FLORIDA DEPARTMENT OF HEALTH

Florida Onsite Sewage Nitrogen Reduction Strategies Study

Task C.24

C-HS3 Monitoring Sample Event Report No. 2

Progress Report

January 2013

4423-001

HAZEN AND SAWYER
Environmental Engineers & Scientists

In association with

SCHOOL OF MINES 1874 COLORADO

AET
Applied Environmental Technology

OTIS ENVIRONMENTAL CONSULTANTS, LLC

Florida Onsite Sewage Nitrogen Reduction Strategies Study

TASK C.24
PROGRESS REPORT

C-HS3 Monitoring
Sample Event Report No. 2

Prepared for:

Florida Department of Health
Division of Disease Control and Health Protection
Bureau of Environmental Health
Onsite Sewage Programs
4042 Bald Cypress Way Bin #A-08
Tallahassee, FL 32399-1713

FDOH Contract CORCL

January 2013

Prepared by:

HAZEN AND SAWYER
Environmental Engineers & Scientists

In Association With:

SCHOOL OF MINES 1874 COLORADO

C-HS3 Monitoring
Sample Event Report No. 2

1.0 Background

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

2.0 Purpose

This sample event report documents data collected from the second C-HS3 monitoring and sampling event which was conducted November 26 through November 30, 2012. This monitoring event consisted of water use measurement from the household water meter, groundwater elevation measured within the standpipe piezometers, measurement of field parameters, and collection of groundwater samples and their analyses by a NELAC certified laboratory.

3.0 Materials and Methods

3.1 Project Site

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

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3.2 Monitoring and Sample Locations and Identification

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

Each monitoring location was assigned a unique identification indicating grid location (self explanatory), and depth below ground surface (bottom of the drive point or well screen in feet). For example A03-15 is a standpipe piezometer sampler located on the grid at A03 at 15 feet below ground surface. A schematic of the C-HS3 monitoring network is shown in Figure 1. A complete list of all installed standpipe piezometers and sample identification is included in Appendix A. A total of 66 specific monitoring locations were sampled during this second C-HS3 sampling event.

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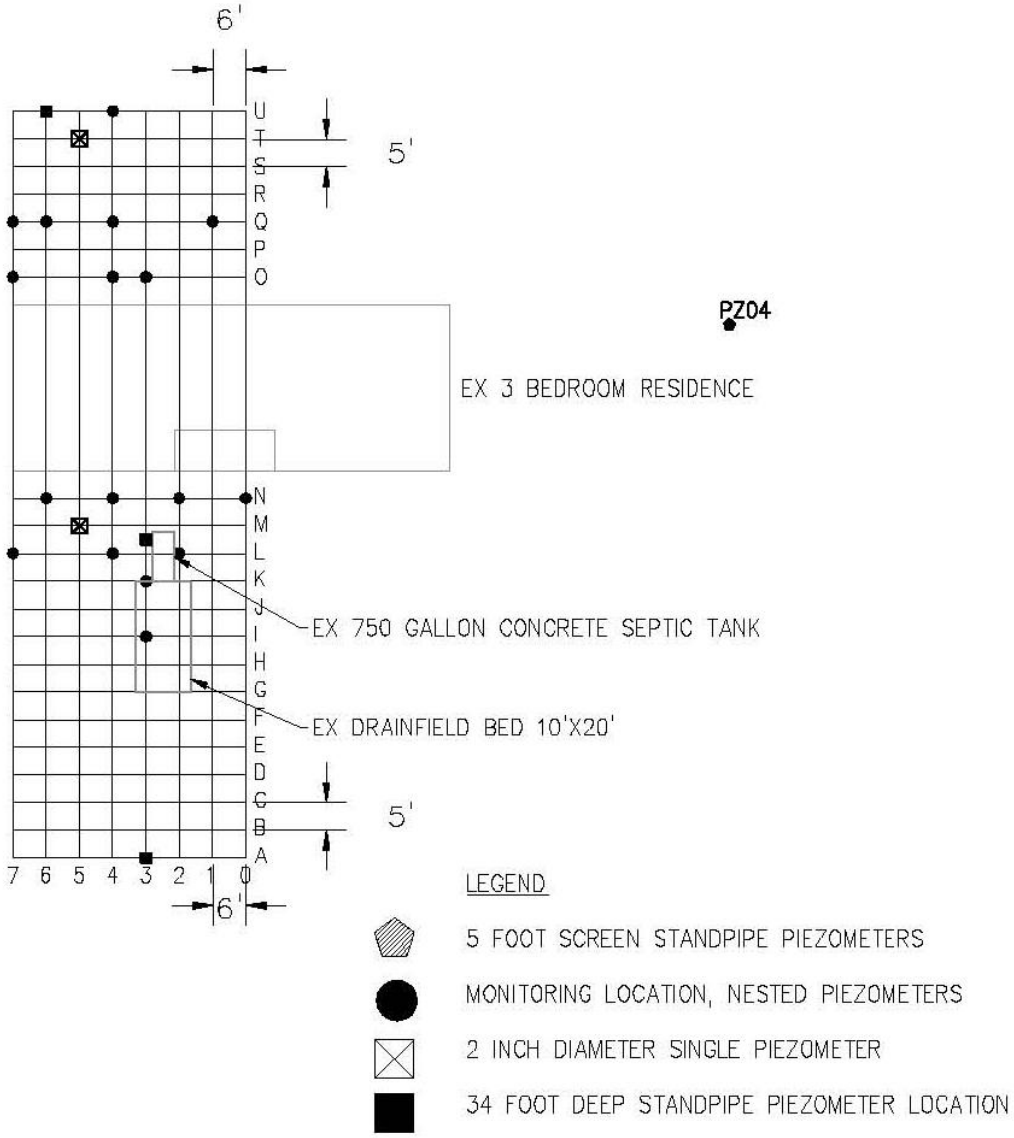

Figure 1
C-HS3 Monitoring Network

3.3 Operational Monitoring

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

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3.4 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 all the sampled standpipe piezometers was measured for this sampling event.

3.5 Water Quality Sample Collection and Analyses

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

The analysis-specific containers were supplied by the analytical laboratory and contained appropriate preservatives. The analysis-specific containers were labeled, placed in coolers and transported on ice to the analytical laboratory. Each sample container was secured in packing material as appropriate to prevent damage and spills, and was recorded on chain-of-custody forms supplied by the laboratory. Chain of custody forms, provided in Appendix B, were used to document the transfer of samples from field personnel to the analytical laboratory.

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

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

Field parameters (pH, specific conductance, temperature (Temp), and dissolved oxygen (DO)) were measured using portable electronic probes with probe tips placed in an overflowing plastic beaker as groundwater was being pumped. All samples were analyzed by the laboratory for: total alkalinity, total Kjeldahl nitrogen (TKN-N), ammonia nitrogen (NH_3-N), nitrate/nitrite nitrogen (NO_X-N), and chloride (CL). At some of the locations, chemical oxygen demand (COD), total phosphorus (TP), anions, cations, total

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organic carbon (TOC) and dissolved organic carbon (DOC) were included. Additionally, for the STE sample, carbonaceous biological oxygen demand ($CBOD_5$), total solids (TS), total suspended solids (TSS), and fecal coliform (fecal) were included. All analyses were performed by an independent and fully certified analytical laboratory (Southern Analytical Laboratory). 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	Method Detection Limit (mg/L)
Total Alkalinity as $CaCO_3$	SM 2320B	2 mg/L
Chemical Oxygen Demand (COD)	EPA 410.4	10 mg/L
Carbonaceous BOD ($CBOD_5$)	SM 5210B	2 mg/L
Total Kjeldahl Nitrogen (TKN-N)	EPA 351.2	0.05 mg/L
Ammonia Nitrogen (NH_3-N)	EPA 350.1	0.005 mg/L
Nitrate/Nitrite Nitrogen (NO_X-N)	EPA 300.0	0.02 mg/L
Total Phosphorus	SM 4500P-E	0.01 mg/L
Dissolved Organic Carbon (DOC)	SM 5310B	0.5 mg/L
Total Organic Carbon (TOC)	SM 5310B	0.5 mg/L
Total Solids (TS)	EPA 160.3	0.01% by wt
Total Suspended Solids (TSS)	SM 2540D	1 mg/L
Fecal Coliform (fecal)	SM9222D	1 ct/100mL
Anions		
Fluoride	EPA 300.0	0.01 mg/L
Chloride	EPA 300.0	0.05 mg/L
Nitrate-N	EPA 300.0	0.01 mg/L
Nitrite-N	EPA 300.0	0.01 mg/L
Orthophosphate-P	EPA 300.0	0.01 mg/L
Sulfate	EPA 300.0	0.20 mg/L
Cations		
Boron	EPA 200.7	0.05 mg/L
Calcium	EPA 200.7	0.01 mg/L
Iron	EPA 200.7	0.02 mg/L
Magnesium	EPA 200.7	0.01 mg/L
Manganese	EPA 200.7	0.001 mg/L
Potassium	EPA 200.7	0.01 mg/L
Sodium	EPA 200.7	0.01 mg/L

4.0 Results

Once analytical results are obtained from the laboratory, the C-HS3 Data Summary Report No. 2 (Task C.25) will be prepared describing the results from this sampling event.

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4.1 Operational Monitoring and Site Conditions

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

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

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

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

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

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

4.2 Groundwater Levels

Water levels were measured at all standpipe piezometers sampled November 26 through November 30, 2012 for this sampling event as summarized in Table 4. Figure 2 illustrates the surficial groundwater contours as measured within the standpipe piezometers.

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Table 4
Standpipe Piezometer Groundwater Levels November 26, 2012

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

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

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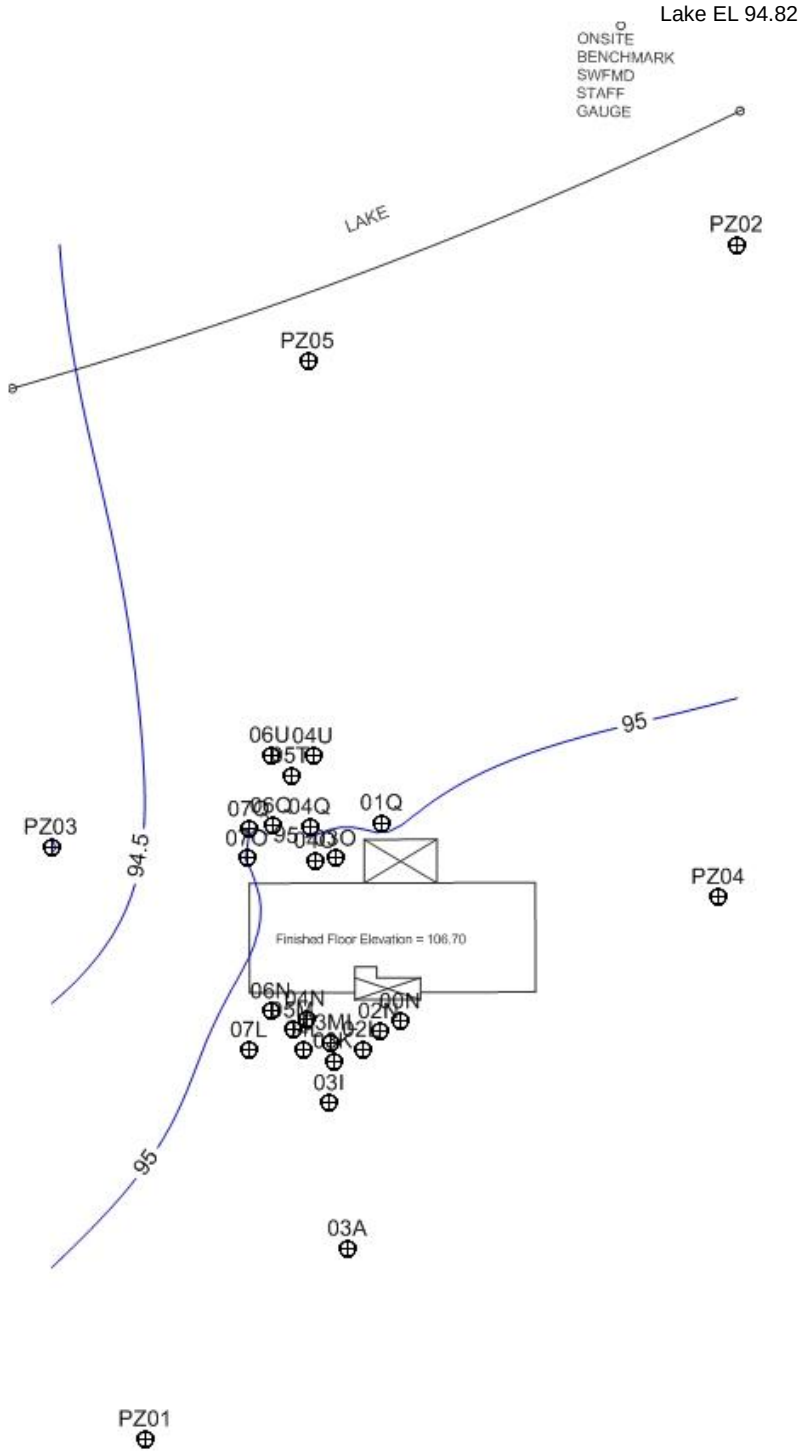

Figure 2
Surficial Groundwater Contours November 26, 2012

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4.3 Water Quality

Field parameters were measured prior to sample collection and are listed in Appendix D. Once analytical results are obtained from the laboratory, C-HS3 Data Summary Report No. 2 (Task C25) will be prepared describing the results from this sampling event.

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Appendix A: C-HS3 Sample Identification

Table 3

Site C-HS3 Sample Identification

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

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Table 3
Site C-HS3 Sample Identification

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

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Table 3
Site C-HS3 Sample Identification

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

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

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Appendix B: Chain of Custody Forms

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SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 121336 8

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

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

PARAMETER / CONTAINER DESCRIPTION

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

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

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

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

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

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

PARAMETER / CONTAINER DESCRIPTION

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

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

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

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

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

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
13	PZ-03K-21			GW		X									1	1					
14	PZ-02L-15	11/27/12	0921	GW		X						1			1		6.90	6.80	105.4	26.6	
15	PZ-02L-17		0940	GW		X									1	1	5.49	6.80	62.9	26.1	
16	PZ-02L-21		0951	GW		X									1	1	3.18	5.38	209.2	26.2	
17	PZ-04L-15		1121	GW		X						1			1		5.85	6.69	252	27.5	
18	PZ-04L-17		1140	GW		X									1	1	5.50	6.47	79.6	27.3	
19	PZ-04L-21		1155	GW		X									1	1	2.50	5.42	189.7	27.6	
20	PZ-07L-15			GW		X						1			1						
21	PZ-07L-17			GW		X									1	1					
22	PZ-07L-21			GW		X									1	1					
23	PZ-03ML-15	11/27/12	1010	GW		X				1	1	1	2	1			5.32	6.32	394	27.1	
24	PZ-03ML-17		1031	GW		X				1	1	1	2	1			6.54	6.55	62.9	26.4	

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

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

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

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 1213368

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

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

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
13	PZ-03K-21			GW		X									1	1				
14	PZ-02L-15			GW		X						1			1					
15	PZ-02L-17			GW		X									1	1				
16	PZ-02L-21			GW		X									1	1				
17	PZ-04L-15			GW		X						1			1					
18	PZ-04L-17			GW		X									1	1				
19	PZ-04L-21			GW		X									1	1				
20	PZ-07L-15	11/28/12	0945	GW		X						1			1		6.72	6.45	65.2	25.7
21	PZ-07L-17		1003	GW		X									1	1	6.26	6.34	84.5	25.5
22	PZ-07L-21		1021	GW		X									1	1	3.94	5.42	1668.3	25.9
23	PZ-03ML-15			GW		X				1	1	1	2	1						
24	PZ-03ML-17			GW		X				1	1	1	2	1						

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

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

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

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

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
13	PZ-03K-21	11/29/12	1209	GW		X									1	1	8.63	5.95	185	27.5	
14	PZ-02L-15			GW		X						1			1						
15	PZ-02L-17			GW		X									1	1					
16	PZ-02L-21			GW		X									1	1					
17	PZ-04L-15			GW		X						1			1						
18	PZ-04L-17			GW		X									1	1					
19	PZ-04L-21			GW		X									1	1					
20	PZ-07L-15			GW		X						1			1						
21	PZ-07L-17			GW		X									1	1					
22	PZ-07L-21			GW		X									1	1					
23	PZ-03ML-15			GW		X				1	1	1	2	1							
24	PZ-03ML-17			GW		X				1	1	1	2	1							

Relinquished	Date/Time	Received	Date/Time
Containers Prepared/ Relinquished: [illegible]	Date/Time: 1330 11/16/12	Received: UPS	Date/Time:
Relinquished: UPS	Date/Time:	Received: [illegible]	Date/Time:
Relinquished: [illegible]	Date/Time: 1615 11/29/12	Received: K Mudmeck	Date/Time: 1615 11/29/12
Relinquished:	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time:	Received:	Date/Time:

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

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 12133368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

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

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
~~25~~	~~PZ-03ML-17-DUP~~			GW		X				1	1	1	2	1							
~~26~~	~~PZ-03ML-24~~			GW		X				1	1	1	2	1							
27	PZ-00N-15	11/26/12	1043	GW		X						1			1		6.47	6.47	74.9	26.6	
28	PZ-00N-17		1255	GW		X									1	1	5.14	5.91	61.2	27.0	
29	PZ-00N-21		1005	GW		X									1	1	4.50	5.97	212.5	26.1	
30	PZ-02N-15		1322	GW		X						1			1		6.94	6.64	1024	26.9	
31	PZ-02N-17		1341	GW		X									1	1	6.10	6.12	4465	26.8	
32	PZ-02N-21		1400	GW		X									1	1	2.81	4.77	230	26.4	
~~33~~	~~PZ-04N-15~~			GW		X						1			1						
~~34~~	~~PZ-04N-15-DUP~~			GW		X						1			1						
~~35~~	~~PZ-04N-17~~			GW		X						1			1						
~~36~~	~~PZ-04M-21~~			GW		X									1	1					

Relinquished:	Date/Time:	Received:	Date/Time:
Containers Prepared/ Relinquished: BBowling	11/16/12 1330	UPS	
UPS			
	11/26/12 1400	K Hardmark	11/26/12 1600

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

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

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

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
25	PZ-03ML-17-DUP	11/27/12	1036	GW		X				1	1	1	2	1			6.57	6.58	62.9	26.4	
26	PZ-03ML-21		1058	GW		X				1	1	1	2	1			2.99	6.16	92.3	27.0	
27	PZ-00N-15	11/26/12	1043	GW		X						1			1		6.47	6.47	74.9	26.6	
28	PZ-00N-17		1255	GW		X									1	1	5.14	5.91	61.2	27.0	
29	PZ-00N-21		1005	GW		X									1	1	4.50	5.97	212.5	26.1	
30	PZ-02N-15		1322	GW		X						1			1		6.94	6.64	102.4	26.9	
31	PZ-02N-17		1341	GW		X									1	1	6.10	6.12	46.5	26.8	
32	PZ-02N-21		1400	GW		X									1	1	2.81	4.77	230	26.4	
33	PZ-04N-15	11/27/12	1211	GW		X						1			1		5.58	6.62	245	28.3	
34	PZ-04N-15-DUP		1216	GW		X						1			1		5.58	6.62	245	28.3	
35	PZ-04N-17		1232	GW		X						1			1		3.75	6.52	86.5	26.9	
36	PZ-04N-21		1251	GW		X									1	1	5.24	5.75	209.6	26.6	

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

Seal intact? Y N (N/A)

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

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

Proper preservatives indicated? (Y) N N/A

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

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

Proper containers used? (Y) N N/A

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

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 12 13368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

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

PARAMETER / CONTAINER DESCRIPTION

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

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

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

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

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

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

PARAMETER / CONTAINER DESCRIPTION

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

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

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

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

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

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

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 COD, TKN, NH_3	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
49	PZ-07O-20			GW		X									1		1	6.76	6.21	48.4	24.7	
50	PZ-01Q-13	11/29/12	1310	GW		X						1			1			6.51	6.03	46.5	25.0	
51	PZ-01Q-15		1328	GW		X						1			1			4.11	5.22	76.4	25.1	
52	PZ-01Q-19		1348	GW		X									1		1					
53	PZ-04Q-13			GW		X				1	1	1	2	1								
54	PZ-04Q-15			GW		X				1	1	1	2	1								
55	PZ-04Q-19			GW		X									1		1					
56	PZ-06Q-13			GW		X						1			1							
57	PZ-06Q-15			GW		X						1			1							
58	PZ-06Q-15-DUP			GW		X						1			1							
59	PZ-06Q-19			GW		X						1			1							
60	PZ-07Q-13			GW		X						1			1							

Relinquished	Date/Time	Received	Date/Time
Containers Prepared/ Relinquished: PBowling	11/16/12 1330	UPS	
UPS			
	11/29/12 1615	K Mahmoud	11/29/12 1615

Seal intact? Y N (N/A)

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

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

Proper preservatives indicated? (Y) N N/A

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

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

Proper containers used? (Y) N N/A

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

Chain of Custody

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

SAL Project No. 12 13368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

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

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 COD, TKN, NH_3	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
37	PZ-06N-15			GW		X									1		1					
38	PZ-06N-17			GW		X									1		1					
39	PZ-06N-21			GW		X									1		1					
40	PZ-03O-15	11/30/12	1139	GW		X									1		1	7.00	7.55	112.5	24.4	
41	PZ-03O-17		1157	GW		X									1		1	[illegible]	6.90	56.4	24.7	
42	PZ-03O-21		1216	GW		X									1		1	2.62	5.52	210.3	25.1	
43	PZ-04O-15		0952	GW		X				1	1	1	2	1				6.10	7.04	188.2	24.5	
44	PZ-04O-17		1018	GW		X									1	1		2.64	7.25	102.2	24.9	
45	PZ-04O-17-DUP		1023	GW		X									1	1		2.64	7.25	102.2	24.9	
46	PZ-04O-21		1036	GW		X									1	1		3.85	5.81	240	25.1	
47	PZ-07O-15			GW		X						1			1							
48	PZ-07O-17			GW		X									1		1					

Relinquished	Date/Time	Received	Date/Time
Containers Prepared/ Relinquished: [signature]	Date/Time: 1330 11/16/12	Received: UPS	Date/Time:
Relinquished: UPS	Date/Time:	Received: [signature]	Date/Time:
Relinquished: [signature]	Date/Time: 1330 11/30/12	Received: 1420 [signature] 11-30-12	Date/Time:
Relinquished: [signature]	Date/Time: 11/30/12	Received: [signature]	Date/Time: 11-30-12 1570
Relinquished:	Date/Time:	Received:	Date/Time:

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

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

Chain of Custody

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

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

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

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 COD, TKN, NH_3	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
49	PZ-07O-20	11/28/12	1113	GW		X									1		1	3.56	5.70	106.1	24.8	
50	PZ-01Q-13			GW		X						1			1							
51	PZ-01Q-15			GW		X						1			1							
52	PZ-01Q-19			GW		X									1		1					
53	PZ-04Q-13			GW		X				1	1	1	2	1								
54	PZ-04Q-15			GW		X				1	1	1	2	1								
55	PZ-04Q-19			GW		X									1		1					
56	PZ-06Q-13	11/28/12	1213	GW		X						1			1			7.06	6.58	137.3	25.3	
57	PZ-06Q-15		1231	GW		X						1			1			2.91	6.85	133.4	25.7	
58	PZ-06Q-15-DUP		1236	GW		X						1			1			2.91	6.85	133.4	25.7	
59	PZ-06Q-19		1248	GW		X						1			1			0.28	6.85	72.0	26.1	
60	PZ-07Q-13		1128	GW		X						1			1			5.07	6.52	114.8	24.5	

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

Seal intact? Y N N/A

Samples intact upon arrival? Y N N/A

Received on ice? Temp_____ Y N N/A

Proper preservatives indicated? Y N N/A

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

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

Proper containers used? Y N N/A

Chain of Custody.xls
Rev.Date 11/18/01

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

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

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 COD, TKN, NH_3	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
49	PZ-07O-20	11/28/12	1113	GW		X									1		1	3.56	5.70	106.1	24.8	
50	PZ-01Q-13			GW		X						1			1							
51	PZ-01Q-15			GW		X						1			1							
52	PZ-01Q-19			GW		X									1		1					
53	PZ-04Q-13	11/30/12	1049	GW		X				1	1	1	2	1				3.89	6.98	183.8	24.4	
54	PZ-04Q-15		1108	GW		X				1	1	1	2	1				2.35	7.35	106.6	24.0	
55	PZ-04Q-19		1123	GW		X									1		1	2.02	5.86	249	24.8	
56	PZ-06Q-13			GW		X						1			1							
57	PZ-06Q-15			GW		X						1			1							
58	PZ-06Q-15-DUP			GW		X						1			1							
59	PZ-06Q-19			GW		X						1			1							
60	PZ-07Q-13			GW		X						1			1							

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

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

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

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

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

PARAMETER / CONTAINER DESCRIPTION

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

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

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

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

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

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 COD, TKN, NH_3	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
61	PZ-07Q-15			GW		X									1		1					
62	PZ-07Q-19			GW		X									1		1					
63	PZ-04U-12			GW		X						1			1							
64	PZ-04U-14			GW		X									1		1					
65	PZ-04U-18			GW		X									1		1					
66	PZ-06U-12			GW		X									1		1					
67	PZ-06U-14			GW		X									1		1					
68	PZ-06U-14-DUP			GW		X									1		1					
69	PZ-06U-34			GW		X									1		1					
70	PZ-01BKG	11/29/12	1103	GW		X						1			1			7.55	5.85	60.1	24.6	
71	PZ-02BKG		1236	GW		X						1			1			1.16	4.66	592	26.8	
72	PZ-03BKG		0808	GW		X						1			1			6.70	5.70	27.1	23.8	

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

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

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

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

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

PARAMETER / CONTAINER DESCRIPTION

SAL Use Only Sample No.	Sample Description	Date	Time	Matrix	Composite	Grab	1LP, Cool Alkalinity, TSS, TS, CBOD, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 TKN, NH_3, TP	125mL P, $Na_2S_2O_3$ FC-MF	250mL P, HNO_3 B, Ca, Fe, Mg, Mn, K, Na	1LP, Cool Alkalinity, NOx, Cl, F, OP, SO_4	250mL P, H_2SO_4 COD, TKN, NH_3, TP	40mLaV, HCl TOC	250mLaG, Cool DOC	1LP, Cool Alkalinity, NOx, Cl	250mL P, H_2SO_4 COD, TKN, NH_3	250mL P, H_2SO_4 TKN, NH_3	DO	pH	Conductivity	Temperature	No. of Containers (Total per each location)
61	PZ-07Q-15			GW		X									1		1					
62	PZ-07Q-19			GW		X									1		1					
63	PZ-04U-12	11/30/12	0900	GW		X						1			1			4.67	7.20	90.4	24.8	
64	PZ-04U-14		0918	GW		X									1		1	6.18	7.32	127.4	25.1	
65	PZ-04U-18		0936	GW		X									1		1	4.26	6.28	56.5	25.3	
66	PZ-06U-12		0807	GW		X									1		1	5.85	7.18	183.8	24.5	
67	PZ-06U-14		0815	GW		X									1		1	3.15	6.22	517	24.6	
68	PZ-06U-14-DUP		0820	GW		X									1		1	3.15	6.22	517	24.6	
69	PZ-06U-34		0838	GW		X									1		1	1.33	5.36	301	25.1	
70	PZ-01BKG			GW		X						1			1							
71	PZ-02BKG			GW		X						1			1							
72	PZ-03BKG			GW		X						1			1							

Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:
J Chambers	11-16-12 12:55		
Relinquished:	Date/Time: 1330 11/30/12	Received: 1430 11/30/12	Date/Time:
Relinquished: 1510 11-30-12	Date/Time:	Received:	Date/Time: 11-30-12 1510
Relinquished:	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time:	Received:	Date/Time:

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

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

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 12133368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

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

PARAMETER / CONTAINER DESCRIPTION

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

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

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

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

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: C-HS3 SE#2

Samplers: (Signature)

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

PARAMETER / CONTAINER DESCRIPTION

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

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

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

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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. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

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

Samplers: (Signature)

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

PARAMETER / CONTAINER DESCRIPTION

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

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

Seal intact? Y N N/A

Samples intact upon arrival? Y N N/A

Received on ice? Temp_____ Y N N/A

Proper preservatives indicated? Y N N/A

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

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

Proper containers used? Y N N/A

Chain of Custody

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

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

SAL Project No. 1213368

Client Name: Hazen and Sawyer

Contact / Phone:

Project Name / Location: HS3 SE#2

Samplers: (Signature)

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

PARAMETER / CONTAINER DESCRIPTION

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

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

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

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

Chain of Custody

Appendix C: Weather Station Data

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Table C.1
Daily Recorded Meteorological Data
Frostproof, FL

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

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

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

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

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

Appendix D: Field Parameter Analyses

Table D.1
Field Parameter Results
(November 26 through November 30, 2012)

Sample Identification	Temperature (°C)	pH	Specific Conductance (µS)	Dissolved Oxygen (mg/L)
STE	25.6	7.42	818.0	1.75
STE DUP	25.6	7.42	818.0	1.75
PZ01	26.6	5.85	60.1	7.55
PZ02	26.8	4.66	50.2	1.16
PZ03	23.8	5.70	37.1	6.70
PZ04	25.2	5.00	67.5	0.55
PZ05	24.5	4.85	41.0	0.35
PZ-03A-15	26.7	6.62	38.4	7.56
PZ-03A-17	26.3	6.27	75.6	7.11
PZ-03A-17-DUP	26.3	6.27	75.6	7.11
PZ-03A-21	26.8	5.71	244.0	3.03
PZ-03A-34	25.6	4.80	305.0	2.21
PZ-03I-15	25.8	6.15	77.8	6.17
PZ-03I-17	25.9	6.27	51.3	6.89
PZ-03I-21	25.9	5.13	177.2	3.72
PZ-03K-15	27.5	6.77	275.0	5.79
PZ-03K-17	27.4	6.13	76.8	6.32
PZ-03K-21	27.5	5.95	185.3	3.63
PZ-02L-15	26.6	6.80	105.4	6.90
PZ-02L-17	26.1	6.80	62.9	5.49
PZ-02L-21	26.2	5.38	209.2	3.18
PZ-04L-15	27.5	5.38	252.0	5.85
PZ-04L-17	27.3	6.47	70.6	5.50
PZ-04L-21	27.6	5.42	189.7	2.50
PZ-07L-15	25.7	6.45	65.2	6.72
PZ-07L-17	25.5	6.34	84.5	6.26

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Sample Identification	Temperature (°C)	pH	Specific Conductance (µS)	Dissolved Oxygen (mg/L)
PZ-07L-21	25.9	5.42	166.3	3.94
PZ-03ML-15	27.1	6.32	394.0	5.32
PZ-03ML-17	26.4	6.58	62.9	6.54
PZ-03ML-17-DUP	26.4	6.58	62.9	6.54
PZ-03ML-21	27.0	6.16	223.0	2.99
PZ-00N-15	26.6	6.47	74.9	6.47
PZ-00N-17	27.0	5.91	61.2	5.14
PZ-00N-21	26.1	5.97	212.5	4.50
PZ-02N-15	26.9	6.64	102.4	6.94
PZ-02N-17	26.8	6.12	46.5	6.10
PZ-02N-21	26.4	4.77	230.0	2.81
PZ-04N-15	28.3	6.62	245.0	5.58
PZ-04N-15-DUP	28.3	6.62	245.0	5.58
PZ-04N-17	26.9	6.52	86.5	3.75
PZ-04N-21	26.6	5.75	209.6	5.24
PZ-06N-15	26.7	6.09	408.0	3.54
PZ-06N-17	26.8	6.47	88.0	4.26
PZ-06N-21	26.8	5.80	215.7	2.53
PZ-03O-15	24.4	7.55	112.5	7.00
PZ-03O-17	24.7	6.90	56.4	4.47
PZ-03O-21	25.1	5.52	210.3	2.62
PZ-04O-15	24.5	7.04	188.2	6.10
PZ-04O-17	24.9	7.25	102.2	2.64
PZ-04O-17-DUP	24.9	7.25	102.2	2.64
PZ-04O-21	25.1	5.81	240.0	3.85
PZ-07O-15	24.7	6.30	119.8	5.17
PZ-07O-17	24.7	6.71	81.6	2.15
PZ-07O-20	24.8	5.70	106.1	3.56
PZ-01Q-13	24.7	6.21	48.4	6.86
PZ-01Q-15	25.0	6.03	46.3	6.51
PZ-01Q-19	25.1	5.22	76.4	4.11
PZ-04Q-13	24.4	6.98	188.8	5.89
PZ-04Q-15	24.0	7.35	106.6	2.35

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Sample Identification	Temperature (°C)	pH	Specific Conductance (µS)	Dissolved Oxygen (mg/L)
PZ-04Q-19	24.8	5.86	249.0	2.02
PZ-06Q-13	25.3	6.58	137.3	7.06
PZ-06Q-15	25.7	6.85	133.4	2.91
PZ-06Q-15-DUP	25.7	6.85	133.4	2.91
PZ-06Q-19	26.1	6.85	72.0	0.28
PZ-07Q-13	24.5	6.52	114.8	5.07
PZ-07Q-15	25.0	6.54	82.3	2.47
PZ-07Q-19	25.0	5.65	111.8	3.67
PZ-04U-12	24.8	7.20	90.4	4.67
PZ-04U-14	25.1	7.32	127.4	6.18
PZ-04U-18	25.3	6.28	56.5	4.26
PZ-06U-12	24.5	7.18	183.8	5.85
PZ-06U-14	24.6	6.22	517.0	3.15
PZ-06U-14-DUP	24.6	6.22	517.0	3.15
PZ-06U-34	25.1	5.36	301.0	1.33
FB-DI	21.4	7.02	2.0	10.03
FB-TAP	23.1	7.51	330.0	5.44
EB	21.4	7.02	2.0	10.03

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