.05		12/02/11 15:15	MMF
Sample Description		**C-HS2-A09-7-Dup**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-17**						
Date/Time Collected		**12/01/11 07:05**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.4	DEP FT1100	0.1	0.1		12/01/11 07:05	SDH
Water Temperature	°C	22.1	DEP FT1400	0.1	0.1		12/01/11 07:05	SDH
Specific conductance	umhos/cm	390	DEP FT1200	0.1	0.1		12/01/11 07:05	SDH
Dissolved Oxygen	mg/L	0.6	DEP FT1500	0.1	0.1		12/01/11 07:05	SDH
Inorganics								

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-A09-7-Dup**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-17**						
Date/Time Collected		**12/01/11 07:05**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Ammonia as N	mg/L	0.050	EPA 350.1	0.040	0.010		12/08/11 17:15	MMF
Chloride	mg/L	22	EPA 300.0	0.20	0.050		12/08/11 01:38	MEJ
Total Alkalinity	mg/L	96	SM 2320B	8.0	2.0		12/07/11 12:00	SCD
Total Kjeldahl Nitrogen	mg/L	2.2	EPA 351.2	0.20	0.05	12/12/11 09:48	12/16/11 13:36	MMF
Nitrate+Nitrite (N)	mg/L	3.7	EPA 353.2	0.20	0.05		12/02/11 15:18	MMF
Sample Description		**C-HS2-A09-9**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-18**						
Date/Time Collected		**12/01/11 07:15**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.5	DEP FT1100	0.1	0.1		12/01/11 07:15	SDH
Water Temperature	°C	22.6	DEP FT1400	0.1	0.1		12/01/11 07:15	SDH
Specific conductance	umhos/cm	254	DEP FT1200	0.1	0.1		12/01/11 07:15	SDH
Dissolved Oxygen	mg/L	0.7	DEP FT1500	0.1	0.1		12/01/11 07:15	SDH
Inorganics								
Ammonia as N	mg/L	0.18	EPA 350.1	0.040	0.010		12/08/11 17:17	MMF
Chloride	mg/L	35	EPA 300.0	0.20	0.050		12/08/11 01:38	MEJ
Total Alkalinity	mg/L	48	SM 2320B	8.0	2.0		12/07/11 12:09	SCD
Total Kjeldahl Nitrogen	mg/L	0.77	EPA 351.2	0.20	0.05	12/12/11 09:48	12/16/11 13:38	MMF
Nitrate+Nitrite (N)	mg/L	0.02 I	EPA 353.2	0.04	0.01		12/02/11 13:54	MMF
Sample Description		**C-HS2-A09-12**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-19**						
Date/Time Collected		**12/01/11 07:20**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.2	DEP FT1100	0.1	0.1		12/01/11 07:20	SDH
Water Temperature	°C	22.7	DEP FT1400	0.1	0.1		12/01/11 07:20	SDH
Specific conductance	umhos/cm	135	DEP FT1200	0.1	0.1		12/01/11 07:20	SDH
Dissolved Oxygen	mg/L	0.7	DEP FT1500	0.1	0.1		12/01/11 07:20	SDH
Inorganics								

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-A09-12**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-19**						
Date/Time Collected		**12/01/11 07:20**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Ammonia as N	mg/L	0.48	EPA 350.1	0.040	0.010		12/08/11 17:19	MMF
Chloride	mg/L	31	EPA 300.0	0.20	0.050		12/08/11 01:38	MEJ
Total Alkalinity	mg/L	9.6	SM 2320B	8.0	2.0		12/07/11 12:09	SCD
Total Kjeldahl Nitrogen	mg/L	0.54	EPA 351.2	0.20	0.05	12/12/11 09:48	12/16/11 13:40	MMF
Nitrate+Nitrite (N)	mg/L	0.01 U	EPA 353.2	0.04	0.01		12/02/11 13:56	MMF
Sample Description		**C-HS2-A10-9**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-21**						
Date/Time Collected		**11/30/11 15:15**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.6	DEP FT1100	0.1	0.1		11/30/11 15:15	SDH
Water Temperature	°C	22.7	DEP FT1400	0.1	0.1		11/30/11 15:15	SDH
Specific conductance	umhos/cm	622	DEP FT1200	0.1	0.1		11/30/11 15:15	SDH
Dissolved Oxygen	mg/L	0.6	DEP FT1500	0.1	0.1		11/30/11 15:15	SDH
Inorganics								
Ammonia as N	mg/L	9.4	EPA 350.1	1.0	0.25		12/08/11 18:05	MMF
Chloride	mg/L	28	EPA 300.0	0.20	0.050		12/08/11 01:38	MEJ
Total Alkalinity	mg/L	220	SM 2320B	8.0	2.0		12/07/11 12:09	SCD
Total Kjeldahl Nitrogen	mg/L	12	EPA 351.2	0.20	0.05	12/12/11 09:48	12/16/11 13:41	MMF
Nitrate+Nitrite (N)	mg/L	0.01 I	EPA 353.2	0.04	0.01		12/02/11 13:58	MMF
Sample Description		**C-HS2-A10-12**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-22**						
Date/Time Collected		**11/30/11 15:25**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.3	DEP FT1100	0.1	0.1		11/30/11 15:25	SDH
Water Temperature	°C	23.1	DEP FT1400	0.1	0.1		11/30/11 15:25	SDH
Specific conductance	umhos/cm	145	DEP FT1200	0.1	0.1		11/30/11 15:25	SDH
Dissolved Oxygen	mg/L	0.5	DEP FT1500	0.1	0.1		11/30/11 15:25	SDH
Inorganics								

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-A10-12**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-22**						
Date/Time Collected		**11/30/11 15:25**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Ammonia as N	mg/L	0.43	EPA 350.1	0.040	0.010		12/05/11 13:58	MMF
Chloride	mg/L	37	EPA 300.0	0.20	0.050		12/08/11 01:38	MEJ
Total Alkalinity	mg/L	29	SM 2320B	8.0	2.0		12/07/11 12:09	SCD
Total Kjeldahl Nitrogen	mg/L	0.76	EPA 351.2	0.20	0.05	12/12/11 09:48	12/16/11 13:47	MMF
Nitrate+Nitrite (N)	mg/L	0.02 I	EPA 353.2	0.04	0.01		12/02/11 14:13	MMF
Sample Description		**C-HS2-A11-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-24**						
Date/Time Collected		**11/30/11 14:55**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.0	DEP FT1100	0.1	0.1		11/30/11 14:55	SDH
Water Temperature	°C	23.2	DEP FT1400	0.1	0.1		11/30/11 14:55	SDH
Specific conductance	umhos/cm	357	DEP FT1200	0.1	0.1		11/30/11 14:55	SDH
Dissolved Oxygen	mg/L	0.3	DEP FT1500	0.1	0.1		11/30/11 14:55	SDH
Inorganics								
Ammonia as N	mg/L	0.18	EPA 350.1	0.040	0.010		12/05/11 14:00	MMF
Chloride	mg/L	35	EPA 300.0	0.20	0.050		12/08/11 01:38	MEJ
Total Alkalinity	mg/L	67	SM 2320B	8.0	2.0		12/07/11 12:20	SCD
Total Kjeldahl Nitrogen	mg/L	1.9	EPA 351.2	0.20	0.05	12/12/11 09:48	12/16/11 13:48	MMF
Nitrate+Nitrite (N)	mg/L	1.4	EPA 353.2	0.04	0.01		12/02/11 14:16	MMF
Sample Description		**C-HS2-A11-10**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-25**						
Date/Time Collected		**11/30/11 15:05**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.2	DEP FT1100	0.1	0.1		11/30/11 15:05	SDH
Water Temperature	°C	23.6	DEP FT1400	0.1	0.1		11/30/11 15:05	SDH
Specific conductance	umhos/cm	135	DEP FT1200	0.1	0.1		11/30/11 15:05	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		11/30/11 15:05	SDH
Inorganics								

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-A11-10**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-25**						
Date/Time Collected		**11/30/11 15:05**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Ammonia as N	mg/L	0.34	EPA 350.1	0.040	0.010		12/05/11 14:02	MMF
Chloride	mg/L	32	EPA 300.0	0.20	0.050		12/08/11 01:38	MEJ
Total Alkalinity	mg/L	9.6	SM 2320B	8.0	2.0		12/07/11 12:20	SCD
Total Kjeldahl Nitrogen	mg/L	0.37	EPA 351.2	0.20	0.05	12/12/11 09:48	12/16/11 13:50	MMF
Nitrate+Nitrite (N)	mg/L	0.03 I	EPA 353.2	0.04	0.01		12/02/11 14:18	MMF
Sample Description		**C-HS2-A13-5**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-26**						
Date/Time Collected		**11/30/11 14:35**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.8	DEP FT1100	0.1	0.1		11/30/11 14:35	SDH
Water Temperature	°C	22.6	DEP FT1400	0.1	0.1		11/30/11 14:35	SDH
Specific conductance	umhos/cm	305	DEP FT1200	0.1	0.1		11/30/11 14:35	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		11/30/11 14:35	SDH
Inorganics								
Ammonia as N	mg/L	0.26	EPA 350.1	0.040	0.010		12/05/11 14:04	MMF
Chloride	mg/L	35	EPA 300.0	0.20	0.050		12/08/11 01:38	MEJ
Total Alkalinity	mg/L	48	SM 2320B	8.0	2.0		12/07/11 12:20	SCD
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	12/12/11 09:48	12/16/11 13:51	MMF
Nitrate+Nitrite (N)	mg/L	0.04	EPA 353.2	0.04	0.01		12/02/11 14:20	MMF
Sample Description		**C-HS2-A13-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-27**						
Date/Time Collected		**11/30/11 14:45**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.5	DEP FT1100	0.1	0.1		11/30/11 14:45	SDH
Water Temperature	°C	22.9	DEP FT1400	0.1	0.1		11/30/11 14:45	SDH
Specific conductance	umhos/cm	170	DEP FT1200	0.1	0.1		11/30/11 14:45	SDH
Dissolved Oxygen	mg/L	0.1	DEP FT1500	0.1	0.1		11/30/11 14:45	SDH
Inorganics								

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-A13-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-27**						
Date/Time Collected		**11/30/11 14:45**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Ammonia as N	mg/L	0.45	EPA 350.1	0.040	0.010		12/05/11 14:06	MMF
Chloride	mg/L	40	EPA 300.0	0.20	0.050		12/08/11 01:38	MEJ
Total Alkalinity	mg/L	9.6	SM 2320B	8.0	2.0		12/07/11 12:20	SCD
Total Kjeldahl Nitrogen	mg/L	0.73	EPA 351.2	0.20	0.05	12/12/11 09:48	12/16/11 13:52	MMF
Nitrate+Nitrite (N)	mg/L	0.01 I	EPA 353.2	0.04	0.01		12/02/11 14:22	MMF
Sample Description		**C-HS2-A13-10**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-28**						
Date/Time Collected		**11/30/11 14:50**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	4.8	DEP FT1100	0.1	0.1		11/30/11 14:50	SDH
Water Temperature	°C	23.2	DEP FT1400	0.1	0.1		11/30/11 14:50	SDH
Specific conductance	umhos/cm	134	DEP FT1200	0.1	0.1		11/30/11 14:50	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		11/30/11 14:50	SDH
Inorganics								
Ammonia as N	mg/L	0.35	EPA 350.1	0.040	0.010		12/05/11 14:08	MMF
Chloride	mg/L	32	EPA 300.0	0.20	0.050		12/08/11 01:38	MEJ
Total Alkalinity	mg/L	9.6	SM 2320B	8.0	2.0		12/07/11 12:20	SCD
Total Kjeldahl Nitrogen	mg/L	0.52	EPA 351.2	0.20	0.05	12/12/11 09:48	12/16/11 13:54	MMF
Nitrate+Nitrite (N)	mg/L	0.01 I	EPA 353.2	0.04	0.01		12/02/11 14:24	MMF
Sample Description		**C-HS2-B02-6**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-29**						
Date/Time Collected		**11/30/11 12:00**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.8	DEP FT1100	0.1	0.1		11/30/11 12:00	SDH
Water Temperature	°C	22.6	DEP FT1400	0.1	0.1		11/30/11 12:00	SDH
Specific conductance	umhos/cm	385	DEP FT1200	0.1	0.1		11/30/11 12:00	SDH
Dissolved Oxygen	mg/L	0.1	DEP FT1500	0.1	0.1		11/30/11 12:00	SDH
Inorganics								

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-B02-6**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-29**						
Date/Time Collected		**11/30/11 12:00**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Ammonia as N	mg/L	0.47	EPA 350.1	0.040	0.010		12/05/11 14:10	MMF
Chloride	mg/L	24	EPA 300.0	0.20	0.050		12/08/11 01:38	MEJ
Total Alkalinity	mg/L	77	SM 2320B	8.0	2.0		12/07/11 12:20	SCD
Total Kjeldahl Nitrogen	mg/L	2.1	EPA 351.2	0.20	0.05	12/12/11 09:48	12/16/11 13:55	MMF
Nitrate+Nitrite (N)	mg/L	5.7	EPA 353.2	0.20	0.05		12/02/11 15:20	MMF
Sample Description		**C-HS2-B02-8**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-30**						
Date/Time Collected		**11/30/11 12:10**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.7	DEP FT1100	0.1	0.1		11/30/11 12:10	SDH
Water Temperature	°C	22.7	DEP FT1400	0.1	0.1		11/30/11 12:10	SDH
Specific conductance	umhos/cm	611	DEP FT1200	0.1	0.1		11/30/11 12:10	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		11/30/11 12:10	SDH
Inorganics								
Ammonia as N	mg/L	1.0	EPA 350.1	0.20	0.050		12/05/11 14:59	MMF
Chloride	mg/L	63	EPA 300.0	0.20	0.050		12/09/11 06:54	MEJ
Total Alkalinity	mg/L	190	SM 2320B	8.0	2.0		12/07/11 12:20	SCD
Total Kjeldahl Nitrogen	mg/L	3.1	EPA 351.2	0.20	0.05	12/12/11 09:48	12/16/11 13:56	MMF
Nitrate+Nitrite (N)	mg/L	0.02 I	EPA 353.2	0.04	0.01		12/02/11 14:29	MMF
Sample Description		**C-HS2-B02-11**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-31**						
Date/Time Collected		**11/30/11 12:15**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.6	DEP FT1100	0.1	0.1		11/30/11 12:15	SDH
Water Temperature	°C	23.1	DEP FT1400	0.1	0.1		11/30/11 12:15	SDH
Specific conductance	umhos/cm	200	DEP FT1200	0.1	0.1		11/30/11 12:15	SDH
Dissolved Oxygen	mg/L	0.2	DEP FT1500	0.1	0.1		11/30/11 12:15	SDH
Inorganics								

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-B02-11**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-31**						
Date/Time Collected		**11/30/11 12:15**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Ammonia as N	mg/L	0.43	EPA 350.1	0.040	0.010		12/05/11 14:14	MMF
Chloride	mg/L	39	EPA 300.0	0.20	0.050		12/09/11 06:54	MEJ
Total Alkalinity	mg/L	29	SM 2320B	8.0	2.0		12/07/11 12:20	SCD
Total Kjeldahl Nitrogen	mg/L	0.81	EPA 351.2	0.20	0.05	12/01/11 16:08	12/06/11 16:11	KTC
Nitrate+Nitrite (N)	mg/L	0.02 I	EPA 353.2	0.04	0.01		12/02/11 14:31	MMF
Sample Description		**C-HS2-B06-6**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-32**						
Date/Time Collected		**11/30/11 12:30**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.6	DEP FT1100	0.1	0.1		11/30/11 12:30	SDH
Water Temperature	°C	23.3	DEP FT1400	0.1	0.1		11/30/11 12:30	SDH
Specific conductance	umhos/cm	631	DEP FT1200	0.1	0.1		11/30/11 12:30	SDH
Dissolved Oxygen	mg/L	0.4	DEP FT1500	0.1	0.1		11/30/11 12:30	SDH
Inorganics								
Ammonia as N	mg/L	0.018 I	EPA 350.1	0.040	0.010		12/05/11 14:16	MMF
Chloride	mg/L	53	EPA 300.0	0.20	0.050		12/09/11 06:54	MEJ
Total Alkalinity	mg/L	29	SM 2320B	8.0	2.0		12/07/11 12:20	SCD
Total Kjeldahl Nitrogen	mg/L	2.7	EPA 351.2	0.20	0.05	12/01/11 16:08	12/06/11 16:13	KTC
Nitrate+Nitrite (N)	mg/L	19	EPA 353.2	1.0	0.25		12/02/11 15:36	MMF
Sample Description		**C-HS2-B06-8**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-33**						
Date/Time Collected		**11/30/11 12:40**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.7	DEP FT1100	0.1	0.1		11/30/11 12:40	SDH
Water Temperature	°C	23.6	DEP FT1400	0.1	0.1		11/30/11 12:40	SDH
Specific conductance	umhos/cm	175	DEP FT1200	0.1	0.1		11/30/11 12:40	SDH
Dissolved Oxygen	mg/L	0.4	DEP FT1500	0.1	0.1		11/30/11 12:40	SDH
Inorganics								

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Sample Description		**C-HS2-B06-8**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-33**						
Date/Time Collected		**11/30/11 12:40**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Ammonia as N	mg/L	0.72	EPA 350.1	0.040	0.010		12/05/11 14:22	MMF
Chloride	mg/L	35	EPA 300.0	0.20	0.050		12/09/11 06:54	MEJ
Total Alkalinity	mg/L	19	SM 2320B	8.0	2.0		12/07/11 12:20	SCD
Total Kjeldahl Nitrogen	mg/L	1.4	EPA 351.2	0.20	0.05	12/01/11 16:08	12/06/11 16:15	KTC
Nitrate+Nitrite (N)	mg/L	0.10	EPA 353.2	0.04	0.01		12/02/11 14:40	MMF
Sample Description		**C-HS2-B06-11**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-34**						
Date/Time Collected		**11/30/11 12:50**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	4.6	DEP FT1100	0.1	0.1		11/30/11 12:50	SDH
Water Temperature	°C	23.6	DEP FT1400	0.1	0.1		11/30/11 12:50	SDH
Specific conductance	umhos/cm	157	DEP FT1200	0.1	0.1		11/30/11 12:50	SDH
Dissolved Oxygen	mg/L	0.4	DEP FT1500	0.1	0.1		11/30/11 12:50	SDH
Inorganics								
Ammonia as N	mg/L	0.60	EPA 350.1	0.040	0.010		12/05/11 14:24	MMF
Chloride	mg/L	33	EPA 300.0	0.20	0.050		12/09/11 06:54	MEJ
Total Alkalinity	mg/L	9.6	SM 2320B	8.0	2.0		12/07/11 12:20	SCD
Total Kjeldahl Nitrogen	mg/L	1.2	EPA 351.2	0.20	0.05	12/01/11 16:08	12/06/11 16:16	KTC
Nitrate+Nitrite (N)	mg/L	0.04	EPA 353.2	0.04	0.01		12/02/11 14:42	MMF
Sample Description		**C-HS2-B08-5**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-35**						
Date/Time Collected		**11/30/11 13:10**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.0	DEP FT1100	0.1	0.1		11/30/11 13:10	SDH
Water Temperature	°C	22.2	DEP FT1400	0.1	0.1		11/30/11 13:10	SDH
Specific conductance	umhos/cm	445	DEP FT1200	0.1	0.1		11/30/11 13:10	SDH
Dissolved Oxygen	mg/L	0.2	DEP FT1500	0.1	0.1		11/30/11 13:10	SDH
Inorganics								

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-B08-5**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-35**						
Date/Time Collected		**11/30/11 13:10**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Ammonia as N	mg/L	0.069	EPA 350.1	0.040	0.010		12/05/11 14:26	MMF
Chloride	mg/L	23	EPA 300.0	0.20	0.050		12/02/11 03:24	MEJ
Fluoride	mg/L	0.12	EPA 300.0	0.040	0.010		12/02/11 03:24	MEJ
Nitrate (as N)	mg/L	15	EPA 300.0	0.04	0.01		12/02/11 03:24	MEJ
Orthophosphate as P	mg/L	0.62	EPA 300.0	0.040	0.010		12/02/11 03:24	MEJ
Sulfate	mg/L	40	EPA 300.0	0.60	0.20		12/02/11 03:24	MEJ
Total Alkalinity	mg/L	67	SM 2320B	8.0	2.0		12/07/11 12:20	SCD
Total Kjeldahl Nitrogen	mg/L	3.6	EPA 351.2	0.20	0.05	12/01/11 16:08	12/06/11 16:18	KTC
Total Organic Carbon	mg/L	41	SM 5310B	1.0	0.50		12/03/11 11:50	MEJ
Nitrate+Nitrite (N)	mg/L	14	EPA 353.2	1.0	0.25		12/02/11 15:37	MMF
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	38	SM 5310B	1.0	0.50		12/06/11 17:49	MEJ
Metals								
Boron	mg/L	0.075 I	EPA 200.7	0.10	0.050	12/02/11 11:43	12/05/11 16:03	VWC
Calcium	mg/L	45	EPA 200.7	0.50	0.042	12/02/11 11:43	12/05/11 16:03	VWC
Iron	mg/L	0.38	EPA 200.7	0.10	0.020	12/02/11 11:43	12/05/11 16:03	VWC
Magnesium	mg/L	7.4	EPA 200.7	0.50	0.020	12/02/11 11:43	12/05/11 16:03	VWC
Manganese	mg/L	0.0076 I	EPA 200.7	0.010	0.0010	12/02/11 11:43	12/05/11 16:03	VWC
Potassium	mg/L	12	EPA 200.7	0.050	0.010	12/02/11 11:43	12/05/11 16:03	VWC
Sodium	mg/L	30	EPA 200.7	0.50	0.13	12/02/11 11:43	12/05/11 16:03	VWC
Sample Description		**C-HS2-B08-5-Dup**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-36**						
Date/Time Collected		**11/30/11 13:15**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.0	DEP FT1100	0.1	0.1		11/30/11 13:15	SDH
Water Temperature	°C	22.2	DEP FT1400	0.1	0.1		11/30/11 13:15	SDH
Specific conductance	umhos/cm	445	DEP FT1200	0.1	0.1		11/30/11 13:15	SDH
Dissolved Oxygen	mg/L	0.2	DEP FT1500	0.1	0.1		11/30/11 13:15	SDH
Inorganics								
Ammonia as N	mg/L	0.058	EPA 350.1	0.040	0.010		12/05/11 14:28	MMF
Chloride	mg/L	23	EPA 300.0	0.20	0.050		12/02/11 03:24	MEJ
Fluoride	mg/L	0.010 U	EPA 300.0	0.040	0.010		12/02/11 03:24	MEJ

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Sample Description		**C-HS2-B08-5-Dup**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-36**						
Date/Time Collected		**11/30/11 13:15**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Nitrate (as N)	mg/L	14	EPA 300.0	0.04	0.01		12/02/11 03:24	MEJ
Orthophosphate as P	mg/L	0.64	EPA 300.0	0.040	0.010		12/02/11 03:24	MEJ
Sulfate	mg/L	39	EPA 300.0	0.60	0.20		12/02/11 03:24	MEJ
Total Alkalinity	mg/L	67	SM 2320B	8.0	2.0		12/07/11 12:20	SCD
Total Kjeldahl Nitrogen	mg/L	3.5	EPA 351.2	0.20	0.05	12/01/11 16:08	12/06/11 16:20	KTC
Total Organic Carbon	mg/L	40	SM 5310B	1.0	0.50		12/03/11 11:50	MEJ
Nitrate+Nitrite (N)	mg/L	14	EPA 353.2	1.0	0.25		12/02/11 15:38	MMF
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	38	SM 5310B	1.0	0.50		12/06/11 17:49	MEJ
Metals								
Boron	mg/L	0.074 I	EPA 200.7	0.10	0.050	12/02/11 11:43	12/05/11 16:15	VWC
Calcium	mg/L	43	EPA 200.7	0.50	0.042	12/02/11 11:43	12/05/11 16:15	VWC
Iron	mg/L	0.29	EPA 200.7	0.10	0.020	12/02/11 11:43	12/05/11 16:15	VWC
Magnesium	mg/L	7.0	EPA 200.7	0.50	0.020	12/02/11 11:43	12/05/11 16:15	VWC
Manganese	mg/L	0.0074 I	EPA 200.7	0.010	0.0010	12/02/11 11:43	12/05/11 16:15	VWC
Potassium	mg/L	10	EPA 200.7	0.050	0.010	12/02/11 11:43	12/05/11 16:15	VWC
Sodium	mg/L	29	EPA 200.7	0.50	0.13	12/02/11 11:43	12/05/11 16:15	VWC
Sample Description		**C-HS2-B08-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-37**						
Date/Time Collected		**11/30/11 13:20**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.1	DEP FT1100	0.1	0.1		11/30/11 13:20	SDH
Water Temperature	°C	22.6	DEP FT1400	0.1	0.1		11/30/11 13:20	SDH
Specific conductance	umhos/cm	282	DEP FT1200	0.1	0.1		11/30/11 13:20	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		11/30/11 13:20	SDH
Inorganics								
Ammonia as N	mg/L	0.062	EPA 350.1	0.040	0.010		12/05/11 14:31	MMF
Chloride	mg/L	29	EPA 300.0	0.20	0.050		12/09/11 06:54	MEJ
Total Alkalinity	mg/L	58	SM 2320B	8.0	2.0		12/07/11 12:20	SCD
Total Kjeldahl Nitrogen	mg/L	1.6	EPA 351.2	0.20	0.05	12/01/11 16:08	12/06/11 16:21	KTC
Nitrate+Nitrite (N)	mg/L	2.4	EPA 353.2	0.20	0.05		12/02/11 15:27	MMF

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-B08-10**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-38**						
Date/Time Collected		**11/30/11 13:30**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.2	DEP FT1100	0.1	0.1		11/30/11 13:30	SDH
Water Temperature	°C	22.6	DEP FT1400	0.1	0.1		11/30/11 13:30	SDH
Specific conductance	umhos/cm	140	DEP FT1200	0.1	0.1		11/30/11 13:30	SDH
Dissolved Oxygen	mg/L	0.2	DEP FT1500	0.1	0.1		11/30/11 13:30	SDH
Inorganics								
Ammonia as N	mg/L	0.45	EPA 350.1	0.040	0.010		12/05/11 14:32	MMF
Chloride	mg/L	32	EPA 300.0	0.20	0.050		12/09/11 06:54	MEJ
Total Alkalinity	mg/L	9.6	SM 2320B	8.0	2.0		12/07/11 12:20	SCD
Total Kjeldahl Nitrogen	mg/L	1.1	EPA 351.2	0.20	0.05	12/01/11 16:08	12/06/11 16:23	KTC
Nitrate+Nitrite (N)	mg/L	0.09	EPA 353.2	0.04	0.01		12/02/11 14:51	MMF
Sample Description		**C-HS2-B10-5**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-39**						
Date/Time Collected		**11/30/11 13:40**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.4	DEP FT1100	0.1	0.1		11/30/11 13:40	SDH
Water Temperature	°C	22.8	DEP FT1400	0.1	0.1		11/30/11 13:40	SDH
Specific conductance	umhos/cm	722	DEP FT1200	0.1	0.1		11/30/11 13:40	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		11/30/11 13:40	SDH
Inorganics								
Ammonia as N	mg/L	2.4	EPA 350.1	0.20	0.050		12/05/11 15:01	MMF
Chloride	mg/L	25	EPA 300.0	0.20	0.050		12/09/11 06:54	MEJ
Total Alkalinity	mg/L	300	SM 2320B	8.0	2.0		12/07/11 12:20	SCD
Total Kjeldahl Nitrogen	mg/L	11	EPA 351.2	0.20	0.05	12/01/11 16:08	12/06/11 17:00	KTC
Nitrate+Nitrite (N)	mg/L	0.05	EPA 353.2	0.04	0.01		12/02/11 14:53	MMF
Sample Description		**C-HS2-B10-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-40**						
Date/Time Collected		**11/30/11 13:50**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						

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Sample Description		**C-HS2-B10-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-40**						
Date/Time Collected		**11/30/11 13:50**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.6	DEP FT1100	0.1	0.1		11/30/11 13:50	SDH
Water Temperature	°C	23.0	DEP FT1400	0.1	0.1		11/30/11 13:50	SDH
Specific conductance	umhos/cm	205	DEP FT1200	0.1	0.1		11/30/11 13:50	SDH
Dissolved Oxygen	mg/L	0.8	DEP FT1500	0.1	0.1		11/30/11 13:50	SDH
Inorganics								
Ammonia as N	mg/L	0.71	EPA 350.1	0.040	0.010		12/05/11 14:35	MMF
Chloride	mg/L	37	EPA 300.0	0.20	0.050		12/09/11 06:54	MEJ
Total Alkalinity	mg/L	38	SM 2320B	8.0	2.0		12/07/11 12:20	SCD
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	12/01/11 16:08	12/06/11 16:26	KTC
Nitrate+Nitrite (N)	mg/L	0.25	EPA 353.2	0.04	0.01		12/02/11 14:55	MMF
Sample Description		**C-HS2-B10-10**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-41**						
Date/Time Collected		**11/30/11 13:55**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.9	DEP FT1100	0.1	0.1		11/30/11 13:55	SDH
Water Temperature	°C	23.0	DEP FT1400	0.1	0.1		11/30/11 13:55	SDH
Specific conductance	umhos/cm	137	DEP FT1200	0.1	0.1		11/30/11 13:55	SDH
Dissolved Oxygen	mg/L	0.7	DEP FT1500	0.1	0.1		11/30/11 13:55	SDH
Inorganics								
Ammonia as N	mg/L	0.46	EPA 350.1	0.040	0.010		12/05/11 14:37	MMF
Chloride	mg/L	33	EPA 300.0	0.20	0.050		12/09/11 06:54	MEJ
Total Alkalinity	mg/L	9.6	SM 2320B	8.0	2.0		12/07/11 12:00	SCD
Total Kjeldahl Nitrogen	mg/L	1.2	EPA 351.2	0.20	0.05	12/01/11 16:08	12/06/11 16:31	KTC
Nitrate+Nitrite (N)	mg/L	0.06	EPA 353.2	0.04	0.01		12/02/11 14:57	MMF
Sample Description		**C-HS2-B15-5**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-42**						
Date/Time Collected		**11/30/11 14:05**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						

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Sample Description		**C-HS2-B15-5**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-42**						
Date/Time Collected		**11/30/11 14:05**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	4.7	DEP FT1100	0.1	0.1		11/30/11 14:05	SDH
Water Temperature	°C	22.7	DEP FT1400	0.1	0.1		11/30/11 14:05	SDH
Specific conductance	umhos/cm	132	DEP FT1200	0.1	0.1		11/30/11 14:05	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		11/30/11 14:05	SDH
Inorganics								
Ammonia as N	mg/L	0.36	EPA 350.1	0.040	0.010		12/05/11 14:39	MMF
Chloride	mg/L	21	EPA 300.0	0.20	0.050		12/09/11 06:54	MEJ
Total Alkalinity	mg/L	9.6	SM 2320B	8.0	2.0		12/07/11 12:00	SCD
Total Kjeldahl Nitrogen	mg/L	1.7	EPA 351.2	0.20	0.05	12/01/11 16:08	12/06/11 16:33	KTC
Nitrate+Nitrite (N)	mg/L	0.13	EPA 353.2	0.04	0.01		12/02/11 15:00	MMF
Sample Description		**C-HS2-B15-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-43**						
Date/Time Collected		**11/30/11 14:15**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	4.8	DEP FT1100	0.1	0.1		11/30/11 14:15	SDH
Water Temperature	°C	23.1	DEP FT1400	0.1	0.1		11/30/11 14:15	SDH
Specific conductance	umhos/cm	149	DEP FT1200	0.1	0.1		11/30/11 14:15	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		11/30/11 14:15	SDH
Inorganics								
Ammonia as N	mg/L	0.79	EPA 350.1	0.040	0.010		12/05/11 13:01	MMF
Chloride	mg/L	36	EPA 300.0	0.20	0.050		12/09/11 06:54	MEJ
Total Alkalinity	mg/L	9.6	SM 2320B	8.0	2.0		12/07/11 12:00	SCD
Total Kjeldahl Nitrogen	mg/L	1.9	EPA 351.2	0.20	0.05	12/01/11 16:08	12/06/11 16:35	KTC
Nitrate+Nitrite (N)	mg/L	0.13	EPA 353.2	0.04	0.01		12/13/11 12:55	KTC
Sample Description		**C-HS2-B15-10**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-44**						
Date/Time Collected		**11/30/11 14:25**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						

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

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

December 20, 2011
Work Order: 1111095

Laboratory Report

Project Name **Seminole County C-HS2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-B15-10**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-44**						
Date/Time Collected		**11/30/11 14:25**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	4.6	DEP FT1100	0.1	0.1		11/30/11 14:25	SDH
Water Temperature	°C	23.4	DEP FT1400	0.1	0.1		11/30/11 14:25	SDH
Specific conductance	umhos/cm	126	DEP FT1200	0.1	0.1		11/30/11 14:25	SDH
Dissolved Oxygen	mg/L	0.2	DEP FT1500	0.1	0.1		11/30/11 14:25	SDH
Inorganics								
Ammonia as N	mg/L	0.33	EPA 350.1	0.040	0.010		12/05/11 13:03	MMF
Chloride	mg/L	28	EPA 300.0	0.20	0.050		12/09/11 06:54	MEJ
Total Alkalinity	mg/L	9.6	SM 2320B	8.0	2.0		12/07/11 12:00	SCD
Total Kjeldahl Nitrogen	mg/L	0.83	EPA 351.2	0.20	0.05	12/01/11 16:08	12/06/11 16:36	KTC
Nitrate+Nitrite (N)	mg/L	0.01 I	EPA 353.2	0.04	0.01		12/13/11 12:57	KTC

Sample Description		**C-HS2-C00-5**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-45**						
Date/Time Collected		**11/30/11 11:30**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.0	DEP FT1100	0.1	0.1		11/30/11 11:30	SDH
Water Temperature	°C	24.7	DEP FT1400	0.1	0.1		11/30/11 11:30	SDH
Specific conductance	umhos/cm	320	DEP FT1200	0.1	0.1		11/30/11 11:30	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		11/30/11 11:30	SDH
Inorganics								
Ammonia as N	mg/L	0.18	EPA 350.1	0.040	0.010		12/05/11 13:05	MMF
Chloride	mg/L	25	EPA 300.0	0.20	0.050		12/09/11 06:54	MEJ
Total Alkalinity	mg/L	48	SM 2320B	8.0	2.0		12/07/11 12:00	SCD
Total Kjeldahl Nitrogen	mg/L	2.1	EPA 351.2	0.20	0.05	12/01/11 16:08	12/06/11 16:37	KTC
Nitrate+Nitrite (N)	mg/L	3.0	EPA 353.2	0.20	0.05		12/13/11 16:50	KTC

Sample Description		**C-HS2-C00-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-46**						
Date/Time Collected		**11/30/11 11:40**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						

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Project Name **Seminole County C-HS2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-C00-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-46**						
Date/Time Collected		**11/30/11 11:40**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.5	DEP FT1100	0.1	0.1		11/30/11 11:40	SDH
Water Temperature	°C	24.8	DEP FT1400	0.1	0.1		11/30/11 11:40	SDH
Specific conductance	umhos/cm	434	DEP FT1200	0.1	0.1		11/30/11 11:40	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		11/30/11 11:40	SDH
Inorganics								
Ammonia as N	mg/L	0.81	EPA 350.1	0.040	0.010		12/05/11 13:07	MMF
Chloride	mg/L	86	EPA 300.0	0.20	0.050		12/09/11 06:54	MEJ
Total Alkalinity	mg/L	38	SM 2320B	8.0	2.0		12/07/11 12:00	SCD
Total Kjeldahl Nitrogen	mg/L	1.7	EPA 351.2	0.20	0.05	12/01/11 16:08	12/06/11 16:39	KTC
Nitrate+Nitrite (N)	mg/L	0.02 I	EPA 353.2	0.04	0.01		12/13/11 15:06	KTC
Sample Description		**C-HS2-C00-7-Dup**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-47**						
Date/Time Collected		**11/30/11 11:45**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.5	DEP FT1100	0.1	0.1		11/30/11 11:45	SDH
Water Temperature	°C	24.8	DEP FT1400	0.1	0.1		11/30/11 11:45	SDH
Specific conductance	umhos/cm	434	DEP FT1200	0.1	0.1		11/30/11 11:45	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		11/30/11 11:45	SDH
Inorganics								
Ammonia as N	mg/L	0.83	EPA 350.1	0.040	0.010		12/05/11 13:09	MMF
Chloride	mg/L	85	EPA 300.0	0.20	0.050		12/09/11 06:54	MEJ
Total Alkalinity	mg/L	38	SM 2320B	8.0	2.0		12/07/11 12:00	SCD
Total Kjeldahl Nitrogen	mg/L	1.7	EPA 351.2	0.20	0.05	12/01/11 16:08	12/06/11 16:40	KTC
Nitrate+Nitrite (N)	mg/L	0.01 U	EPA 353.2	0.04	0.01		12/13/11 15:09	KTC
Sample Description		**C-HS2-C00-10**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-48**						
Date/Time Collected		**11/30/11 11:50**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						

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Project Name **Seminole County C-HS2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-C00-10**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-48**						
Date/Time Collected		**11/30/11 11:50**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.3	DEP FT1100	0.1	0.1		11/30/11 11:50	SDH
Water Temperature	°C	24.9	DEP FT1400	0.1	0.1		11/30/11 11:50	SDH
Specific conductance	umhos/cm	172	DEP FT1200	0.1	0.1		11/30/11 11:50	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		11/30/11 11:50	SDH
Inorganics								
Ammonia as N	mg/L	0.55	EPA 350.1	0.040	0.010		12/05/11 13:11	MMF
Chloride	mg/L	43	EPA 300.0	0.20	0.050		12/09/11 06:54	MEJ
Total Alkalinity	mg/L	9.6	SM 2320B	8.0	2.0		12/07/11 12:00	SCD
Total Kjeldahl Nitrogen	mg/L	1.2	EPA 351.2	0.20	0.05	12/01/11 16:08	12/06/11 16:41	KTC
Nitrate+Nitrite (N)	mg/L	0.01 I	EPA 353.2	0.04	0.01		12/13/11 15:11	KTC

Sample Description		**C-HS2-C04-5**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-49**						
Date/Time Collected		**11/30/11 11:00**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.8	DEP FT1100	0.1	0.1		11/30/11 11:00	SDH
Water Temperature	°C	22.7	DEP FT1400	0.1	0.1		11/30/11 11:00	SDH
Specific conductance	umhos/cm	339	DEP FT1200	0.1	0.1		11/30/11 11:00	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		11/30/11 11:00	SDH
Inorganics								
Ammonia as N	mg/L	0.38	EPA 350.1	0.040	0.010		12/05/11 13:13	MMF
Chloride	mg/L	20	EPA 300.0	0.20	0.050		12/09/11 06:54	MEJ
Total Alkalinity	mg/L	58	SM 2320B	8.0	2.0		12/07/11 12:00	SCD
Total Kjeldahl Nitrogen	mg/L	1.8	EPA 351.2	0.20	0.05	12/01/11 16:08	12/06/11 16:42	KTC
Nitrate+Nitrite (N)	mg/L	0.01 I	EPA 353.2	0.04	0.01		12/13/11 15:13	KTC

Sample Description		**C-HS2-C04-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-50**						
Date/Time Collected		**11/30/11 11:10**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						

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Project Name **Seminole County C-HS2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-C04-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-50**						
Date/Time Collected		**11/30/11 11:10**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.3	DEP FT1100	0.1	0.1		11/30/11 11:10	SDH
Water Temperature	°C	23.0	DEP FT1400	0.1	0.1		11/30/11 11:10	SDH
Specific conductance	umhos/cm	162	DEP FT1200	0.1	0.1		11/30/11 11:10	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		11/30/11 11:10	SDH
Inorganics								
Ammonia as N	mg/L	0.70	EPA 350.1	0.040	0.010		12/05/11 13:15	MMF
Chloride	mg/L	32	EPA 300.0	0.20	0.050		12/09/11 17:53	MEJ
Total Alkalinity	mg/L	9.6	SM 2320B	8.0	2.0		12/07/11 12:00	SCD
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	12/01/11 16:08	12/06/11 16:44	KTC
Nitrate+Nitrite (N)	mg/L	0.01 U	EPA 353.2	0.04	0.01		12/13/11 15:15	KTC

Sample Description		**C-HS2-C04-10**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-51**						
Date/Time Collected		**11/30/11 11:20**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.5	DEP FT1100	0.1	0.1		11/30/11 11:20	SDH
Water Temperature	°C	23.0	DEP FT1400	0.1	0.1		11/30/11 11:20	SDH
Specific conductance	umhos/cm	140	DEP FT1200	0.1	0.1		11/30/11 11:20	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		11/30/11 11:20	SDH
Inorganics								
Ammonia as N	mg/L	0.47	EPA 350.1	0.040	0.010		12/05/11 13:17	MMF
Chloride	mg/L	44	EPA 300.0	0.20	0.050		12/09/11 17:53	MEJ
Total Alkalinity	mg/L	9.6	SM 2320B	8.0	2.0		12/07/11 12:00	SCD
Total Kjeldahl Nitrogen	mg/L	0.99	EPA 351.2	0.20	0.05	12/01/11 16:06	12/06/11 15:25	KTC
Nitrate+Nitrite (N)	mg/L	0.01 U	EPA 353.2	0.04	0.01		12/13/11 15:17	KTC

Sample Description		**C-HS2-C06-5**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-52**						
Date/Time Collected		**11/30/11 10:30**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						

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Project Name **Seminole County C-HS2**

Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-C06-5**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-52**						
Date/Time Collected		**11/30/11 10:30**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.7	DEP FT1100	0.1	0.1		11/30/11 10:30	SDH
Water Temperature	°C	21.6	DEP FT1400	0.1	0.1		11/30/11 10:30	SDH
Specific conductance	umhos/cm	577	DEP FT1200	0.1	0.1		11/30/11 10:30	SDH
Dissolved Oxygen	mg/L	0.1	DEP FT1500	0.1	0.1		11/30/11 10:30	SDH
Inorganics								
Ammonia as N	mg/L	0.049	EPA 350.1	0.040	0.010		12/05/11 13:19	MMF
Chloride	mg/L	42	EPA 300.0	0.20	0.050		12/02/11 03:24	MEJ
Fluoride	mg/L	0.010 U	EPA 300.0	0.040	0.010		12/02/11 03:24	MEJ
Nitrate (as N)	mg/L	21	EPA 300.0	0.04	0.01		12/02/11 03:24	MEJ
Orthophosphate as P	mg/L	2.1	EPA 300.0	0.040	0.010		12/02/11 03:24	MEJ
Sulfate	mg/L	56	EPA 300.0	0.60	0.20		12/02/11 03:24	MEJ
Total Alkalinity	mg/L	48	SM 2320B	8.0	2.0		12/07/11 12:00	SCD
Total Kjeldahl Nitrogen	mg/L	2.9	EPA 351.2	0.20	0.05	12/01/11 16:06	12/06/11 15:26	KTC
Total Organic Carbon	mg/L	31	SM 5310B	1.0	0.50		12/03/11 11:50	MEJ
Nitrate+Nitrite (N)	mg/L	13	EPA 353.2	1.0	0.25		12/14/11 09:09	KTC
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	22	SM 5310B	1.0	0.50		12/06/11 17:49	MEJ
Metals								
Boron	mg/L	0.095 I	EPA 200.7	0.10	0.050	12/02/11 11:43	12/05/11 16:19	VWC
Calcium	mg/L	37	EPA 200.7	0.50	0.042	12/02/11 11:43	12/05/11 16:19	VWC
Iron	mg/L	0.27	EPA 200.7	0.10	0.020	12/02/11 11:43	12/05/11 16:19	VWC
Magnesium	mg/L	8.8	EPA 200.7	0.50	0.020	12/02/11 11:43	12/05/11 16:19	VWC
Manganese	mg/L	0.018	EPA 200.7	0.010	0.0010	12/02/11 11:43	12/05/11 16:19	VWC
Potassium	mg/L	9.4	EPA 200.7	0.050	0.010	12/02/11 11:43	12/05/11 16:19	VWC
Sodium	mg/L	58	EPA 200.7	0.50	0.13	12/02/11 11:43	12/05/11 16:19	VWC
Sample Description		**C-HS2-C06-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-53**						
Date/Time Collected		**11/30/11 10:40**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.0	DEP FT1100	0.1	0.1		11/30/11 10:40	SDH
Water Temperature	°C	21.8	DEP FT1400	0.1	0.1		11/30/11 10:40	SDH

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-C06-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-53**						
Date/Time Collected		**11/30/11 10:40**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Specific conductance	umhos/cm	361	DEP FT1200	0.1	0.1		11/30/11 10:40	SDH
Dissolved Oxygen	mg/L	0.3	DEP FT1500	0.1	0.1		11/30/11 10:40	SDH
Inorganics								
Ammonia as N	mg/L	0.12	EPA 350.1	0.040	0.010		12/05/11 13:25	MMF
Chloride	mg/L	40	EPA 300.0	0.20	0.050		12/09/11 17:53	MEJ
Total Alkalinity	mg/L	38	SM 2320B	8.0	2.0		12/07/11 12:00	SCD
Total Kjeldahl Nitrogen	mg/L	1.8	EPA 351.2	0.20	0.05	12/01/11 16:06	12/06/11 15:28	KTC
Nitrate+Nitrite (N)	mg/L	3.8	EPA 353.2	0.20	0.05		12/13/11 16:55	KTC
Sample Description		**C-HS2-C06-10**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-54**						
Date/Time Collected		**11/30/11 10:50**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.3	DEP FT1100	0.1	0.1		11/30/11 10:50	SDH
Water Temperature	°C	22.6	DEP FT1400	0.1	0.1		11/30/11 10:50	SDH
Specific conductance	umhos/cm	130	DEP FT1200	0.1	0.1		11/30/11 10:50	SDH
Dissolved Oxygen	mg/L	0.2	DEP FT1500	0.1	0.1		11/30/11 10:50	SDH
Inorganics								
Ammonia as N	mg/L	0.30	EPA 350.1	0.040	0.010		12/05/11 13:27	MMF
Chloride	mg/L	29	EPA 300.0	0.20	0.050		12/10/11 02:40	MEJ
Total Alkalinity	mg/L	9.6	SM 2320B	8.0	2.0		12/07/11 12:00	SCD
Total Kjeldahl Nitrogen	mg/L	0.78	EPA 351.2	0.20	0.05	12/01/11 16:06	12/06/11 15:30	KTC
Nitrate+Nitrite (N)	mg/L	0.05	EPA 353.2	0.04	0.01		12/13/11 15:24	KTC
Sample Description		**C-HS2-C08-5**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-55**						
Date/Time Collected		**11/30/11 10:00**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.9	DEP FT1100	0.1	0.1		11/30/11 10:00	SDH
Water Temperature	°C	21.6	DEP FT1400	0.1	0.1		11/30/11 10:00	SDH

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Sample Description		**C-HS2-C08-5**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-55**						
Date/Time Collected		**11/30/11 10:00**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Specific conductance	umhos/cm	353	DEP FT1200	0.1	0.1		11/30/11 10:00	SDH
Dissolved Oxygen	mg/L	0.7	DEP FT1500	0.1	0.1		11/30/11 10:00	SDH
Inorganics								
Ammonia as N	mg/L	0.41	EPA 350.1	0.040	0.010		12/05/11 13:29	MMF
Chloride	mg/L	28	EPA 300.0	0.20	0.050		12/10/11 02:40	MEJ
Total Alkalinity	mg/L	77	SM 2320B	8.0	2.0		12/07/11 12:00	SCD
Total Kjeldahl Nitrogen	mg/L	3.8	EPA 351.2	0.20	0.05	12/01/11 16:06	12/06/11 15:31	KTC
Nitrate+Nitrite (N)	mg/L	4.2	EPA 353.2	0.20	0.05		12/12/11 16:10	KTC
Sample Description		**C-HS2-C08-5-Dup**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-56**						
Date/Time Collected		**11/30/11 10:05**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.9	DEP FT1100	0.1	0.1		11/30/11 10:05	SDH
Water Temperature	°C	21.6	DEP FT1400	0.1	0.1		11/30/11 10:05	SDH
Specific conductance	umhos/cm	353	DEP FT1200	0.1	0.1		11/30/11 10:05	SDH
Dissolved Oxygen	mg/L	0.7	DEP FT1500	0.1	0.1		11/30/11 10:05	SDH
Inorganics								
Ammonia as N	mg/L	0.41	EPA 350.1	0.040	0.010		12/05/11 13:31	MMF
Chloride	mg/L	28	EPA 300.0	0.20	0.050		12/10/11 02:40	MEJ
Total Alkalinity	mg/L	67	SM 2320B	8.0	2.0		12/09/11 09:12	SCD
Total Kjeldahl Nitrogen	mg/L	3.8	EPA 351.2	0.20	0.05	12/01/11 16:06	12/06/11 15:33	KTC
Nitrate+Nitrite (N)	mg/L	4.5	EPA 353.2	0.20	0.05		12/12/11 16:13	KTC
Sample Description		**C-HS2-C08-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-57**						
Date/Time Collected		**11/30/11 10:10**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.3	DEP FT1100	0.1	0.1		11/30/11 10:10	SDH
Water Temperature	°C	22.1	DEP FT1400	0.1	0.1		11/30/11 10:10	SDH

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-C08-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-57**						
Date/Time Collected		**11/30/11 10:10**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Specific conductance	umhos/cm	255	DEP FT1200	0.1	0.1		11/30/11 10:10	SDH
Dissolved Oxygen	mg/L	0.4	DEP FT1500	0.1	0.1		11/30/11 10:10	SDH
Inorganics								
Ammonia as N	mg/L	0.60	EPA 350.1	0.040	0.010		12/05/11 13:33	MMF
Chloride	mg/L	37	EPA 300.0	0.20	0.050		12/10/11 02:40	MEJ
Total Alkalinity	mg/L	48	SM 2320B	8.0	2.0		12/09/11 09:12	SCD
Total Kjeldahl Nitrogen	mg/L	1.7	EPA 351.2	0.20	0.05	12/01/11 16:06	12/06/11 15:35	KTC
Nitrate+Nitrite (N)	mg/L	0.05	EPA 353.2	0.04	0.01		12/12/11 16:15	KTC
Sample Description		**C-HS2-C08-10**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-58**						
Date/Time Collected		**11/30/11 10:20**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.0	DEP FT1100	0.1	0.1		11/30/11 10:20	SDH
Water Temperature	°C	22.4	DEP FT1400	0.1	0.1		11/30/11 10:20	SDH
Specific conductance	umhos/cm	134	DEP FT1200	0.1	0.1		11/30/11 10:20	SDH
Dissolved Oxygen	mg/L	0.3	DEP FT1500	0.1	0.1		11/30/11 10:20	SDH
Inorganics								
Ammonia as N	mg/L	0.46	EPA 350.1	0.040	0.010		12/05/11 13:36	MMF
Chloride	mg/L	32	EPA 300.0	0.20	0.050		12/10/11 02:40	MEJ
Total Alkalinity	mg/L	9.6	SM 2320B	8.0	2.0		12/09/11 09:12	SCD
Total Kjeldahl Nitrogen	mg/L	0.95	EPA 351.2	0.20	0.05	12/01/11 16:06	12/06/11 15:36	KTC
Nitrate+Nitrite (N)	mg/L	0.03 I	EPA 353.2	0.04	0.01		12/12/11 16:17	KTC
Sample Description		**C-HS2-C10-6**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-59**						
Date/Time Collected		**11/30/11 09:35**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.7	DEP FT1100	0.1	0.1		11/30/11 09:35	SDH
Water Temperature	°C	22.8	DEP FT1400	0.1	0.1		11/30/11 09:35	SDH

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-C10-6**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-59**						
Date/Time Collected		**11/30/11 09:35**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Specific conductance	umhos/cm	210	DEP FT1200	0.1	0.1		11/30/11 09:35	SDH
Dissolved Oxygen	mg/L	0.1	DEP FT1500	0.1	0.1		11/30/11 09:35	SDH
Inorganics								
Ammonia as N	mg/L	0.38	EPA 350.1	0.040	0.010		12/05/11 13:38	MMF
Chloride	mg/L	31	EPA 300.0	0.20	0.050		12/02/11 03:24	MEJ
Fluoride	mg/L	0.35	EPA 300.0	0.040	0.010		12/02/11 03:24	MEJ
Nitrate (as N)	mg/L	1.1	EPA 300.0	0.04	0.01		12/02/11 03:24	MEJ
Orthophosphate as P	mg/L	0.010 U	EPA 300.0	0.040	0.010		12/02/11 03:24	MEJ
Sulfate	mg/L	13	EPA 300.0	0.60	0.20		12/02/11 03:24	MEJ
Total Alkalinity	mg/L	19	SM 2320B	8.0	2.0		12/09/11 09:12	SCD
Total Kjeldahl Nitrogen	mg/L	2.9	EPA 351.2	0.20	0.05	12/01/11 16:06	12/06/11 15:38	KTC
Total Organic Carbon	mg/L	61	SM 5310B	1.0	0.50		12/03/11 11:50	MEJ
Nitrate+Nitrite (N)	mg/L	0.90	EPA 353.2	0.04	0.01		12/12/11 16:19	KTC
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	44	SM 5310B	1.0	0.50		12/06/11 17:49	MEJ
Metals								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	12/08/11 08:00	12/08/11 11:54	VWC
Calcium	mg/L	21	EPA 200.7	0.50	0.042	12/08/11 08:00	12/08/11 11:54	VWC
Iron	mg/L	0.42	EPA 200.7	0.10	0.020	12/08/11 08:00	12/08/11 11:54	VWC
Magnesium	mg/L	2.7	EPA 200.7	0.50	0.020	12/08/11 08:00	12/08/11 11:54	VWC
Manganese	mg/L	0.023	EPA 200.7	0.010	0.0010	12/08/11 08:00	12/08/11 11:54	VWC
Potassium	mg/L	4.0	EPA 200.7	0.050	0.010	12/08/11 08:00	12/08/11 11:54	VWC
Sodium	mg/L	17	EPA 200.7	0.50	0.13	12/08/11 08:00	12/08/11 11:54	VWC
Sample Description		**C-HS2-C10-8**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-60**						
Date/Time Collected		**11/30/11 09:45**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.1	DEP FT1100	0.1	0.1		11/30/11 09:45	SDH
Water Temperature	°C	23.1	DEP FT1400	0.1	0.1		11/30/11 09:45	SDH
Specific conductance	umhos/cm	160	DEP FT1200	0.1	0.1		11/30/11 09:45	SDH
Dissolved Oxygen	mg/L	0.1	DEP FT1500	0.1	0.1		11/30/11 09:45	SDH
Inorganics								

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-C10-8**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-60**						
Date/Time Collected		**11/30/11 09:45**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Ammonia as N	mg/L	0.42	EPA 350.1	0.040	0.010		12/05/11 13:40	MMF
Chloride	mg/L	40	EPA 300.0	0.20	0.050		12/10/11 02:40	MEJ
Total Alkalinity	mg/L	9.6	SM 2320B	8.0	2.0		12/09/11 09:12	SCD
Total Kjeldahl Nitrogen	mg/L	0.91	EPA 351.2	0.20	0.05	12/01/11 16:06	12/06/11 15:40	KTC
Nitrate+Nitrite (N)	mg/L	0.03 I	EPA 353.2	0.04	0.01		12/12/11 16:21	KTC
Sample Description		**C-HS2-C10-12**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-61**						
Date/Time Collected		**11/30/11 09:55**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	4.7	DEP FT1100	0.1	0.1		11/30/11 09:55	SDH
Water Temperature	°C	24.0	DEP FT1400	0.1	0.1		11/30/11 09:55	SDH
Specific conductance	umhos/cm	130	DEP FT1200	0.1	0.1		11/30/11 09:55	SDH
Dissolved Oxygen	mg/L	0.7	DEP FT1500	0.1	0.1		11/30/11 09:55	SDH
Inorganics								
Ammonia as N	mg/L	0.60	EPA 350.1	0.040	0.010		12/05/11 13:42	MMF
Chloride	mg/L	31	EPA 300.0	0.20	0.050		12/10/11 02:40	MEJ
Total Alkalinity	mg/L	9.6	SM 2320B	8.0	2.0		12/09/11 09:12	SCD
Total Kjeldahl Nitrogen	mg/L	1.6	EPA 351.2	0.20	0.05	12/01/11 16:06	12/06/11 15:45	KTC
Nitrate+Nitrite (N)	mg/L	0.16	EPA 353.2	0.04	0.01		12/12/11 16:24	KTC
Sample Description		**C-HS2-C11-5**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-62**						
Date/Time Collected		**11/30/11 09:05**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.3	DEP FT1100	0.1	0.1		11/30/11 09:05	SDH
Water Temperature	°C	21.8	DEP FT1400	0.1	0.1		11/30/11 09:05	SDH
Specific conductance	umhos/cm	133	DEP FT1200	0.1	0.1		11/30/11 09:05	SDH
Dissolved Oxygen	mg/L	0.7	DEP FT1500	0.1	0.1		11/30/11 09:05	SDH
Inorganics								

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-C11-5**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-62**						
Date/Time Collected		**11/30/11 09:05**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Ammonia as N	mg/L	0.13	EPA 350.1	0.040	0.010		12/05/11 13:44	MMF
Chloride	mg/L	5.7	EPA 300.0	0.20	0.050		12/10/11 02:40	MEJ
Total Alkalinity	mg/L	19	SM 2320B	8.0	2.0		12/09/11 09:12	SCD
Total Kjeldahl Nitrogen	mg/L	2.9	EPA 351.2	0.20	0.05	12/01/11 16:06	12/06/11 15:46	KTC
Nitrate+Nitrite (N)	mg/L	0.88	EPA 353.2	0.20	0.05		12/12/11 17:08	KTC
Sample Description		**C-HS2-C11-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-63**						
Date/Time Collected		**11/30/11 09:15**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.3	DEP FT1100	0.1	0.1		11/30/11 09:15	SDH
Water Temperature	°C	22.4	DEP FT1400	0.1	0.1		11/30/11 09:15	SDH
Specific conductance	umhos/cm	234	DEP FT1200	0.1	0.1		11/30/11 09:15	SDH
Dissolved Oxygen	mg/L	0.7	DEP FT1500	0.1	0.1		11/30/11 09:15	SDH
Inorganics								
Ammonia as N	mg/L	0.70	EPA 350.1	0.040	0.010		12/05/11 10:50	MMF
Chloride	mg/L	41	EPA 300.0	0.20	0.050		12/10/11 02:40	MEJ
Total Alkalinity	mg/L	9.6	SM 2320B	8.0	2.0		12/09/11 09:12	SCD
Total Kjeldahl Nitrogen	mg/L	2.4	EPA 351.2	0.20	0.05	12/01/11 16:06	12/06/11 15:48	KTC
Nitrate+Nitrite (N)	mg/L	0.24	EPA 353.2	0.04	0.01		12/12/11 16:28	KTC
Sample Description		**C-HS2-C11-10**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-64**						
Date/Time Collected		**11/30/11 09:25**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.2	DEP FT1100	0.1	0.1		11/30/11 09:25	SDH
Water Temperature	°C	22.7	DEP FT1400	0.1	0.1		11/30/11 09:25	SDH
Specific conductance	umhos/cm	133	DEP FT1200	0.1	0.1		11/30/11 09:25	SDH
Dissolved Oxygen	mg/L	0.2	DEP FT1500	0.1	0.1		11/30/11 09:25	SDH
Inorganics								

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-C11-10**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-64**						
Date/Time Collected		**11/30/11 09:25**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Ammonia as N	mg/L	0.46	EPA 350.1	0.040	0.010		12/05/11 10:52	MMF
Chloride	mg/L	28	EPA 300.0	0.20	0.050		12/10/11 02:40	MEJ
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		12/09/11 09:12	SCD
Total Kjeldahl Nitrogen	mg/L	0.99	EPA 351.2	0.20	0.05	12/01/11 16:06	12/06/11 15:50	KTC
Nitrate+Nitrite (N)	mg/L	0.04	EPA 353.2	0.04	0.01		12/12/11 16:30	KTC
Sample Description		**C-HS2-D04-5**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-65**						
Date/Time Collected		**11/30/11 07:36**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.7	DEP FT1100	0.1	0.1		11/30/11 07:36	SDH
Water Temperature	°C	23.2	DEP FT1400	0.1	0.1		11/30/11 07:36	SDH
Specific conductance	umhos/cm	656	DEP FT1200	0.1	0.1		11/30/11 07:36	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		11/30/11 07:36	SDH
Inorganics								
Ammonia as N	mg/L	0.027 I	EPA 350.1	0.040	0.010		12/05/11 10:54	MMF
Chloride	mg/L	38	EPA 300.0	0.20	0.050		12/02/11 03:24	MEJ
Fluoride	mg/L	0.010 U	EPA 300.0	0.040	0.010		12/02/11 03:24	MEJ
Nitrate (as N)	mg/L	30	EPA 300.0	0.04	0.01		12/02/11 03:24	MEJ
Orthophosphate as P	mg/L	1.6	EPA 300.0	0.040	0.010		12/02/11 03:24	MEJ
Sulfate	mg/L	64	EPA 300.0	0.60	0.20		12/02/11 03:24	MEJ
Total Alkalinity	mg/L	29	SM 2320B	8.0	2.0		12/09/11 09:12	SCD
Total Kjeldahl Nitrogen	mg/L	3.1	EPA 351.2	0.20	0.05	12/01/11 16:06	12/06/11 15:51	KTC
Total Organic Carbon	mg/L	27	SM 5310B	1.0	0.50		12/03/11 11:50	MEJ
Nitrate+Nitrite (N)	mg/L	27	EPA 353.2	1.0	0.25		12/12/11 16:37	KTC
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	19	SM 5310B	1.0	0.50		12/06/11 17:49	MEJ
Metals								
Boron	mg/L	0.093 I	EPA 200.7	0.10	0.050	12/08/11 08:00	12/08/11 11:57	VWC
Calcium	mg/L	51	EPA 200.7	0.50	0.042	12/08/11 08:00	12/08/11 11:57	VWC
Iron	mg/L	0.12	EPA 200.7	0.10	0.020	12/08/11 08:00	12/08/11 11:57	VWC
Magnesium	mg/L	12	EPA 200.7	0.50	0.020	12/08/11 08:00	12/08/11 11:57	VWC
Manganese	mg/L	0.0074 I	EPA 200.7	0.010	0.0010	12/08/11 08:00	12/08/11 11:57	VWC

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-D04-5**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-65**						
Date/Time Collected		**11/30/11 07:36**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Potassium	mg/L	15	EPA 200.7	0.050	0.010	12/08/11 08:00	12/08/11 11:57	VWC
Sodium	mg/L	47	EPA 200.7	0.50	0.13	12/08/11 08:00	12/08/11 11:57	VWC
Sample Description		**C-HS2-D04-7**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-66**						
Date/Time Collected		**11/30/11 07:45**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.9	DEP FT1100	0.1	0.1		11/30/11 07:45	SDH
Water Temperature	°C	23.3	DEP FT1400	0.1	0.1		11/30/11 07:45	SDH
Specific conductance	umhos/cm	379	DEP FT1200	0.1	0.1		11/30/11 07:45	SDH
Dissolved Oxygen	mg/L	0.1 U	DEP FT1500	0.1	0.1		11/30/11 07:45	SDH
Inorganics								
Ammonia as N	mg/L	0.020 I	EPA 350.1	0.040	0.010		12/05/11 10:56	MMF
Chloride	mg/L	35	EPA 300.0	0.20	0.050		12/10/11 02:40	MEJ
Total Alkalinity	mg/L	38	SM 2320B	8.0	2.0		12/09/11 09:12	SCD
Total Kjeldahl Nitrogen	mg/L	2.1	EPA 351.2	0.20	0.05	12/01/11 16:06	12/06/11 15:53	KTC
Nitrate+Nitrite (N)	mg/L	7.6	EPA 353.2	1.0	0.25		12/12/11 16:39	KTC
Sample Description		**C-HS2-D04-10**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-67**						
Date/Time Collected		**11/30/11 07:55**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.8	DEP FT1100	0.1	0.1		11/30/11 07:55	SDH
Water Temperature	°C	23.1	DEP FT1400	0.1	0.1		11/30/11 07:55	SDH
Specific conductance	umhos/cm	169	DEP FT1200	0.1	0.1		11/30/11 07:55	SDH
Dissolved Oxygen	mg/L	0.5	DEP FT1500	0.1	0.1		11/30/11 07:55	SDH
Inorganics								
Ammonia as N	mg/L	0.18	EPA 350.1	0.040	0.010		12/05/11 10:58	MMF
Chloride	mg/L	32	EPA 300.0	0.20	0.050		12/10/11 02:40	MEJ
Total Alkalinity	mg/L	19	SM 2320B	8.0	2.0		12/09/11 09:12	SCD

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-D04-10**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-67**						
Date/Time Collected		**11/30/11 07:55**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Total Kjeldahl Nitrogen	mg/L	0.85	EPA 351.2	0.20	0.05	12/01/11 16:06	12/06/11 15:55	KTC
Nitrate+Nitrite (N)	mg/L	0.04	EPA 353.2	0.04	0.01		12/12/11 16:41	KTC
Sample Description		**C-HS2-D07-6**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-68**						
Date/Time Collected		**11/30/11 08:05**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.2	DEP FT1100	0.1	0.1		11/30/11 08:05	SDH
Water Temperature	°C	22.4	DEP FT1400	0.1	0.1		11/30/11 08:05	SDH
Specific conductance	umhos/cm	541	DEP FT1200	0.1	0.1		11/30/11 08:05	SDH
Dissolved Oxygen	mg/L	0.2	DEP FT1500	0.1	0.1		11/30/11 08:05	SDH
Inorganics								
Ammonia as N	mg/L	0.63	EPA 350.1	0.20	0.050		12/05/11 11:49	MMF
Chloride	mg/L	40	EPA 300.0	0.20	0.050		12/10/11 02:40	MEJ
Total Alkalinity	mg/L	140	SM 2320B	8.0	2.0		12/09/11 09:12	SCD
Total Kjeldahl Nitrogen	mg/L	3.0	EPA 351.2	0.20	0.05	12/01/11 16:06	12/06/11 15:56	KTC
Nitrate+Nitrite (N)	mg/L	0.45	EPA 353.2	0.04	0.01		12/12/11 16:44	KTC
Sample Description		**C-HS2-D07-6-Dup**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-69**						
Date/Time Collected		**11/30/11 08:10**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.2	DEP FT1100	0.1	0.1		11/30/11 08:10	SDH
Water Temperature	°C	22.4	DEP FT1400	0.1	0.1		11/30/11 08:10	SDH
Specific conductance	umhos/cm	541	DEP FT1200	0.1	0.1		11/30/11 08:10	SDH
Dissolved Oxygen	mg/L	0.2	DEP FT1500	0.1	0.1		11/30/11 08:10	SDH
Inorganics								
Ammonia as N	mg/L	0.61	EPA 350.1	0.20	0.050		12/05/11 11:51	MMF
Chloride	mg/L	40	EPA 300.0	0.20	0.050		12/10/11 02:40	MEJ
Total Alkalinity	mg/L	130	SM 2320B	8.0	2.0		12/09/11 09:12	SCD

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-D07-6-Dup**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-69**						
Date/Time Collected		**11/30/11 08:10**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Total Kjeldahl Nitrogen	mg/L	2.9	EPA 351.2	0.20	0.05	12/01/11 16:06	12/06/11 15:58	KTC
Nitrate+Nitrite (N)	mg/L	0.43	EPA 353.2	0.04	0.01		12/12/11 16:46	KTC
Sample Description		**C-HS2-D07-8**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-70**						
Date/Time Collected		**11/30/11 08:20**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	6.0	DEP FT1100	0.1	0.1		11/30/11 08:20	SDH
Water Temperature	°C	22.9	DEP FT1400	0.1	0.1		11/30/11 08:20	SDH
Specific conductance	umhos/cm	337	DEP FT1200	0.1	0.1		11/30/11 08:20	SDH
Dissolved Oxygen	mg/L	0.4	DEP FT1500	0.1	0.1		11/30/11 08:20	SDH
Inorganics								
Ammonia as N	mg/L	0.64	EPA 350.1	0.040	0.010		12/05/11 11:04	MMF
Chloride	mg/L	29	EPA 300.0	0.20	0.050		12/10/11 02:40	MEJ
Total Alkalinity	mg/L	87	SM 2320B	8.0	2.0	12/08/11 10:00	12/08/11 12:31	JAG
Total Kjeldahl Nitrogen	mg/L	1.4	EPA 351.2	0.20	0.05	12/01/11 16:06	12/06/11 16:00	KTC
Nitrate+Nitrite (N)	mg/L	0.03 I	EPA 353.2	0.04	0.01		12/12/11 16:48	KTC
Sample Description		**C-HS2-D07-11**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-71**						
Date/Time Collected		**11/30/11 08:25**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	5.9	DEP FT1100	0.1	0.1		11/30/11 08:25	SDH
Water Temperature	°C	23.3	DEP FT1400	0.1	0.1		11/30/11 08:25	SDH
Specific conductance	umhos/cm	130	DEP FT1200	0.1	0.1		11/30/11 08:25	SDH
Dissolved Oxygen	mg/L	0.5	DEP FT1500	0.1	0.1		11/30/11 08:25	SDH
Inorganics								
Ammonia as N	mg/L	0.59	EPA 350.1	0.040	0.010		12/05/11 11:06	MMF
Chloride	mg/L	29	EPA 300.0	0.20	0.050		12/10/11 02:40	MEJ
Total Alkalinity	mg/L	9.6	SM 2320B	8.0	2.0	12/08/11 10:00	12/08/11 12:31	JAG

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**C-HS2-D07-11**						
Matrix		**Groundwater**						
SAL Sample Number		**1111095-71**						
Date/Time Collected		**11/30/11 08:25**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	12/01/11 16:04	12/06/11 13:07	KTC
Nitrate+Nitrite (N)	mg/L	0.07	EPA 353.2	0.04	0.01		12/12/11 16:50	KTC
Sample Description		**FB-Tap**						
Matrix		**Reagent Water**						
SAL Sample Number		**1111095-72**						
Date/Time Collected		**12/01/11 11:00**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	8.2	DEP FT1100	0.1	0.1		12/01/11 11:00	SDH
Water Temperature	°C	21.7	DEP FT1400	0.1	0.1		12/01/11 11:00	SDH
Specific conductance	umhos/cm	329	DEP FT1200	0.1	0.1		12/01/11 11:00	SDH
Dissolved Oxygen	mg/L	5.2	DEP FT1500	0.1	0.1		12/01/11 11:00	SDH
Inorganics								
Ammonia as N	mg/L	0.010 U	EPA 350.1	0.040	0.010		12/05/11 11:12	MMF
Chloride	mg/L	20	EPA 300.0	0.20	0.050		12/10/11 02:40	MEJ
Total Alkalinity	mg/L	120	SM 2320B	8.0	2.0	12/08/11 10:00	12/08/11 12:31	JAG
Total Kjeldahl Nitrogen	mg/L	0.05 U	EPA 351.2	0.20	0.05	12/01/11 16:04	12/06/11 14:41	KTC
Nitrate+Nitrite (N)	mg/L	0.01 U	EPA 353.2	0.04	0.01		12/12/11 17:26	KTC
Sample Description		**FB-DI**						
Matrix		**Reagent Water**						
SAL Sample Number		**1111095-73**						
Date/Time Collected		**12/01/11 11:10**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	8.0	DEP FT1100	0.1	0.1		12/01/11 11:10	SDH
Water Temperature	°C	16.2	DEP FT1400	0.1	0.1		12/01/11 11:10	SDH
Specific conductance	umhos/cm	3	DEP FT1200	0.1	0.1		12/01/11 11:10	SDH
Dissolved Oxygen	mg/L	8.5	DEP FT1500	0.1	0.1		12/01/11 11:10	SDH
Inorganics								
Ammonia as N	mg/L	0.010 U	EPA 350.1	0.040	0.010		12/05/11 11:14	MMF
Chloride	mg/L	0.050 U	EPA 300.0	0.20	0.050		12/10/11 02:40	MEJ
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	12/08/11 10:00	12/08/11 12:31	JAG

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Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	By
Sample Description		**FB-DI**						
Matrix		**Reagent Water**						
SAL Sample Number		**1111095-73**						
Date/Time Collected		**12/01/11 11:10**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Total Kjeldahl Nitrogen	mg/L	0.05 U	EPA 351.2	0.20	0.05	12/01/11 16:04	12/06/11 14:42	KTC
Nitrate+Nitrite (N)	mg/L	0.01 U	EPA 353.2	0.04	0.01		12/12/11 17:28	KTC
Sample Description		**EB**						
Matrix		**Reagent Water**						
SAL Sample Number		**1111095-74**						
Date/Time Collected		**11/30/11 07:30**						
Collected by		**Sean Harmon**						
Date/Time Received		**12/01/11 13:35**						
Field Parameters								
pH	SU	7.7	DEP FT1100	0.1	0.1		11/30/11 07:30	SDH
Water Temperature	°C	13.2	DEP FT1400	0.1	0.1		11/30/11 07:30	SDH
Specific conductance	umhos/cm	4	DEP FT1200	0.1	0.1		11/30/11 07:30	SDH
Dissolved Oxygen	mg/L	5.2	DEP FT1500	0.1	0.1		11/30/11 07:30	SDH
Inorganics								
Ammonia as N	mg/L	0.010 U	EPA 350.1	0.040	0.010		12/05/11 11:16	MMF
Chloride	mg/L	0.050 U	EPA 300.0	0.20	0.050		12/10/11 02:40	MEJ
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	12/08/11 10:00	12/08/11 12:31	JAG
Total Kjeldahl Nitrogen	mg/L	0.05 U	EPA 351.2	0.20	0.05	12/01/11 16:04	12/06/11 14:43	KTC
Nitrate+Nitrite (N)	mg/L	0.01 U	EPA 353.2	0.04	0.01		12/12/11 17:29	KTC

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL10129 - Nitrate 353.2 by seal										
Blank (BL10129-BLK1)					Prepared & Analyzed: 12/02/11					
Nitrate+Nitrite (N)	0.01 U	0.04	0.01	mg/L						
LCS (BL10129-BS1)					Prepared & Analyzed: 12/02/11					
Nitrate+Nitrite (N)	0.857	0.04	0.01	mg/L	0.80		107	90-110		
Matrix Spike (BL10129-MS1)		**Source: 1111095-01**			Prepared & Analyzed: 12/02/11					
Nitrate+Nitrite (N)	0.991	0.04	0.01	mg/L	1.0	0.0294	96	77-119		
Matrix Spike Dup (BL10129-MSD1)		**Source: 1111095-01**			Prepared & Analyzed: 12/02/11					
Nitrate+Nitrite (N)	0.994	0.04	0.01	mg/L	1.0	0.0294	96	77-119	0.3	20
Batch BL10132 - Nitrate 353.2 by seal										
Blank (BL10132-BLK1)					Prepared & Analyzed: 12/02/11					
Nitrate+Nitrite (N)	0.01 U	0.04	0.01	mg/L						
LCS (BL10132-BS1)					Prepared & Analyzed: 12/02/11					
Nitrate+Nitrite (N)	0.753	0.04	0.01	mg/L	0.80		94	90-110		
Matrix Spike (BL10132-MS1)		**Source: 1111095-22**			Prepared & Analyzed: 12/02/11					
Nitrate+Nitrite (N)	0.921	0.04	0.01	mg/L	1.0	0.0243	90	77-119		
Matrix Spike Dup (BL10132-MSD1)		**Source: 1111095-22**			Prepared & Analyzed: 12/02/11					
Nitrate+Nitrite (N)	0.900	0.04	0.01	mg/L	1.0	0.0243	88	77-119	2	20
Batch BL10136 - Digestion for TKN by EPA 351.2										
Blank (BL10136-BLK1)					Prepared: 12/01/11 Analyzed: 12/06/11					
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	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 BL10136 - Digestion for TKN by EPA 351.2										
LCS (BL10136-BS1)					Prepared: 12/01/11	Analyzed: 12/06/11				
Total Kjeldahl Nitrogen	2.65	0.20	0.05	mg/L	2.5		105	90-110		
Matrix Spike (BL10136-MS1)		**Source: 1111095-71**			Prepared: 12/01/11	Analyzed: 12/06/11				
Total Kjeldahl Nitrogen	3.76	0.20	0.05	mg/L	2.5	1.33	96	80-120		
Matrix Spike Dup (BL10136-MSD1)		**Source: 1111095-71**			Prepared: 12/01/11	Analyzed: 12/06/11				
Total Kjeldahl Nitrogen	3.72	0.20	0.05	mg/L	2.5	1.33	94	80-120	1	20
Batch BL10137 - Digestion for TKN by EPA 351.2										
Blank (BL10137-BLK1)					Prepared: 12/01/11	Analyzed: 12/06/11				
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BL10137-BS1)					Prepared: 12/01/11	Analyzed: 12/06/11				
Total Kjeldahl Nitrogen	2.60	0.20	0.05	mg/L	2.5		103	90-110		
Matrix Spike (BL10137-MS1)		**Source: 1111095-51**			Prepared: 12/01/11	Analyzed: 12/06/11				
Total Kjeldahl Nitrogen	3.34	0.20	0.05	mg/L	2.5	0.990	93	80-120		
Matrix Spike Dup (BL10137-MSD1)		**Source: 1111095-51**			Prepared: 12/01/11	Analyzed: 12/06/11				
Total Kjeldahl Nitrogen	3.64	0.20	0.05	mg/L	2.5	0.990	105	80-120	9	20
Batch BL10138 - Digestion for TKN by EPA 351.2										
Blank (BL10138-BLK1)					Prepared: 12/01/11	Analyzed: 12/06/11				
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL10138 - Digestion for TKN by EPA 351.2										
LCS (BL10138-BS1)					Prepared: 12/01/11 Analyzed: 12/06/11					
Total Kjeldahl Nitrogen	2.67	0.20	0.05	mg/L	2.5		105	90-110		
Matrix Spike (BL10138-MS1)		**Source: 1111095-31**			Prepared: 12/01/11 Analyzed: 12/06/11					
Total Kjeldahl Nitrogen	3.31	0.20	0.05	mg/L	2.5	0.806	99	80-120		
Matrix Spike Dup (BL10138-MSD1)		**Source: 1111095-31**			Prepared: 12/01/11 Analyzed: 12/06/11					
Total Kjeldahl Nitrogen	3.25	0.20	0.05	mg/L	2.5	0.806	96	80-120	2	20
Batch BL10139 - Ammonia by SEAL										
Blank (BL10139-BLK1)					Prepared & Analyzed: 12/05/11					
Ammonia as N	0.010 U	0.040	0.010	mg/L						
LCS (BL10139-BS1)					Prepared & Analyzed: 12/05/11					
Ammonia as N	0.51	0.040	0.010	mg/L	0.50		103	90-110		
Matrix Spike (BL10139-MS1)		**Source: 1111216-02**			Prepared & Analyzed: 12/05/11					
Ammonia as N	0.61	0.040	0.010	mg/L	0.50	0.041	113	90-110		
Matrix Spike Dup (BL10139-MSD1)		**Source: 1111216-02**			Prepared & Analyzed: 12/05/11					
Ammonia as N	0.58	0.040	0.010	mg/L	0.50	0.041	109	90-110	4	10
Batch BL10140 - Ammonia by SEAL										
Blank (BL10140-BLK1)					Prepared & Analyzed: 12/05/11					
Ammonia as N	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 BL10140 - Ammonia by SEAL										
LCS (BL10140-BS1)					Prepared & Analyzed: 12/05/11					
Ammonia as N	0.53	0.040	0.010	mg/L	0.50		107	90-110		
Matrix Spike (BL10140-MS1)		**Source: 1111095-44**			Prepared & Analyzed: 12/05/11					
Ammonia as N	0.82	0.040	0.010	mg/L	0.50	0.33	97	90-110		
Matrix Spike Dup (BL10140-MSD1)		**Source: 1111095-44**			Prepared & Analyzed: 12/05/11					
Ammonia as N	0.81	0.040	0.010	mg/L	0.50	0.33	96	90-110	0.6	10
Batch BL10141 - Ammonia by SEAL										
Blank (BL10141-BLK1)					Prepared & Analyzed: 12/05/11					
Ammonia as N	0.010 U	0.040	0.010	mg/L						
LCS (BL10141-BS1)					Prepared & Analyzed: 12/05/11					
Ammonia as N	0.54	0.040	0.010	mg/L	0.50		108	90-110		
Matrix Spike (BL10141-MS1)		**Source: 1111095-22**			Prepared & Analyzed: 12/05/11					
Ammonia as N	0.93	0.040	0.010	mg/L	0.50	0.43	101	90-110		
Matrix Spike Dup (BL10141-MSD1)		**Source: 1111095-22**			Prepared & Analyzed: 12/05/11					
Ammonia as N	0.93	0.040	0.010	mg/L	0.50	0.43	100	90-110	0.7	10
Batch BL10223 - Ion Chromatography 300.0 Prep										
Blank (BL10223-BLK1)					Prepared & Analyzed: 12/02/11					
Fluoride	0.010 U	0.040	0.010	mg/L						
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
Sulfate	0.20 U	0.60	0.20	mg/L						

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL10223 - Ion Chromatography 300.0 Prep										
LCS (BL10223-BS1)					Prepared & Analyzed: 12/02/11					
Orthophosphate as P	8.73	0.040	0.010	mg/L	9.0		97	85-115		
Sulfate	89.7	0.60	0.20	mg/L	90		100	85-115		
Nitrate (as N)	16.9	0.04	0.01	mg/L	17		99	85-115		
Fluoride	8.92	0.040	0.010	mg/L	9.0		99	85-115		
Chloride	29.5	0.20	0.050	mg/L	30		98	85-115		
LCS Dup (BL10223-BSD1)					Prepared & Analyzed: 12/02/11					
Nitrate (as N)	17.0	0.04	0.01	mg/L	17		100	85-115	0.6	200
Fluoride	9.02	0.040	0.010	mg/L	9.0		100	85-115	1	200
Sulfate	90.6	0.60	0.20	mg/L	90		101	85-115	1	200
Chloride	30.0	0.20	0.050	mg/L	30		100	85-115	2	200
Orthophosphate as P	8.87	0.040	0.010	mg/L	9.0		99	85-115	2	200
Matrix Spike (BL10223-MS1)		**Source: 1111228-02**			Prepared & Analyzed: 12/02/11					
Chloride	123	0.20	0.050	mg/L	30	91.9	104	80-120		
Fluoride	8.43	0.040	0.010	mg/L	9.0	ND	94	85-115		
Orthophosphate as P	9.90	0.040	0.010	mg/L	9.0	0.516	104	85-115		
Sulfate	106	0.60	0.20	mg/L	90	22.2	93	85-115		
Nitrate (as N)	17.7	0.04	0.01	mg/L	17	2.04	92	85-115		
Matrix Spike (BL10223-MS2)		**Source: 1111268-08**			Prepared & Analyzed: 12/02/11					
Chloride	25.5	0.20	0.050	mg/L	3.0	22.2	110	80-120		
Orthophosphate as P	0.874	0.040	0.010	mg/L	0.90	ND	97	85-115		
Nitrate (as N)	1.87	0.04	0.01	mg/L	1.7	0.175	100	85-115		
Sulfate	128 +O	0.60	0.20	mg/L	9.0	124	44	85-115		
Fluoride	1.24	0.040	0.010	mg/L	0.90	0.371	97	85-115		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL10232 - Ion Chromatography 300.0 Prep										
Blank (BL10232-BLK1)					Prepared & Analyzed: 12/02/11					
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BL10232-BS1)					Prepared & Analyzed: 12/02/11					
Chloride	2.92	0.20	0.050	mg/L	3.0		97	85-115		
LCS Dup (BL10232-BSD1)					Prepared & Analyzed: 12/02/11					
Chloride	2.78	0.20	0.050	mg/L	3.0		93	85-115	5	200
Matrix Spike (BL10232-MS1)		**Source: 1111095-03**			Prepared & Analyzed: 12/02/11					
Chloride	71.6 +O	0.20	0.050	mg/L	30	49.6	73	80-120		
Matrix Spike (BL10232-MS2)		**Source: 1111095-15**			Prepared & Analyzed: 12/02/11					
Chloride	70.6	0.20	0.050	mg/L	30	37.7	110	80-120		
Batch BL10515 - TOC prep										
Blank (BL10515-BLK1)					Prepared & Analyzed: 12/03/11					
Total Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BL10515-BS1)					Prepared & Analyzed: 12/03/11					
Total Organic Carbon	10.2	1.0	0.50	mg/L	10		102	90-110		
Matrix Spike (BL10515-MS1)		**Source: 1111095-35**			Prepared & Analyzed: 12/03/11					
Total Organic Carbon	136	1.0	0.50	mg/L	100	41.4	95	85-115		
Matrix Spike Dup (BL10515-MSD1)		**Source: 1111095-35**			Prepared & Analyzed: 12/03/11					
Total Organic Carbon	139	1.0	0.50	mg/L	100	41.4	97	85-115	2	10

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL10614 - Digestion for TKN by EPA 351.2										
Blank (BL10614-BLK1)					Prepared: 12/06/11 Analyzed: 12/09/11					
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BL10614-BS1)					Prepared: 12/06/11 Analyzed: 12/09/11					
Total Kjeldahl Nitrogen	2.32	0.20	0.05	mg/L	2.5		91	90-110		
Matrix Spike (BL10614-MS1)		**Source: 1111296-03**			Prepared: 12/06/11 Analyzed: 12/09/11					
Total Kjeldahl Nitrogen	4.04	0.20	0.05	mg/L	2.5	1.52	99	80-120		
Matrix Spike Dup (BL10614-MSD1)		**Source: 1111296-03**			Prepared: 12/06/11 Analyzed: 12/09/11					
Total Kjeldahl Nitrogen	3.93	0.20	0.05	mg/L	2.5	1.52	95	80-120	3	20
Batch BL10636 - alkalinity										
Blank (BL10636-BLK1)					Prepared & Analyzed: 12/07/11					
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BL10636-BS1)					Prepared & Analyzed: 12/07/11					
Total Alkalinity	120	8.0	2.0	mg/L	120		92	90-110		
Matrix Spike (BL10636-MS1)		**Source: 1110877-01**			Prepared & Analyzed: 12/07/11					
Total Alkalinity	160	8.0	2.0	mg/L	120	58	85	80-120		
Matrix Spike Dup (BL10636-MSD1)		**Source: 1110877-01**			Prepared & Analyzed: 12/07/11					
Total Alkalinity	160	8.0	2.0	mg/L	120	58	85	80-120	0	26
Batch BL10637 - alkalinity										
Blank (BL10637-BLK1)					Prepared & Analyzed: 12/07/11					
Total Alkalinity	2.0 U	8.0	2.0	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 BL10637 - alkalinity										
LCS (BL10637-BS1)					Prepared & Analyzed: 12/07/11					
Total Alkalinity	130	8.0	2.0	mg/L	120		100	90-110		
Matrix Spike (BL10637-MS1)		**Source: 1111095-04**			Prepared & Analyzed: 12/07/11					
Total Alkalinity	210	8.0	2.0	mg/L	120	96	92	80-120		
Matrix Spike Dup (BL10637-MSD1)		**Source: 1111095-04**			Prepared & Analyzed: 12/07/11					
Total Alkalinity	210	8.0	2.0	mg/L	120	96	92	80-120	0	26
Batch BL10648 - alkalinity										
Blank (BL10648-BLK1)					Prepared & Analyzed: 12/07/11					
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BL10648-BS1)					Prepared & Analyzed: 12/07/11					
Total Alkalinity	130	8.0	2.0	mg/L	120		100	90-110		
Matrix Spike (BL10648-MS1)		**Source: 1111095-26**			Prepared & Analyzed: 12/07/11					
Total Alkalinity	170	8.0	2.0	mg/L	120	48	100	80-120		
Matrix Spike Dup (BL10648-MSD1)		**Source: 1111095-26**			Prepared & Analyzed: 12/07/11					
Total Alkalinity	170	8.0	2.0	mg/L	120	48	100	80-120	0	26
Batch BL10653 - alkalinity										
Blank (BL10653-BLK1)					Prepared & Analyzed: 12/07/11					
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 BL10653 - alkalinity										
LCS (BL10653-BS1)					Prepared & Analyzed: 12/07/11					
Total Alkalinity	130	8.0	2.0	mg/L	120		100	90-110		
Matrix Spike (BL10653-MS1)		**Source: 1111095-41**			Prepared & Analyzed: 12/07/11					
Total Alkalinity	120	8.0	2.0	mg/L	120	9.6	85	80-120		
Matrix Spike Dup (BL10653-MSD1)		**Source: 1111095-41**			Prepared & Analyzed: 12/07/11					
Total Alkalinity	120	8.0	2.0	mg/L	120	9.6	85	80-120	0	26
Batch BL10716 - Ion Chromatography 300.0 Prep										
Blank (BL10716-BLK1)					Prepared & Analyzed: 12/08/11					
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BL10716-BS1)					Prepared & Analyzed: 12/08/11					
Chloride	3.17	0.20	0.050	mg/L	3.0		106	85-115		
LCS Dup (BL10716-BSD1)					Prepared & Analyzed: 12/08/11					
Chloride	3.27	0.20	0.050	mg/L	3.0		109	85-115	3	200
Matrix Spike (BL10716-MS1)		**Source: 1111095-17**			Prepared & Analyzed: 12/08/11					
Chloride	50.3	0.20	0.050	mg/L	30	21.9	95	80-120		
Matrix Spike (BL10716-MS2)		**Source: 1111095-29**			Prepared & Analyzed: 12/08/11					
Chloride	52.3	0.20	0.050	mg/L	30	24.4	93	80-120		
Batch BL10753 - alkalinity										
Blank (BL10753-BLK1)					Prepared & Analyzed: 12/09/11					
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 BL10753 - alkalinity										
LCS (BL10753-BS1)					Prepared & Analyzed: 12/09/11					
Total Alkalinity	120	8.0	2.0	mg/L	120		92	90-110		
Matrix Spike (BL10753-MS1)		**Source: 1111095-56**			Prepared & Analyzed: 12/09/11					
Total Alkalinity	170	8.0	2.0	mg/L	120	67	85	80-120		
Matrix Spike Dup (BL10753-MSD1)		**Source: 1111095-56**			Prepared & Analyzed: 12/09/11					
Total Alkalinity	170	8.0	2.0	mg/L	120	67	85	80-120	0	26
Batch BL10802 - Nitrate 353.2 by seal										
Blank (BL10802-BLK1)					Prepared & Analyzed: 12/12/11					
Nitrate+Nitrite (N)	0.01 U	0.04	0.01	mg/L						
Batch BL10803 - Nitrate 353.2 by seal										
Blank (BL10803-BLK1)					Prepared & Analyzed: 12/13/11					
Nitrate+Nitrite (N)	0.01 U	0.04	0.01	mg/L						
LCS (BL10803-BS1)					Prepared & Analyzed: 12/13/11					
Nitrate+Nitrite (N)	0.846	0.04	0.01	mg/L	0.80		106	90-110		
Matrix Spike (BL10803-MS1)		**Source: 1111095-45**			Prepared & Analyzed: 12/14/11					
Nitrate+Nitrite (N)	4.13	0.20	0.05	mg/L	1.0	2.97	116	77-119		
Matrix Spike Dup (BL10803-MSD1)		**Source: 1111095-45**			Prepared & Analyzed: 12/14/11					
Nitrate+Nitrite (N)	3.75	0.20	0.05	mg/L	1.0	2.97	78	77-119	10	20

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL10819 - alkalinity										
Blank (BL10819-BLK1)					Prepared & Analyzed: 12/08/11					
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BL10819-BS1)					Prepared & Analyzed: 12/08/11					
Total Alkalinity	130	8.0	2.0	mg/L	120		100	90-110		
Matrix Spike (BL10819-MS1)		**Source: 1111095-70**			Prepared & Analyzed: 12/08/11					
Total Alkalinity	190	8.0	2.0	mg/L	120	87	85	80-120		
Matrix Spike (BL10819-MS2)		**Source: 1111426-06**			Prepared & Analyzed: 12/08/11					
Total Alkalinity	290	8.0	2.0	mg/L	120	160	100	80-120		
Matrix Spike Dup (BL10819-MSD1)		**Source: 1111095-70**			Prepared & Analyzed: 12/08/11					
Total Alkalinity	190	8.0	2.0	mg/L	120	87	85	80-120	0	26
Matrix Spike Dup (BL10819-MSD2)		**Source: 1111426-06**			Prepared & Analyzed: 12/08/11					
Total Alkalinity	290	8.0	2.0	mg/L	120	160	100	80-120	0	26
Batch BL10826 - Ion Chromatography 300.0 Prep										
Blank (BL10826-BLK1)					Prepared & Analyzed: 12/09/11					
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BL10826-BS1)					Prepared & Analyzed: 12/09/11					
Chloride	3.16	0.20	0.050	mg/L	3.0		105	85-115		
LCS Dup (BL10826-BSD1)					Prepared & Analyzed: 12/09/11					
Chloride	3.11	0.20	0.050	mg/L	3.0		104	85-115	2	200

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL10826 - Ion Chromatography 300.0 Prep										
Matrix Spike (BL10826-MS1)		**Source: 1111095-39**			Prepared & Analyzed: 12/09/11					
Chloride	52.4	0.20	0.050	mg/L	30	25.0	91	80-120		
Matrix Spike (BL10826-MS2)		**Source: 1111095-49**			Prepared & Analyzed: 12/09/11					
Chloride	50.8	0.20	0.050	mg/L	30	19.9	103	80-120		
Batch BL10843 - Ammonia by SEAL										
Blank (BL10843-BLK1)					Prepared & Analyzed: 12/08/11					
Ammonia as N	0.010 U	0.040	0.010	mg/L						
LCS (BL10843-BS1)					Prepared & Analyzed: 12/08/11					
Ammonia as N	0.51	0.040	0.010	mg/L	0.50		101	90-110		
Matrix Spike (BL10843-MS1)		**Source: 1111095-08**			Prepared & Analyzed: 12/08/11					
Ammonia as N	0.89	0.040	0.010	mg/L	0.50	0.39	100	90-110		
Matrix Spike Dup (BL10843-MSD1)		**Source: 1111095-08**			Prepared & Analyzed: 12/08/11					
Ammonia as N	0.89	0.040	0.010	mg/L	0.50	0.39	101	90-110	0.9	10
Batch BL10936 - Ion Chromatography 300.0 Prep										
Blank (BL10936-BLK1)					Prepared & Analyzed: 12/09/11					
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BL10936-BS1)					Prepared & Analyzed: 12/09/11					
Chloride	2.84	0.20	0.050	mg/L	3.0		95	85-115		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL10936 - Ion Chromatography 300.0 Prep										
LCS Dup (BL10936-BSD1)					Prepared & Analyzed: 12/09/11					
Chloride	2.81	0.20	0.050	mg/L	3.0		94	85-115	1	200
Matrix Spike (BL10936-MS1)		**Source: 1111557-01**			Prepared & Analyzed: 12/09/11					
Chloride	46.6 +O	0.20	0.050	mg/L	3.0	45.9	23	80-120		
Matrix Spike (BL10936-MS2)		**Source: 1111095-53**			Prepared & Analyzed: 12/09/11					
Chloride	67.2	0.20	0.050	mg/L	30	39.7	92	80-120		
Batch BL10937 - Ion Chromatography 300.0 Prep										
Blank (BL10937-BLK1)					Prepared & Analyzed: 12/10/11					
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BL10937-BS1)					Prepared & Analyzed: 12/10/11					
Chloride	3.05	0.20	0.050	mg/L	3.0		102	85-115		
LCS Dup (BL10937-BSD1)					Prepared & Analyzed: 12/10/11					
Chloride	3.00	0.20	0.050	mg/L	3.0		100	85-115	2	200
Matrix Spike (BL10937-MS1)		**Source: 1111095-64**			Prepared & Analyzed: 12/10/11					
Chloride	59.7	0.20	0.050	mg/L	30	28.5	104	80-120		
Matrix Spike (BL10937-MS2)		**Source: 1111095-74**			Prepared & Analyzed: 12/10/11					
Chloride	2.80	0.20	0.050	mg/L	3.0	ND	93	80-120		
Batch BL11212 - Digestion for TKN by EPA 351.2										
Blank (BL11212-BLK1)					Prepared: 12/12/11 Analyzed: 12/16/11					
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	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 BL11212 - Digestion for TKN by EPA 351.2										
LCS (BL11212-BS1)					Prepared: 12/12/11 Analyzed: 12/16/11					
Total Kjeldahl Nitrogen	2.30	0.20	0.05	mg/L	2.5		91	90-110		
Matrix Spike (BL11212-MS1)		**Source: 1111375-06**			Prepared: 12/12/11 Analyzed: 12/16/11					
Total Kjeldahl Nitrogen	3.51	0.20	0.05	mg/L	2.5	1.11	95	80-120		
Matrix Spike Dup (BL11212-MSD1)		**Source: 1111375-06**			Prepared: 12/12/11 Analyzed: 12/16/11					
Total Kjeldahl Nitrogen	3.63	0.20	0.05	mg/L	2.5	1.11	100	80-120	3	20
Batch BL11311 - Nitrate 353.2 by seal										
Blank (BL11311-BLK1)					Prepared & Analyzed: 12/13/11					
Nitrate+Nitrite (N)	0.01 U	0.04	0.01	mg/L						
LCS (BL11311-BS1)					Prepared & Analyzed: 12/13/11					
Nitrate+Nitrite (N)	0.793	0.04	0.01	mg/L	0.80		99	90-110		
Matrix Spike (BL11311-MS1)		**Source: 1111110-02**			Prepared & Analyzed: 12/13/11					
Nitrate+Nitrite (N)	1.43	0.04	0.01	mg/L	1.0	0.337	109	77-119		
Matrix Spike Dup (BL11311-MSD1)		**Source: 1111110-02**			Prepared & Analyzed: 12/13/11					
Nitrate+Nitrite (N)	1.28	0.04	0.01	mg/L	1.0	0.337	94	77-119	11	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 BL10711 - TOC prep										
Blank (BL10711-BLK1)					Prepared & Analyzed: 12/06/11					
Dissolved Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BL10711-BS1)					Prepared & Analyzed: 12/06/11					
Dissolved Organic Carbon	10.2	1.0	0.50	mg/L	10		102	90-110		
Matrix Spike (BL10711-MS1)		**Source: 1111095-65**			Prepared & Analyzed: 12/06/11					
Dissolved Organic Carbon	129	1.0	0.50	mg/L	100	19.4	110	85-125		
Matrix Spike Dup (BL10711-MSD1)		**Source: 1111095-65**			Prepared & Analyzed: 12/06/11					
Dissolved Organic Carbon	125	1.0	0.50	mg/L	100	19.4	106	85-125	3	25

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Metals - Quality Control

Analyte	Result		PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL10219 - Metals Preparation for EPA Method 200.7											
Blank (BL10219-BLK1)						Prepared: 12/02/11	Analyzed: 12/06/11				
Potassium	0.066		0.050	0.010	mg/L						
Boron	0.050	U	0.10	0.050	mg/L						
Sodium	0.13	U	0.50	0.13	mg/L						
Iron	0.020	U	0.10	0.020	mg/L						
Calcium	0.042	U	0.50	0.042	mg/L						
Magnesium	0.025	I	0.50	0.020	mg/L						
Manganese	0.0010	U	0.010	0.0010	mg/L						
LCS (BL10219-BS1)						Prepared: 12/02/11	Analyzed: 12/05/11				
Calcium	19		0.50	0.042	mg/L	20		95	85-115		
Boron	0.45		0.10	0.050	mg/L	0.40		112	85-115		
Magnesium	19		0.50	0.020	mg/L	20		95	85-115		
Manganese	0.38		0.010	0.0010	mg/L	0.40		94	85-115		
Iron	7.5		0.10	0.020	mg/L	8.0		94	85-115		
Sodium	19		0.50	0.13	mg/L	20		96	85-115		
Potassium	18		0.050	0.010	mg/L	20		90	85-115		
Matrix Spike (BL10219-MS1)			**Source: 1110593-01**			Prepared: 12/02/11	Analyzed: 12/06/11				
Magnesium	970	+O	5.0	0.20	mg/L	20	880	412	70-130		
Calcium	270		0.50	0.042	mg/L	20	300	NR	70-130		
Iron	7.7		0.10	0.020	mg/L	8.0	0.41	91	70-130		
Potassium	400	-	0.50	0.10	mg/L	20	270	652	70-130		
Boron	6.8	-	1.0	0.50	mg/L	0.40	3.2	895	70-130		
Sodium	)00,000,000	+O	5.0	1.3	mg/L	20	)00000000(	0	70-130		
Manganese	0.32		0.010	0.0010	mg/L	0.40	ND	81	70-130		
Matrix Spike (BL10219-MS2)			**Source: 1110914-03**			Prepared: 12/02/11	Analyzed: 12/06/11				
Calcium	3,000	-	50	4.2	mg/L	20	1200	NR	70-130		
Magnesium	3,700	-	50	2.0	mg/L	20	1900	NR	70-130		
Sodium	13,000	-	50	13	mg/L	20	12000	NR	70-130		
Potassium	2,300	-	5.0	1.0	mg/L	20	360	NR	70-130		
Iron	14		0.10	0.020	mg/L	8.0	7.2	84	70-130		
Manganese	1.3		0.010	0.0010	mg/L	0.40	0.97	78	70-130		
Boron	42	-	10	5.0	mg/L	0.40	3.8	NR	70-130		

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Metals - Quality Control

Analyte	Result		PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL10219 - Metals Preparation for EPA Method 200.7											
Matrix Spike Dup (BL10219-MSD1)			**Source: 1110593-01**			Prepared: 12/02/11 Analyzed: 12/06/11					
Boron	7.0	-	1.0	0.50	mg/L	0.40	3.2	934	70-130	2	30
Iron	7.9		0.10	0.020	mg/L	8.0	0.41	93	70-130	2	30
Calcium	290		0.50	0.042	mg/L	20	300	NR	70-130	8	30
Sodium	)00,000,000	+O	5.0	1.3	mg/L	20	)00000000(	0	70-130	0	30
Manganese	0.33		0.010	0.0010	mg/L	0.40	ND	83	70-130	2	30
Magnesium	1,000	+O	5.0	0.20	mg/L	20	880	666	70-130	5	30
Potassium	420	-	0.50	0.10	mg/L	20	270	770	70-130	6	30
Matrix Spike Dup (BL10219-MSD2)			**Source: 1110914-03**			Prepared: 12/02/11 Analyzed: 12/06/11					
Calcium	3,100	-	50	4.2	mg/L	20	1200	NR	70-130	4	30
Potassium	2,200	-	5.0	1.0	mg/L	20	360	NR	70-130	4	30
Sodium	14,000	-	50	13	mg/L	20	12000	NR	70-130	4	30
Boron	42	-	10	5.0	mg/L	0.40	3.8	NR	70-130	0.8	30
Manganese	1.3		0.010	0.0010	mg/L	0.40	0.97	81	70-130	1	30
Iron	14		0.10	0.020	mg/L	8.0	7.2	88	70-130	2	30
Magnesium	3,800	-	50	2.0	mg/L	20	1900	NR	70-130	0.5	30
Batch BL10220 - Metals Preparation for EPA Method 200.7											
Blank (BL10220-BLK1)						Prepared & Analyzed: 12/08/11					
Iron	0.020	U	0.10	0.020	mg/L						
Magnesium	0.020	U	0.50	0.020	mg/L						
Calcium	0.042	U	0.50	0.042	mg/L						
Manganese	0.0010	U	0.010	0.0010	mg/L						
Potassium	0.010	U	0.050	0.010	mg/L						
Sodium	0.13	U	0.50	0.13	mg/L						
Boron	0.050	U	0.10	0.050	mg/L						

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Metals - Quality Control

Analyte	Result		PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL10220 - Metals Preparation for EPA Method 200.7											
LCS (BL10220-BS1)						Prepared & Analyzed: 12/08/11					
Manganese	0.39		0.010	0.0010	mg/L	0.40		99	85-115		
Potassium	19		0.050	0.010	mg/L	20		95	85-115		
Sodium	20		0.50	0.13	mg/L	20		102	85-115		
Magnesium	19		0.50	0.020	mg/L	20		97	85-115		
Boron	0.40		0.10	0.050	mg/L	0.40		100	85-115		
Calcium	20		0.50	0.042	mg/L	20		98	85-115		
Iron	7.8		0.10	0.020	mg/L	8.0		97	85-115		
Matrix Spike (BL10220-MS1)			**Source: 1111234-02**			Prepared & Analyzed: 12/08/11					
Boron	0.58	J5	0.10	0.050	mg/L	0.40	ND	144	70-130		
Calcium	67	J5	0.50	0.042	mg/L	20	64	17	70-130		
Sodium	35		0.50	0.13	mg/L	20	12	114	70-130		
Manganese	0.40		0.010	0.0010	mg/L	0.40	0.0027	101	70-130		
Potassium	21		0.050	0.010	mg/L	20	0.24	104	70-130		
Magnesium	23		0.50	0.020	mg/L	20	2.7	102	70-130		
Iron	8.4		0.10	0.020	mg/L	8.0	0.066	104	70-130		
Matrix Spike (BL10220-MS2)			**Source: 1111343-01**			Prepared & Analyzed: 12/08/11					
Manganese	0.41		0.010	0.0010	mg/L	0.40	0.0084	100	70-130		
Sodium	26		0.50	0.13	mg/L	20	6.7	98	70-130		
Boron	0.53	J5	0.10	0.050	mg/L	0.40	ND	131	70-130		
Potassium	24		0.050	0.010	mg/L	20	1.7	110	70-130		
Iron	11		0.10	0.020	mg/L	8.0	2.6	104	70-130		
Magnesium	23		0.50	0.020	mg/L	20	2.4	104	70-130		
Calcium	29		0.50	0.042	mg/L	20	8.9	98	70-130		
Matrix Spike Dup (BL10220-MSD1)			**Source: 1111234-02**			Prepared & Analyzed: 12/08/11					
Potassium	23		0.050	0.010	mg/L	20	0.24	111	70-130	6	30
Calcium	68	J5	0.50	0.042	mg/L	20	64	22	70-130	2	30
Manganese	0.41		0.010	0.0010	mg/L	0.40	0.0027	101	70-130	0.7	30
Boron	0.57	J5	0.10	0.050	mg/L	0.40	ND	144	70-130	0.6	30
Magnesium	23		0.50	0.020	mg/L	20	2.7	102	70-130	0.3	30
Iron	8.4		0.10	0.020	mg/L	8.0	0.066	104	70-130	0.3	30
Sodium	35		0.50	0.13	mg/L	20	12	114	70-130	0.02	30

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

December 20, 2011
Work Order: 1111095

Metals - Quality Control

Analyte	Result		PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BL10220 - Metals Preparation for EPA Method 200.7											
Matrix Spike Dup (BL10220-MSD2)			**Source: 1111343-01**			Prepared & Analyzed: 12/08/11					
Boron	0.53	J5	0.10	0.050	mg/L	0.40	ND	133	70-130	1	30
Sodium	27		0.50	0.13	mg/L	20	6.7	101	70-130	2	30
Manganese	0.40		0.010	0.0010	mg/L	0.40	0.0084	99	70-130	0.6	30
Magnesium	22		0.50	0.020	mg/L	20	2.4	101	70-130	3	30
Calcium	28		0.50	0.042	mg/L	20	8.9	96	70-130	2	30
Iron	11		0.10	0.020	mg/L	8.0	2.6	100	70-130	3	30
Potassium	22		0.050	0.010	mg/L	20	1.7	101	70-130	9	30

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

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

December 20, 2011
Work Order: 1111095

* 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. Questions regarding this report should be directed to Client Services at 813-855-1844.

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

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 1111095

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: Seminole County C-HS2

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

	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Total Alkalinity, Chloride	250mL P, H_2SO_4 TKN, NH_3, NO_x	1LP, Cool Total Alkalinity, Cl, F, NO_3, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, NO_x	40mLaV, HCl TOC	250mLaG, Cool DOC	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	Field Conductivity	Field DO	Field pH	Field Temperature
01	C-HS2-STE	120111	1035	GW		X	1	1						906	0.94	7.4	21.3
02	C-HS2-STE-DUP	120111	1040	GW		X	1	1						906	0.94	7.4	21.3
03	C-HS2-SW-6 inch	120111	0815	GW		X	1	1						304.0	5.62	6.5	21.1
04	C-HS2-SW-M	120111	0805	GW		X	1	1						344.8	6.42	7.1	19.8
05	C-HS2-BKG01-7	120111	0915	GW		X	1	1						266.8	0.32	5.6	22.3
06	C-HS2-BKG02-6	120111	0930	GW		X	1	1						417.7	0.11	7.3	21.1
07	C-HS2-BKG03-7	120111	1025	GW		X	1	1						345.6	0.10	5.9	22.6
08	C-HS2-BKG04-7	120111	1010	GW		X	1	1						268.2	0.05	5.3	21.4
09	C-HS2-BGK06-12	120111	0960	GW		X	1	1						401.9	0.29	6.4	22.9
10	C-HS2-BKG07-5	120111	0940	GW		X			1	1	2	1	1	191.6	0.06	5.7	22.2
11	C-HS2-BKG07-7	120111	0950	GW		X	1	1						199.2	0.03	5.9	21.8
12	C-HS2-BKG07-10	120111	1000	GW		X	1	1						178.8	0.01	5.2	22.3

Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:
	915 11/29/11		1500 11/29/11
Relinquished:	Date/Time: 1335 120111	Received:	Date/Time:
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

Instructions / Remarks:

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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. 1111095

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: Seminole County C-HS2

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

	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Total Alkalinity, Chloride	250mL P, H_2SO_4 TKN, NH_3, NO_x	1LP, Cool Total Alkalinity, Cl, F, NO_3, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, NO_x	40mLaV, HCl TOC	250mLaG, Cool DOC	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	Field Conductivity	Field DO	Field pH	Field Temperature
13	C-HS2-A07-6	120111	0730	GW		X			1	1	2	1	1	263.1	5.52	6.3	19.9
14	C-HS2-A07-8	120111	0740	GW		X	1	1						69.5	0.20	6.3	22.9
15	C-HS2-A07-11	120111	0750	GW		X	1	1						167.2	0.19	5.8	23.1
16	C-HS2-A09-7	120111	0700	GW		X	1	1						389.6	0.57	6.4	22.1
17	C-HS2-A09-7-Dup	120111	0705	GW		X	1	1						389.6	0.57	6.4	22.1
18	C-HS2-A09-9	120111	0715	GW		X	1	1						254.1	0.24	6.5	22.6
19	C-HS2-A09-12	120111	0720	GW		X	1	1						135.2	0.21	6.2	22.7
20	C-HS2-A10-7	DRY	DRY	GW		X	1	1						—			—
21	C-HS2-A10-9	113011	1515	GW		X	1	1						622	0.58	6.6	22.7
22	C-HS2-A10-12	113011	1525	GW		X	1	1						145.4	0.51	6.3	23.1
23	C-HS2-A11-5	DRY	DRY	GW		X	1	1						—			—
24	C-HS2-A11-7	113011	1455	GW		X	1	1						357.4	0.78	6.0	23.2

Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:
9/B	930 11/28/11		1500 11/28/11
Relinquished:	Date/Time:	Received:	Date/Time:
	1235 120111		
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

Instructions / Remarks:
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SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 1111095

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: Seminole County C-HS2

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

	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Total Alkalinity, Chloride	250mL P, H_2SO_4 TKN, NH_3, NO_x	1LP, Cool Total Alkalinity, Cl, F, NO_3, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, NO_x	40mLaV, HCl TOC	250mLaG, Cool DOC	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	Field Conductivity	Field DO	Field pH	Field Temperature				
25	C-HS2-A11-10	113011	1505	GW		X	1	1						134.6	0.08	6.2	23.6				
26	C-HS2-A13-5	113011	1435	GW		X	1	1						304.8	0.05	5.8	22.6				
27	C-HS2-A13-7	113011	1445	GW		X	1	1						170.3	0.11	5.5	22.9				
28	C-HS2-A13-10	113011	1450	GW		X	1	1						134.4	0.07	4.8	23.2				
29	C-HS2-B02-6	113011	1200	GW		X	1	1						385.4	0.11	5.8	22.6				
30	C-HS2-B02-8	113011	1210	GW		X	1	1						611	0.10	6.7	22.7				
31	C-HS2-B02-11	113011	1215	GW		X	1	1						200.4	0.23	6.6	23.1				
32	C-HS2-B06-6	113011	1230	GW		X	1	1						631	0.42	5.6	23.3				
33	C-HS2-B06-8	113011	1240	GW		X	1	1						174.8	0.36	5.7	23.6				
34	C-HS2-B06-11	113011	1250	GW		X	1	1						156.6	0.36	4.6	23.6				
35	C-HS2-B08-5	113011	1310	GW		X			1	1	2	1	1	445.2	0.19	6.0	22.2				
36	C-HS2-B08-5-Dup	113011	1315	GW		X			1	1	2	1	1	445.2	0.19	6.0	22.2				

Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:
HH	1055 11-29-11		1129 11 1500
Relinquished:	Date/Time:	Received:	Date/Time:
	1335 120111		
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

Instructions / Remarks:

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SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 1111095

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: Seminole County C-HS2

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

	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Total Alkalinity, Chloride	250mL P, H_2SO_4 TKN, NH_3, NO_x	1LP, Cool Total Alkalinity, Cl, F, NO_3, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, NO_x	40mLaV, HCl TOC	250mLaG, Cool DOC	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	Field Conductivity	Field DO	Field pH	Field Temperature				
37	C-HS2-B08-7	113011	1320	GW		X	1	1						281.6	0.08	6.1	22.6				
38	C-HS2-B08-10	113011	1330	GW		X	1	1						139.9	0.19	6.2	22.6				
39	C-HS2-B10-5	113011	1340	GW		X	1	1						722	0.05	6.4	22.8				
40	C-HS2-B10-7	113011	1350	GW		X	1	1						205.1	0.80	6.6	23.0				
41	C-HS2-B10-10	113011	1355	GW		X	1	1						137.4	0.14	5.9	23.0				
42	C-HS2-B15-5	113011	1405	GW		X	1	1						132.0	0.08	4.7	22.7				
43	C-HS2-B15-7	113011	1415	GW		X	1	1						149.4	0.07	4.8	23.1				
44	C-HS2-B15-10	113011	1425	GW		X	1	1						126.0	0.16	4.6	23.4				
45	C-HS2-C00-5	113011	1130	GW		X	1	1						319.7	0.03	6.0	24.7				
46	C-HS2-C00-7	113011	1140	GW		X	1	1						433.7	0.02	5.5	24.8				
47	C-HS2-C00-7-Dup	113011	1145	GW		X	1	1						433.7	0.02	5.5	24.8				
48	C-HS2-C00-10	113011	1150	GW		X	1	1						171.9	0.02	5.3	24.9				

Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:
HH	1010 11-29-11		1500 11-29-11
Relinquished:	Date/Time: 1335 120111	Received:	Date/Time:
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

Instructions / Remarks:

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SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 1111095

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: Seminole County C-HS2

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

	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Total Alkalinity, Chloride	250mL P, H_2SO_4 TKN, NH_3, NO_x	1LP, Cool Total Alkalinity, Cl, F, NO_3, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, NO_x	40mLaV, HCl TOC	250mLaG, Cool DOC	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	Field Conductivity	Field DO	Field pH	Field Temperature				
49	C-HS2-C04-5	113011	1100	GW		X	1	1						538.6	0.05	5.8	22.7				
50	C-HS2-C04-7	113011	1110	GW		X	1	1						161.6	0.03	5.3	23.0				
51	C-HS2-C04-10	113011	1120	GW		X	1	1						139.8	0.03	5.5	23.0				
52	C-HS2-C06-5	113011	1030	GW		X			1	1	2	1	1	577	0.13	5.7	21.6				
53	C-HS2-C06-7	113011	1040	GW		X	1	1						361.3	0.26	6.0	21.8				
54	C-HS2-C06-10	113011	1050	GW		X	1	1						130.3	0.25	5.3	22.6				
55	C-HS2-C08-5	113011	1000	GW		X	1	1						353.0	0.67	5.9	21.6				
56	C-HS2-C08-5-Dup	113011	1005	GW		X	1	1						353.0	0.67	5.9	21.6				
57	C-HS2-C08-7	113011	1010	GW		X	1	1						255.0	0.40	6.3	22.1				
58	C-HS2-C08-10	113011	1020	GW		X	1	1						134.1	0.33	6.0	22.4				
59	C-HS2-C10-6	113011	0935	GW		X			1	1	2	1	1	209.6	0.11	5.7	22.8				
60	C-HS2-C10-8	113011	0945	GW		X	1	1						159.7	0.12	5.1	23.1				

Relinquished:	Date/Time:	Received:	Date/Time:
Containers Prepared/ Relinquished: YB	Date/Time: 950 11/29/11	Received:	Date/Time: 1500 112911
Relinquished:	Date/Time: 1335 120111	Received:	Date/Time:
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

Instructions / Remarks:

1111095

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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. 1111095

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: Seminole County C-HS2

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

	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Total Alkalinity, Chloride	250mL P, H_2SO_4 TKN, NH_3, NO_x	1LP, Cool Total Alkalinity, Cl, F, NO_3, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, NO_x	40mLaV, HCl TOC	250mLaG, Cool DOC	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	Field Conductivity	Field DO	Field pH	Field Temperature
61	C-HS2-C10-12	113011	0955	GW		X	1	1						130.3	0.66	4.7	24.0
62	C-HS2-C11-5	113011	0905	GW		X	1	1						133.4	0.71	5.3	21.8
63	C-HS2-C11-7	113011	0915	GW		X	1	1						234.5	0.66	5.3	22.4
64	C-HS2-C11-10	113011	0925	GW		X	1	1						132.8	0.22	5.2	22.7
65	C-HS2-D04-5	113011	0736	GW		X			1	1	2	1	1	656	0.06	5.7	23.2
66	C-HS2-D04-7	113011	0745	GW		X	1	1						379.1	0.07	5.9	23.3
67	C-HS2-D04-10	113011	0755	GW		X	1	1						168.9	0.47	5.8	23.1
68	C-HS2-D07-6	113011	0805	GW		X	1	1						541	0.23	6.2	22.4
69	C-HS2-D07-6-Dup	113011	0810	GW		X	1	1						541	0.23	6.2	22.4
70	C-HS2-D07-8	113011	0820	GW		X	1	1						336.8	0.41	6.0	22.9
71	C-HS2-D07-11	113011	0825	GW		X	1	1						130.3	0.54	5.9	23.3
72	FB-Tap	120111	1100	R		X	1	1						329.3	5.24	8.2	21.7

Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:
YB	1000 11/29/11		1500 112911
Relinquished:	Date/Time: 1335 120111	Received:	Date/Time:
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

Instructions / Remarks:

1111095

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. 1111095

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: Seminole County C-HS2

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

	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Total Alkalinity, Chloride	250mL P, H_2SO_4 TKN, NH_3, NO_x	1LP, Cool Total Alkalinity, Cl, F, NO_3, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, NO_x	40mLaV, HCl TOC	250mLaG, Cool DOC	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	Field Conductivity	Field DO	Field pH	Field Temperature				
73	FB-DI	120111	1110	R		X	1	1						2.8	8.47	8.0	16.2				
74	EB	113011	0730	R		X	1	1						3.9	5.23	7.7	13.2				

Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:
9B	1000 11/29/11		1500 112911
Relinquished:	Date/Time: 1335 120111	Received:	Date/Time:
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

Instructions / Remarks:

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