



Florida Onsite Sewage Nitrogen Reduction Strategies Study

Task C.17

S&GW Test Facility Data Summary Report No. 6

Progress Report

July 2013

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In association with:



AET

Applied Environmental Technology

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Florida Onsite Sewage Nitrogen Reduction Strategies Study

TASK C.17 PROGRESS REPORT

S&GW Test Facility Data Summary Report No. 6

Prepared for:

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S&GW Test Facility Monitoring

Data Summary Report No. 6

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 controlled pilot-scale testing at the Gulf Coast Research and Education Center (GCREC) soil and groundwater (S&GW) test facility is being monitored for a range of operating conditions and to determine mechanisms critical for nitrogen reduction. The Task C.5 QAPP documents the objectives, monitoring framework, sample frequency and duration, and analytical methods to be used at the GCREC S&GW test facility.

2.0 Purpose

This data summary report documents data collected from the sixth S&GW test facility monitoring and sampling event conducted June 10 through June 13, 2013. This monitoring event consisted of measurement of flowrates dosed to the system, groundwater elevation measured within the standpipe piezometers, measurement of field parameters, and collection of unsaturated zone and groundwater samples and their analyses by a NELAC certified laboratory.

3.0 Materials and Methods

3.1 Project Site

The S&GW test facility is located at the University of Florida Gulf Coast Research and Education Center (GCREC) in southeast Hillsborough County, Florida. The specially designed pilot-scale test areas are representative of typical mounded onsite sewage treatment and disposal systems and enables controlled testing and evaluation of nitrogen reduction in soil and groundwater. Each test area consists of the above ground mound system to which effluent is dosed. Four test areas were established, to which either septic tank effluent (STE) or aerobic treatment unit (ATU) effluent was delivered to the mound/soil system via a pressure dosed mound with a gravel trench or a mound with drip dispersal system (Table 1). In addition to the mound/soil systems, two in-situ

passive nitrogen reduction stacked biofilter systems are being tested specifically for wastewater treatment performance (Table 1 TA5 and TA6). The source of the influent wastewater is the septic tank effluent from the existing onsite wastewater system serving the GCREC (Figure 1). As shown in Figure 1, two separate feed systems supply the test areas with water, each system supplies either STE or aerobic treatment unit (ATU) effluent to 3 test areas. The treatment unit preceding three of the test areas shown in Figure 1 is a 500 gpd aerobic treatment unit (ATU) with a continuous air supply. Details of the design and construction of the S&GW test facility were presented previously in Task C.6, C.7, C.8, C10, C.11, C.12, A.15 and A.17 documents.

Table 1
S&GW Test Facility Test Areas

Test Area ID	Effluent Quality	Design HLR (gpd/ft²)	Soil Treatment Unit Design
TA1	STE	0.8	pressure dosed mound ¹ , gravel trench
TA2	ATU effluent	0.8	pressure dosed mound ¹ , gravel trench
TA3	STE	0.8	mound with drip dispersal
TA4	ATU effluent	0.8	mound with drip dispersal
TA5	STE effluent (Task A PNRS II)	0.8	mounded drip dispersal, vertically stacked biofilter; nitrification media over denitrification media
TA6	ATU effluent (Task A PNRS II)	0.8	mounded drip dispersal, vertically stacked biofilter; nitrification media over denitrification media

¹pressure dosed via drip tubing in gravel trench to maintain uniform application along trench length.

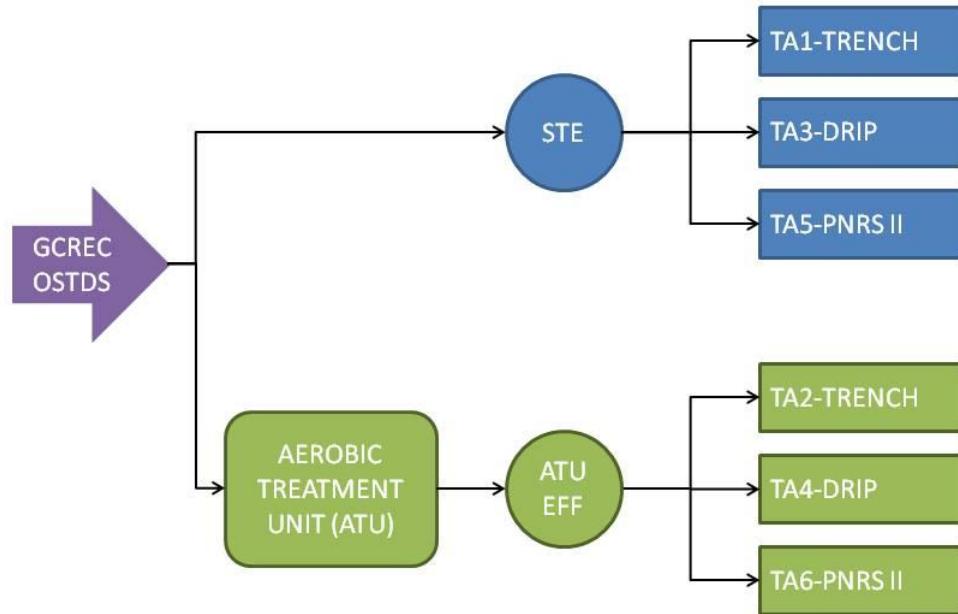


Figure 1
S&GW Test Facility System Schematic

3.2 Monitoring and Sampling Locations and Identification

Each test area is monitored for operational conditions, unsaturated and saturated nitrogen concentrations, soil properties, groundwater properties, and weather conditions. The PNRS II systems are monitored primarily for wastewater treatment performance, especially related to nitrogen reduction, and are not monitored as intensely for soil and groundwater parameters.

3.2.1 Unsaturated Zone Monitoring

The test areas are equipped with varying levels of unsaturated and shallow saturated zone monitoring instrumentation. The instrumentation includes suction lysimeters, stainless steel pan lysimeters, soil moisture probes, and tensiometers located at various depths below the bottom of the gravel trenches or below the drip emitters. A complete list of all installed monitoring devices and associated sample identification is included in Appendix A.

3.2.2 Saturated Monitoring

Saturated zone monitoring includes groundwater quality, depth of groundwater table, and gradient (i.e. water level contours). A sampling network for groundwater screening was developed for each of the test areas as depicted in Figure 2. Transect lines A through U are parallel to the northern edge of the mound and increase (higher letter identification) moving southward from the mound. Transect lines 0 through 20 (numbered from east to west) are perpendicular to the northern edge of the mound. Groundwater monitoring points were installed in November 2011, March 2012, May 2012, and October 2012. Standpipe piezometers were installed using either hand or drilling methods. Standpipe piezometers consist of either $\frac{3}{4}$ -in., 1-in., or 2-in. diameter PVC with 1-ft, 2.5-ft, 5-ft, or 10-ft long 0.010 slot PVC screens and PVC riser extending to the ground surface (refer to the Task C QAPP and Task C.10/C.11/C.12 Progress Report for additional detail).

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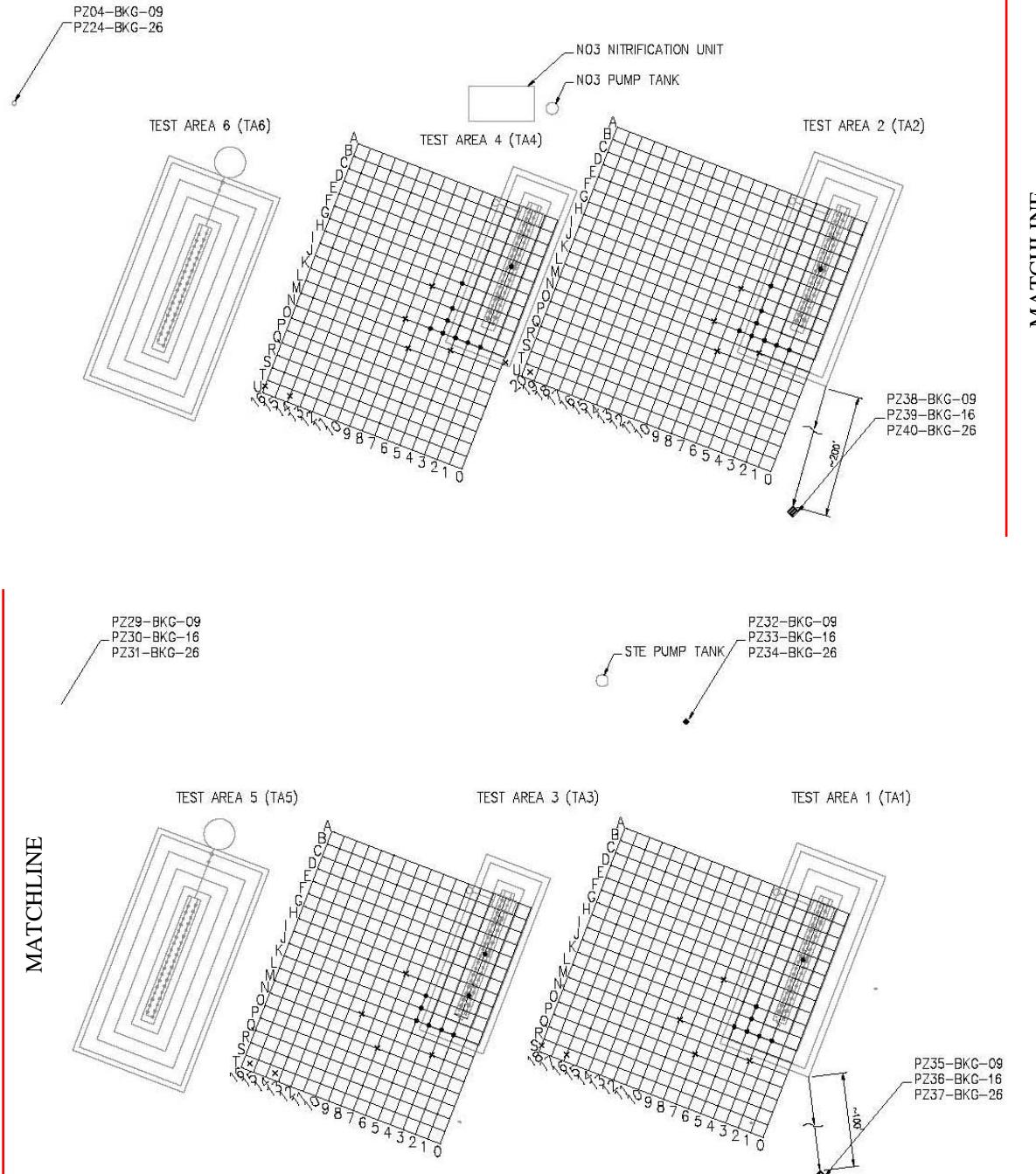


Figure 2
S&GW Test Facility Saturated Monitoring Network

3.2.3 Sample Locations and Identification

Each monitoring location has been assigned a unique identification indicating the type of monitoring point (LY = lysimeter, PZ = standpipe piezometer, T = tensiometer, SM = soil moisture, OBS = observation port, etc.), grid location (self explanatory), and depth below ground surface (bottom of the well screen in feet). For example TA1-PZ-11-J4 is a test area 1, standpipe piezometer sampler located 11 ft below natural ground surface on the grid at J4. Detailed schematics of the STE systems and ATU effluent systems are provided in Appendix A. Figure 3 depicts a typical schematic of the test area instrumentation. Figure 4 shows a photograph of the instrumented test area 3 with installed $\frac{3}{4}$ -in. diameter PVC standpipe piezometers downgradient of the test area. A complete list of all installed monitoring devices is included in Appendix A.

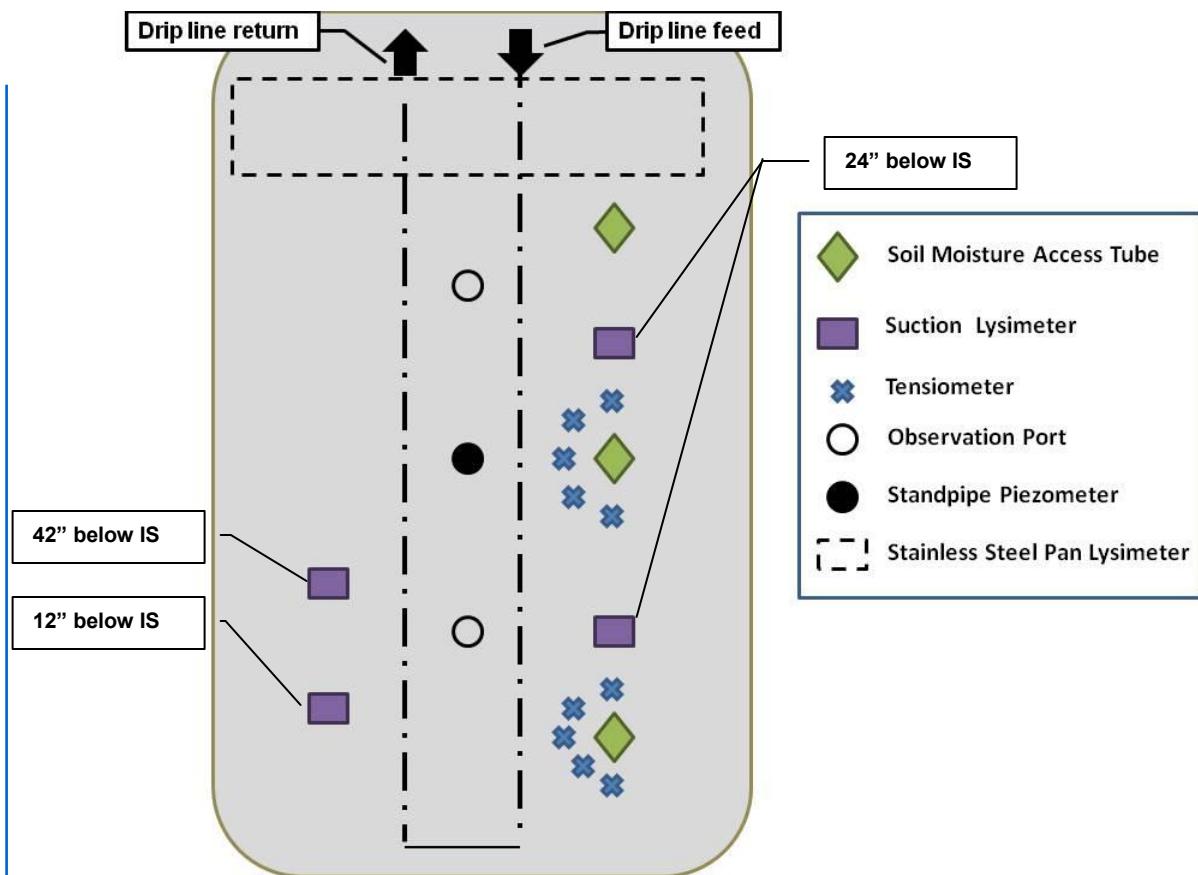


Figure 3
Typical Instrumentation of Test Area, Top View (example Test Area 3)

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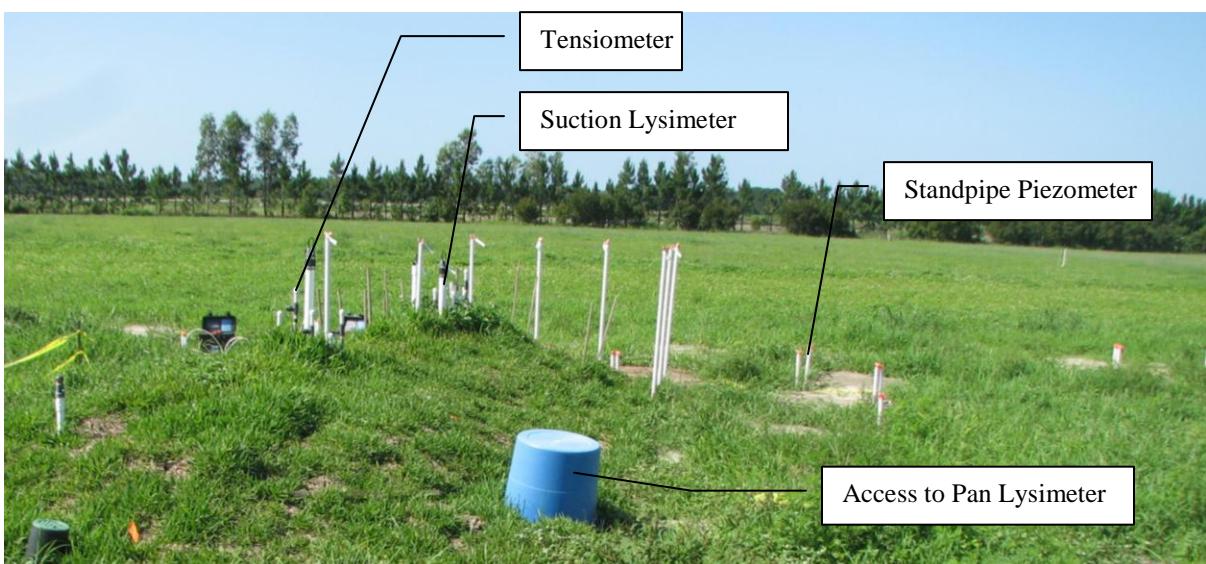


Figure 4
Photo of Instrumented Test Area 3

3.3 Operational Monitoring

Operational monitoring conditions include effluent quality, calculation of the hydraulic loading rate to the soil, and ponding on the soil infiltrative surface or at the fill/natural soil interface.

3.3.1 Flow Monitoring

The feed and return flows were measured, recorded, and adjusted as necessary to maintain flow rates consistent with the experimental design following the sample event. Each of the two systems has wastewater flow measured via two flow meters; one (1) flow meter located on the feed line to the three test areas, and; one (1) flow meter located on the return line to the dose tank. The flow meters were installed in November 2011. Table 2 summarizes the recorded wastewater flow data since start-up occurred May 9, 2012. The drip lines are automatically scoured (field flushed) every 25 dosing cycles. The field flush volume bypasses the return flow meter but not the feed flow meter; therefore the field flush volume must be accounted for when determining the dosed volume (Table 2).

The target dose volume to each of the test areas is 32 gallons per day which equates to 96 gallons per day for each drip dispersal system. The systems are dosed six doses per day. The total recorded flow for the STE (-3.9%) and ATU effluent (-2.6%) systems were within the 15% operational target that is considered acceptable. The STE return throttling valve was clogged and cleaned March 29, 2013. The STE system hydraulic unit solenoid valves were replaced April 18, 2013, and the filter valves were replaced April 24, 2013 which improved the low flows measured and returned the system to the targeted flow.

Table 2
S&GW Test Facility Measured Wastewater Flow Data

	Flow Meter Totalized Feed to Mounds (gallons)	Flow Meter Totalized Return from Mounds (gallons)	Number of Field Flush Occurrences for time period (#)	Average Recorded Flow (gpd)	RE% Measured/Target (%)	Average Recorded Flow since start-up (gpd)
STE System						
5/9/12 2:35 PM	13,733.08	5,188.14				
6/18/12 3:10 PM	20,987.62	8,620.71	9 ¹	93.36	-2.8%	
7/18/12 9:42 AM	25,535.66	10,270.72	7 ¹	95.11	-0.9%	94.10
8/20/12 2:15 PM	30,410.69	11,466.12	8 ¹	108.58	13.1%	98.77
10/12/12 12:17 PM	36,657.27	12,105.76	12 ¹	103.80	8.1%	100.48
11/27/12 8:00 AM	42,640.60	13,235.29	11 ¹	103.65	8.0%	101.20
1/2/13 8:35 AM	47,150.94	14,236.27	8 ¹	95.31	-0.7%	100.30
1/9/13 2:45 PM	48,046.90	14,407.34	2 ¹	97.27	1.3%	100.21
2/14/13 12:50 PM	51,656.94	15,031.91	1 ¹	59.79	-37.7%	97.79
3/8/13 9:00 AM	53,140.33	15,110.22	5 ¹	62.16	-35.3%	95.22
Troubleshooting determined low flow was attributed to faulty valves						
4/24/13 9:40 AM	54,606.05	15,255.60				86.08
4/29/13 10:27 AM	56,189.69	16,243.39	1 ¹	116.51	21.4%	86.52
May 1, 2013 at 8:20 am: Revised dose cycle time to 10 minutes from 13.1 minutes						
5/1/13 8:40 AM	56,839.36	16,647.34				
5/3/13 11:15 AM	57,354.82	16,966.22	0 ²	93.27	-2.8%	86.75
5/29/13 8:55 AM	63,703.90	20,795.52	6 ²	92.30	-3.9%	87.31
ATU System						
5/9/12 3:22 PM	38,415.90	33,861.96				
6/18/12 3:05 PM	63,382.59	53,711.43	9 ³	121.15	26.2%	
7/18/12 9:35 AM	78,364.51	65,072.22	7 ³	114.51	19.3%	118.32
8/3/12 10:45 AM	86,970.09	71,635.06	4 ³	119.73	24.7%	118.58
August 3, 2012 at 11:00 am: Revised dose cycle time to 11.66 minutes from 15 minutes						
8/20/12 2:33 PM	94,220.74	77,093.73	5 ⁴	97.27	1.3%	
10/12/12 12:42 PM	115,503.15	92,789.06	12 ⁴	98.70	2.8%	109.30
11/27/12 8:00 AM	129,268.69	102,319.17	11 ⁴	85.19	-11.3%	103.83
Pump failed 11/27/12 started up again 12/17/12						

Table 2 (continued)
S&GW Test Facility Measured Wastewater Flow Data

	Flow Meter Totalized Feed to Mounds (gallons)	Flow Meter Totalized Return from Mounds (gallons)	Number of Field Flush Occurrences for time period (#)	Average Recorded Flow (gpd)	RE% Measured/Target (%)	Average Recorded Flow since start-up (gpd)
ATU System (continued)						
12/17/12 4:00 PM	129,334.25	102,362.07	0 ⁴			
1/2/13 8:20 AM	135,223.41	106,272.92	4 ⁴	118.43	23.4%	96.00
1/9/13 2:40 PM	137,926.05	108,083.28	2 ⁴	114.50	19.3%	96.55
2/1/13 11:50 AM	146,567.71	113,939.73	6 ⁴	113.78	18.5%	98.02
2/7/13 8:30 AM	148,575.34	115,330.49	1 ⁴	100.08	4.2%	98.07
2/14/13 12:40 PM	151,066.13	117,047.14	2 ⁴	99.47	3.6%	98.10
3/8/13 8:50 AM	158,632.11	122,340.69	5 ⁴	97.11	1.2%	98.03
3/27/13 10:37 AM	164,651.41	125,832.33	18 ⁴	199.49	24.5%	98.10
4/25/13 8:30 AM	169,491.41	126,074.94	41 ⁴	116.04	20.9%	99.58
Air relief valve broken and replaced April 26, 2013						
4/29/13 10:22 AM	170,554.30	126,824.75				
5/2/13 9:05 AM	171,509.31	127,501.12	1 ⁴	84.28	-12.2%	92.33
5/3/13 11:10 AM	171,899.99	127,774.35	0 ⁴	108.07	12.6%	92.38
5/6/13 11:15 AM	172,881.90	128,470.23	1 ⁴	85.14	-11.3%	92.32
5/29/13 8:45 AM	180,414.79	133,709.73	5 ⁴	93.55	-2.6%	92.39

¹STE system additional field flush cycle volume is 9.5 gallons

²STE system additional field flush cycle volume is 21.5 gallons

³ATU system additional field flush cycle volume is 30.3 gallons

⁴ATU system additional field flush cycle volume following dose cycle time revision is 24.6 gallons

3.3.2 Meteorological Monitoring

A weather station is located at the GCREC facility with weather conditions recorded every minute and stored on a private website. Table 3 provides the recorded meteorological data daily averages leading up to and during the sample event. Appendix B provides a summary table of the average daily recorded meteorological data since the previous sample event.

Table 3
Meteorological Data Daily Averages Measured June 4 through June 14, 2013

Date	Temp Avg 60 cm (°F)	Temp Avg 2m (°F)	Temp Avg 10 m (°F)	Temp Soil Avg -10 cm (°F)	Dewpoint Avg 2m (°F)	Relative Humidity Avg 2m (%)	Rain Total 2m (in)	Wind Speed Avg 10m (mph)	ET (in)
4-Jun-13	76.10	76.51	75.81	78.51	73.06	90	0.07	5.73	0.12
5-Jun-13	76.61	77.33	76.70	78.58	73.04	87	0.10	8.34	0.11
6-Jun-13	74.46	75.27	74.81	76.63	73.33	94	3.20	13.64	0.07
7-Jun-13	77.26	77.95	77.31	77.65	73.16	86	0	5.85	0.15
8-Jun-13	74.80	75.41	75.02	77.71	73.00	83	3.00	4.80	0.12
9-Jun-13	76.64	77.14	76.45	78.02	73.97	91	0.05	5.99	0.15
10-Jun-13	77.57	78.26	77.79	79.01	73.22	86	1.91	5.38	0.17
11-Jun-13	78.53	79.05	78.70	78.91	74.22	86	0	4.56	0.15
12-Jun-13	79.52	79.84	79.47	80.40	72.54	81	0.07	3.83	0.20
13-Jun-13	80.15	80.54	79.85	81.64	73.24	80	0	4.93	0.20
14-Jun-13	79.91	80.50	79.81	82.03	73.23	80	0	5.88	0.18

3.3.3 Soil Moisture Monitoring

In situ soil tension and soil moisture measurements are collected for model development in Task D. Soil moisture tension is monitored in two test areas (TA1 and TA3) in two locations (center and south side of the mound). Tensiometers are installed at 5 depths as specified in Appendix C. Tensiometers have a ceramic cup and tube assembly equipped with a pressure transducer. The pressure transducer allows for precise measurement of the soil water potential. The tensiometers are automated to enable recording of soil moisture tension at 15 minute intervals to evaluate short-term changes in soil moisture status associated with wastewater dosing events. The daily averages since the previous sample event are presented in Appendix C. Figures C.1 and C.2 display the 15 minute interval data for soil tension, rainfall, temperature and dose occurrence during this monitoring event for TA1 and TA3, respectively. The recorded tensiometer data provides a relative difference comparison between locations but has not been calibrated to a true soil moisture value.

Soil moisture is measured through Sentek™ sensor access tubes. Volumetric soil moisture content is measured by responses to changes in the dielectric constant of the soil by inserting the sensor probe into the access tube (Figure 5) which takes readings every 10 cm the entire length of the access tube (Appendix D). The 0 cm reading is at the infil-

trative surface of each test area. No ponding was observed within the test area observation ports.

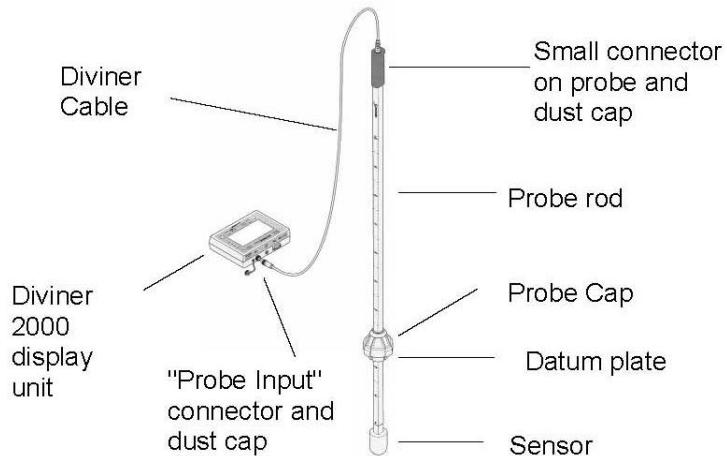


Figure 5
Sentek™ Diviner 2000

Source: Diviner 2000 User Guide V1.5

3.4 Groundwater Elevation Measurements

Groundwater level measurements are used to determine hydraulic gradients and directions of groundwater flow. Groundwater levels are measured by inserting into monitoring wells a hand-cranked steel tape graduated in feet, to the nearest 0.01 ft. These measurements are then converted to groundwater surface elevations by using the surveyed elevation of the top of the monitor well casing.

3.5 Water Quality Sample Collection and Analyses

Septic tank effluent, ATU effluent, groundwater, and soil moisture samples were collected June 10 through June 13, 2013 for water quality analysis. A peristaltic pump was used to collect STE and ATU effluent by placing the suction inlet tubing in the mid-section of the clear liquid phase in the effluent holding tanks. Similarly, a sample was collected from the PNRS II Tank 1, which supplies STE to the S&GW test facility nitrification unit and STE dose tank. The effluent was directed into the analysis-specific containers supplied by the analytical laboratory. Field parameters (temperature (Temp),

pH, specific conductance (SC), oxidation-reduction potential (ORP) and dissolved oxygen (DO)) were measured using portable electronic probes with probe tips placed directly into the tanks.

Groundwater samples were obtained using a peristaltic pump and dedicated standpipe piezometer tubing. Prior to groundwater sample collection, the piezometer was micropurged using low-flow purging and sampling methods. Micropurging continued until water quality indicators (temp, pH, SC, DO and turbidity) were stabilized (three consecutive measurements within the limits). Groundwater sample was then collected into the analysis-specific containers.

Soil moisture samples from the suction lysimeters were also collected using a peristaltic pump and dedicated tubing. The tubing routed the samples directly into analysis-specific containers after sufficient flushing of the tubing had occurred. Field parameters (Temp, pH, SC, ORP, DO) were then recorded in an external reservoir.

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, provided in Appendix E, supplied by the laboratory.

In addition, equipment blank, field blank, and field sample duplicates were taken. The equipment blank was collected by pumping deionized water (provided by the laboratory) through the cleaned pump tubing. These samples were then analyzed for the same parameters as the GW samples. One field blank was collected by filling sample containers with deionized water that had been transported from the laboratory into the field along with other sample containers. The field sample duplicates were collected immediately subsequent to the regular samples.

All samples were analyzed by the laboratory for chloride, total Kjeldahl nitrogen (TKN-N), ammonia nitrogen ($\text{NH}_3\text{-N}$), and nitrate/nitrite nitrogen ($\text{NO}_x\text{-N}$). Additionally, for the effluent samples and some of the water samples total alkalinity, carbonaceous biochemical oxygen demand (CBOD_5), total phosphorus (TP), total solids (TS), total suspended solids (TSS), fecal coliform (fecal), sucralose, anions and cations were included. In addition, chemical oxygen demand (COD) and dissolved organic carbon (DOC) were included at some of the water sample locations. For the two in-situ passive nitrogen reduction mounded systems (TA5 and TA6) samples, sulfate and hydrogen sulfide were

also included. All analyses were performed by an independent and fully NELAC certified analytical laboratory (Southern Analytical Laboratory and FDEP). Table 4 lists the analytical parameters, analytical methods, and detection limits for these analyses.

Table 4
Analytical Parameters, Method of Analysis, and Detection Limits

Analytical Parameter	Method of Analysis	Laboratory Detection Limit (mg/L)
Total Alkalinity as CaCO ₃	SM 2320B	2 mg/L
Chemical Oxygen Demand (COD)	EPA 410.4	10 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
Carbonaceous Biological Oxygen Demand (CBOD ₅)	SM 5210B	2 mg/L
Total Solids (TS)	EPA 160.3	0.01% by wt
Total Suspended Solids (TSS)	SM 2540D	1 mg/L
Total Organic Carbon (TOC)	SM 5310B	0.5 mg/L
Dissolved Organic Carbon (DOC)	SM 5310B	0.5 mg/L
Fecal Coliform (fecal)	SM 9222D	2 ct/100 mL
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
Hydrogen Sulfide (unionized)	SM 4550SF	0.01 mg/L
Sulfide	SM 4500SF	0.01 mg/L
Sucralose	EPA 8321B	0.01 µg/L

4.0 Results

4.1 Groundwater Levels

Figures 6 through 11 illustrate the surficial groundwater contours as derived from measurements within the standpipe piezometers representative of the six sample events. Figure 11 illustrates the surficial groundwater contours as derived from measurements within the standpipe piezometers in June 2013 representative of this sample event, and Table 5 shows the actual measured water levels. Monitoring well locations are shown on Figures A.1 and A.2 within Appendix A. By continued monitoring of the groundwater elevations, a clearer picture of the gradient at the site will be gained.

Table 5
Standpipe Piezometer Groundwater Level Measured June 11, 2013

Identification/ Location	Water Table Elevation ¹ (ft)	Identification/ Location	Water Table Elevation ¹ (ft)
	June 11, 2013		June 11, 2013
TA1-PZ-11-EF2	126.88	TA2-PZ-16-N7	126.25
TA1-PZ-11-J4	126.80	TA2-PZ-09-I7	126.34
TA1-PZ-11-K4	126.83	TA2-PZ-16-I7	126.32
TA1-PZ-11-L2	126.78	TA2-PZ-09-L8	126.31
TA1-PZ-11-L3	126.80	TA2-PZ-16-L8	126.27
TA1-PZ-11-L4	126.80	TA2-PZ-09-TU19	126.08
TA1-PZ-11-L5	126.79	TA2-PZ-16-TU19	126.08
TA1-PZ-09-N3	126.79	TA2-PZ-09-TU21	126.06
TA1-PZ-16-N3	126.79	TA2-PZ-16-TU21	126.07
TA1-PZ-09-O7	126.75	TA3-PZ-11-EF2	126.70
TA1-PZ-16-O7	126.76	TA3-PZ-11-I2	126.65
TA1-PZ-09-M9	126.79	TA3-PZ-10-J5	126.63
TA1-PZ-16-M9	126.75	TA3-PZ-10-K5	126.61
TA1-PZ-09-I7	126.86	TA3-PZ-11-L2	126.59
TA1-PZ-16-I7	126.83	TA3-PZ-11-L3	126.61
TA1-PZ-09-RS16	126.63	TA3-PZ-11-L4	126.59
TA1-PZ-16-RS16	126.63	TA3-PZ-10-L5	126.58
TA1-PZ-09-RS18	126.61	TA3-PZ-09-N3	126.51
TA1-PZ-16-RS18	126.60	TA3-PZ-16-N3	126.61
TA2-PZ-10-EF2	126.39	TA3-PZ-09-O7	126.60
TA2-PZ-10-H5	126.34	TA3-PZ-16-O7	126.58
TA2-PZ-10-J5	126.30	TA3-PZ-09-I7	126.67
TA2-PZ-10-K5	126.28	TA3-PZ-16-I7	126.68
TA2-PZ-10-L2	126.30	TA3-PZ-09-M9	126.61
TA2-PZ-10-L3	126.29	TA3-PZ-16-M9	126.62
TA2-PZ-10-L4	126.28	TA3-PZ-09-ST14	126.48
TA2-PZ-10-L5	NR	TA3-PZ-16-ST14	126.48
TA2-PZ-10-L6	NR	TA3-PZ-09-ST16	126.47
TA2-PZ-09-M4	126.29	TA3-PZ-16-ST16	126.46
TA2-PZ-16-M4	126.29	TA4-PZ-11-EF2	126.24
TA2-PZ-09-N7	126.26	TA4-PZ-10-H5	126.13

Table 5 (continued)
Standpipe Piezometer Groundwater Level Measured

Identification/ Location	Water Table Elevation ¹ (ft)	Identification/ Location	Water Table Elevation ¹ (ft)
	June 11, 2013		June 11, 2013
TA4-PZ-10-J5	126.12	PZ32-BKG-09	127.00
TA4-PZ-10-K5	126.12	PZ33-BKG-16	126.39
TA4-PZ-11-L2	126.12	PZ34-BKG-26	126.92
TA4-PZ-11-L3	126.13	PZ35-BKG-09	126.37
TA4-PZ-11-L4	126.10	PZ36-BKG-16	126.31
TA4-PZ-11-L5	126.11	PZ37-BKG-26	126.27
TA4-PZ-11-L6	126.11	PZ38-BKG-09	124.75
TA4-PZ-09-M4	126.13	PZ39-BKG-16	124.72
TA4-PZ-16-M4	126.10	PZ40-BKG-26	124.75
TA4-PZ-09-N7	NR	PZ-41	126.76
TA4-PZ-16-N7	126.23	PZ-42	126.74
TA4-PZ-09-I7	126.17	PZ-43	126.95
TA4-PZ-16-I7	126.14	PZ-44	126.55
TA4-PZ-09-L8	126.14	PZ-45	126.60
TA4-PZ-16-L8	126.10	PZ-46	126.74
TA4-PZ-09-TU14	125.96	PZ-47	126.77
TA4-PZ-16-TU14	125.94	PZ-48	126.75
TA4-PZ-09-TU16	125.96	PZ-49	126.26
TA4-PZ-16-TU16	125.95	PZ-50	126.30
TA5-PZ-I	126.50	PZ-51	126.33
TA6-PZ-I	125.95	PZ-52	125.55
PZ01-BKG-09	127.32	PZ-53	126.12
PZ04-BKG-09	125.80	PZ-54	126.07
PZ24-BKG-26	126.10	PZ-55	126.26
PZ29-BKG-09	126.64	PZ-56	126.58
PZ30-BKG-16	126.60	PZ-57	126.31
PZ31-BKG-26	125.62		

¹Elevation above mean sea level based on NGVD 1929

²Monitoring well locations are illustrated on Figures A.1 and A.2 within Appendix.

NR = no reading

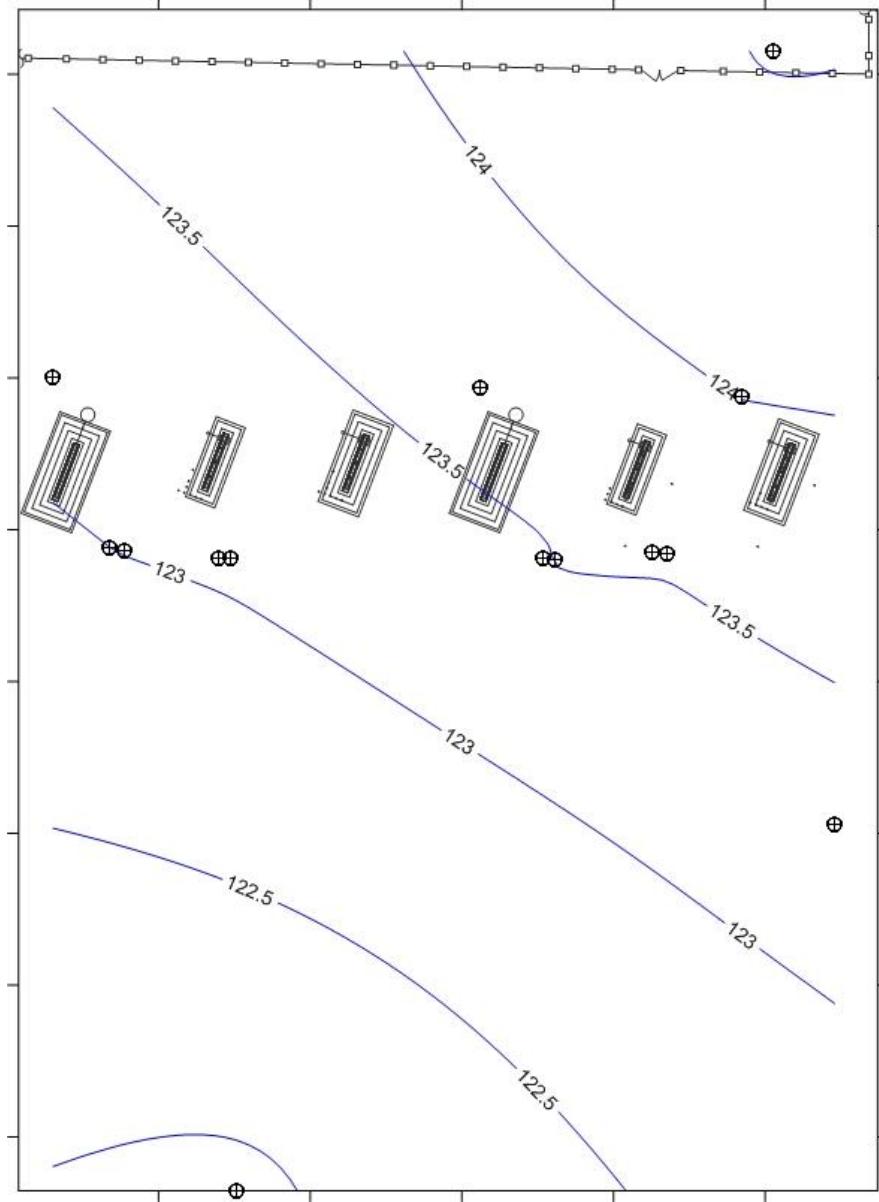


Figure 6
Surficial Groundwater Contours (Elev. ft above MSL)
June 18 through 21, 2012, representative of SE No. 1
⊕ denotes piezometers

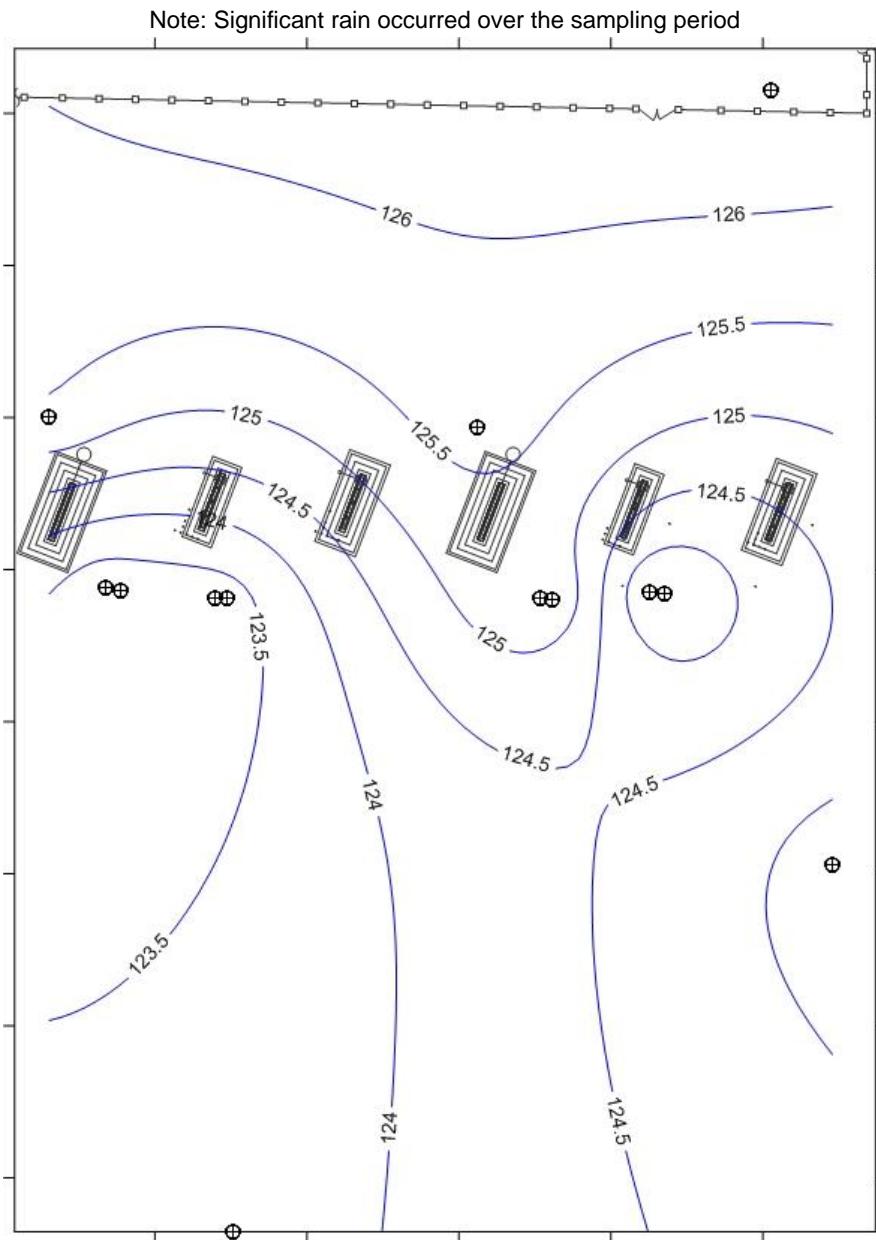


Figure 7
Surficial Groundwater Contours (Elev. ft above MSL)
August 20 through 23, 2012, representative of SE No. 2¹

⊕ denotes piezometers

¹Significant rainfall (>6 inches) was measured at the site prior to and during this sample event, and no doubt influenced the contours above.

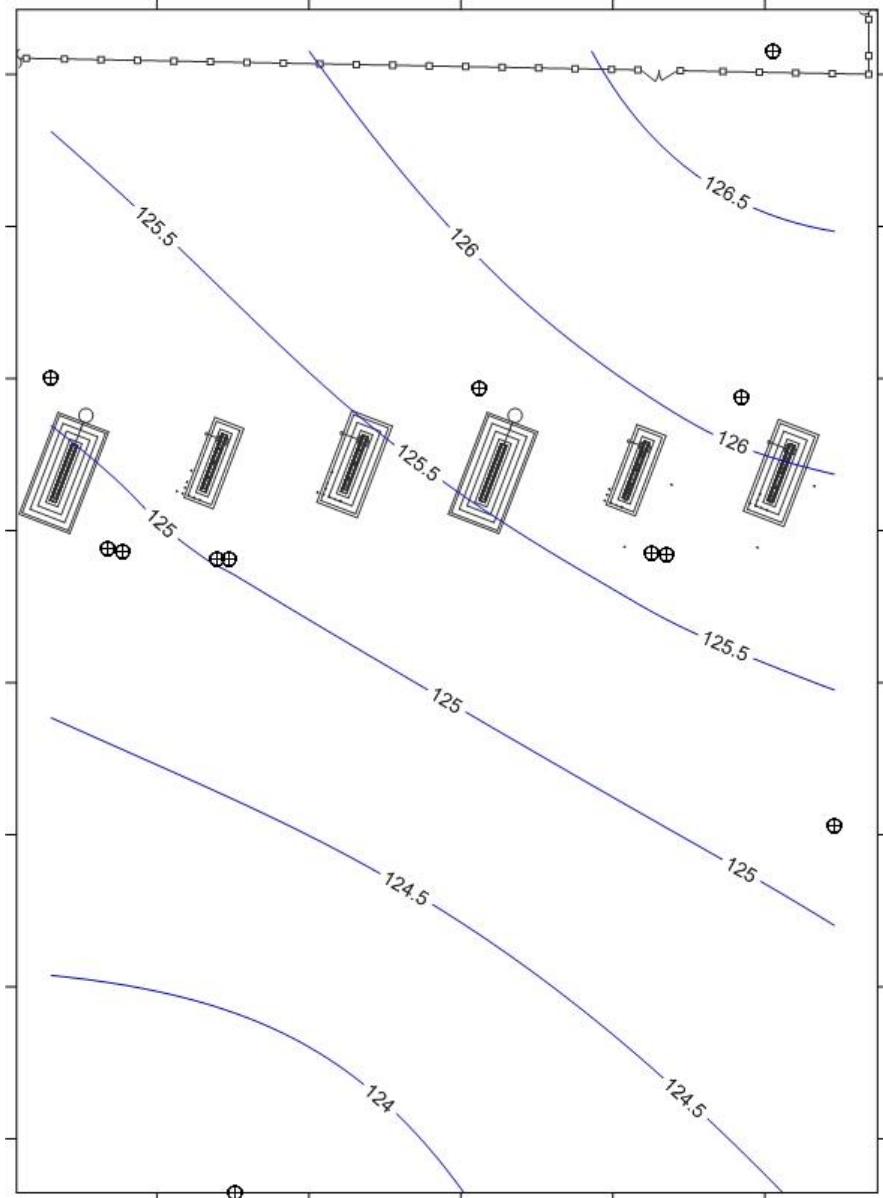


Figure 8
Surficial Groundwater Contours (Elev. ft above MSL)
October 11, 2012, representative of SE No. 3
⊕ denotes piezometers

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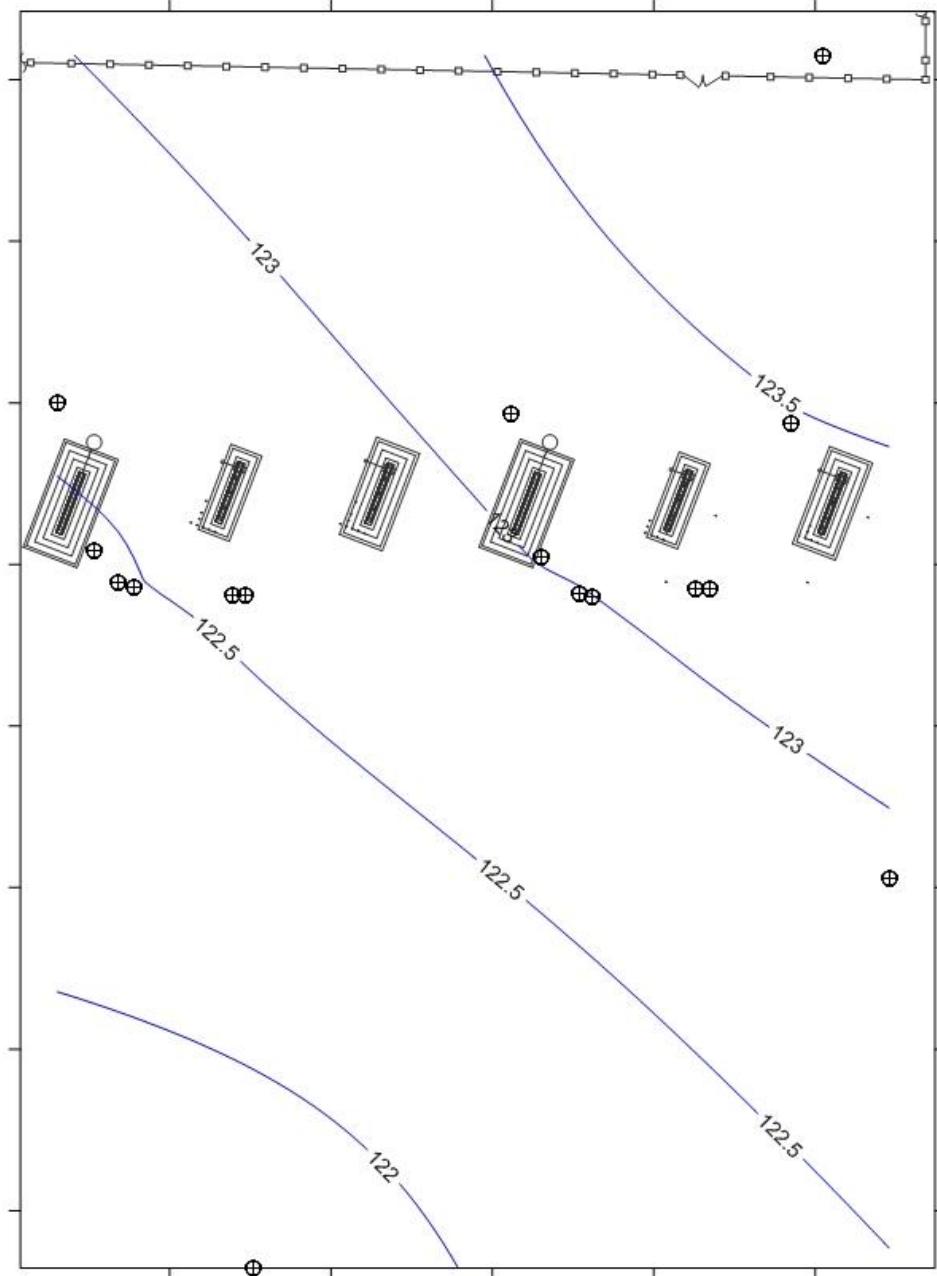


Figure 9
Surficial Groundwater Contours (Elev. ft above MSL)
January 4, 2013 representative of SE No. 4
⊕ denotes piezometers

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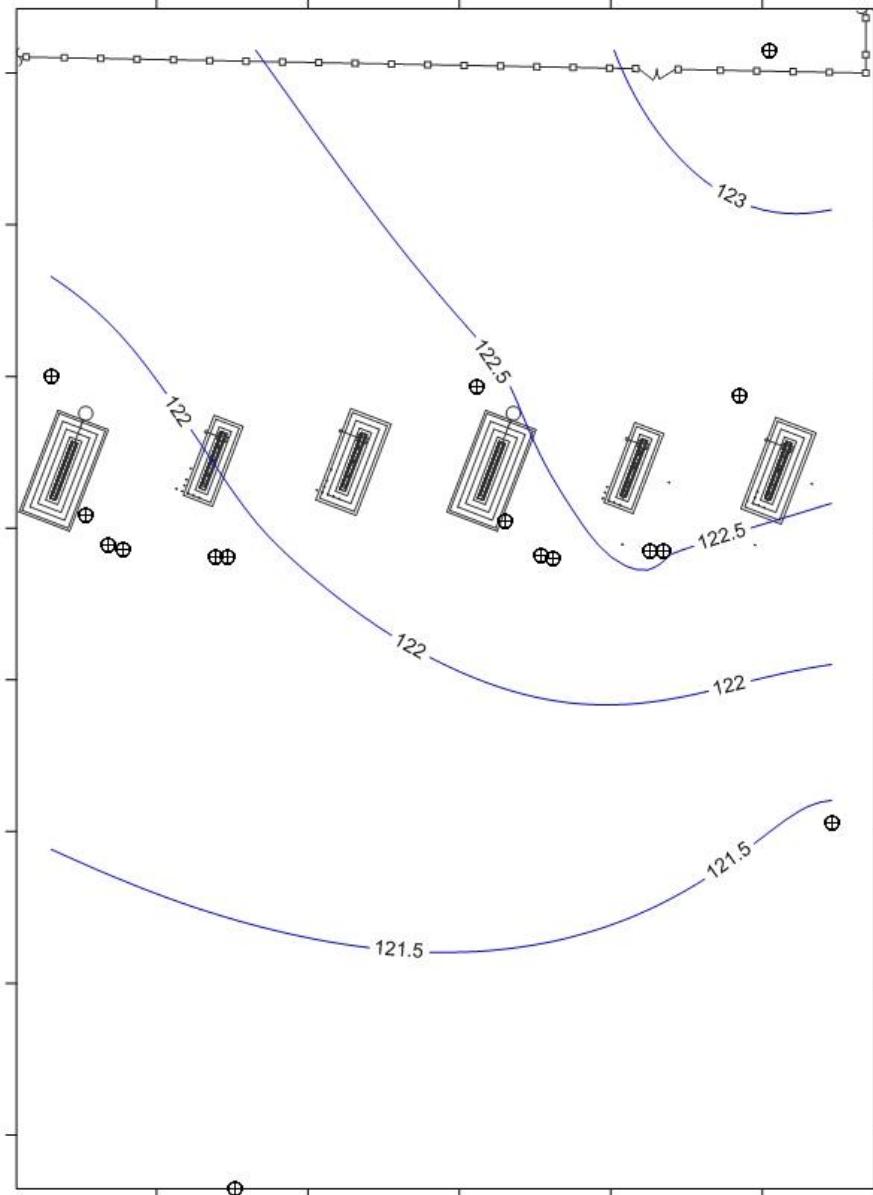


Figure 10
Surficial Groundwater Contours (Elev. ft above MSL)
March 2013 representative of SE No. 5
⊕ denotes piezometers

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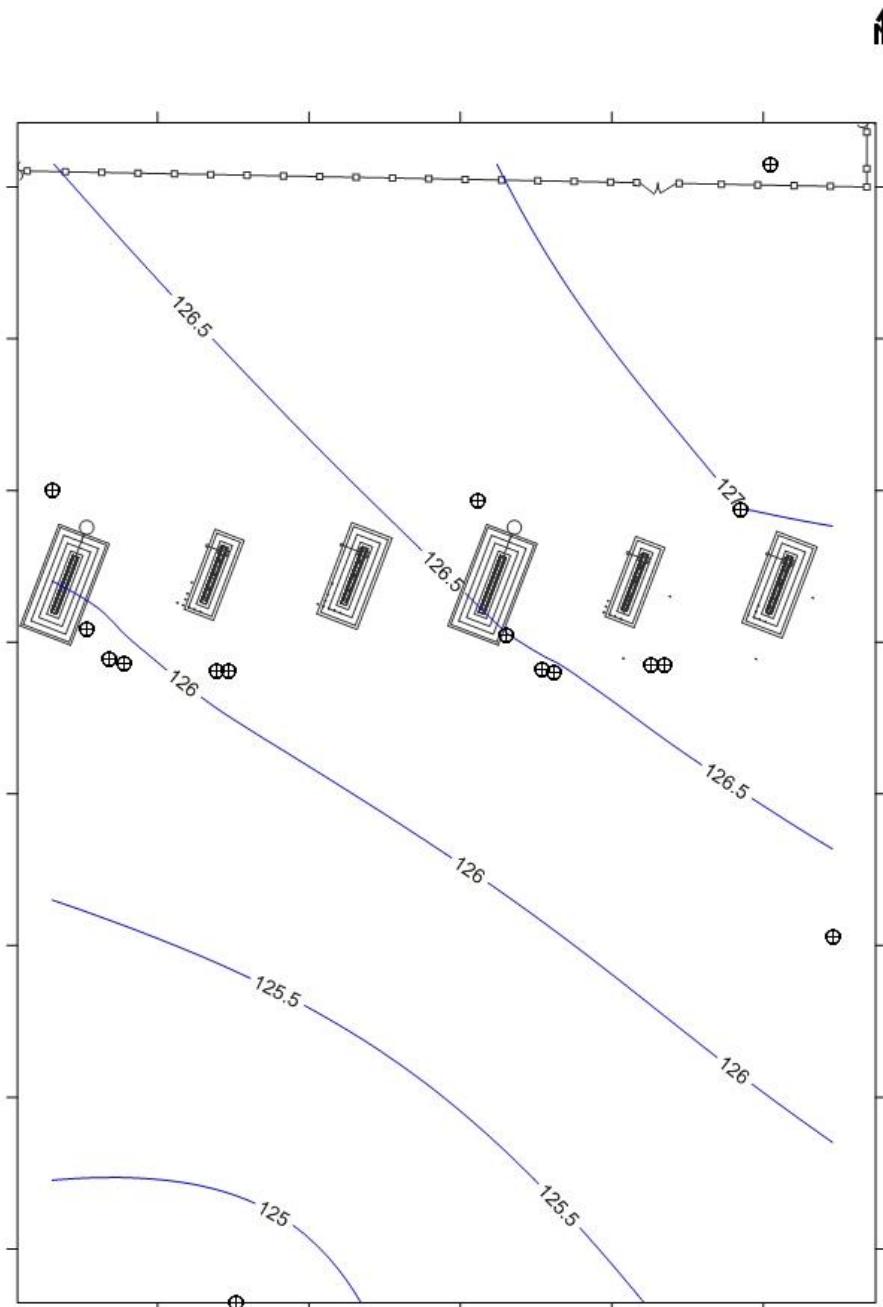


Figure 11
Surficial Groundwater Contours (Elev. ft above MSL)
June 2013 representative of SE No. 6
⊕ denotes piezometers

4.2 Water Quality Analyses

4.2.1 Field Parameters

Field parameters (temperature, pH, dissolved oxygen (DO), and specific conductivity) were measured at all the sampling locations during the June 2013 sampling event. The complete field parameter data set is included in Appendix F.

4.2.2 Correlations

Correlations between nitrogen parameters were investigated. Figures 12 and 13 show scatter plots of nitrogen vs conductivity and chloride, respectively, for groundwater samples. Past correlation results showed more than one trend; therefore for this sample event, the STE system groundwater (TA1 and TA3) trend results are shown separate from the ATU system groundwater (TA2 and TA4) trend results. The graph shows that increasing groundwater conductivity around the test systems is generally associated with increased groundwater nitrogen concentrations. A stronger linear correlation is observed for specific conductance (Figure 12).

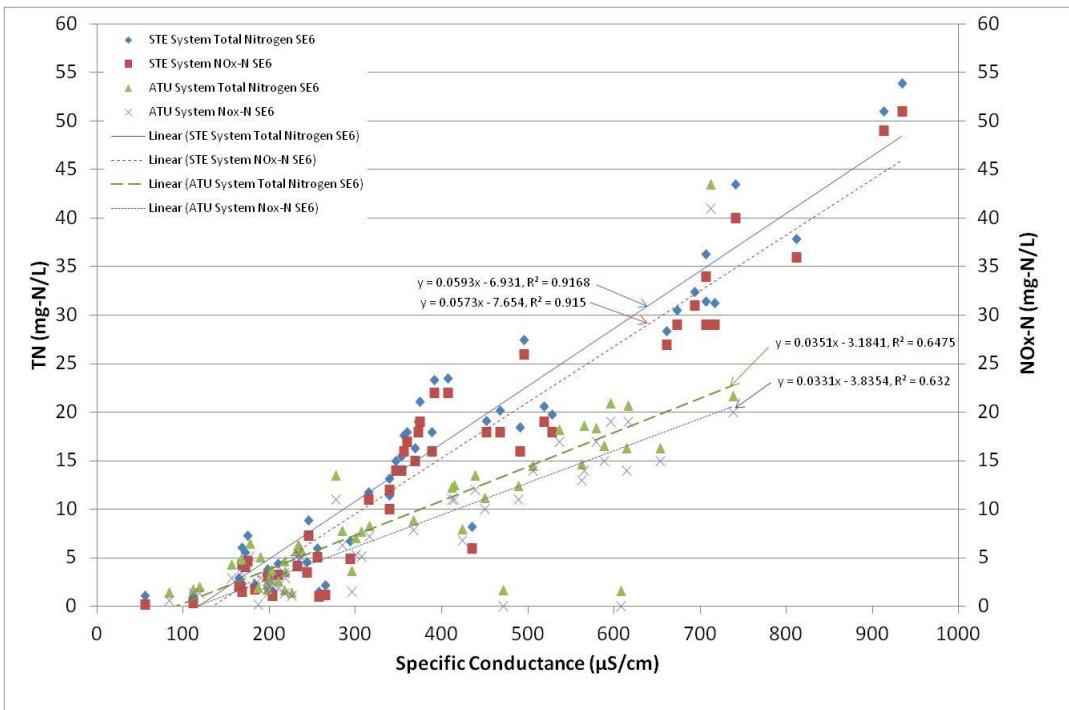


Figure 12
Correlation Between the Specific Conductance ($\mu\text{S}/\text{cm}$) and Concentrations of NO_x and TN (mg-N/L) for groundwater samples

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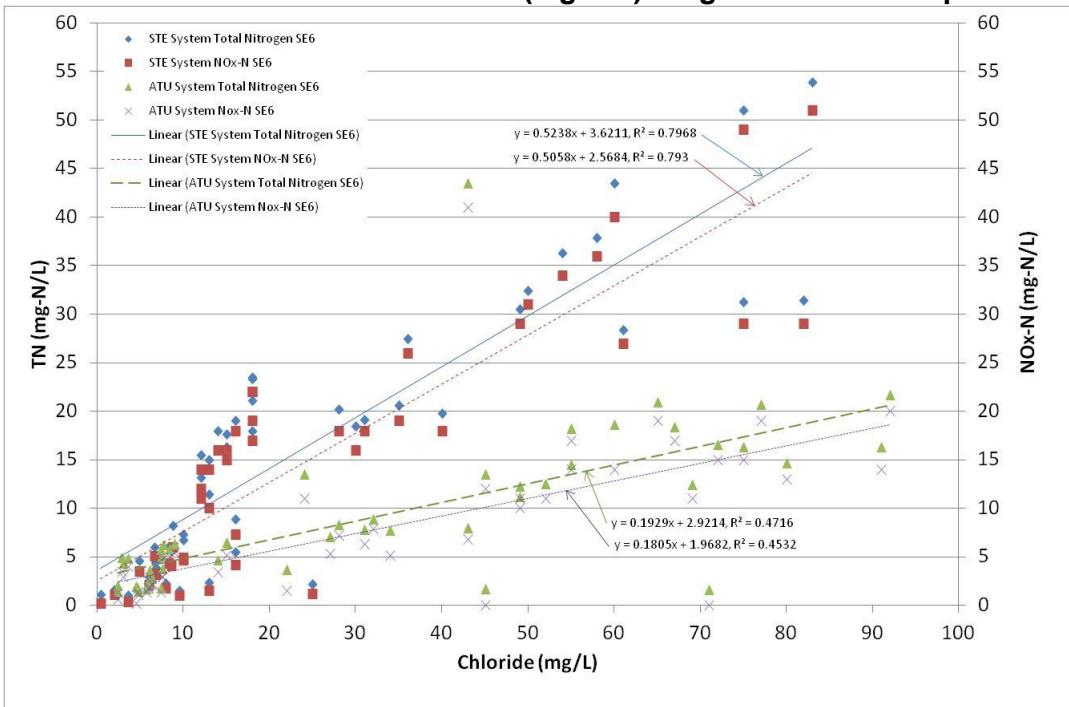


Figure 13
Correlation Between the Chloride (mg/L) and Concentrations of NO_x and TN (mg-N/L) for groundwater samples

4.3.3 Analytical Parameters

In addition to measuring field parameters, all samples were analyzed for chloride. Some of the samples were additionally analyzed for: total alkalinity (as CaCO_3), total Kjeldahl nitrogen (TKN-N), ammonia nitrogen ($\text{NH}_3\text{-N}$), and nitrate/nitrite nitrogen (NOX-N), total organic carbon (TOC), dissolved organic carbon (DOC), chemical oxygen demand (COD), sucralose and cations and anions. The June sampling event provides continued insight into the development of nitrogen plumes from the test areas. The complete water quality analytical results for Sample Event No. 6 are listed in Table 1, Appendix F, and the statistical summary of the water quality is presented in Table 1, Appendix G. The laboratory report containing the raw analytical data is included in Appendix E.

4.3.3.1 Influent Water Quality

STE is pumped from the first GCREC septic tank to a holding tank near the test areas (PNRS II STE-Tank 1). A portion of the STE from this holding tank is directed to an aerobic treatment unit for nitrification, with the treated effluent held in a separate tank as the source of the ATU effluent (ATU Effluent Pump Tank). A separate portion of the STE from the holding tank is directed to a separate tank as the source of the STE effluent (STE Pump Tank). The water quality characteristics of STE collected in Sample Event 6 were within the range that has been typically reported for Florida single family residence STE. The measured STE total nitrogen (TN) concentration in Tank 1 was 72 mg-N/L. The STE pump tank and ATU effluent pump tank total nitrogen concentrations were 67 and 34 mg-N/L, respectively; and the NOX-N concentrations were 0.08 and 32 mg-N/L, respectively. The ATU is converting all ammonia to oxidized nitrogen (ATU Pump Tank NH_3 concentration of 0.098 mg-N/L; NOx concentration of 32 mg-N/L). It appears that the unit is also providing denitrification (nitrogen reduction).

4.3.3.2 Unsaturated Zone Results

The test areas are equipped with varying levels of unsaturated and shallow saturated zone monitoring instrumentation. TA1, TA2, TA3 and TA4 instrumentation includes 2-inch diameter soil suction lysimeters (see Appendix A, Figures A.1 and A.2 for placement). The nitrogen results are summarized in Tables 6 through 9 for each of the test areas. All four test areas exhibit high total nitrogen concentrations at a depth 42-inches below the infiltrative surface and complete ammonia nitrification 12-inches below the infiltrative surface. The ATU effluent test areas show substantially lower nitrogen concentrations than the STE test areas, as would be expected based on the effluent quality being fed to the test areas. The groundwater level was at approximately 32 inches below the infiltrative surface during this sample event.

Table 6
Test Area 1 (STE fed Trench System) Unsaturated Zone Monitoring

	TA1-LY-12-S	TA1-LY-24-C	TA1-LY-24-S	TA1-LY-42-S
	12" Below IS	24" Below IS	24" Below IS	42" Below IS
TKN, mg N/L	1.6	2.8	1.7	3.6
NH3, mg N/L	0.019	0.009	0.009	0.01
NOx, mg N/L	32	19	25	46
TN, mg N/L	33.6	21.8	26.7	49.6

Table 7
Test Area 3 (STE fed Drip System) Unsaturated Zone Monitoring

	TA3-LY-12-S	TA3-LY-24-C	TA3-LY-24-S	TA3-LY-42-S
	12" Below IS	24" Below IS	24" Below IS	42" Below IS
TKN, mg N/L	2.4	3.0	2.5	3.4
NH3, mg N/L	0.048	0.14	0.015	0.014
NOx, mg N/L	23	22	18	31
TN, mg N/L	25.4	25.0	20.5	34.4

Table 8
Test Area 2 (ATU Eff. fed Trench System) Unsaturated Zone Monitoring

	TA2-LY-12-S	TA2-LY-24-C	TA2-LY-24-S	TA2-LY-42-S
	12" Below IS	24" Below IS	24" Below IS	42" Below IS
TKN, mg N/L	2.1		2.5	1.9
NH3, mg N/L	0.012		0.032	0.011
NOx, mg N/L	23		19	16
TN, mg N/L	25.1		21.5	17.9

Table 9
Test Area 4 (ATU Eff. fed Drip System) Unsaturated Zone Monitoring

	TA4-LY-12-S	TA4-LY-24-C	TA4-LY-24-S	TA4-LY-42-S
	12" Below IS	24" Below IS	24" Below IS	42" Below IS
TKN, mg N/L	2.9	2.6	2.8	2.1
NH3, mg N/L	0.017	0.017	0.058	0.06
NOx, mg N/L	14	11	11	16
TN, mg N/L	16.9	13.6	13.8	18.1

4.3.3.2 Nitrate/Nitrite Concentrations with Groundwater Depth

Surfer™ is a useful tool for contour mapping; however, it cannot project a 3-dimensional view of concentrations with depth. Therefore the concentrations of parameters were “lumped” from the different sampling locations into “slices” of similar depth, allowing the different “slices” to be compared.

Based on the distribution of points with depth, two “slices” were chosen for the groundwater data for test areas 1 through 4. The two slices were separated by elevation above sea level (NGVD29 datum). A **Surfer** schematic illustrating the “slices” of NOX concentration with depth from March 2013 for each test area are presented in Figures 14 through 20. The maps show contours of the concentrations as estimated using the “natural neighbor” gridding method in **Surfer™**. This method was used because it did not extend results past data points, as was noted on previous project results. The shallow piezometer NOX results (Figures 14 and 16) show that the test area plumes appear to be confined in a southwesterly direction from the center of each of the test areas. The deeper piezometers (Figures 15 and 17) indicate relatively low NOX concentrations at this point in time, similar to background levels (Figures 18, 19, and 20).

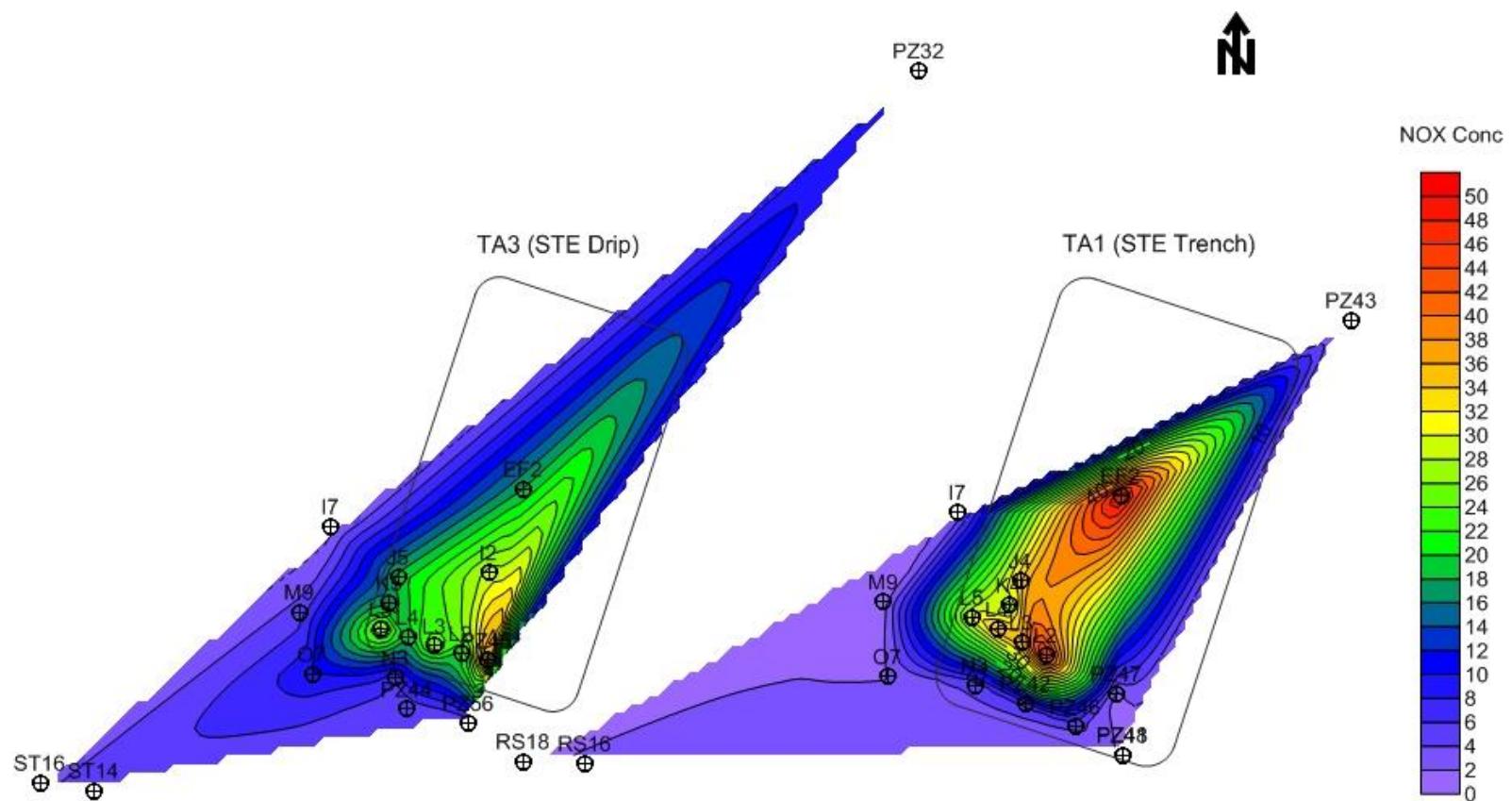


Figure 14
TA1 and TA3 Shallow Elev 118.5-127.00 ft above MSL (June 2013 Sample Event)
Schematic (using Surfer) illustrating NOX concentrations in the subsurface

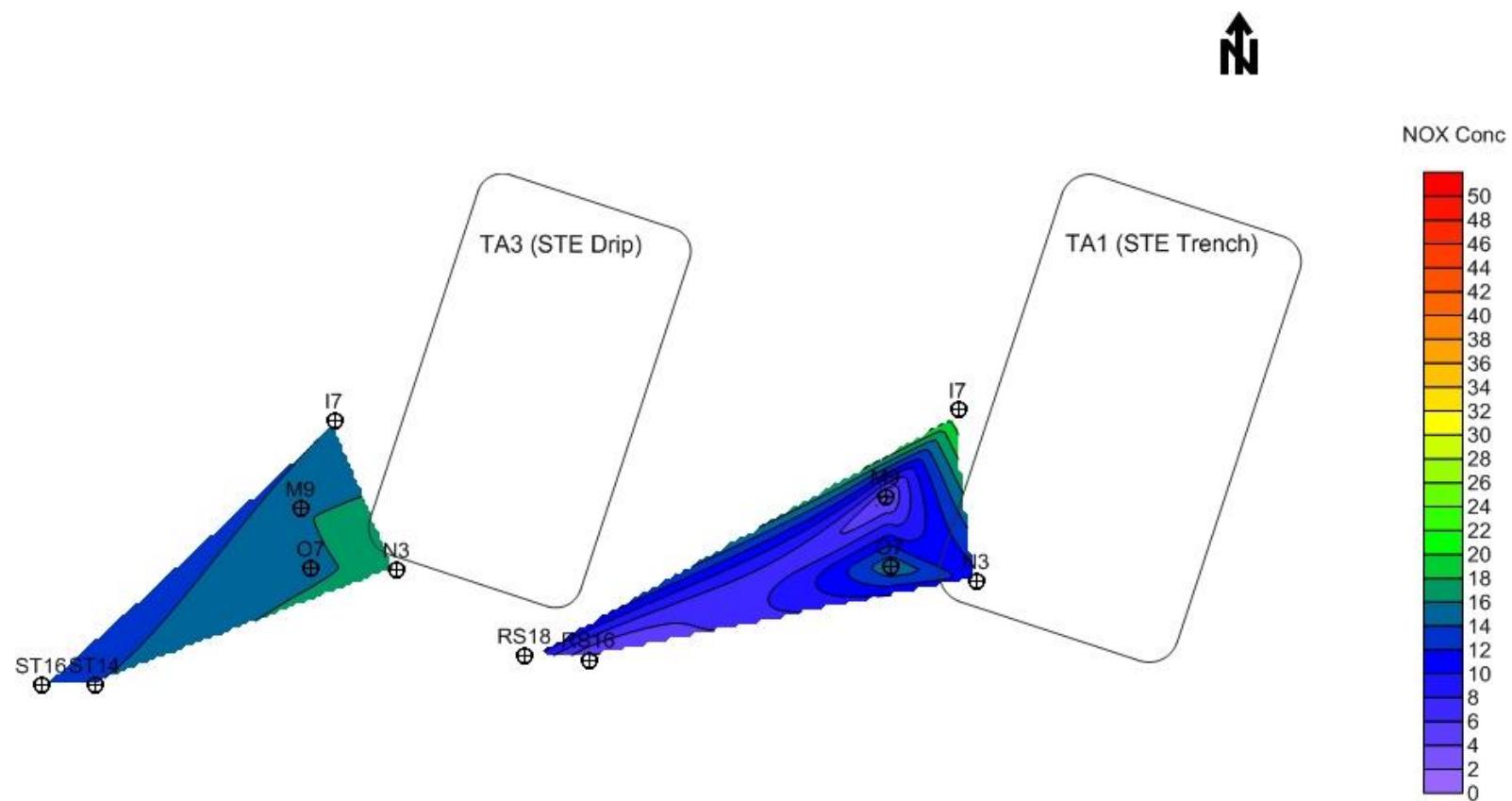


Figure 15
TA1 and TA3 Deep Elev 112-118.5 ft above MSL (June 2013 Sample Event)
Schematic (using Surfer) illustrating NOX concentrations in the subsurface

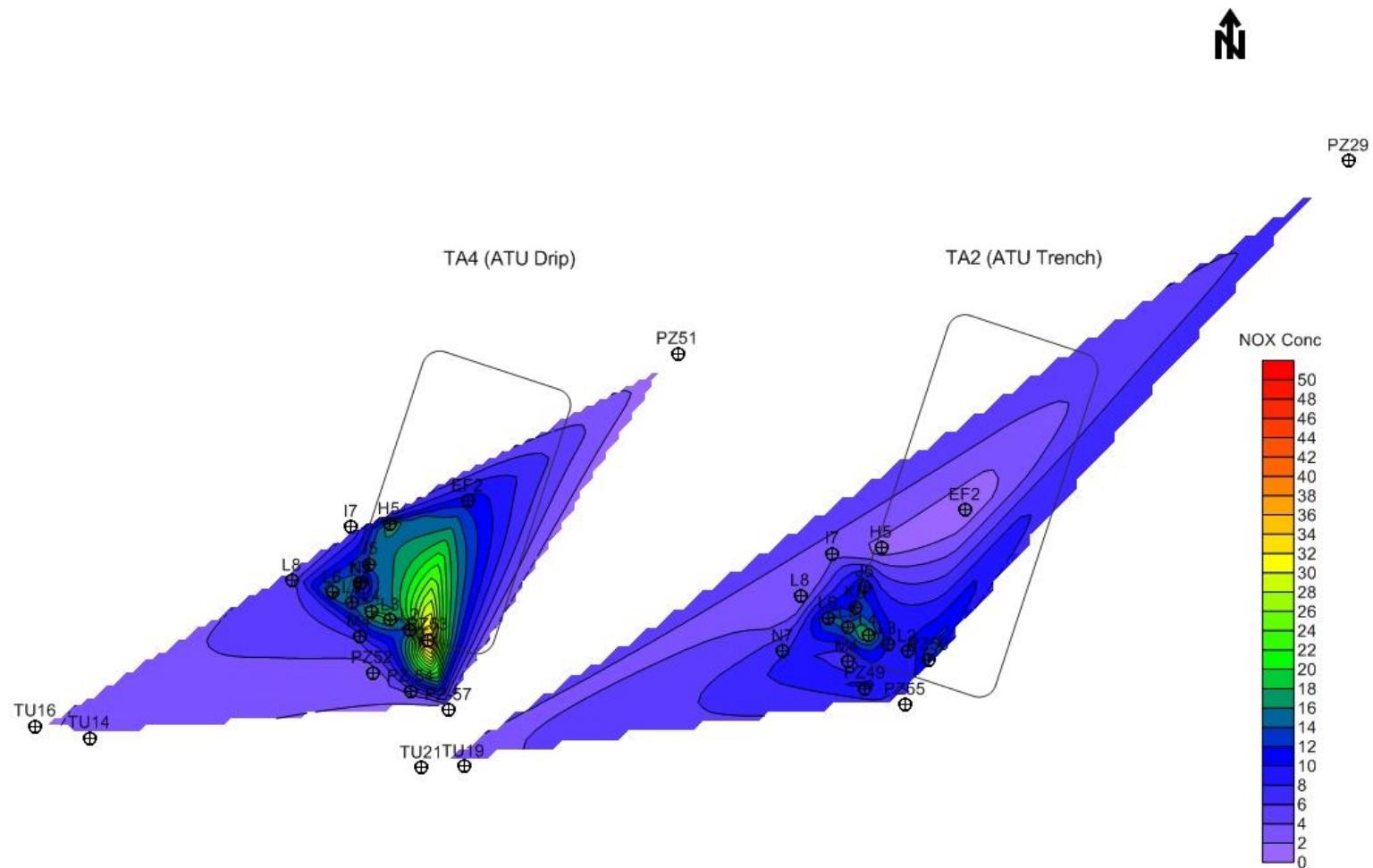


Figure 16
TA2 and TA4 Shallow Elev 117.7-126.6 ft above MSL (June 2013 Sample Event)
Schematic (using Surfer) illustrating NOX concentrations in the subsurface

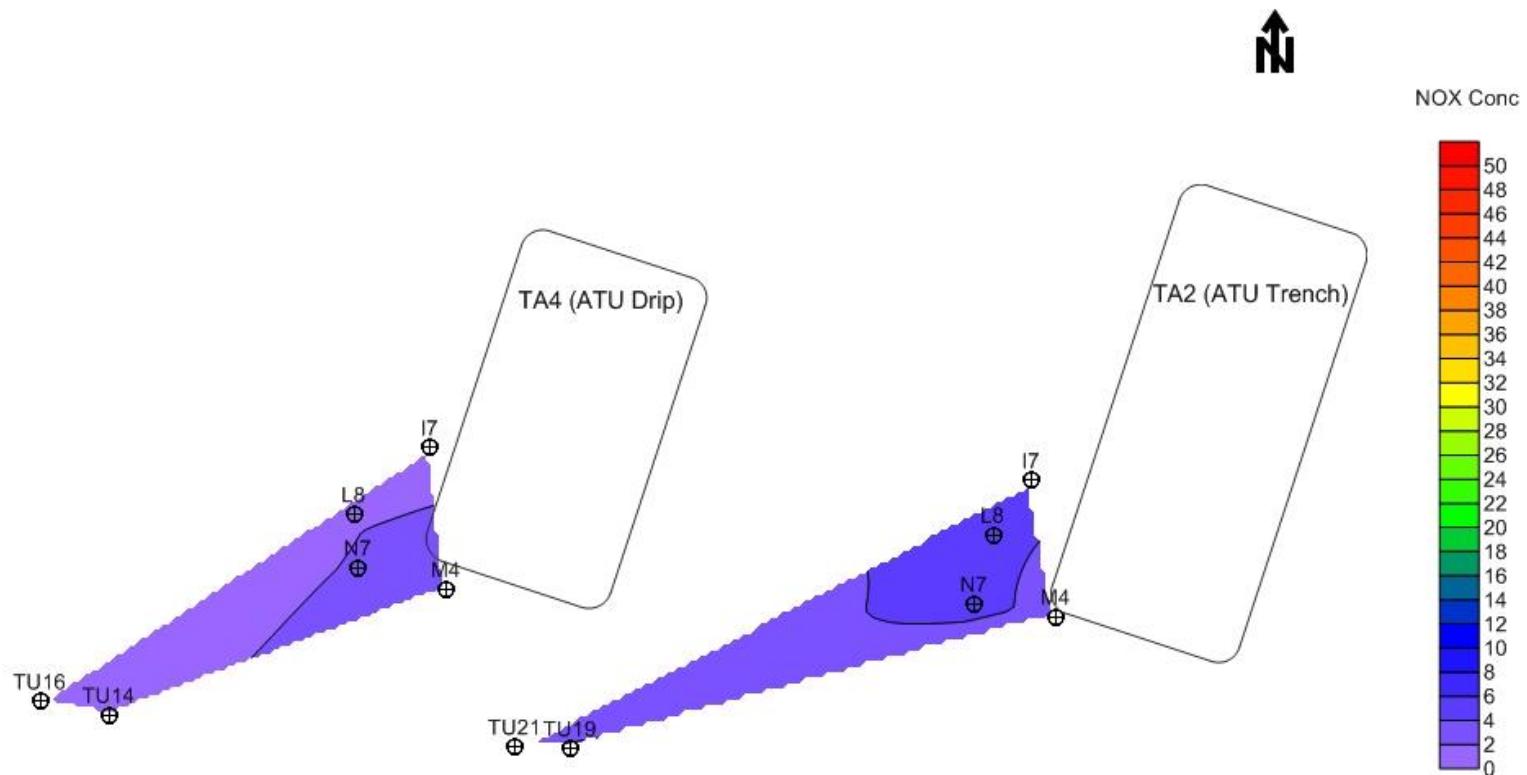
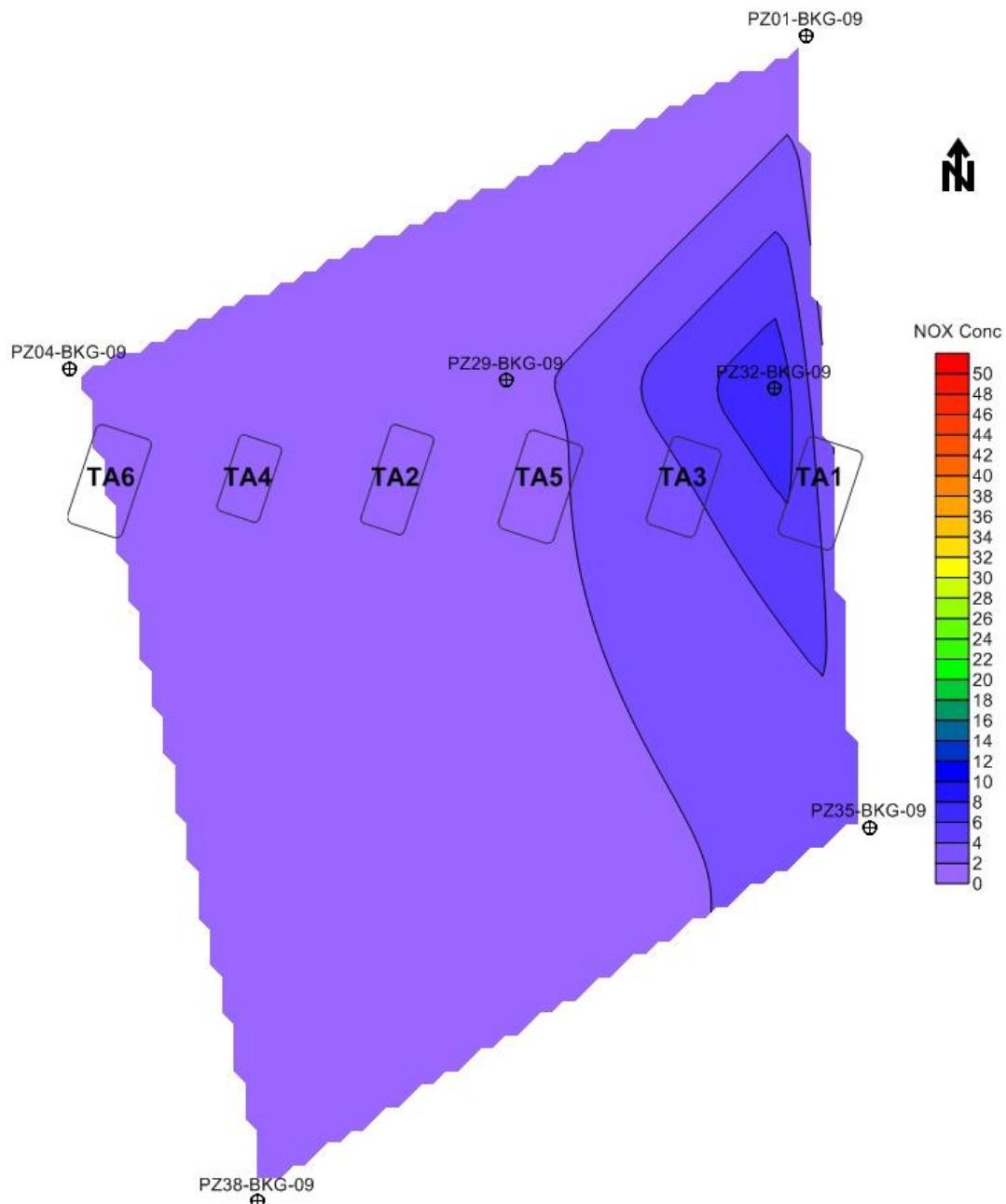


Figure 17
TA2 and TA4 Deep Elev 111-117.7 ft above MSL (June 2013 Sample Event)
Schematic (using Surfer) illustrating NOX concentrations in the subsurface

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Figure 18
Background Shallow Elev 117-127.3 ft above MSL (June 2013 Sample Event)
Schematic (using Surfer) illustrating NOX concentrations in the subsurface
excluding samples below test areas

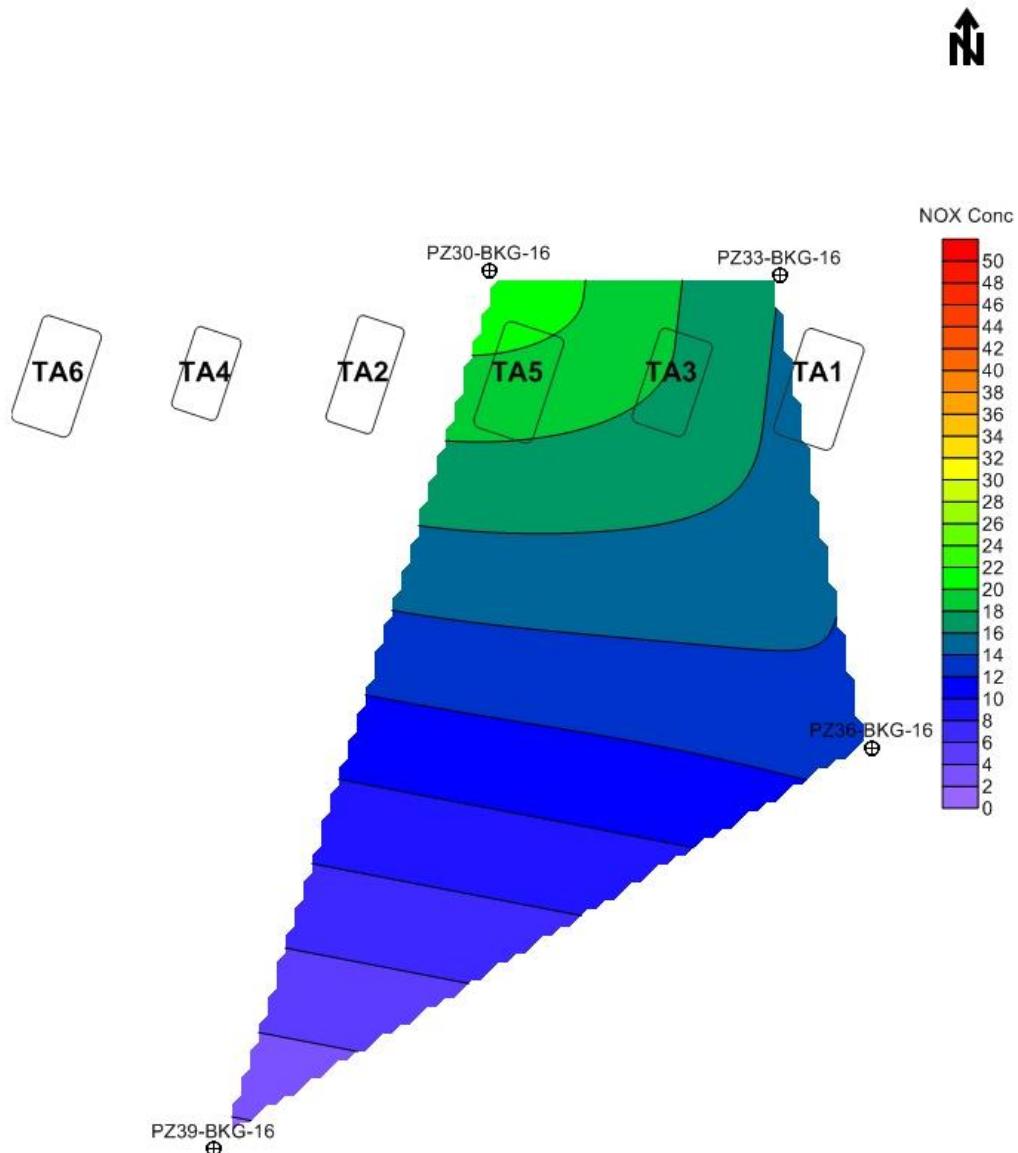


Figure 19
Background Middle Elev 110-118 ft above MSL (June2013 Sample Event)
Schematic (using Surfer) illustrating NOX concentrations in the subsurface
excluding samples below test areas

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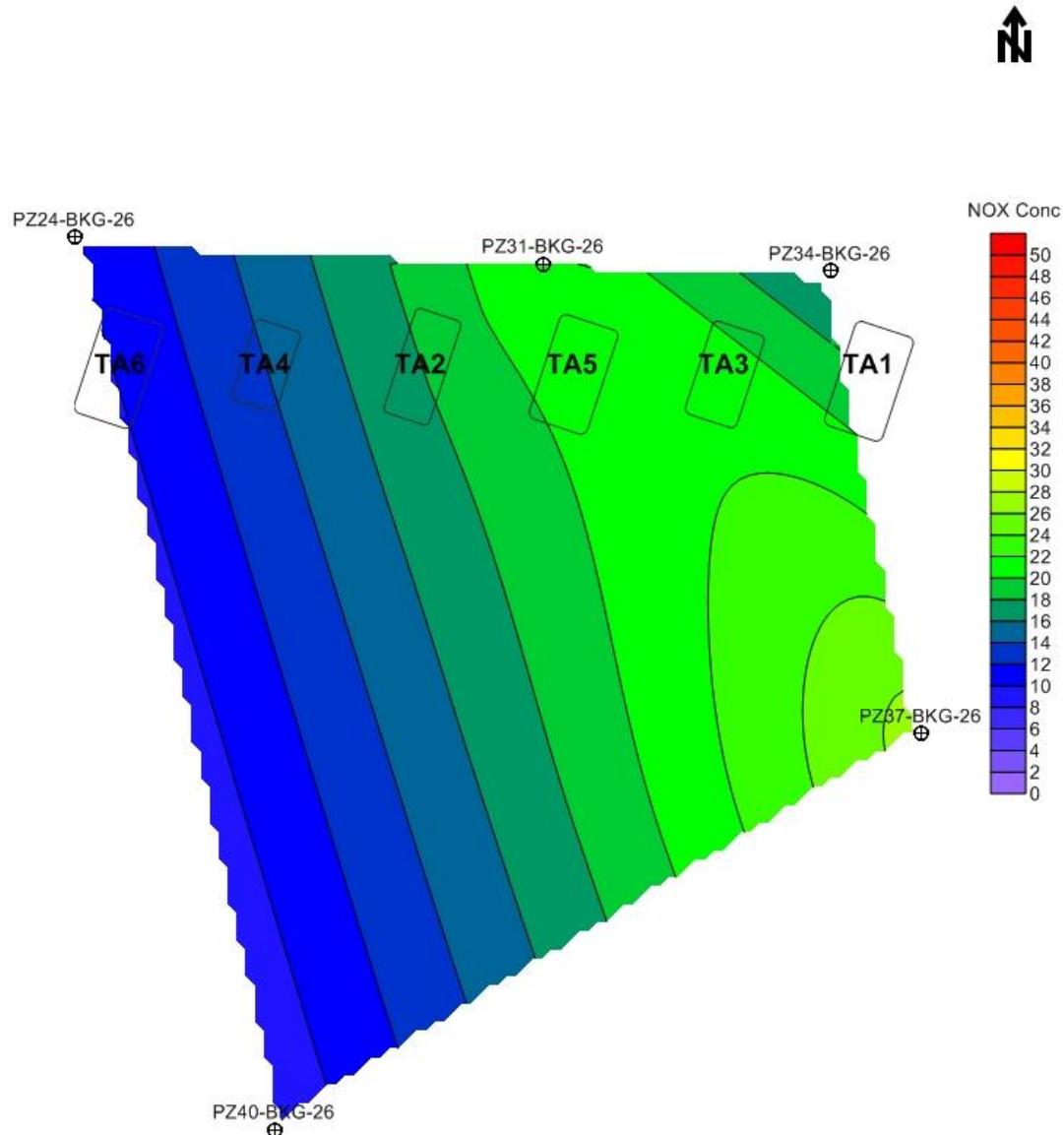


Figure 20
Background Deep Elev 101-110 ft above MSL (June2013 Sample Event)
Schematic (using Surfer) illustrating NOX concentrations in the subsurface
excluding samples below test areas

4.3.3.3 PNRS II Vertically Stacked Biofilter Results

Test area 5 (TA5) and test area 6 (TA6) are the PNRS II in-ground vertically stacked biofilter systems being tested primarily for wastewater treatment. TA5 receives STE while TA6 receives nitrified effluent. Effluent is dispersed above an 18-inch layer of mound sand (slightly limited sand). Underlying the sand is a 9-inch layer of lignocellulosic and sand media mixture above a 60-mil plastic liner. The liner effluent is conveyed to a denitrification tank containing elemental sulfur reactive media for additional treatment. The denitrified effluent is discharged to the natural soil via an infiltrator system.

Both test area denite tanks exhibited low effluent NOx-N of less than or equal to 0.20 mg/L and effluent SO₄ concentration of 140 and 88 mg/L for TA5 and TA6, respectively. The liner effluent sample NOx-N concentration was 2.9 mg/L for TA5 and 0.08 for TA6. The suction lysimeters (LY), installed at the sand and lignocellosic/sand media mixture interface, NOx-N concentrations were 12 and 1.1 mg/L, for TA5 and TA6 respectively. This again suggests that significant nitrate removal was occurring within the lignocellulosic/sand media mixture prior to the denite tank containing the sulfur media. The nitrogen results for this event are graphically displayed in Figures 21 and 22.

A standpipe piezometer (PZ) was installed downgradient of the infiltrator system for both test areas. The NOx-N concentrations for the PZs were 4.7 and 12 mg/L for TA5 and TA6, respectively. As discussed in previous sample event data summary reports, the background piezometers surrounding the test areas indicate that there is potentially residual nitrogen up-gradient of the test areas from an unknown source.

Figures 23 and 24 present the mean and range of key parameter results over the 397 day monitoring period.

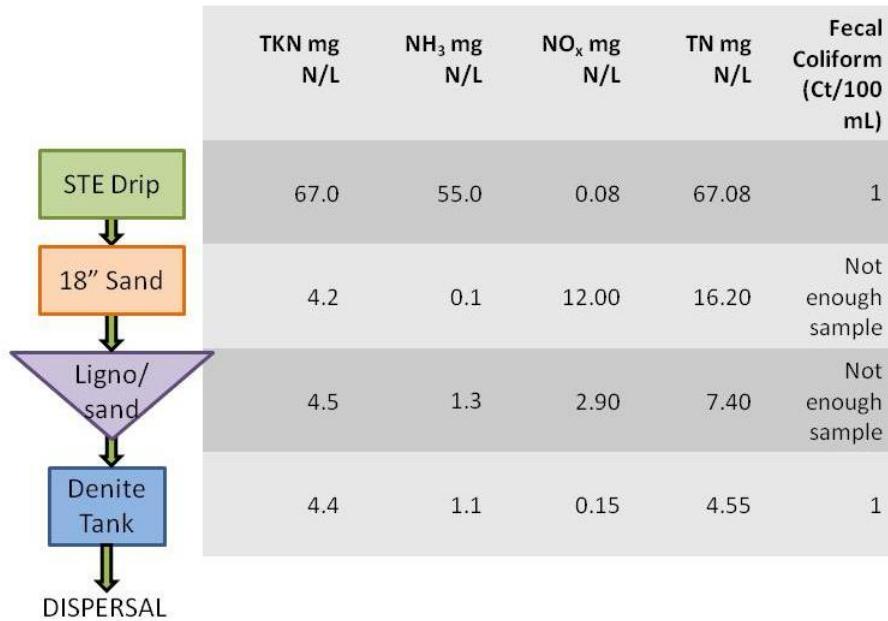


Figure 21
TA5 Graphical Representation of Nitrogen Results

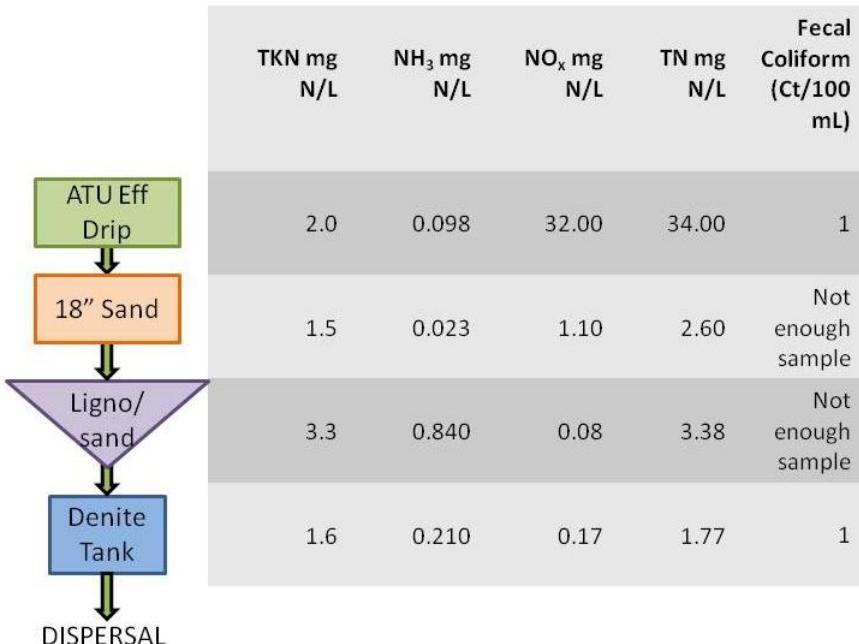


Figure 22
TA6 Graphical Representation of Nitrogen Results

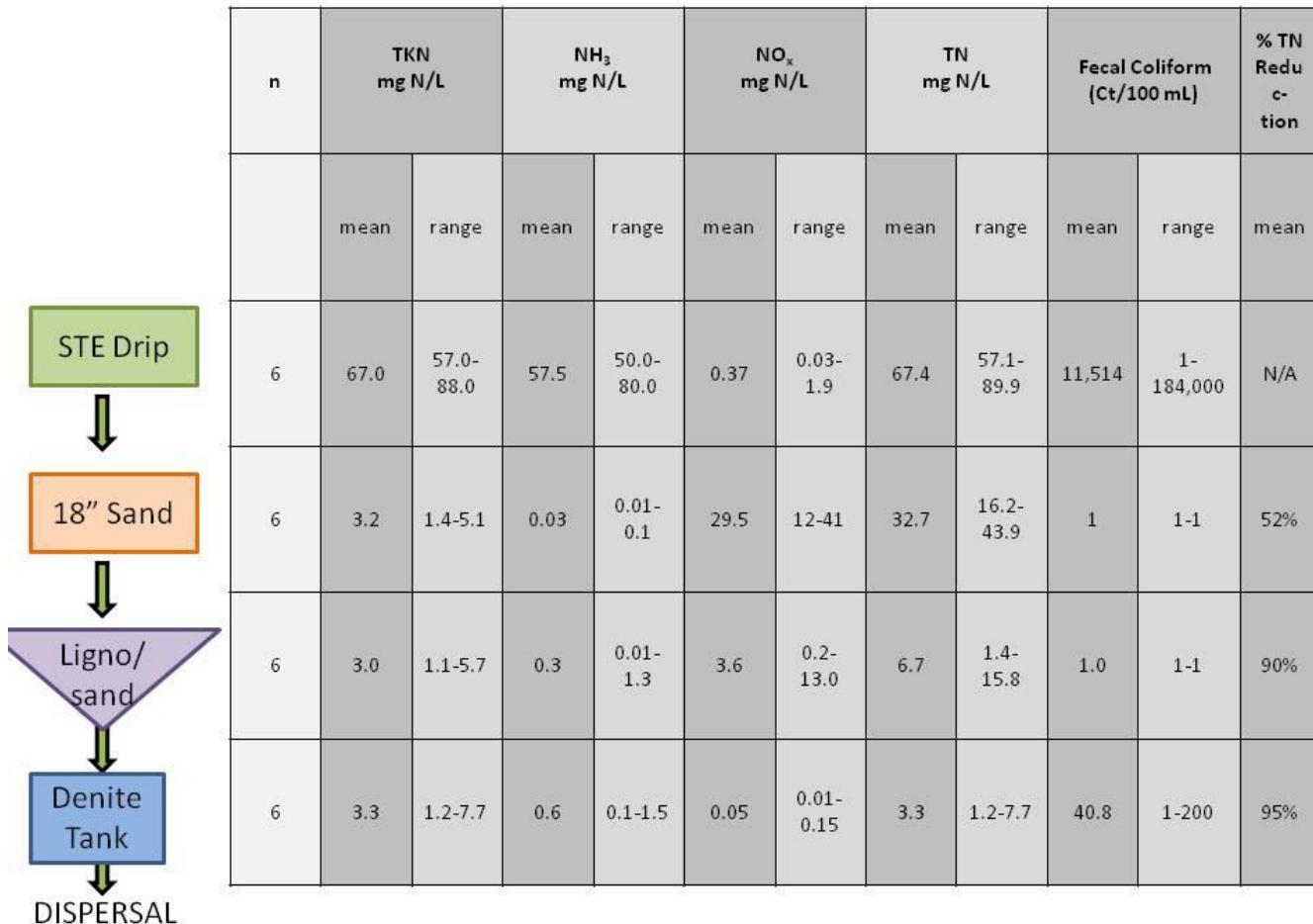


Figure 23
TA5 Graphical Representation of Mean and Median Values of Key Parameters

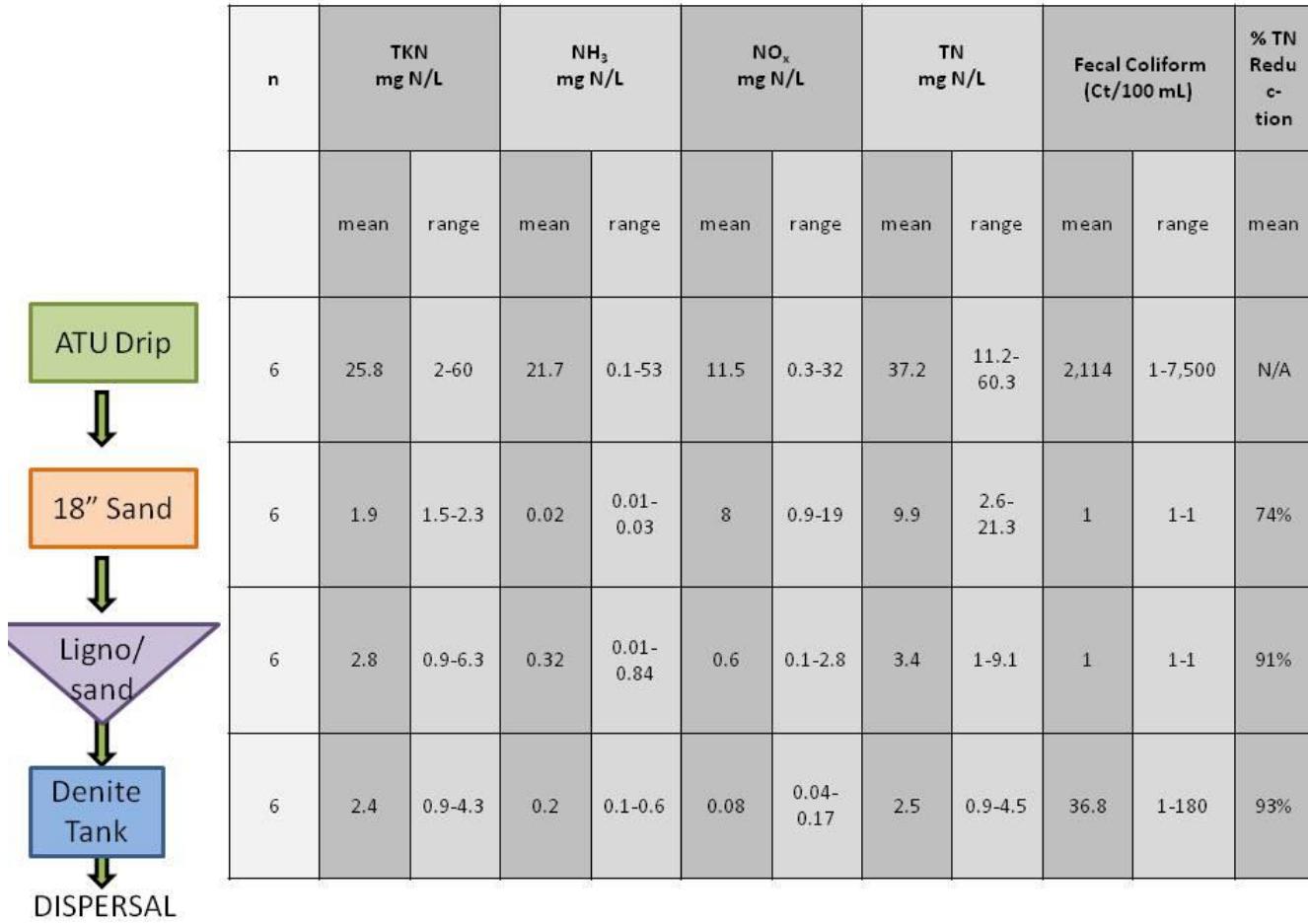


Figure 24
TA6 Graphical Representation of Mean and Median Values of Key Parameters

5.0 S&GW Test Facility Data Summary Report No. 6: Summary and Recommendations

5.1 Summary

The results of the data collected to date have allowed for estimations of groundwater flow, gradient and velocity, and provided additional insights into the general trend of the nitrogen transformations and NO_x plume for each of the test areas. Results of Sample Event No. 6 indicate that:

- ◆ The ATU is converting ammonia to oxidized nitrogen. In addition, the unit is also providing denitrification (nitrogen reduction).
 - ◆ The background piezometers surrounding the test areas indicate that there is residual nitrogen up-gradient of the test areas from an unknown source. This will be investigated further in subsequent data analysis, but it appears that agricultural operations in the surrounding area may be impacting groundwater nitrogen concentrations.
 - ◆ The nitrogen plume from the test areas appears to be flowing in a southwesterly direction and similar to the groundwater contours.
 - ◆ The PNRS II treatment in-ground vertically stacked systems are functioning as intended. Both TA5 and TA6 produced effluent NOx-N equal to or less than 0.2 mg/L.
 - ◆ Little seasonal variation in groundwater flow direction was observed.

5.2 Conclusions

Sample Event 6 was the last funded sample event for the Soil and Groundwater Test Facility monitoring network. A final tracer test will now be conducted at test area 3 to confirm groundwater flow and direction after bromide tracer is input to the drip system. Further analysis of the results obtained at this site will then occur as Task C results are compiled and summarized for use in Task D. The insight gained from monitoring the S&GW test facility plumes will provide information for the development of the groundwater model in Task D.



Appendix A: S&GW Test Facility Sample Identification

Table A.1
S&GW Test Facility Sample Identification

ID #	Sample Identification	Test Area	Grid Location	Northing	Easting	Elev NGVD 29	Notes
1	TA1-PAN-12-N	TA1	North				2' x 3.3' SST pan lysimeter
2	TA1-OBS-N	TA1	North	1244816.74	582859.20	132.50	4"D observation port with slots
3	TA1-OBS-S	TA1	South	1244807.75	582855.08	132.88	4"D observation port without slots
4	TA1-SM-39-N	TA1	North	1244817.38	582860.13	130.27	2"D soil moisture tube with 6" casing
5	TA1-SM-39-C	TA1	Center	1244812.80	582858.09	130.23	2"D soil moisture tube with 6" casing
6	TA1-SM-39-S	TA1	South	1244803.79	582854.15	130.24	2"D soil moisture tube with 6" casing
7	TA1-SM-BKG-S	TA1	South	1244778.23	582851.49	128.69	2"D soil moisture tube with 6" casing
8	TA1-SM-BKG-E	TA1	East	1244814.73	582868.76	129.29	2"D soil moisture tube with 6" casing
9	TA1-PZ-11-EF2	TA1	EF2	1244812.14	582857.35	133.59	1"D standpipe piezometer, 5' screen
10	TA1-LY-24-C	TA1	Center	1244811.87	582857.75	133.69	2"D suction lysimeter, 9" cup
11	TA1-LY-12-S	TA1	South	1244804.42	582853.25	132.60	2"D suction lysimeter, 9" cup
12	TA1-LY-24-S	TA1	South	1244804.42	582854.46	134.14	2"D suction lysimeter, 9" cup
13	TA1-LY-42-S	TA1	South	1244805.37	582853.79	132.66	2"D suction lysimeter, 9" cup
14	TA1-T-6-C	TA1	Center	1244813.56	582858.66	132.34	tensiometer
15	TA1-T-12-C	TA1	Center	1244813.75	582858.12	132.34	tensiometer
16	TA1-T-24-C	TA1	Center	1244813.77	582857.64	132.33	tensiometer
17	TA1-T-36-C	TA1	Center	1244813.80	582857.36	132.36	tensiometer
18	TA1-T-42-C	TA1	Center	1244813.34	582857.00	132.88	tensiometer
19	TA1-T-6-S	TA1	South	1244804.28	582853.77	132.32	tensiometer
20	TA1-T-12-S	TA1	South	1244803.87	582852.93	132.35	tensiometer
21	TA1-T-24-S	TA1	South	1244803.71	582852.77	132.36	tensiometer
22	TA1-T-36-S	TA1	South	1244803.49	582852.89	132.38	tensiometer
23	TA1-T-42-S	TA1	South	1244803.01	582853.26	132.80	tensiometer
24	TA1-PZ-11-J4	TA1	J4	1244805.79	582849.87	133.57	1"D standpipe piezometer, 5' screen
25	TA1-PZ-11-K4	TA1	K4	1244803.97	582849.03	133.58	1"D standpipe piezometer, 5' screen
26	TA1-PZ-11-L2	TA1	L2	1244800.25	582851.77	133.57	1"D standpipe piezometer, 5' screen
27	TA1-PZ-11-L3	TA1	L3	1244801.20	582849.94	133.57	1"D standpipe piezometer, 5' screen
28	TA1-PZ-11-L4	TA1	L4	1244802.21	582848.15	133.57	1"D standpipe piezometer, 5' screen

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Table A.1
S&GW Test Facility Sample Identification

ID #	Sample Identification	Test Area	Grid Location	Northing	Easting	Elev NGVD 29	Notes
29	TA1-PZ-11-L5	TA1	L5	1244803.08	582846.26	133.57	1"D standpipe piezometer, 5' screen
30	TA1-PZ-09-N3	TA1	N3	1244798.01	582846.48	130.43	1"D standpipe piezometer, 5' screen
31	TA1-PZ-16-N3	TA1	N3	1244798.02	582846.37	130.44	1"D standpipe piezometer, 2.5' screen
32	TA1-PZ-09-O7	TA1	O7	1244798.67	582839.96	130.08	1"D standpipe piezometer, 5' screen
33	TA1-PZ-16-O7	TA1	O7	1244799.11	582839.97	130.30	1"D standpipe piezometer, 2.5' screen
34	TA1-PZ-09-M9	TA1	M9	1244804.22	582839.66	130.60	1"D standpipe piezometer, 5' screen
35	TA1-PZ-16-M9	TA1	M9	1244804.35	582839.62	130.64	1"D standpipe piezometer, 2.5' screen
36	TA1-PZ-09-I7	TA1	I7	1244810.91	582845.19	130.27	1"D standpipe piezometer, 5' screen
37	TA1-PZ-16-I7	TA1	I7	1244810.78	582845.02	130.33	1"D standpipe piezometer, 2.5' screen
38	TA1-PZ-09-RS16	TA1	RS16	1244792.19	582817.42	129.65	1"D standpipe piezometer, 5' screen
39	TA1-PZ-16-RS16	TA1	RS16	1244792.14	582817.50	129.72	1"D standpipe piezometer, 2.5' screen
40	TA1-PZ-09-RS18	TA1	RS18	1244792.34	582812.82	130.25	1"D standpipe piezometer, 5' screen
41	TA1-PZ-16-RS18	TA1	RS18	1244792.43	582812.72	130.25	1"D standpipe piezometer, 2.5' screen
42	TA2-PAN-12-N	TA2	North				2' x 3.3' SST pan lysimeter
43	TA2-OBS-N	TA2	North	1244818.77	582722.04	131.67	4"D observation port with slots
44	TA2-OBS-S	TA2	South	1244809.76	582718.30	132.27	4"D observation port without slots
45	TA2-SM-39-C	TA2	Center	1244814.95	582721.02	129.80	2"D soil moisture tube with 6" casing
46	TA2-PZ-10-EF2	TA2	EF2	1244814.23	582720.22	133.90	1"D standpipe piezometer, 5' screen
47	TA2-LY-24-C	TA2	Center	1244814.09	582720.59	132.60	2"D suction lysimeter, 9" cup
48	TA2-LY-12-S	TA2	South	1244806.60	582716.48	132.02	2"D suction lysimeter, 9" cup
49	TA2-LY-24-S	TA2	South	1244806.64	582717.52	132.62	2"D suction lysimeter, 9" cup
50	TA2-LY-42-S	TA2	South	1244807.39	582716.98	133.11	2"D suction lysimeter, 9" cup
51	TA2-PZ-10-H5	TA2	H5	1244810.74	582712.43	133.76	1"D standpipe piezometer, 5' screen
52	TA2-PZ-10-J5	TA2	J5	1244807.11	582710.94	133.73	1"D standpipe piezometer, 5' screen
53	TA2-PZ-10-K5	TA2	K5	1244805.14	582710.05	133.74	1"D standpipe piezometer, 5' screen
54	TA2-PZ-10-L2	TA2	L2	1244801.12	582714.87	133.74	1"D standpipe piezometer, 5' screen
55	TA2-PZ-10-L3	TA2	L3	1244801.83	582713.03	133.73	1"D standpipe piezometer, 5' screen
56	TA2-PZ-10-L4	TA2	L4	1244802.60	582711.25	133.52	1"D standpipe piezometer, 5' screen
57	TA2-PZ-10-L5	TA2	L5	1244803.37	582709.39	133.73	1"D standpipe piezometer, 5' screen

Table A.1
S&GW Test Facility Sample Identification

ID #	Sample Identification	Test Area	Grid Location	Northing	Easting	Elev NGVD 29	Notes
58	TA2-PZ-10-L6	TA2	L6	1244804.19	582707.50	133.72	1"D standpipe piezometer, 5' screen
59	TA2-PZ-09-M4	TA2	M4	1244800.19	582709.27	129.51	1"D standpipe piezometer, 5' screen
60	TA2-PZ-16-M4	TA2	M4	1244800.27	582709.49	129.50	1"D standpipe piezometer, 2.5' screen
61	TA2-PZ-09-N7	TA2	N7	1244801.15	582703.29	129.36	1"D standpipe piezometer, 5' screen
62	TA2-PZ-16-N7	TA2	N7	1244801.21	582703.43	129.37	1"D standpipe piezometer, 2.5' screen
63	TA2-PZ-09-I7	TA2	I7	1244810.20	582707.91	129.10	1"D standpipe piezometer, 5' screen
64	TA2-PZ-16-I7	TA2	I7	1244810.37	582707.66	129.52	1"D standpipe piezometer, 2.5' screen
65	TA2-PZ-09-L8	TA2	L8	1244806.27	582704.93	129.28	1"D standpipe piezometer, 5' screen
66	TA2-PZ-16-L8	TA2	L8	1244806.33	582704.81	129.27	1"D standpipe piezometer, 2.5' screen
67	TA2-PZ-09-TU19	TA2	TU19	1244790.44	582673.66	128.68	1"D standpipe piezometer, 5' screen
68	TA2-PZ-16-TU19	TA2	TU19	1244790.49	582673.49	128.62	1"D standpipe piezometer, 2.5' screen
69	TA2-PZ-09-TU21	TA2	TU21	1244790.32	582669.75	128.58	1"D standpipe piezometer, 5' screen
70	TA2-PZ-16-TU21	TA2	TU21	1244790.60	582669.40	128.98	1"D standpipe piezometer, 2.5' screen
71	TA3-PAN-12-N	TA3	North				2' x 3.3' SST pan lysimeter
72	TA3-OBS-N	TA3	North	1244817.49	582814.57	131.20	4"D observation port with slots
73	TA3-OBS-S	TA3	South	1244808.15	582811.07	131.11	4"D observation port without slots
74	TA3-SM-39-N	TA3	North	1244817.96	582815.53	130.59	2"D soil moisture tube with 6" casing
75	TA3-SM-39-C	TA3	Center	1244813.53	582813.63	130.60	2"D soil moisture tube with 6" casing
76	TA3-SM-39-S	TA3	South	1244804.15	582809.89	130.57	2"D soil moisture tube with 6" casing
77	TA3-SM-BKG-S	TA3	South	1244795.29	582807.19	129.32	2"D soil moisture tube with 6" casing
78	TA3-SM-BKG-E	TA3	East				2"D soil moisture tube with 6" casing
79	TA3-LY-24-C	TA3	Center	1244812.47	582813.21	133.45	2"D suction lysimeter, 9" cup
80	TA3-LY-12-S	TA3	South	1244804.97	582809.16	132.24	2"D suction lysimeter, 9" cup
81	TA3-LY-24-S	TA3	South	1244804.93	582810.17	132.90	2"D suction lysimeter, 9" cup
82	TA3-LY-42-S	TA3	South	1244805.73	582809.79	132.98	2"D suction lysimeter, 9" cup
83	TA3-T-6-C	TA3	Center	1244814.37	582813.76	132.19	tensiometer
84	TA3-T-12-C	TA3	Center	1244814.50	582813.46	132.70	tensiometer
85	TA3-T-24-C	TA3	Center	1244814.56	582813.15	132.23	tensiometer
86	TA3-T-36-C	TA3	Center	1244814.31	582812.76	131.70	tensiometer

Table A.1
S&GW Test Facility Sample Identification

ID #	Sample Identification	Test Area	Grid Location	Northing	Easting	Elev NGVD 29	Notes
87	TA3-T-42-C	TA3	Center	1244813.89	582812.49	132.20	tensiometer
88	TA3-T-6-S	TA3	South	1244805.33	582809.71	132.19	tensiometer
89	TA3-T-12-S	TA3	South	1244804.36	582809.00	132.69	tensiometer
90	TA3-T-24-S	TA3	South	1244803.69	582808.77	132.22	tensiometer
91	TA3-T-36-S	TA3	South	1244803.59	582808.72	131.71	tensiometer
92	TA3-T-42-S	TA3	South	1244803.27	582809.06	132.21	tensiometer
93	TA3-PZ-11-EF2	TA3	EF2	1244812.64	582812.80	133.82	1"D standpipe piezometer, 5' screen
94	TA3-PZ-11-I2	TA3	I2	1244806.39	582810.24	133.54	1"D standpipe piezometer, 5' screen
95	TA3-PZ-10-J5	TA3	J5	1244806.06	582803.49	133.49	1"D standpipe piezometer, 5' screen
96	TA3-PZ-10-K5	TA3	K5	1244804.12	582802.85	133.49	1"D standpipe piezometer, 5' screen
97	TA3-PZ-11-L2	TA3	L2	1244800.38	582808.17	133.51	1"D standpipe piezometer, 5' screen
98	TA3-PZ-11-L3	TA3	L3	1244800.93	582806.21	133.51	1"D standpipe piezometer, 5' screen
99	TA3-PZ-11-L4	TA3	L4	1244801.63	582804.23	133.50	1"D standpipe piezometer, 5' screen
100	TA3-PZ-10-L5	TA3	L5	1244802.21	582802.23	133.49	1"D standpipe piezometer, 5' screen
101	TA3-PZ-09-N3	TA3	N3	1244798.56	582803.29	129.88	1"D standpipe piezometer, 5' screen
102	TA3-PZ-16-N3	TA3	N3	1244798.87	582803.18	129.89	1"D standpipe piezometer, 2.5' screen
103	TA3-PZ-09-O7	TA3	O7	1244798.85	582797.09	130.06	1"D standpipe piezometer, 5' screen
104	TA3-PZ-16-O7	TA3	O7	1244798.94	582796.81	130.26	1"D standpipe piezometer, 2.5' screen
105	TA3-PZ-09-I7	TA3	I7	1244809.85	582798.46	130.06	1"D standpipe piezometer, 5' screen
106	TA3-PZ-16-I7	TA3	I7	1244810.00	582798.53	130.06	1"D standpipe piezometer, 2.5' screen
107	TA3-PZ-09-M9	TA3	M9	1244803.45	582796.14	130.18	1"D standpipe piezometer, 5' screen
108	TA3-PZ-16-M9	TA3	M9	1244803.44	582796.02	130.12	1"D standpipe piezometer, 2.5' screen
109	TA3-PZ-09-ST14	TA3	ST14	1244790.15	582780.80	129.88	1"D standpipe piezometer, 5' screen
110	TA3-PZ-16-ST14	TA3	ST14	1244790.27	582780.68	129.81	1"D standpipe piezometer, 2.5' screen
111	TA3-PZ-09-ST16	TA3	ST16	1244790.74	582776.81	129.54	1"D standpipe piezometer, 5' screen
112	TA3-PZ-16-ST16	TA3	ST16	1244790.24	582776.71	130.00	1"D standpipe piezometer, 2.5' screen
113	TA4-PAN-12-N	TA4	North				2' x 3.3' SST pan lysimeter
114	TA4-OBS-N	TA4	North	1244819.86	582676.19	129.91	4"D observation port with slots
115	TA4-OBS-S	TA4	South	1244810.58	582672.01	129.85	4"D observation port without slots

Table A.1
S&GW Test Facility Sample Identification

ID #	Sample Identification	Test Area	Grid Location	Northing	Easting	Elev NGVD 29	Notes
116	TA4-SM-39-C	TA4	Center	1244815.85	582674.87	129.25	2"D soil moisture tube with 6" casing
117	TA4-LY-24-C	TA4	Center	1244814.82	582674.46	132.10	2"D suction lysimeter, 9" cup
118	TA4-LY-12-S	TA4	South	1244807.65	582670.18	130.89	2"D suction lysimeter, 9" cup
119	TA4-LY-24-S	TA4	South	1244807.45	582671.38	132.75	2"D suction lysimeter, 9" cup
120	TA4-LY-42-S	TA4	South	1244808.40	582670.62	132.57	2"D suction lysimeter, 9" cup
121	TA4-PZ-11-EF2	TA4	EF2	1244815.06	582674.02	132.53	1"D standpipe piezometer, 5' screen
122	TA4-PZ-10-H5	TA4	H5	1244812.91	582666.75	132.48	1"D standpipe piezometer, 5' screen
123	TA4-PZ-10-J5	TA4	J5	1244809.21	582664.90	132.47	1"D standpipe piezometer, 5' screen
124	TA4-PZ-10-K5	TA4	K5	1244807.45	582664.07	132.47	1"D standpipe piezometer, 5' screen
125	TA4-PZ-11-L2	TA4	L2	1244803.06	582668.66	132.47	1"D standpipe piezometer, 5' screen
126	TA4-PZ-11-L3	TA4	L3	1244804.02	582666.85	132.48	1"D standpipe piezometer, 5' screen
127	TA4-PZ-11-L4	TA4	L4	1244804.79	582665.10	132.46	1"D standpipe piezometer, 5' screen
128	TA4-PZ-11-L5	TA4	L5	1244805.65	582663.28	132.46	1"D standpipe piezometer, 5' screen
129	TA4-PZ-11-L6	TA4	L6	1244806.56	582661.46	132.46	1"D standpipe piezometer, 5' screen
130	TA4-PZ-09-M4	TA4	M4	1244802.46	582663.97	128.96	1"D standpipe piezometer, 5' screen
131	TA4-PZ-16-M4	TA4	M4	1244802.29	582664.28	129.54	1"D standpipe piezometer, 5' screen
132	TA4-PZ-09-N7	TA4	N7	1244807.44	582664.14	132.47	1"D standpipe piezometer, 5' screen
133	TA4-PZ-16-N7	TA4	N7	1244803.91	582657.76	128.94	1"D standpipe piezometer, 5' screen
134	TA4-PZ-09-I7	TA4	I7	1244812.68	582663.21	128.83	1"D standpipe piezometer, 5' screen
135	TA4-PZ-16-I7	TA4	I7	1244812.80	582663.08	129.25	1"D standpipe piezometer, 5' screen
136	TA4-PZ-09-L8	TA4	L8	1244807.67	582657.70	128.63	1"D standpipe piezometer, 5' screen
137	TA4-PZ-16-L8	TA4	L8	1244807.84	582657.44	128.92	1"D standpipe piezometer, 5' screen
138	TA4-PZ-09-TU14	TA4	TU14	1244793.10	582638.92	128.32	1"D standpipe piezometer, 5' screen
139	TA4-PZ-16-TU14	TA4	TU14	1244792.96	582639.30	129.06	1"D standpipe piezometer, 5' screen
140	TA4-PZ-09-TU16	TA4	TU16	1244794.18	582633.89	128.57	1"D standpipe piezometer, 5' screen
141	TA4-PZ-16-TU16	TA4	TU16	1244793.99	582634.17	128.70	1"D standpipe piezometer, 5' screen
142	TA5-OBS-I	TA5	Center	1244812.47	582770.36	132.52	4"D observation port, for infiltrator system
143	TA5-OBS-N	TA5	North	1244817.64	582767.53	132.87	3"D observation port connected to collection pipe at bottom of sloped liner
144	TA5-OBS-S	TA5	South	1244810.89	582764.74	132.91	3"D observation port connected to collection pipe at bottom of sloped

Table A.1
S&GW Test Facility Sample Identification

ID #	Sample Identification	Test Area	Grid Location	Northing	Easting	Elev NGVD 29	Notes
							liner
145	TA5-PZ-I	TA5	South	1244802.11	582764.97	133.23	1"D standpipe piezometer, 5' screen south of infiltrator
146	TA5-LY-C	TA5	Center	1244814.05	582766.03	133.15	2"D suction lysimeter, 9" cup at mixture and sand interface
147	TA5-LINER-SP	TA5	North	1244827.69	582771.40	131.20	3"D sample port
148	TA5-CLEANOUT	TA5	North	1244829.07	582772.03	131.60	4"D clean-out
149	TA5-Denite Tank	TA5	North	1244831.25	582772.19	129.90	
150	TA6-OBS-I	TA6	Center	1244814.51	582630.94	131.40	4"D observation port, for infiltrator system
151	TA6-OBS-N	TA6	North	1244819.57	582628.85	131.94	3"D observation port connected to collection pipe at bottom of sloped liner
152	TA6-OBS-S	TA6	South	1244812.49	582625.84	132.28	3"D observation port connected to collection pipe at bottom of sloped liner
153	TA6-PZ-I	TA6	South	1244804.06	582626.81	133.43	1"D standpipe piezometer, 5' screen south of infiltrator
154	TA6-LY-C	TA6	Center	1244815.99	582627.26	132.41	2"D suction lysimeter, 9" cup at mixture and sand interface
155	TA6-LINER-SP	TA6	North	1244829.10	582632.72	130.89	3"D sample port
156	TA6-CLEANOUT	TA6	North	1244830.50	582633.21	130.48	4"D clean-out
157	TA6-Denite Tank	TA6	North	1244832.30	582633.85	128.98	
158	PZ01-BKG-09	BKG		1244957.50	582852.42	131.28	1.25"D standpipe piezometer, 5' screen
159	LY01-BKG-24	BKG		1244957.82	582856.59	131.60	2"D suction lysimeter, 9" cup
160	LY02-BKG-42	BKG		1244960.88	582857.29	132.03	2"D suction lysimeter, 9" cup
161	BKG-SM-N	BKG		1244959.90	582854.52	130.62	2"D soil moisture tube with 6" casing
162	PZ04-BKG-09	BKG		1244850.25	582615.24	129.45	1.25"D standpipe piezometer, 5' screen
163	PZ24-BKG-26	BKG		1244854.09	582614.74	132.38	2"D standpipe piezometer, 5' screen
164	PZ29-BKG-09	BKG		1244846.58	582755.86	130.93	¾"D standpipe piezometer, 5' screen
165	PZ30-BKG-16	BKG		1244845.66	582758.17	132.29	1"D standpipe piezometer, 5' screen
166	PZ31-BKG-26	BKG		1244845.87	582757.80	128.99	1"D standpipe piezometer, 5' screen
167	PZ32-BKG-09	BKG		1244843.82	582842.31	133.51	1"D standpipe piezometer, 5' screen
168	PZ33-BKG-16	BKG		1244844.30	582845.33	132.84	1"D standpipe piezometer, 5' screen
169	PZ34-BKG-26	BKG		1244843.73	582845.24	130.45	1"D standpipe piezometer, 5' screen

Table A.1
S&GW Test Facility Sample Identification

ID #	Sample Identification	Test Area	Grid Location	Northing	Easting	Elev NGVD 29	Notes
170	PZ35-BKG-09	BKG		1244702.71	582872.85	129.18	1"D standpipe piezometer, 5' screen
171	PZ36-BKG-16	BKG		1244702.63	582873.08	131.84	1"D standpipe piezometer, 5' screen
172	PZ37-BKG-26	BKG		1244702.80	582872.92	128.31	1"D standpipe piezometer, 5' screen
173	PZ38-BKG-09	BKG		1244582.29	582675.83	126.66	1"D standpipe piezometer, 5' screen
174	PZ39-BKG-16	BKG		1244582.30	582675.42	129.60	1"D standpipe piezometer, 5' screen
175	PZ40-BKG-26	BKG		1244582.13	582675.66	126.10	1"D standpipe piezometer, 5' screen
176	STE Pump Tank			1244840.78	582676.05	129.10	STE effluent dose tank
177	ATU Clarifier			1244841.16	582671.78	129.12	
178	ATU Eff Pump Tank			1244840.54	582681.28	129.16	Nitrified effluent dose tank
179	GCREC Pump Station						GCREC mound lift station
180	PNRS II STE-Tank 1						PNRS II Tank 1
181	PZ41	TA1		1244799.29	582853.53	132.29	1"D standpipe piezometer, 5' screen
182	PZ42	TA1		1244796.65	582850.26	132.99	1"D standpipe piezometer, 5' screen
183	PZ43	TA1		1244825.21	582874.55	131.34	1"D standpipe piezometer, 5' screen
184	PZ44	TA3		1244796.21	582804.15	131.82	1"D standpipe piezometer, 5' screen
185	PZ45	TA3		1244799.84	582810.10	132.48	1"D standpipe piezometer, 5' screen
186	PZ46	TA1		1244794.92	582853.97	131.81	1"D standpipe piezometer, 5' screen
187	PZ47	TA1		1244797.39	582857.04	131.78	1"D standpipe piezometer, 5' screen
188	PZ48	TA1		1244792.81	582857.49	129.70	1"D standpipe piezometer, 5' screen
189	PZ49	TA2		1244797.70	582710.95	131.91	1"D standpipe piezometer, 5' screen
190	PZ50	TA2		1244800.34	582716.87	131.76	1"D standpipe piezometer, 5' screen
191	PZ51	TA4		1244828.71	582693.52	131.90	1"D standpipe piezometer, 5' screen
192	PZ52	TA4		1244799.14	582665.17	131.69	1"D standpipe piezometer, 5' screen
193	PZ53	TA4		1244802.18	582670.34	131.57	1"D standpipe piezometer, 5' screen
194	PZ54	TA4		1244797.40	582668.77	128.85	1"D standpipe piezometer, 5' screen
195	PZ55	TA2		1244796.18	582714.66	129.61	1"D standpipe piezometer, 5' screen
196	PZ56	TA3		1244795.18	5825808.75	130.86	1"D standpipe piezometer, 5' screen
197	PZ57	TA4		1244795.69	582672.29	128.99	3/4"D standpipe piezometer, 5' screen

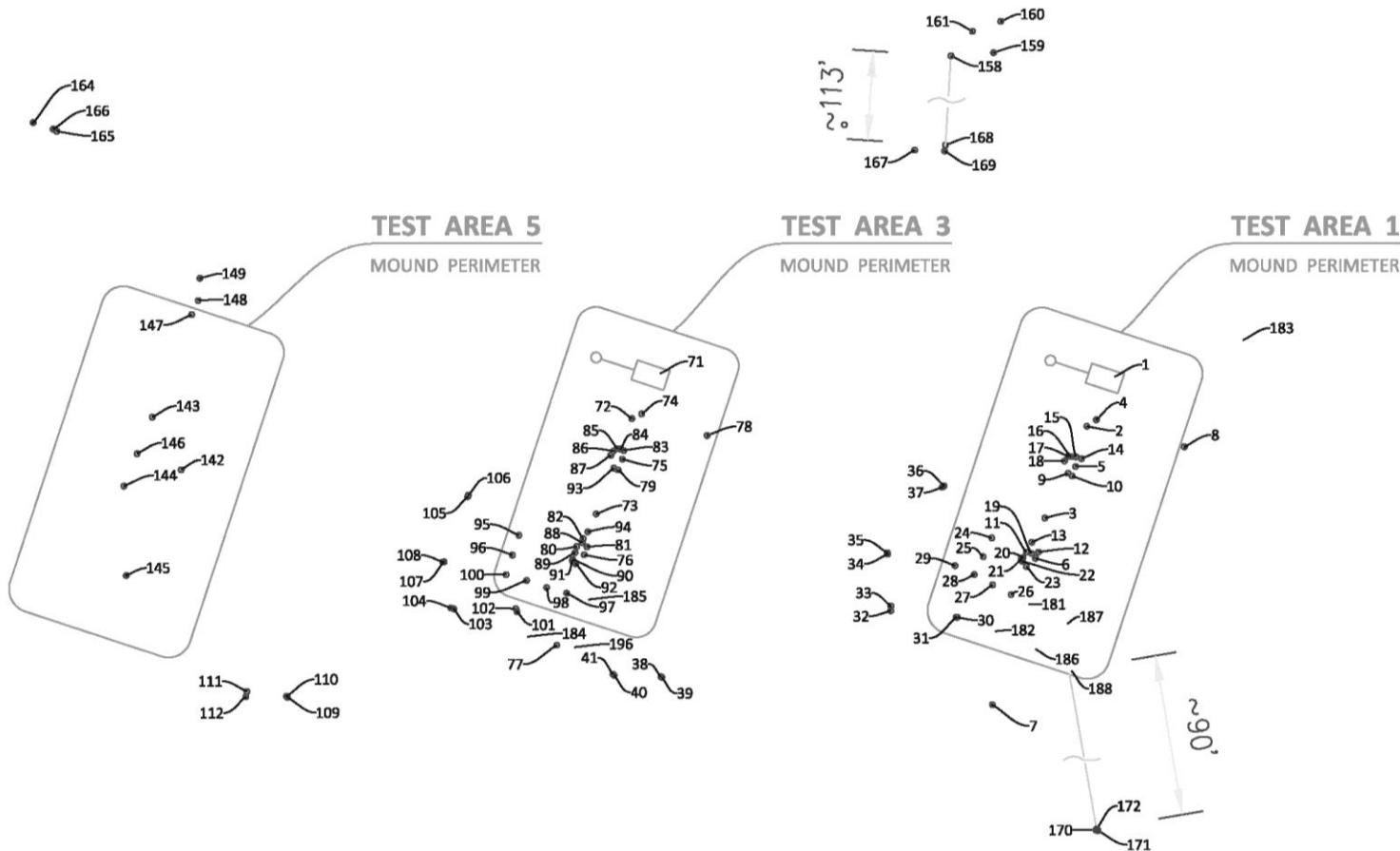


Figure A.1
S&GW Test Facility System Schematic of TA1, TA3, and TA5 (STE System)
¹Location identification corresponds to Table A.1 ID #

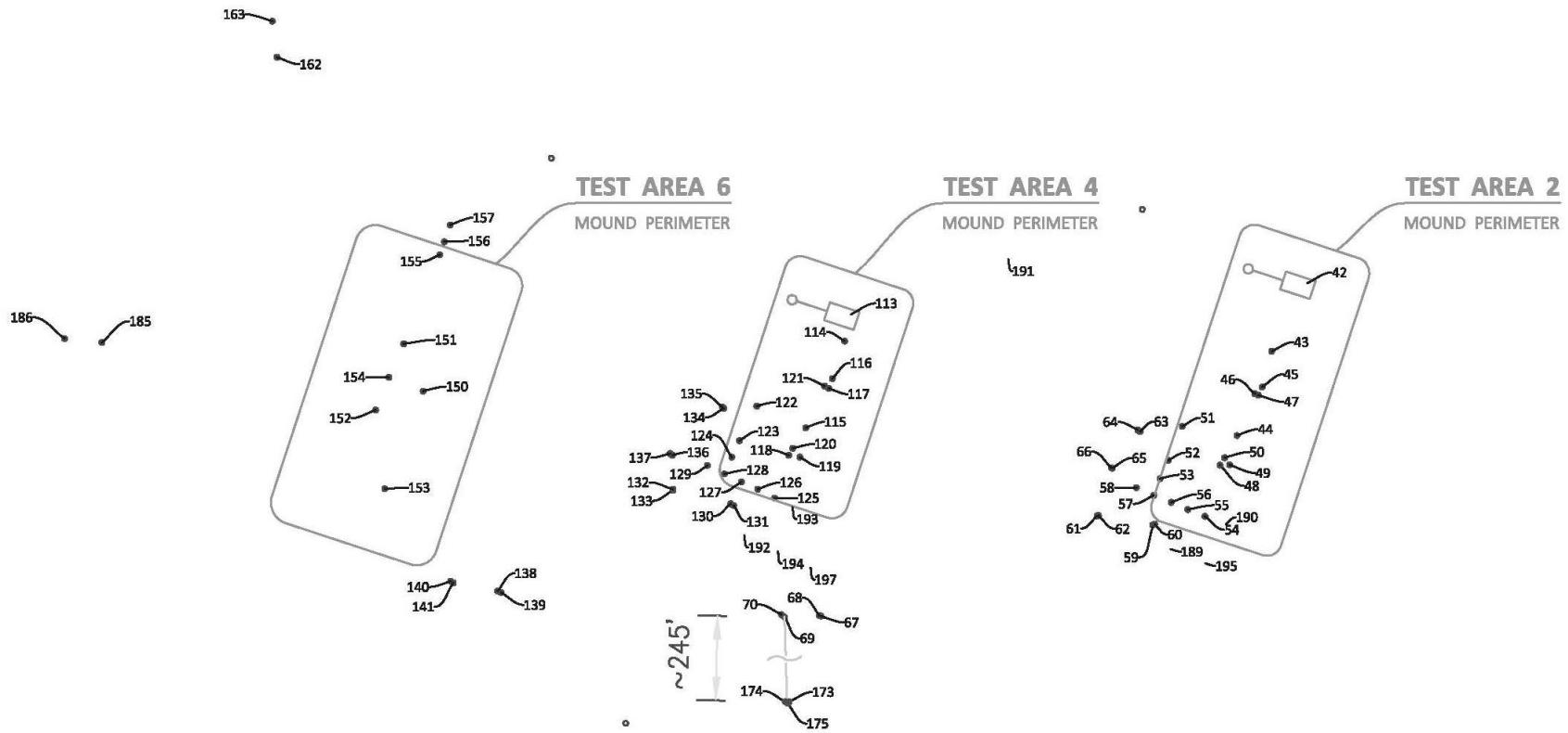


Figure A.2
S&GW Test Facility System Schematic of TA2, TA4, and TA6 (ATU Effluent System)

¹Location identification corresponds to Table A.1 ID #



Appendix B: GCREC Weather Station Data

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Table B.1
Daily Recorded Meteorological Data

Period	60cm Temp avg (F)	60cm Temp min (F)	60cm Temp max (F)	Tsoil avg - 10cm (F)	Tsoil min (avg) - 10cm (F)	Tsoil max (avg) - 10cm (F)	2m DewPt avg (F)	Relative Humidity avg 2m (%)	2m Rain total (in)	2m Rain max over 15min (in)	10m Wind avg (mph)	10m Wind min (mph)	10m Wind max (mph)	ET (in)
1-Apr-13	70.01	60.57	81.05	70.54	68.47	72.93	63.64	82	0	0	6.99	0.8	21.20	0.13
2-Apr-13	70.02	57.85	85.66	72.12	69.44	75.31	60.81	77	0	0	3.87	0	14.03	0.15
3-Apr-13	72.12	59.02	86.04	72.46	70.74	74.08	64.46	78	0.02	0.01	7.87	0.2	24.13	0.12
4-Apr-13	67.17	63.46	71.15	70.52	68.77	72.99	65.6	94	2.37	0.54	8.66	0.43	31.93	0.06
5-Apr-13	66.51	59.85	73.18	69.48	68.38	71.02	61.33	84	0.02	0.01	8.32	0.67	29.13	0.11
6-Apr-13	65.75	56.59	78.04	70.07	67.75	72.79	55.43	72	0	0	7.8	0.73	19.00	0.14
7-Apr-13	69.75	55.20	83.07	71.32	68.65	74.39	58.45	71	0	0	6.87	0.4	18.70	0.15
8-Apr-13	71.95	58.37	85.19	72.87	70.29	75.67	58.79	67	0	0	6.73	0.67	16.60	0.16
9-Apr-13	71.49	57.70	84.54	73.43	71.11	75.65	62.71	76	0	0	8.12	1.4	21.80	0.15
10-Apr-13	72.60	58.08	87.57	73.89	71.29	76.48	63.75	76	0.15	0.09	6.43	0	27.73	0.15
11-Apr-13	75.91	68.02	89.06	74.86	73.22	76.89	70.45	85	0.38	0.2	9.94	0.83	28.63	0.15
12-Apr-13	75.57	71.40	80.96	74.64	73.83	75.49	72.03	88	0	0	9.62	0.07	26.13	0.09
13-Apr-13	75.25	65.70	89.02	75.17	72.95	77.76	67.09	78	0	0	4.22	0.17	25.70	0.15
14-Apr-13	75.42	65.82	88.99	75.63	73.89	77.63	68.43	80	0.01	0.01	8.45	0.17	40.80	0.14
15-Apr-13	76.24	63.70	90.90	76.52	73.98	79.47	66.15	73	0	0	4.53	0.03	16.57	0.17
16-Apr-13	77.16	66.40	89.96	77.48	75.24	79.84	68.68	77	0	0	8.44	0	21.37	0.17
17-Apr-13	74.27	62.74	86.34	77.53	75.36	79.61	64.4	73	0	0	8.23	1.9	22.43	0.17
18-Apr-13	75.19	61.84	87.73	77.55	75.29	79.57	67.33	79	0.69	0.26	5.77	0.07	19.17	0.15
19-Apr-13	77.11	68.43	87.30	77.32	75.78	78.69	70.37	81	0.02	0.01	8.89	1	24.07	0.15
20-Apr-13	68.70	60.15	75.49	76.19	75.29	77.13	64.24	86	0	0	7.55	0.63	19.33	0.10
21-Apr-13	69.98	59.79	83.23	75.44	73.69	77.34	64.78	85	0.04	0.02	7.23	0.27	17.23	0.12
22-Apr-13	70.63	64.94	80.91	75.49	74.43	76.78	66.78	88	0.16	0.05	7.57	0.33	21.23	0.11
23-Apr-13	72.15	64.00	83.80	75.59	73.65	77.86	62.98	75	0	0	9.33	1.1	21.73	0.16
24-Apr-13	71.37	55.63	86.83	76.16	73.31	79.21	60.42	71	0	0	5.39	0.2	18.43	0.16
25-Apr-13	73.48	59.99	88.43	77.07	74.46	79.68	63.29	73	0	0	4.94	0.17	16.80	0.17

Table B.1 (continued)
Daily Recorded Meteorological Data

Period	60cm Temp avg (F)	60cm Temp min (F)	60cm Temp max (F)	Tsoil avg - 10cm (F)	Tsoil min (avg) - 10cm (F)	Tsoil max (avg) - 10cm (F)	2m DewPt avg (F)	Relative Humidity avg 2m (%)	2m Rain total (in)	2m Rain max over 15min (in)	10m Wind avg (mph)	10m Wind min (mph)	10m Wind max (mph)	ET (in)
26-Apr-13	74.15	57.79	87.42	77.53	75.00	79.93	62.81	69	0	0	4.93	0.1	17.30	0.16
27-Apr-13	73.97	62.91	85.98	77.89	75.99	79.75	65.02	75	0	0	7.91	1.97	22.73	0.16
28-Apr-13	74.37	59.77	86.74	78.08	75.79	80.40	62.21	68	0	0	7.94	0.07	21.03	0.17
29-Apr-13	74.05	62.31	86.85	78.39	76.53	80.15	65.31	75	0	0	5.84	0	19.50	0.15
30-Apr-13	73.75	65.66	90.09	78.62	76.71	81.10	66.63	81	0.31	0.19	6.42	0.07	24.53	0.16
1-May-13	68.68	65.10	73.69	76.19	74.19	78.40	68.15	97	1.18	0.38	5.73	0.3	23.97	0.06
2-May-13	69.89	63.14	77.23	74.56	73.47	75.79	67.75	93	0.04	0.01	5.96	0.07	27.30	0.09
3-May-13	72.41	62.71	83.34	76.07	73.69	78.69	67.22	85	0	0	5.31	0.1	23.83	0.16
4-May-13	72.22	66.58	80.49	76.70	75.11	78.46	66.91	84	0	0	7.05	1.03	22.10	0.14
5-May-13	68.33	56.48	77.50	76.58	74.80	78.60	55.98	68	0	0	8.99	0.43	23.13	0.17
6-May-13	66.77	52.54	75.78	76.44	74.37	79.00	57.07	72	0	0	5.87	0.07	20.17	0.15
7-May-13	64.84	50.40	77.04	76.06	73.54	78.58	56.26	76	0	0	5.15	0	23.00	0.15
8-May-13	67.48	52.65	79.86	76.34	73.72	79.00	58.90	76	0	0	4.46	0	16.67	0.16
9-May-13	71.57	55.04	86.74	76.96	74.08	79.99	60.52	72	0	0	3.87	0	12.47	0.18
10-May-13	75.67	61.05	90.57	78.27	75.99	80.94	66.40	75	0	0	6.56	0	30.20	0.18
11-May-13	75.98	63.36	89.13	78.90	77.05	80.83	69.59	82	0	0	6.04	0	19.97	0.16
12-May-13	75.90	64.45	86.43	79.41	77.63	81.64	69.42	81	0	0	5.45	0	19.27	0.16
13-May-13	71.57	59.16	84.83	78.82	77.29	80.60	59.48	68	0	0	5.32	0	19.07	0.15
14-May-13	69.13	52.86	83.86	78.00	75.31	80.85	50.88	57	0	0	6.1	0.33	16.20	0.17
15-May-13	71.37	54.05	86.41	78.51	75.60	81.46	57.47	64	0	0	5.84	0.4	17.63	0.17
16-May-13	74.15	59.45	87.08	79.44	76.68	82.40	60.14	65	0	0	5.75	0	17.03	0.18
17-May-13	76.32	60.26	90.41	79.87	77.45	82.20	63.48	67	0	0	4.93	0.2	14.80	0.16
18-May-13	77.43	64.15	91.38	80.72	78.01	83.52	66.18	72	0	0	4.9	0.07	15.20	0.18
19-May-13	77.89	62.96	91.81	81.49	78.6	84.49	66.24	70	0	0	4.57	0	16.13	0.19

Table B.1 (continued)
Daily Recorded Meteorological Data

Period	60cm Temp avg (F)	60cm Temp min (F)	60cm Temp max (F)	Tsoil avg - 10cm (F)	Tsoil min (avg) - 10cm (F)	Tsoil max (avg) - 10cm (F)	2m DewPt avg (F)	Relative Humidity avg 2m (%)	2m Rain total (in)	2m Rain max over 15min (in)	10m Wind avg (mph)	10m Wind min (mph)	10m Wind max (mph)	ET (in)
20-May-13	75.43	65.35	91.62	80.13	76.14	84.13	68.67	82	1.96	1	5.01	0.07	38.87	0.16
21-May-13	72.05	63.43	89.10	77.14	74.37	79.86	68.41	89	0.35	0.11	4.80	0.13	28.77	0.15
22-May-13	75.09	64.69	87.93	78.44	75.65	81.63	69.38	84	0	0	4.53	0.13	17.37	0.18
23-May-13	77.14	65.34	88.97	79.74	77.27	82.40	70.49	81	0	0	4.21	0	15.67	0.17
24-May-13	78.85	65.44	92.35	80.53	77.81	83.37	67.81	71	0	0	5.05	0	21.23	0.20
25-May-13	77.24	65.68	89.02	80.74	78.57	83.01	64.84	68	0	0	9.14	1.03	22.23	0.20
26-May-13	72.85	57.96	85.73	80.30	77.97	82.40	59.44	66	0	0	6.50	0.20	15.80	0.18
27-May-13	74.40	60.71	87.49	80.13	77.79	82.44	63.50	71	0	0	8.02	0.53	21.20	0.18
28-May-13	74.78	64.60	89.19	80.26	78.64	81.95	69.61	84	0	0	9.49	2.47	26.87	0.16
29-May-13	75.55	68.25	86.56	80.03	78.64	81.63	70.60	85	0.03	0.02	9.81	2.33	31.70	0.16
30-May-13	77.00	71.04	85.87	79.73	78.60	80.82	70.89	81	0	0	11.97	3.23	33.03	0.16
31-May-13	77.37	69.51	87.94	79.70	78.37	80.96	71.22	81	0.02	0.02	10.16	3.03	36.93	0.15
1-Jun-13	76.47	70.75	86.67	79.63	78.64	80.78	73.06	89	0.16	0.1	7.78	0.13	21.77	0.12
2-Jun-13	76.97	69.12	91.36	79.50	78.04	82.51	73.72	90	1.60	0.8	3.91	0	31.30	0.15
3-Jun-13	74.85	69.89	84.74	78.42	77.49	80.26	73.59	94	2.16	0.89	4.32	0	19.80	0.11
4-Jun-13	76.10	72.50	83.89	78.51	77.27	79.99	73.06	90	0.07	0.07	5.73	0.37	26.03	0.12
5-Jun-13	76.61	71.40	83.82	78.58	77.67	79.41	73.04	87	0.10	0.03	8.34	2.40	20.37	0.11
6-Jun-13	74.46	72.39	77.95	76.63	75.60	78.35	73.33	94	3.20	0.46	13.64	1.77	32.13	0.07
7-Jun-13	77.26	69.10	85.26	77.65	75.42	80.01	73.16	86	0	0	5.85	0.20	47.33	0.15
8-Jun-13	74.80	70.07	88.99	77.71	76.35	80.46	73.00	93	3	0.54	4.80	0	26.17	0.12
9-Jun-13	76.64	69.30	89.60	78.02	75.87	80.80	73.97	91	0.05	0.02	5.99	0.20	17.30	0.15
10-Jun-13	77.57	68.99	91.33	79.01	77.29	82.35	73.22	86	1.91	0.92	5.38	0	30.43	0.17
11-Jun-13	78.53	71.49	88.47	78.91	77.11	80.74	74.22	86	0	0	4.56	0	18.60	0.15
12-Jun-13	79.52	69.19	93.38	80.40	77.68	83.48	72.54	81	0.07	0.05	3.83	0	24.80	0.20
13-Jun-13	80.15	69.69	90.57	81.64	79.00	84.47	73.24	80	0	0	4.93	0.07	15.87	0.20

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Appendix C: S&GW Test Facility Tensiometer Data

Table C.1
S&GW Test Facility Test Area 3
Daily Average Tensiometer Data (mbar)

Depth below IS:	TA3-Center					TA3-South				
	6"	12"	24"	36"	42"	6"	12"	24"	36"	42"
Date	mbar	mbar	mbar	mbar	mbar	mbar	mbar	mbar	mbar	mbar
03/15/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
03/16/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
03/17/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
03/18/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
03/19/13	-18.316	-20.096	-20.690	-21.046	-21.995	-21.758	-22.826	-22.470	-23.657	-22.945
03/20/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
03/21/13	-15.111	-17.841	-18.079	-19.384	-19.266	-20.334	-20.215	-20.927	-21.046	-20.927
03/22/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
03/23/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
03/24/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
03/25/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
03/26/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
03/27/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
03/28/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
03/29/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
03/30/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
03/31/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
04/01/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
04/02/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
04/03/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
04/04/13	NAN	NAN	NAN	NAN	-3.480	-4.548	-4.429	-4.785	-5.379	-4.667
04/05/13	-15.942	-21.046	-24.132	-25.200	-26.743	-26.624	-27.693	-27.455	-28.523	-27.693
04/06/13	-34.577	-40.630	-41.579	-42.766	-42.173	-42.410	-42.054	-42.054	-42.529	-41.223
04/07/13	NAN	NAN	NAN	NAN	-12.619	-11.669	-13.331	-12.263	-13.806	-12.738
04/08/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
04/09/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
04/10/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	13.493	12.425	13.493
04/11/13	NAN	NAN	NAN	NAN	NAN	9.695	11.831	8.983	11.000	9.220
04/12/13	20.021	15.273	15.392	12.781	14.205	12.425	13.374	12.069	12.187	12.425
04/13/13	19.546	16.698	11.119	13.612	11.475	13.493	11.831	12.662	12.187	11.950
04/14/13	7.440	6.015	1.980	4.235	1.268	4.472	1.387	3.879	1.743	3.286
04/15/13	1.980	-2.412	-1.462	-4.429	-2.649	-4.548	-3.361	-4.667	-4.548	-4.073
04/16/13	NAN	NAN	-3.598	-6.922	-5.379	-6.803	-6.922	-6.566	-8.583	-6.210
04/17/13	NAN	6.253	4.710	3.760	4.591	2.573	4.591	1.387	4.235	1.268
04/18/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	3.404	3.642	
04/19/13	9.101	8.508	6.846	7.084	5.897	6.490	5.541	5.541	5.185	5.066
04/20/13	12.187	8.033	7.440	6.609	5.778	6.728	4.829	6.372	3.760	6.609
04/21/13	8.508	7.440	4.591	5.659	3.167	4.710	2.692	3.642	2.455	2.930
04/22/13	6.965	5.778	3.523	2.811	2.573	1.149	2.217	-0.275	1.505	-0.750
04/23/13	25.955	18.597	19.546	16.816	20.021	18.122	19.783	18.715	18.597	20.021
04/24/13	12.069	10.882	9.576	9.457	8.389	8.745	7.677	7.914	7.202	7.558

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Table C.1 (continued)
S&GW Test Facility Test Area 3
Daily Average Tensiometer Data (mbar)

Depth below IS:	TA3-Center					TA3-South				
	6"	12"	24"	36"	42"	6"	12"	24"	36"	42"
Date	mbar	mbar	mbar	mbar	mbar	mbar	mbar	mbar	mbar	mbar
04/25/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
04/26/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
04/27/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
04/28/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	11.594
04/29/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
04/30/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
05/01/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
05/02/13	-2.293	-12.382	-13.806	-16.536	-14.993	-16.417	-14.993	-15.824	-16.417	-14.162
05/03/13	-11.907	-17.841	-19.740	-20.096	-19.028	-19.978	-18.672	-19.740	-19.384	-19.384
05/04/13	10.288	4.710	4.235	3.048	3.167	3.167	2.573	3.286	1.624	3.998
05/05/13	11.713	8.508	7.440	6.846	5.541	6.253	4.591	5.778	3.642	5.541
05/06/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
05/07/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
05/08/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
05/09/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
05/10/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
05/11/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
05/12/13	18.597	15.511	16.935	14.680	15.629	14.442	14.561	14.205	13.374	14.442
05/13/13	NAN	NAN	NAN	NAN	NAN	9.339	7.084	8.389	6.728	7.796
05/14/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
05/15/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
05/16/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
05/17/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN
05/18/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN

NAN (not-a-number) indicates an exceptional occurrence in datalogger function or processing occurred (an invalid measurement).
NR indicates no reading occurred.
EM indicates an equipment malfunction occurred. We are in the process of troubleshooting the problem.
NEG indicates negative soil tensiometer readings were recorded which is being investigated

Table C.2
S&GW Test Facility Test Area 1
Daily Average Tensiometer Data (mbar)

Depth below IS:	TA1-Center					TA1-South				
	6"	12"	24"	36"	42"	6"	12"	24"	36"	42"
Date	mbar	mbar	mbar	mbar	mbar	mbar	mbar	mbar	mbar	mbar
03/15/13	NAN	NAN	NAN	NAN	NAN	-273.737	NAN	-379.490	NAN	
03/16/13	NAN	NAN	NAN	NAN	NAN	-272.906	NAN	-375.217	NAN	
03/17/13	NAN	NAN	NAN	NAN	NAN	-277.298	-335.337	-379.015	NAN	
03/18/13	NAN	NAN	NAN	NAN	NAN	-278.841	-337.473	-378.540	NAN	
03/19/13	-23.894	-23.657	-24.132	-24.251	-24.488	-24.844	-279.315	NAN	-377.947	-841.787
03/20/13	NAN	NAN	NAN	NAN	NAN	-281.452	NAN	-379.846	-800.602	
03/21/13	-21.402	-21.283	-21.995	-21.521	-22.351	-21.758	-280.027	NAN	-376.879	-764.045
03/22/13	NAN	NAN	NAN	NAN	NAN	-279.078	NAN	-376.997	-604.526	
03/23/13	NAN	NAN	NAN	NAN	NAN	-279.790	NAN	-354.090	-594.200	
03/24/13	NAN	NAN	NAN	NAN	NAN	-275.517	NAN	-343.527	-654.138	
03/25/13	NAN	NAN	NAN	NAN	NAN	-269.583	NAN	-342.696	-709.923	
03/26/13	NAN	NAN	NAN	NAN	NAN	-268.871	NAN	-339.729	-608.443	
03/27/13	NAN	NAN	NAN	NAN	NAN	-267.802	NAN	-355.158	-796.922	
03/28/13	NAN	NAN	NAN	NAN	NAN	-255.340	NAN	-365.603	-736.034	
03/29/13	NAN	NAN	NAN	NAN	NAN	-259.138	NAN	-376.285	NAN	
03/30/13	NAN	NAN	NAN	NAN	NAN	-265.666	NAN	-364.653	-448.686	
03/31/13	NAN	NAN	NAN	NAN	NAN	-270.770	NAN	-374.623	NAN	
04/01/13	NAN	NAN	NAN	NAN	NAN	-278.484	NAN	-379.371	NAN	
04/02/13	NAN	NAN	NAN	NAN	NAN	-287.268	NAN	-382.576	NAN	
04/03/13	NAN	NAN	NAN	NAN	NAN	-296.407	NAN	-385.068	NAN	
04/04/13	-5.854	-4.785	-6.447	-5.023	-6.684	-5.497	-304.003	NAN	-386.492	NAN
04/05/13	-27.336	-28.523	-28.167	-28.642	-28.049	-28.642	-285.487	NAN	-387.086	NAN
04/06/13	-40.274	-41.579	-41.579	-40.867	-41.461	-40.867	-254.628	NAN	-379.252	-392.546
04/07/13	-13.924	-13.568	-14.043	-14.162	-14.043	-14.993	-266.972	NAN	-359.075	-400.973
04/08/13	NAN	NAN	NAN	-12.500	-14.399	-12.500	-275.161	NAN	-358.956	-380.558
04/09/13	NAN	NAN	NAN	NAN	NAN	-281.927	NAN	-362.754	NAN	
04/10/13	12.069	13.256	11.713	12.781	11.594	12.306	-289.523	NAN	-366.078	NAN
04/11/13	10.407	9.457	9.339	9.814	8.508	10.288	-299.493	NAN	-369.876	NAN
04/12/13	12.187	12.187	11.238	12.662	11.000	12.543	-306.733	NAN	-372.962	NAN
04/13/13	15.155	9.695	14.917	11.000	14.799	11.000	-310.531	NAN	-374.386	-436.698
04/14/13	3.642	1.624	4.116	1.743	4.710	1.387	-315.991	NAN	-378.659	-435.630
04/15/13	-4.904	-4.073	-5.735	-3.717	-5.854	-3.836	-320.857	NAN	-380.321	-444.769
04/16/13	-9.414	-6.210	-10.008	-6.684	-10.126	-7.634	-325.960	NAN	-382.457	-443.345
04/17/13	3.998	1.268	3.048	1.743	2.099	2.455	-331.776	NAN	-385.543	-449.398
04/18/13	4.354	2.217	4.710	1.505	4.829	1.030	-335.100	NAN	-386.611	-447.143
04/19/13	5.303	4.354	5.066	3.998	4.829	3.879	-339.254	NAN	-388.391	-441.446
04/20/13	4.472	5.778	4.472	5.422	4.710	4.591	-339.254	NAN	-389.816	-441.208
04/21/13	3.167	1.980	3.167	1.505	3.167	1.268	-329.521	NAN	-391.121	-454.739
04/22/13	1.505	-0.987	0.556	-0.869	-0.156	-0.275	-326.673	NAN	-392.902	-451.416
04/23/13	19.902	19.546	19.309	21.089	18.834	20.852	-325.723	NAN	-393.614	-445.244
04/24/13	7.440	6.846	7.084	6.490	6.965	6.253	-327.622	NAN	-395.513	-436.698

Table C.2 (continued)
S&GW Test Facility Test Area 1
Daily Average Tensiometer Data (mbar)

Depth below IS:	TA1-Center					TA1-South				
	6"	12"	24"	36"	42"	6"	12"	24"	36"	42"
Date	mbar	mbar	mbar	mbar	mbar	mbar	mbar	mbar	mbar	mbar
04/25/13	NAN	10.288	10.882	9.814	10.763	9.576	-331.776	NAN	-395.869	-445.125
04/26/13	11.831	12.662	11.594	12.187	11.594	11.594	-277.416	NAN	-397.531	-463.641
04/27/13	NAN	NAN	NAN	13.968	11.119	13.374	-257.358	NAN	-398.005	-462.810
04/28/13	12.425	12.069	11.356	12.425	10.526	12.662	-257.239	NAN	-388.985	-455.333
04/29/13	NAN	NAN	NAN	NAN	NAN	8.745	-258.070	NAN	-373.674	-446.193
04/30/13	NAN	NAN	NAN	NAN	NAN	NAN	-258.901	NAN	-366.078	-440.140
05/01/13	NAN	8.508	6.609	8.152	6.134	7.558	-258.545	NAN	-363.467	-445.244
05/02/13	-14.281	-14.399	-14.755	-13.212	-14.518	-12.856	-249.880	NAN	-356.701	-473.848
05/03/13	-17.485	-20.215	-17.841	-19.028	-18.553	-18.791	-245.845	NAN	-340.203	NAN
05/04/13	2.573	3.523	2.573	3.642	2.811	3.286	-254.865	NAN	-337.829	NAN
05/05/13	3.998	4.710	3.760	4.235	3.998	3.642	-263.530	NAN	-322.400	NAN
05/06/13	NAN	NAN	NAN	6.372	5.778	6.253	-266.615	NAN	-330.471	NAN
05/07/13	NAN	NAN	NAN	NAN	NAN	NAN	-269.227	NAN	-353.615	NAN
05/08/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	-355.277	NAN
05/09/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	-357.651	NAN
05/10/13	NAN	NAN	NAN	NAN	NAN	NAN	NAN	NAN	-358.482	NAN
05/11/13	NAN	NAN	NAN	NAN	NAN	NAN	-272.194	NAN	-356.939	NAN
05/12/13	12.662	14.324	11.950	13.849	11.713	13.256	-272.550	NAN	-357.413	NAN
05/13/13	7.321	6.846	7.321	6.134	7.558	5.659	-272.669	NAN	-357.651	NAN
05/14/13	NAN	NAN	NAN	NAN	NAN	NAN	-271.957	NAN	-357.413	NAN
05/15/13	NAN	NAN	NAN	NAN	NAN	NAN	-271.719	NAN	-359.075	NAN
05/16/13	NAN	NAN	NAN	NAN	NAN	NAN	-272.550	NAN	-359.906	NAN
05/17/13	NAN	NAN	NAN	NAN	NAN	NAN	-272.431	NAN	-360.499	NAN
05/18/13	NAN	NAN	NAN	NAN	NAN	NAN	-272.550	NAN	-264.835	NAN

NAN (not-a-number) indicates an exceptional occurrence in datalogger function or processing occurred (an invalid measurement).

NR indicates no reading occurred.

EM indicates an equipment malfunction occurred. We are in the process of troubleshooting the problem.

NEG indicates negative soil tensiometer readings were recorded which is being investigated

Figure C.1
TA1 S&GW Test Facility
Soil Tension (mbar), Rainfall (inches) and Dose
15 Minute Interval

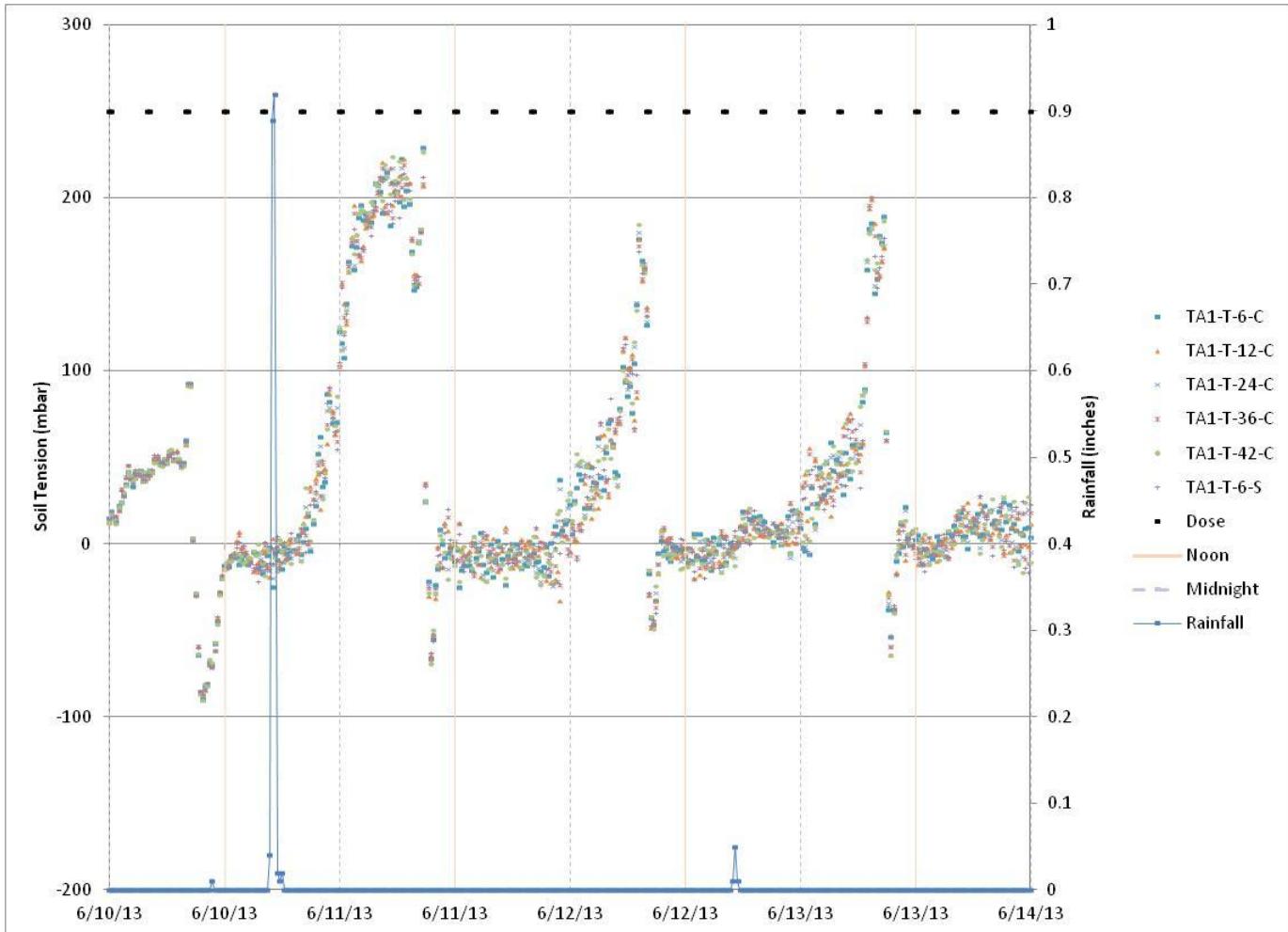


Figure C.2
TA1 S&GW Test Facility
Soil Tension (mbar), Temperature (°F) and Dose
15 Minute Interval

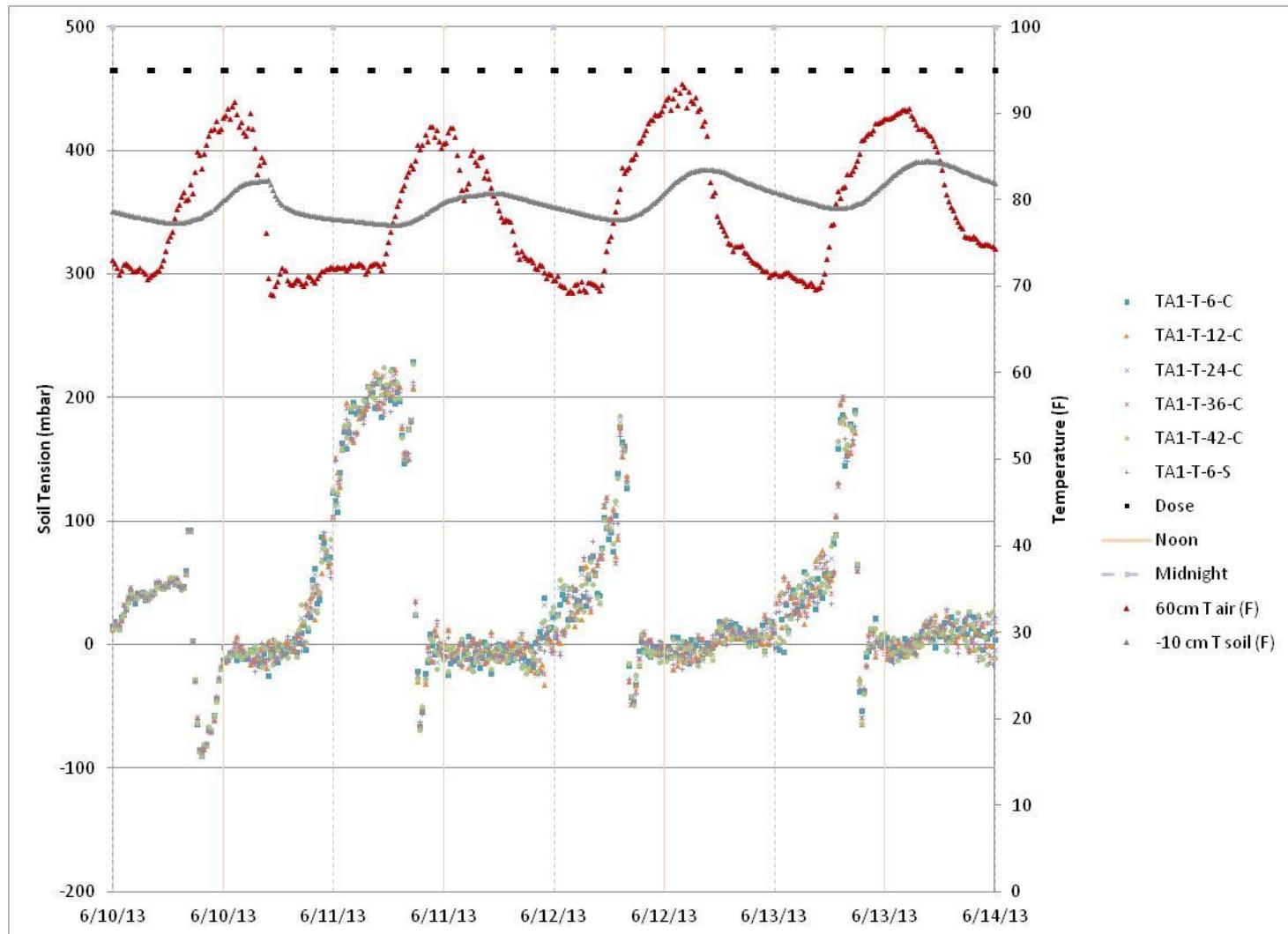


Figure C.3
TA3 S&GW Test Facility
Soil Tension (mbar), Rainfall (inches) and Dose
15 Minute Interval

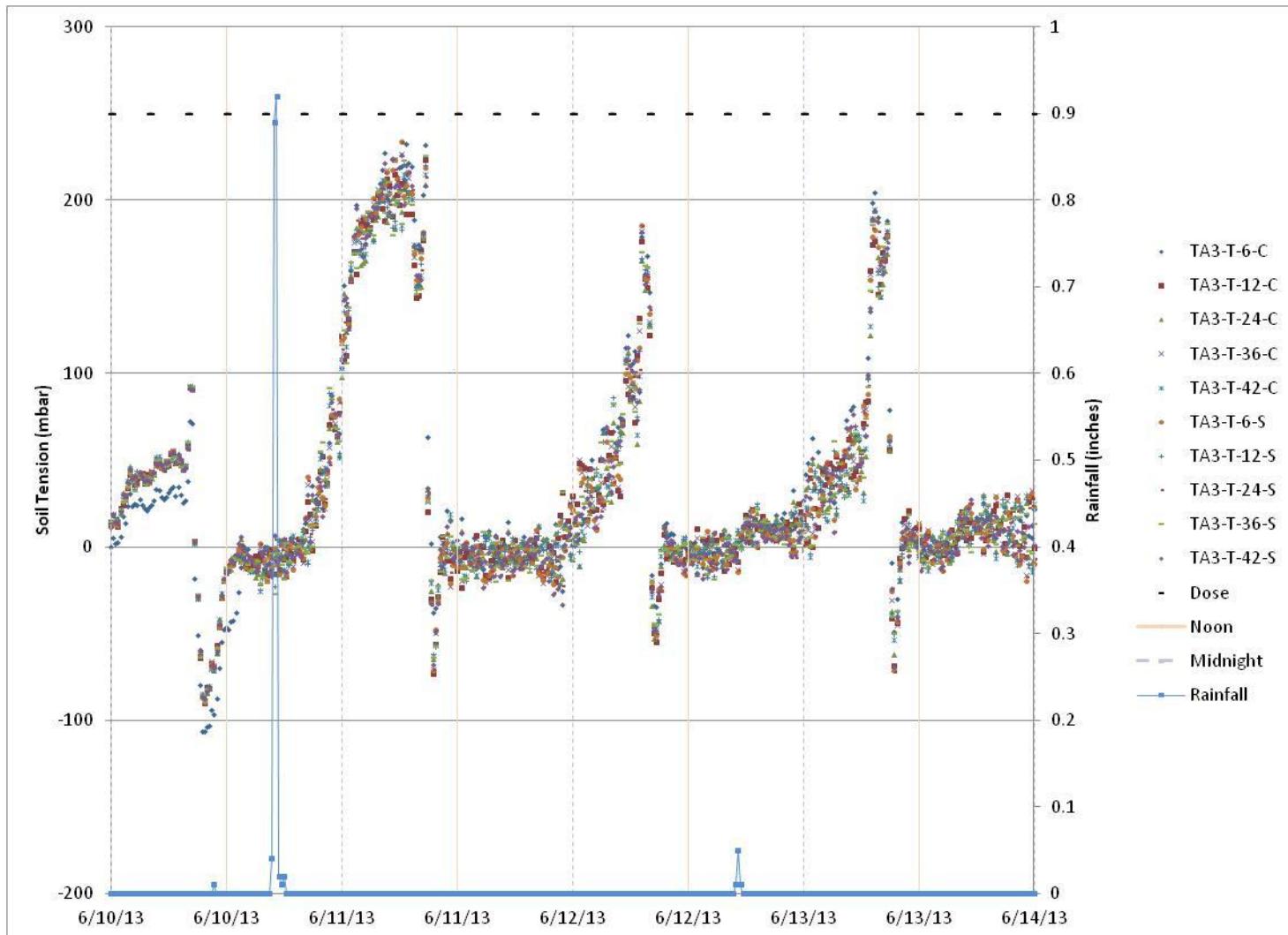
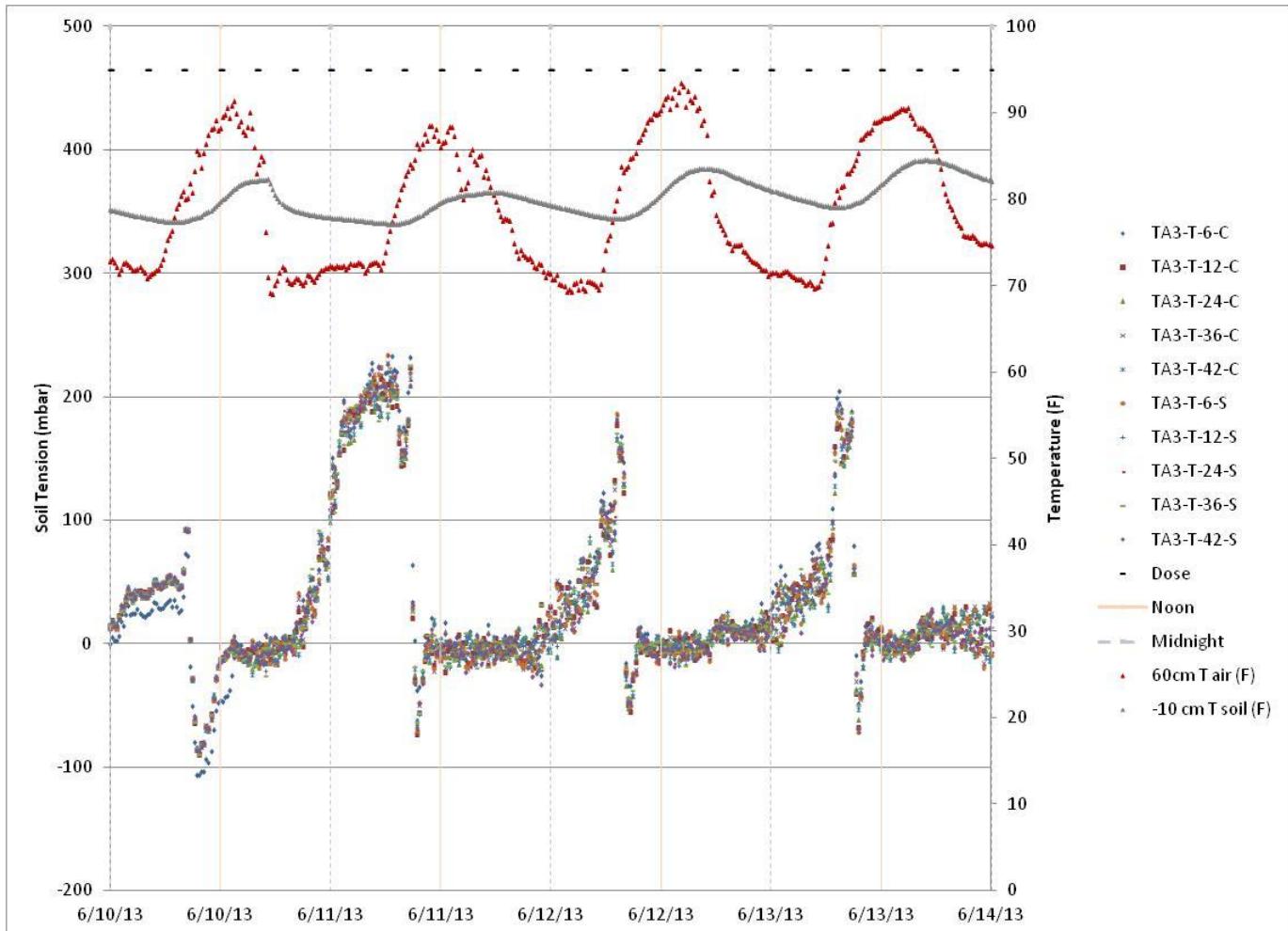


Figure C.4
TA3 S&GW Test Facility
Soil Tension (mbar), Temperature (°F) and Dose
15 Minute Interval



Appendix D: S&GW Test Facility Soil Moisture Data

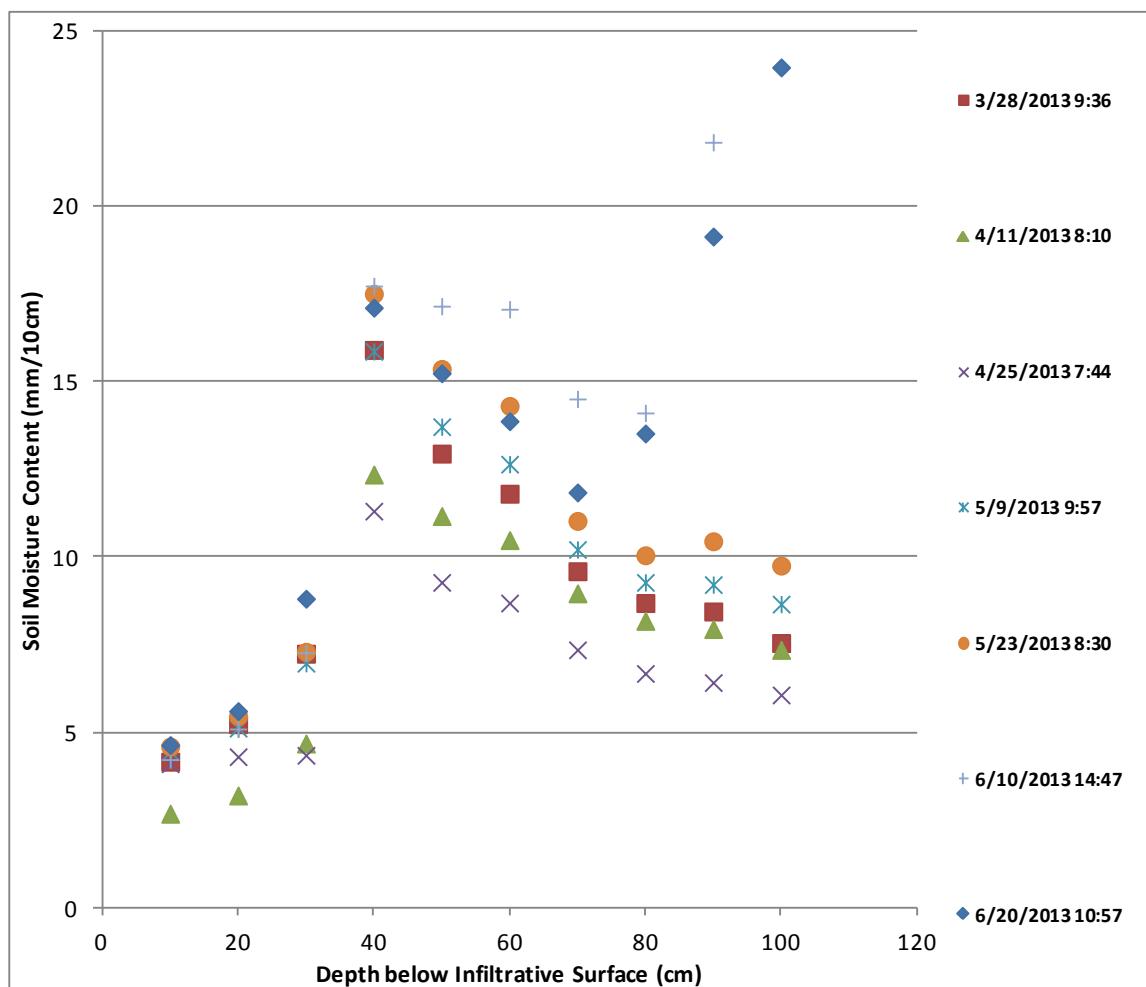


Figure D.1
Soil Moisture Test Area 1 North

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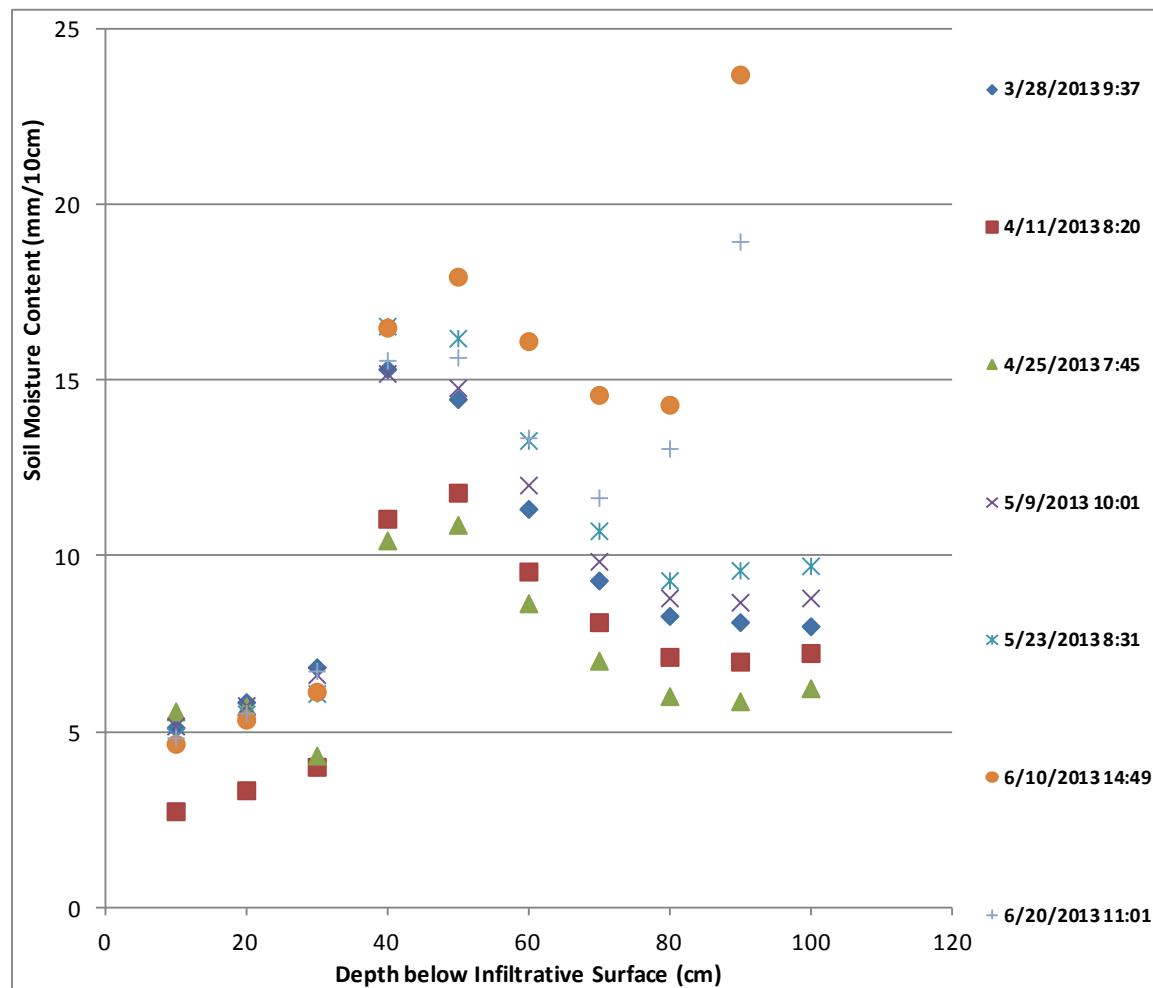


Figure D.2
Soil Moisture Test Area 1 Center

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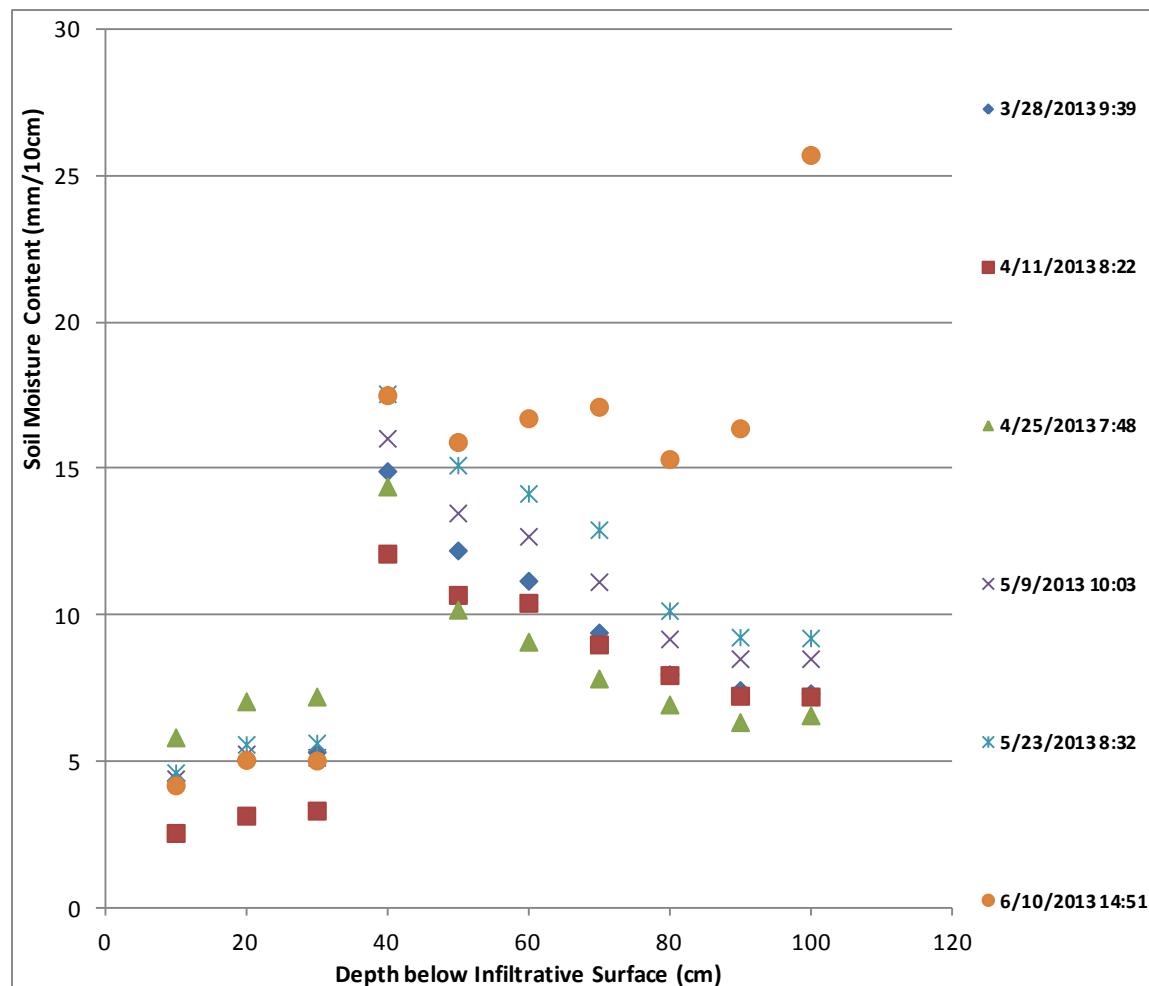


Figure D.3
Soil Moisture Test Area 1 South

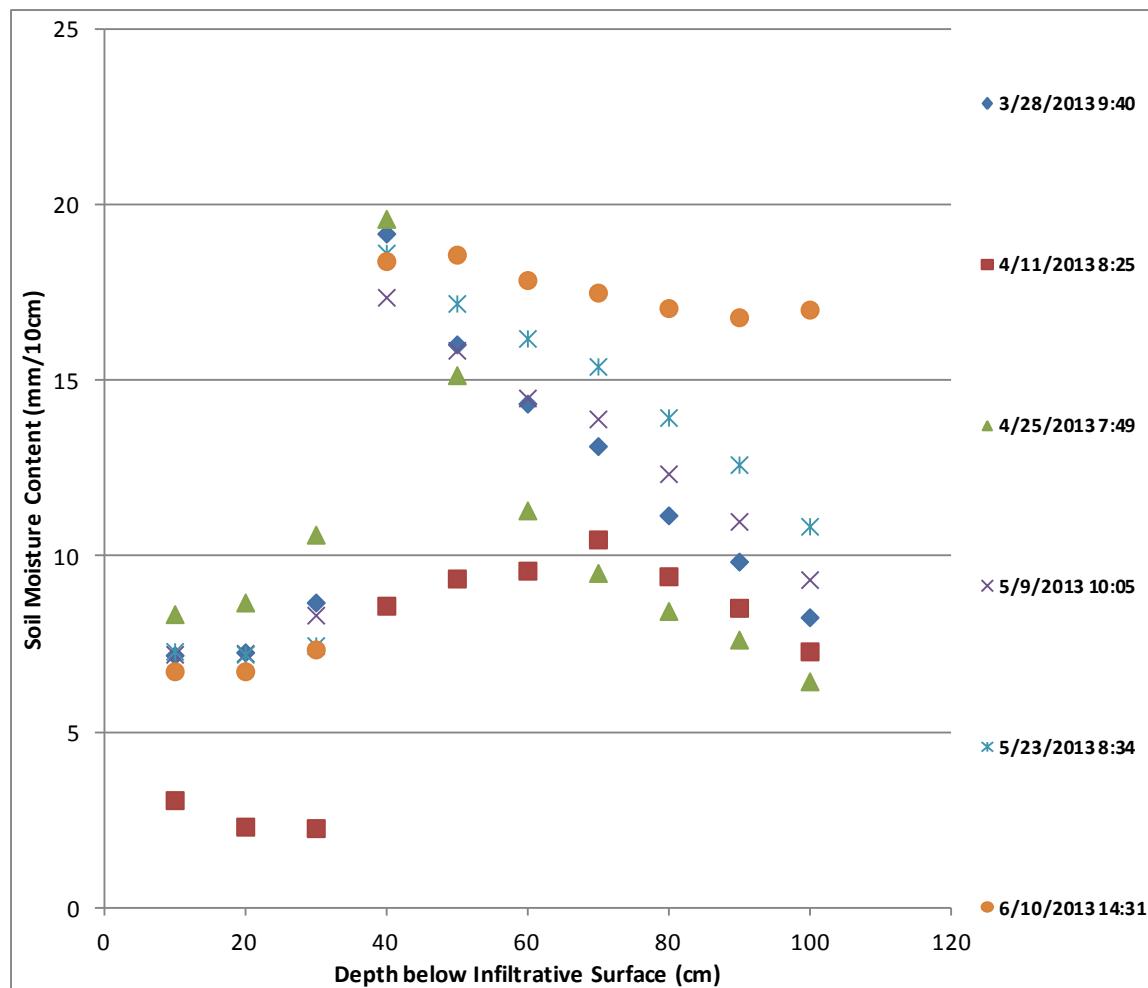


Figure D.4
Soil Moisture Test Area 3 North

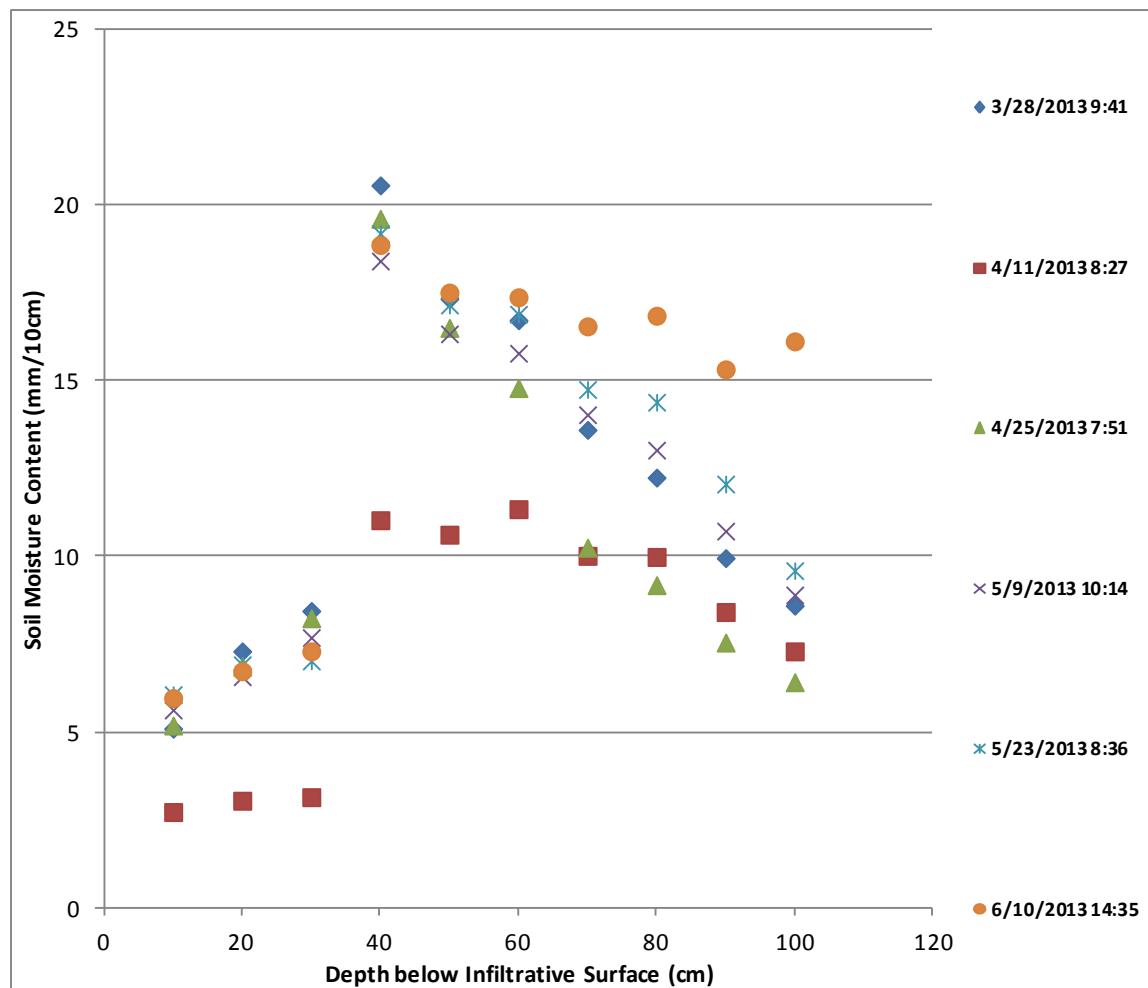


Figure D.5
Soil Moisture Test Area 3 Center

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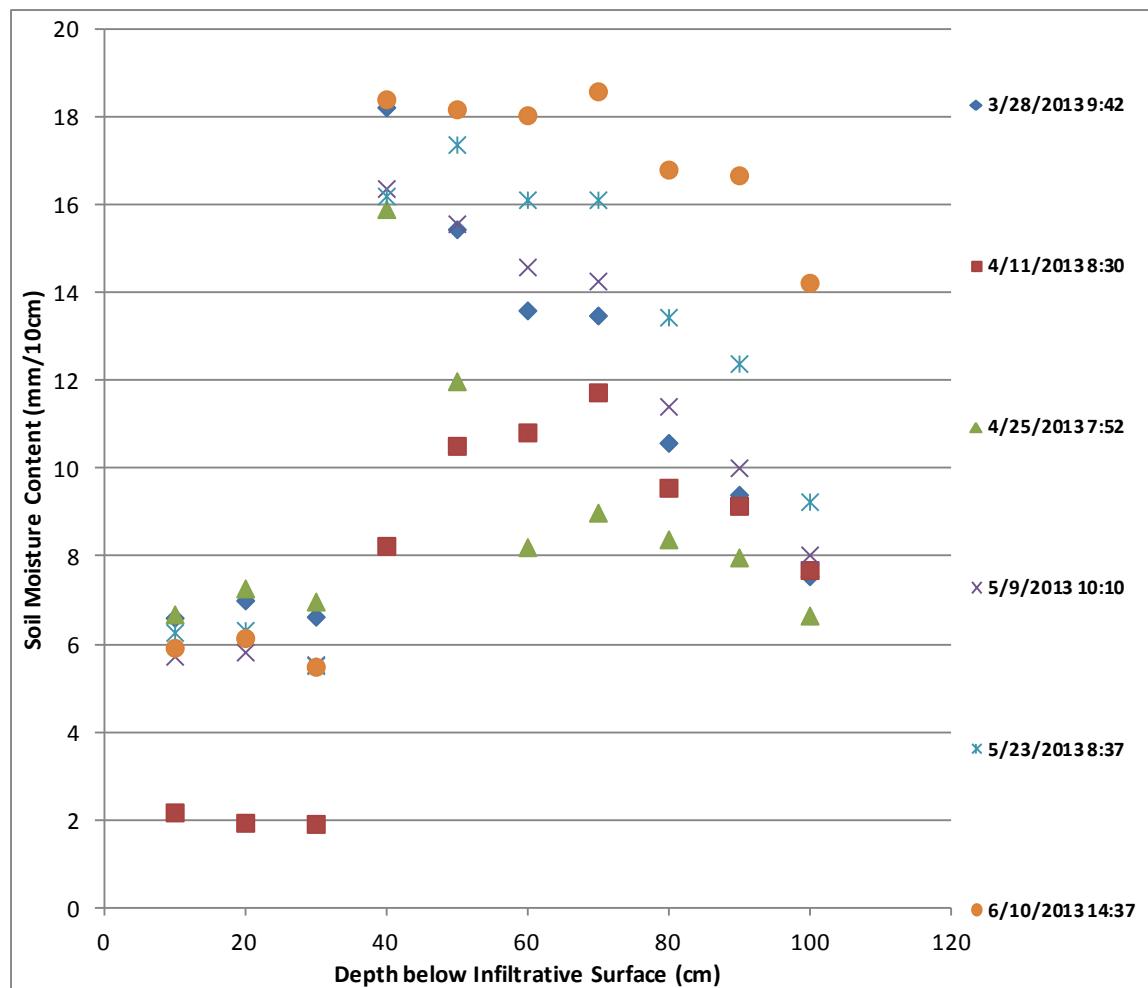


Figure D.6
Soil Moisture Test Area 3 South

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Appendix E: 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

August 5, 2013

Work Order: 1305557

Revised Report

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	PNRS II STE Tank 1							
Matrix	Groundwater							
SAL Sample Number	1305557-01							
Date/Time Collected	06/13/13 12:00							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Inorganics								
Ammonia as N	mg/L	57	EPA 350.1	4.0	0.95		07/01/13 16:32	100
Ammonium as NH4	mg/L	72	EPA 350.1	0.05	0.01		07/02/13 12:11	1
Bicarbonate Alkalinity	mg/L	350	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonaceous BOD	mg/L	110	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chloride	mg/L	77	EPA 300.0	2.0	0.50		06/21/13 17:58	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 16:47	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 16:47	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	13	SM 4500P-E	1.0	0.26	06/25/13 09:17	06/28/13 14:24	25.71
Total Alkalinity	mg/L	350	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	72	EPA 351.2	0.20	0.05	07/02/13 09:02	07/05/13 13:20	41.67
Total Solids	mg/L	620	SM 2540B	10	10	06/18/13 11:34	06/20/13 12:47	1
Total Suspended Solids	mg/L	77	SM 2540D	1	1	06/13/13 15:27	06/14/13 11:18	1
Nitrate+Nitrite (N)	mg/L	0.02 U	EPA 300.0	0.08	0.02		06/14/13 16:47	1
Microbiology								
E. Coli	MPN/100 mL	2,400 Z	SM 9223B	2.0	2.0	06/13/13 16:27	06/14/13 11:13	1
Fecal Coliforms	CFU/100 ml	not U reportable	SM 9222D	1	1	06/13/13 15:41	06/14/13 14:21	1

Sample Description	STE Pump Tank							
Matrix	Groundwater							
SAL Sample Number	1305557-02							
Date/Time Collected	06/13/13 11:40							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							

Inorganics								
Hydrogen Sulfide (Unionized)	mg/L	4.1	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	55	EPA 350.1	4.0	0.95		07/01/13 16:34	100
Ammonium as NH4	mg/L	70	EPA 350.1	0.05	0.01		07/02/13 12:11	1
Bicarbonate Alkalinity	mg/L	350	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonaceous BOD	mg/L	35	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chloride	mg/L	61	EPA 300.0	2.0	0.50		06/21/13 18:07	10
Fluoride	mg/L	0.85	EPA 300.0	0.040	0.010		06/14/13 16:56	1

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

August 5, 2013

Work Order: 1305557

Revised Report

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	STE Pump Tank							
Matrix	Groundwater							
SAL Sample Number	1305557-02							
Date/Time Collected	06/13/13 11:40							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	0.08	EPA 300.0	0.04	0.01		06/14/13 16:56	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 16:56	1
Orthophosphate as P	mg/L	5.3	EPA 300.0	0.040	0.010		06/14/13 16:56	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	8.3	SM 4500P-E	0.20	0.050	06/25/13 09:17	06/28/13 14:03	5
Sulfate	mg/L	33	EPA 300.0	0.60	0.20		06/14/13 16:56	1
Sulfide	mg/L	11	SM 4500SF	0.40	0.10		06/17/13 12:40	1
Total Alkalinity	mg/L	350	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	67	EPA 351.2	0.20	0.05	07/02/13 09:02	07/05/13 13:22	41.67
Total Solids	mg/L	510	SM 2540B	10	10	06/18/13 11:34	06/20/13 12:47	1
Total Suspended Solids	mg/L	23	SM 2540D	1	1	06/13/13 15:27	06/14/13 11:18	1
Nitrate+Nitrite (N)	mg/L	0.08	EPA 300.0	0.08	0.02		06/14/13 16:56	1
Metals								
Boron	mg/L	0.20	EPA 200.7	0.10	0.050	06/19/13 10:01	06/19/13 17:16	1
Calcium	mg/L	48	EPA 200.7	0.50	0.042	06/19/13 10:01	06/19/13 17:16	1
Iron	mg/L	0.20	EPA 200.7	0.10	0.020	06/19/13 10:01	06/19/13 17:16	1
Magnesium	mg/L	15	EPA 200.7	0.50	0.020	06/19/13 10:01	06/19/13 17:16	1
Manganese	mg/L	0.043	EPA 200.7	0.010	0.0010	06/19/13 10:01	06/19/13 17:16	1
Potassium	mg/L	23	EPA 200.7	0.050	0.010	06/19/13 10:01	06/19/13 17:16	1
Sodium	mg/L	57	EPA 200.7	0.50	0.13	06/19/13 10:01	06/19/13 17:16	1
Microbiology								
E. Coli	MPN/100 mL	2,400 Z	SM 9223B	2.0	2.0	06/13/13 16:27	06/14/13 11:13	1
Fecal Coliforms	CFU/100 ml	not U reportable	SM 9222D	1	1	06/13/13 15:41	06/14/13 14:21	1
Sample Description	STE Pump Tank-DUP							
Matrix	Groundwater							
SAL Sample Number	1305557-03							
Date/Time Collected	06/13/13 11:45							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Inorganics								
Hydrogen Sulfide (Unionized)	mg/L	2.2	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	59	EPA 350.1	4.0	0.95		07/01/13 16:36	100
Ammonium as NH4	mg/L	75	EPA 350.1	0.05	0.01		07/02/13 12:11	1
Bicarbonate Alkalinity	mg/L	360	SM 2320B	8.0	2.0		06/27/13 09:15	1

Florida Certification Number: E84129

NELAP Accredited

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

SOUTHERN ANALYTICAL LABORATORIES, INC.

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Hazen and Sawyer
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Tampa, FL 33619

August 5, 2013

Work Order: 1305557

Revised Report

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	STE Pump Tank-DUP							
Matrix	Groundwater							
SAL Sample Number	1305557-03							
Date/Time Collected	06/13/13 11:45							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Carbonaceous BOD	mg/L	34	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chloride	mg/L	61	EPA 300.0	2.0	0.50		06/21/13 18:16	10
Fluoride	mg/L	0.86	EPA 300.0	0.040	0.010		06/14/13 17:06	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	0.08	EPA 300.0	0.04	0.01		06/14/13 17:06	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 17:06	1
Orthophosphate as P	mg/L	5.3	EPA 300.0	0.040	0.010		06/14/13 17:06	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	8.3	SM 4500P-E	0.20	0.050	06/25/13 09:17	06/28/13 14:05	5
Sulfate	mg/L	33	EPA 300.0	0.60	0.20		06/14/13 17:06	1
Sulfide	mg/L	11	SM 4500SF	0.40	0.10		06/18/13 10:20	1
Total Alkalinity	mg/L	360	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	72	EPA 351.2	0.20	0.05	07/02/13 09:02	07/05/13 13:23	41.67
Total Solids	mg/L	540	SM 2540B	10	10	06/18/13 11:34	06/20/13 12:47	1
Total Suspended Solids	mg/L	21	SM 2540D	1	1	06/13/13 15:27	06/14/13 11:18	1
Nitrate+Nitrite (N)	mg/L	0.08	EPA 300.0	0.08	0.02		06/14/13 17:06	1
Metals								
Boron	mg/L	0.20	EPA 200.7	0.10	0.050	06/19/13 10:01	06/19/13 17:26	1
Calcium	mg/L	51	EPA 200.7	0.50	0.042	06/19/13 10:01	06/19/13 17:26	1
Iron	mg/L	0.20	EPA 200.7	0.10	0.020	06/19/13 10:01	06/19/13 17:26	1
Magnesium	mg/L	16	EPA 200.7	0.50	0.020	06/19/13 10:01	06/19/13 17:26	1
Manganese	mg/L	0.042	EPA 200.7	0.010	0.0010	06/19/13 10:01	06/19/13 17:26	1
Potassium	mg/L	23	EPA 200.7	0.050	0.010	06/19/13 10:01	06/19/13 17:26	1
Sodium	mg/L	55	EPA 200.7	0.50	0.13	06/19/13 10:01	06/19/13 17:26	1
Microbiology								
E. Coli	MPN/100 mL	2,400 Z	SM 9223B	2.0	2.0	06/13/13 16:27	06/14/13 11:13	1
Fecal Coliforms	CFU/100 ml	not U reportable	SM 9222D	1	1	06/13/13 15:41	06/14/13 14:21	1

Sample Description	ATU Clarifier
Matrix	Groundwater
SAL Sample Number	1305557-04
Date/Time Collected	06/13/13 12:30
Collected by	Sean Schmidt
Date/Time Received	06/13/13 14:30

Inorganics

Florida Certification Number: E84129
NELAP Accredited

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

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August 5, 2013

Work Order: 1305557

Revised Report

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		ATU Clarifier						
Matrix		Groundwater						
SAL Sample Number		1305557-04						
Date/Time Collected		06/13/13 12:30						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						
Ammonia as N	mg/L	1.4	EPA 350.1	0.040	0.009		07/01/13 13:06	1
Ammonium as NH4	mg/L	1.8	EPA 350.1	0.05	0.01		07/03/13 11:42	1
Bicarbonate Alkalinity	mg/L	44	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonaceous BOD	mg/L	3	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chloride	mg/L	66	EPA 300.0	2.0	0.50		06/13/13 21:58	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	35	EPA 300.0	0.40	0.10		06/13/13 21:58	10
Nitrite (as N)	mg/L	0.55	EPA 300.0	0.04	0.01		06/14/13 17:19	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Alkalinity	mg/L	44	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	4.9	EPA 351.2	0.20	0.05	06/28/13 11:21	07/01/13 14:23	1
Total Solids	mg/L	720	SM 2540B	10	10	06/18/13 11:34	06/20/13 12:47	1
Total Suspended Solids	mg/L	1 U	SM 2540D	1	1	06/13/13 15:27	06/14/13 11:18	1
Nitrate+Nitrite (N)	mg/L	35	EPA 300.0	0.44	0.11		06/14/13 17:19	10

Sample Description	ATU Eff Pump Tank
Matrix	Groundwater
SAL Sample Number	1305557-05
Date/Time Collected	06/13/13 12:00
Collected by	Sean Schmidt
Date/Time Received	06/13/13 14:30

Inorganics

Hydrogen Sulfide (Unionized)	mg/L	0.23	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	0.098 I	EPA 350.1	0.40	0.095		07/06/13 11:14	10
Ammonium as NH4	mg/L	0.13	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chloride	mg/L	62	EPA 300.0	2.0	0.50		06/13/13 21:58	10
Fluoride	mg/L	0.35	EPA 300.0	0.040	0.010		06/14/13 17:33	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	32	EPA 300.0	0.40	0.10		06/13/13 21:58	10
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 17:33	1
Orthophosphate as P	mg/L	6.2	EPA 300.0	0.040	0.010		06/14/13 17:33	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	7.9	SM 4500P-E	0.20	0.050	06/25/13 09:17	06/28/13 14:06	5

Florida Certification Number: E84129

NELAP Accredited

Francis I. Daniels, Laboratory Director

Leslie C. Boardman, Q.A. Manager

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

August 5, 2013

Work Order: 1305557

Revised Report

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	ATU Eff Pump Tank							
Matrix	Groundwater							
SAL Sample Number	1305557-05							
Date/Time Collected	06/13/13 12:00							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Sulfate	mg/L	60	EPA 300.0	0.60	0.20		06/14/13 17:33	1
Sulfide	mg/L	0.30 I	SM 4500SF	0.40	0.10		06/18/13 10:20	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	2.0	EPA 351.2	0.20	0.05	06/28/13 11:21	07/01/13 14:24	1
Total Solids	mg/L	610	SM 2540B	10	10	06/18/13 11:34	06/20/13 12:47	1
Total Suspended Solids	mg/L	2	SM 2540D	1	1	06/19/13 16:49	06/20/13 13:37	1
Nitrate+Nitrite (N)	mg/L	32	EPA 300.0	0.44	0.11		06/14/13 17:33	10
Metals								
Boron	mg/L	0.22	EPA 200.7	0.10	0.050	06/19/13 10:01	06/19/13 17:29	1
Calcium	mg/L	59	EPA 200.7	0.50	0.042	06/19/13 10:01	06/19/13 17:29	1
Iron	mg/L	0.066 I	EPA 200.7	0.10	0.020	06/19/13 10:01	06/19/13 17:29	1
Magnesium	mg/L	17	EPA 200.7	0.50	0.020	06/19/13 10:01	06/19/13 17:29	1
Manganese	mg/L	0.034	EPA 200.7	0.010	0.0010	06/19/13 10:01	06/19/13 17:29	1
Potassium	mg/L	24	EPA 200.7	0.050	0.010	06/19/13 10:01	06/19/13 17:29	1
Sodium	mg/L	57	EPA 200.7	0.50	0.13	06/19/13 10:01	06/19/13 17:29	1
Microbiology								
E. Coli	MPN/100 mL	1,000	SM 9223B	2.0	2.0	06/13/13 16:27	06/14/13 11:13	1
Fecal Coliforms	CFU/100 ml	not U reportable	SM 9222D	1	1	06/13/13 15:41	06/14/13 14:21	1
Sample Description	ATU Eff Pump Tank-DUP							
Matrix	Groundwater							
SAL Sample Number	1305557-06							
Date/Time Collected	06/13/13 12:05							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Inorganics								
Hydrogen Sulfide (Unionized)	mg/L	0.23	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	0.095 U	EPA 350.1	0.40	0.095		07/06/13 09:30	10
Ammonium as NH4	mg/L	0.10	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chloride	mg/L	63	EPA 300.0	2.0	0.50		06/13/13 21:58	10
Fluoride	mg/L	0.35	EPA 300.0	0.040	0.010		06/14/13 17:46	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	32	EPA 300.0	0.40	0.10		06/13/13 21:58	10

Florida Certification Number: E84129

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August 5, 2013

Work Order: 1305557

Revised Report

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	ATU Eff Pump Tank-DUP							
Matrix	Groundwater							
SAL Sample Number	1305557-06							
Date/Time Collected	06/13/13 12:05							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 17:46	1
Orthophosphate as P	mg/L	6.2	EPA 300.0	0.040	0.010		06/14/13 17:46	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	8.1	SM 4500P-E	0.20	0.050	06/25/13 09:17	06/28/13 14:07	5
Sulfate	mg/L	59	EPA 300.0	0.60	0.20		06/14/13 17:46	1
Sulfide	mg/L	0.30 I	SM 4500SF	0.40	0.10		06/18/13 10:20	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	1.9	EPA 351.2	0.20	0.05	06/28/13 11:21	07/01/13 15:10	1
Total Solids	mg/L	620	SM 2540B	10	10	06/18/13 11:34	06/20/13 12:47	1
Total Suspended Solids	mg/L	2	SM 2540D	1	1	06/19/13 16:49	06/20/13 13:37	1
Nitrate+Nitrite (N)	mg/L	32	EPA 300.0	0.44	0.11		06/14/13 17:46	10
Metals								
Boron	mg/L	0.22	EPA 200.7	0.10	0.050	06/19/13 10:01	06/19/13 17:32	1
Calcium	mg/L	59	EPA 200.7	0.50	0.042	06/19/13 10:01	06/19/13 17:32	1
Iron	mg/L	0.065 I	EPA 200.7	0.10	0.020	06/19/13 10:01	06/19/13 17:32	1
Magnesium	mg/L	17	EPA 200.7	0.50	0.020	06/19/13 10:01	06/19/13 17:32	1
Manganese	mg/L	0.034	EPA 200.7	0.010	0.0010	06/19/13 10:01	06/19/13 17:32	1
Potassium	mg/L	23	EPA 200.7	0.050	0.010	06/19/13 10:01	06/19/13 17:32	1
Sodium	mg/L	58	EPA 200.7	0.50	0.13	06/19/13 10:01	06/19/13 17:32	1
Microbiology								
E. Coli	MPN/100 mL	1,200	SM 9223B	2.0	2.0	06/13/13 16:27	06/14/13 11:13	1
Fecal Coliforms	CFU/100 ml	not U reportable	SM 9222D	1	1	06/13/13 15:41	06/14/13 14:21	1

SOUTHERN ANALYTICAL LABORATORIES, INC.

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August 5, 2013

Work Order: 1305557

Revised Report

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31406 - TSS prep										
Blank (BF31406-BLK1) Prepared: 06/13/13 Analyzed: 06/14/13										
Total Suspended Solids	1 U	1	1	mg/L						
LCS (BF31406-BS1) Prepared: 06/13/13 Analyzed: 06/14/13										
Total Suspended Solids	43.8	1	1	mg/L	50	88	85-115			
Duplicate (BF31406-DUP1) Source: 1305557-01 Prepared: 06/13/13 Analyzed: 06/14/13										
Total Suspended Solids	74.0	1	1	mg/L		77.0			4	30
Batch BF31412 - Ion Chromatography 300.0 Prep										
Blank (BF31412-BLK1) Prepared & Analyzed: 06/14/13										
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Sulfate	0.20 U	0.60	0.20	mg/L						
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Fluoride	0.010 U	0.040	0.010	mg/L						
LCS (BF31412-BS1) Prepared & Analyzed: 06/14/13										
Nitrate (as N)	1.57	0.04	0.01	mg/L	1.7	92	85-115			
Orthophosphate as P	0.843	0.040	0.010	mg/L	0.90	94	85-115			
Nitrite (as N)	1.38	0.04	0.01	mg/L	1.4	98	85-115			
Sulfate	8.50	0.60	0.20	mg/L	9.0	94	85-115			
Fluoride	0.865	0.040	0.010	mg/L	0.90	96	85-115			
LCS Dup (BF31412-BSD1) Prepared & Analyzed: 06/14/13										
Fluoride	0.955	0.040	0.010	mg/L	0.90	106	85-115	10	200	
Orthophosphate as P	0.857	0.040	0.010	mg/L	0.90	95	85-115	2	200	
Nitrite (as N)	1.46	0.04	0.01	mg/L	1.4	104	85-115	6	200	
Nitrate (as N)	1.71	0.04	0.01	mg/L	1.7	101	85-115	9	200	
Sulfate	8.85	0.60	0.20	mg/L	9.0	98	85-115	4	200	

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August 5, 2013

Work Order: 1305557

Revised Report

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31412 - Ion Chromatography 300.0 Prep										
Matrix Spike (BF31412-MS1)										
Source: 1306112-01 Prepared & Analyzed: 06/14/13										
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4	ND	93	85-115		
Orthophosphate as P	0.829	0.040	0.010	mg/L	0.90	ND	92	85-115		
Fluoride	1.09	0.040	0.010	mg/L	0.90	0.260	93	85-115		
Nitrate (as N)	1.70	0.04	0.01	mg/L	1.7	0.148	91	85-115		
Sulfate	12.4	0.60	0.20	mg/L	9.0	4.23	91	85-115		
Matrix Spike (BF31412-MS2)										
Source: 1305558-04 Prepared & Analyzed: 06/14/13										
Sulfate	42.3 L	0.60	0.20	mg/L	9.0	328	NR	85-115		
Nitrite (as N)	1.49	0.04	0.01	mg/L	1.4	ND	107	85-115		
Orthophosphate as P	0.867	0.040	0.010	mg/L	0.90	ND	96	85-115		
Fluoride	0.962	0.040	0.010	mg/L	0.90	0.970	NR	85-115		
Nitrate (as N)	17.0 K	0.04	0.01	mg/L	1.7	25.2	NR	85-115		

Batch BF31432 - BOD

Blank (BF31432-BLK1)					Prepared: 06/14/13 Analyzed: 06/19/13					
Carbonaceous BOD	2 U	2	2	mg/L						
Blank (BF31432-BLK2)										
Carbonaceous BOD	2 U	2	2	mg/L	Prepared: 06/14/13 Analyzed: 06/19/13					
LCS (BF31432-BS1)										
Carbonaceous BOD	200	2	2	mg/L	200	Prepared: 06/14/13 Analyzed: 06/19/13				
LCS (BF31432-BS2)										
Carbonaceous BOD	195	2	2	mg/L	200	Prepared: 06/14/13 Analyzed: 06/19/13				

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August 5, 2013

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31432 - BOD										
LCS Dup (BF31432-BSD1)										
Carbonaceous BOD	192	2	2	mg/L	200	96	85-115	4	200	
LCS Dup (BF31432-BSD2)										
Carbonaceous BOD	194	2	2	mg/L	200	97	85-115	0.3	200	
Duplicate (BF31432-DUP1)										
Carbonaceous BOD	2 U	2	2	mg/L	ND				25	
Duplicate (BF31432-DUP2)										
Carbonaceous BOD	13	2	2	mg/L	12			2	25	
Batch BF31733 - Ion Chromatography 300.0 Prep										
Blank (BF31733-BLK1)										
Nitrate (as N)	0.01 U	0.04	0.01	mg/L	Prepared & Analyzed: 06/17/13					
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BF31733-BS1)										
Chloride	2.72	0.20	0.050	mg/L	3.0	91	85-115			
Nitrate (as N)	1.59	0.04	0.01	mg/L	1.7	93	85-115			
LCS Dup (BF31733-BSD1)										
Nitrate (as N)	1.70	0.04	0.01	mg/L	1.7	100	85-115	7	200	
Chloride	2.96	0.20	0.050	mg/L	3.0	98	85-115	8	200	
Matrix Spike (BF31733-MS1)										
Source: 1305558-12										
Nitrate (as N)	53.8	0.40	0.10	mg/L	17	36.4	103	85-115		
Chloride	89.1	2.0	0.50	mg/L	30	57.7	105	80-120		

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August 5, 2013

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Revised Report

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31733 - Ion Chromatography 300.0 Prep										
Matrix Spike (BF31733-MS2) Source: 1305558-04 Prepared & Analyzed: 06/17/13										
Nitrate (as N)	41.1	0.40	0.10	mg/L	17	25.2	94	85-115		
Chloride	79.6	2.0	0.50	mg/L	30	49.8	99	80-120		
Batch BF31823 - TS prep										
Blank (BF31823-BLK1) Prepared: 06/18/13 Analyzed: 06/20/13										
Total Solids	10 U	10	10	mg/L						
Duplicate (BF31823-DUP1) Source: 1305557-01 Prepared: 06/18/13 Analyzed: 06/20/13										
Total Solids	609	10	10	mg/L		616			1	20
Batch BF31841 - Sulfide prep										
Blank (BF31841-BLK1) Prepared & Analyzed: 06/17/13										
Sulfide	0.10 U	0.40	0.10	mg/L						
LCS (BF31841-BS1) Prepared & Analyzed: 06/17/13										
Sulfide	4.65	0.40	0.10	mg/L	5.0		93	85-115		
Matrix Spike (BF31841-MS1) Source: 1306134-01 Prepared & Analyzed: 06/17/13										
Sulfide	4.86	0.40	0.10	mg/L	5.0	ND	97	85-115		
Matrix Spike Dup (BF31841-MSD1) Source: 1306134-01 Prepared & Analyzed: 06/17/13										
Sulfide	4.65	0.40	0.10	mg/L	5.0	ND	93	85-115	4	14

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August 5, 2013

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Revised Report

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31842 - Sulfide prep										
Blank (BF31842-BLK1) Prepared & Analyzed: 06/18/13										
Sulfide	0.10 U	0.40	0.10	mg/L						
Blank (BF31842-BLK2) Prepared & Analyzed: 06/18/13										
Sulfide	0.10 U	0.40	0.10	mg/L						
LCS (BF31842-BS1) Prepared & Analyzed: 06/18/13										
Sulfide	4.86	0.40	0.10	mg/L	5.0		97	85-115		
LCS (BF31842-BS2) Prepared & Analyzed: 06/18/13										
Sulfide	4.65	0.40	0.10	mg/L	5.0		93	85-115		
Matrix Spike (BF31842-MS1) Source: 1305570-02 Prepared & Analyzed: 06/18/13										
Sulfide	4.86	0.40	0.10	mg/L	5.0	ND	97	85-115		
Matrix Spike (BF31842-MS2) Source: 1306228-01 Prepared & Analyzed: 06/18/13										
Sulfide	5.26	0.40	0.10	mg/L	5.0	0.710	91	85-115		
Matrix Spike Dup (BF31842-MSD1) Source: 1305570-02 Prepared & Analyzed: 06/18/13										
Sulfide	4.86	0.40	0.10	mg/L	5.0	ND	97	85-115	0	14
Matrix Spike Dup (BF31842-MSD2) Source: 1306228-01 Prepared & Analyzed: 06/18/13										
Sulfide	5.26	0.40	0.10	mg/L	5.0	0.710	91	85-115	0	14
Batch BF31932 - TSS prep										
Blank (BF31932-BLK1) Prepared: 06/19/13 Analyzed: 06/20/13										
Total Suspended Solids	1 U	1	1	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 BF31932 - TSS prep										
LCS (BF31932-BS1) Prepared: 06/19/13 Analyzed: 06/20/13										
Total Suspended Solids	44.0	1	1	mg/L	50	88	85-115			
Duplicate (BF31932-DUP1) Source: 1305557-05 Prepared: 06/19/13 Analyzed: 06/20/13										
Total Suspended Solids	2.00	1	1	mg/L		2.00			0	30
Batch BF32112 - Ion Chromatography 300.0 Prep										
Blank (BF32112-BLK1) Prepared & Analyzed: 06/21/13										
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BF32112-BS1) Prepared & Analyzed: 06/21/13										
Chloride	3.03	0.20	0.050	mg/L	3.0	101	85-115			
LCS Dup (BF32112-BSD1) Prepared & Analyzed: 06/21/13										
Chloride	3.03	0.20	0.050	mg/L	3.0	101	85-115	0.07	200	
Matrix Spike (BF32112-MS1) Source: 1306391-01 Prepared & Analyzed: 06/21/13										
Chloride	10.5	0.20	0.050	mg/L	3.0	7.29	106	80-120		
Matrix Spike (BF32112-MS2) Source: 1305590-11 Prepared & Analyzed: 06/21/13										
Chloride	121	2.0	0.50	mg/L	30	91.4	98	80-120		
Batch BF32508 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF32508-BLK1) Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						

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Revised Report

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32508 - Digestion for TP by EPA 365.2/SM4500PE										
LCS (BF32508-BS1) Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.764	0.040	0.010	mg/L	0.80		95	90-110		
Matrix Spike (BF32508-MS1) Source: 1305558-06 Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.978	0.040	0.010	mg/L	1.0	0.0237	95	90-110		
Matrix Spike (BF32508-MS2) Source: 1305558-15 Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.993	0.040	0.010	mg/L	1.0	0.0486	94	90-110		
Matrix Spike Dup (BF32508-MSD1) Source: 1305558-06 Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.995	0.040	0.010	mg/L	1.0	0.0237	97	90-110	2	25
Matrix Spike Dup (BF32508-MSD2) Source: 1305558-15 Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.987	0.040	0.010	mg/L	1.0	0.0486	94	90-110	0.7	25

Batch BF32810 - alkalinity

Blank (BF32810-BLK1)					Prepared & Analyzed: 06/27/13
Total Alkalinity	2.0 U	8.0	2.0	mg/L	
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L	
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L	
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L	
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L	
Blank (BF32810-BLK2)					Prepared & Analyzed: 06/27/13
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L	
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L	
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L	
Total Alkalinity	2.0 U	8.0	2.0	mg/L	
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L	

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

August 5, 2013

Work Order: 1305557

Revised Report

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32810 - alkalinity										
LCS (BF32810-BS1) Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	96	90-110			
LCS (BF32810-BS2) Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	96	90-110			
Matrix Spike (BF32810-MS1) Source: 1305593-13 Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	11	87	80-120		
Matrix Spike (BF32810-MS2) Source: 1305558-05 Prepared & Analyzed: 06/27/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120		
Matrix Spike Dup (BF32810-MSD1) Source: 1305593-13 Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	11	87	80-120	0	26
Matrix Spike Dup (BF32810-MSD2) Source: 1305558-05 Prepared & Analyzed: 06/27/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120	0	26
Batch BF32817 - Digestion for TKN by EPA 351.2										
Blank (BF32817-BLK1) Prepared: 06/28/13 Analyzed: 07/02/13										
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF32817-BS1) Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	2.69	0.20	0.05	mg/L	2.5	106	90-110			
Matrix Spike (BF32817-MS1) Source: 1305557-05 Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	4.56	0.20	0.05	mg/L	2.5	2.05	99	90-110		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32817 - Digestion for TKN by EPA 351.2										
Matrix Spike Dup (BF32817-MSD1) Source: 1305557-05 Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	4.61	0.20	0.05	mg/L	2.5	2.05	101	90-110	1	20
Batch BG30106 - Ammonia by SEAL										
Blank (BG30106-BLK1) Prepared & Analyzed: 07/01/13										
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BG30106-BS1) Prepared & Analyzed: 07/01/13										
Ammonia as N	0.52	0.040	0.009	mg/L	0.50		104	90-110		
Matrix Spike (BG30106-MS1) Source: 1305562-07 Prepared & Analyzed: 07/01/13										
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	0.045	92	90-110		
Matrix Spike (BG30106-MS2) Source: 1305589-02 Prepared & Analyzed: 07/01/13										
Ammonia as N	0.52 J5	0.040	0.009	mg/L	0.50	ND	104	90-110		
Matrix Spike Dup (BG30106-MSD1) Source: 1305562-07 Prepared & Analyzed: 07/01/13										
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	0.045	91	90-110	1	10
Matrix Spike Dup (BG30106-MSD2) Source: 1305589-02 Prepared & Analyzed: 07/01/13										
Ammonia as N	0.47	0.040	0.009	mg/L	0.50	ND	94	90-110	10	10
Batch BG30204 - Digestion for TKN by EPA 351.2										
Blank (BG30204-BLK1) Prepared: 07/02/13 Analyzed: 07/05/13										
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 BG30204 - Digestion for TKN by EPA 351.2										
LCS (BG30204-BS1) Prepared: 07/02/13 Analyzed: 07/05/13										
Total Kjeldahl Nitrogen	2.70	0.20	0.05	mg/L	2.5		107	90-110		
Matrix Spike (BG30204-MS1) Source: 1306198-02 Prepared: 07/02/13 Analyzed: 07/05/13										
Total Kjeldahl Nitrogen	4.37	0.20	0.05	mg/L	2.5	2.04	92	90-110		
Matrix Spike (BG30204-MS2) Source: 1306401-02 Prepared: 07/02/13 Analyzed: 07/05/13										
Total Kjeldahl Nitrogen	3.61	0.20	0.05	mg/L	2.5	0.820	110	90-110		
Matrix Spike Dup (BG30204-MSD1) Source: 1306198-02 Prepared: 07/02/13 Analyzed: 07/05/13										
Total Kjeldahl Nitrogen	4.48	0.20	0.05	mg/L	2.5	2.04	96	90-110	2	20
Matrix Spike Dup (BG30204-MSD2) Source: 1306401-02 Prepared: 07/02/13 Analyzed: 07/05/13										
Total Kjeldahl Nitrogen	3.29	0.20	0.05	mg/L	2.5	0.820	97	90-110	9	20
Batch BG30505 - Ammonia by SEAL										
Blank (BG30505-BLK1) Prepared & Analyzed: 07/06/13										
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BG30505-BS1) Prepared & Analyzed: 07/05/13										
Ammonia as N	0.47	0.040	0.009	mg/L	0.50		94	90-110		
Matrix Spike (BG30505-MS1) Source: 1306198-04 Prepared & Analyzed: 07/05/13										
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	102	90-110		
Matrix Spike (BG30505-MS2) Source: 1306401-02 Prepared & Analyzed: 07/05/13										
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	0.022	97	90-110		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BG30505 - Ammonia by SEAL										
Matrix Spike Dup (BG30505-MSD1) Source: 1306198-04 Prepared & Analyzed: 07/05/13										
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	102	90-110	0.08	10
Matrix Spike Dup (BG30505-MSD2) Source: 1306401-02 Prepared & Analyzed: 07/05/13										
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	0.022	95	90-110	1	10

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Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	Limit
Batch BF31334 - Metals Preparation for EPA Method 200.7										
Blank (BF31334-BLK1)										
Iron	0.020 U	0.10	0.020	mg/L						
Boron	0.050 U	0.10	0.050	mg/L						
Magnesium	0.020 U	0.50	0.020	mg/L						
Manganese	0.0010 U	0.010	0.0010	mg/L						
Potassium	0.014 I	0.050	0.010	mg/L						
Calcium	0.042 U	0.50	0.042	mg/L						
Sodium	0.13 U	0.50	0.13	mg/L						
LCS (BF31334-BS1)										
Boron	0.43	0.10	0.050	mg/L	0.40		106	85-115		
Calcium	20	0.50	0.042	mg/L	20		101	85-115		
Iron	8.2	0.10	0.020	mg/L	8.0		102	85-115		
Potassium	20	0.050	0.010	mg/L	20		102	85-115		
Magnesium	20	0.50	0.020	mg/L	20		101	85-115		
Sodium	22	0.50	0.13	mg/L	20		109	85-115		
Manganese	0.40	0.010	0.0010	mg/L	0.40		101	85-115		
Matrix Spike (BF31334-MS1)										
		Source: 1306057-02								
Calcium	72	0.50	0.042	mg/L	20	50	111	70-130		
Iron	8.2	0.10	0.020	mg/L	8.0	ND	102	70-130		
Potassium	22	0.050	0.010	mg/L	20	0.80	104	70-130		
Magnesium	32	0.50	0.020	mg/L	20	11	106	70-130		
Manganese	0.40	0.010	0.0010	mg/L	0.40	0.0014	101	70-130		
Boron	0.44	0.10	0.050	mg/L	0.40	ND	109	70-130		
Sodium	25	0.50	0.13	mg/L	20	4.9	102	70-130		
Matrix Spike (BF31334-MS2)										
		Source: 1306070-01								
Manganese	0.43	0.010	0.0010	mg/L	0.40	0.024	100	70-130		
Magnesium	120 L	0.50	0.020	mg/L	20	380	NR	70-130		
Boron	1.6	0.10	0.050	mg/L	0.40	1.1	122	70-130		
Calcium	230	0.50	0.042	mg/L	20	210	107	70-130		
Sodium	120 L	0.50	0.13	mg/L	20	ND	625	70-130		
Iron	9.2	0.10	0.020	mg/L	8.0	1.3	100	70-130		
Potassium	120 L	0.050	0.010	mg/L	20	120	2	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 BF31334 - Metals Preparation for EPA Method 200.7										
Matrix Spike Dup (BF31334-MSD1)										
Source: 1306057-02 Prepared & Analyzed: 06/19/13										
Potassium	22	0.050	0.010	mg/L	20	0.80	108	70-130	3	20
Magnesium	32	0.50	0.020	mg/L	20	11	105	70-130	0.4	20
Manganese	0.41	0.010	0.0010	mg/L	0.40	0.0014	101	70-130	0.6	20
Iron	8.2	0.10	0.020	mg/L	8.0	ND	103	70-130	0.7	20
Calcium	73	0.50	0.042	mg/L	20	50	116	70-130	1	20
Sodium	26	0.50	0.13	mg/L	20	4.9	108	70-130	5	20
Boron	0.44	0.10	0.050	mg/L	0.40	ND	110	70-130	1	20
Matrix Spike Dup (BF31334-MSD2)										
Source: 1306070-01 Prepared & Analyzed: 06/19/13										
Sodium	120 L	0.50	0.13	mg/L	20	ND	625	70-130	0	20
Manganese	0.42	0.010	0.0010	mg/L	0.40	0.024	100	70-130	0.7	20
Magnesium	120 L	0.50	0.020	mg/L	20	380	NR	70-130	0	20
Iron	9.2	0.10	0.020	mg/L	8.0	1.3	99	70-130	0.4	20
Calcium	220	0.50	0.042	mg/L	20	210	43	70-130	6	20
Boron	1.5	0.10	0.050	mg/L	0.40	1.1	118	70-130	0.9	20
Potassium	120 L	0.050	0.010	mg/L	20	120	2	70-130	0	20

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Microbiology - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31331 - FC-MF										
Blank (BF31331-BLK1) Prepared: 06/13/13 Analyzed: 06/14/13										
Fecal Coliforms	1 U	1	1	CFU/100 ml						
Duplicate (BF31331-DUP1) Source: 1305594-01					Prepared: 06/13/13 Analyzed: 06/14/13					
Fecal Coliforms	1 U	1	1	CFU/100 ml		ND				200
Duplicate (BF31331-DUP2) Source: 1305570-01					Prepared: 06/13/13 Analyzed: 06/14/13					
Fecal Coliforms	1 U	1	1	CFU/100 ml		ND				200
Duplicate (BF31331-DUP3) Source: 1305557-06					Prepared: 06/13/13 Analyzed: 06/14/13					
Fecal Coliforms	1 U	1	1	CFU/100 ml	xt reportab					200

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* 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 limits 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.

- Z Too many colonies were present for accurate counting.
- L Off-scale high. Result exceeded highest calibration standard.
- K The value is known to be less than the reported value based on sample size, dilution.
- J5 Matrix spike of this sample was outside typical range. All other QC criteria were acceptable.

Questions regarding this report should be directed to :

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

Not reportable due to laboratory error.

A handwritten signature in black ink that appears to read "Francis I. Daniels".

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July 23, 2013

Work Order: 1305558

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA1-PAN-12N						
Matrix		Groundwater						
SAL Sample Number		1305558-01						
Date/Time Collected		06/10/13 10:57						
Collected by		Josephine Edeback-Hirst						
Date/Time Received		06/10/13 16:00						

Client Provided Field Data

pH	6.26
Temperature	26.9 °C
Conductivity	922 umhos
Dissolved Oxygen	6.2 mg/L

Inorganics

Ammonia as N	mg/L	0.17	EPA 350.1	0.040	0.009	06/27/13 10:37	1
Ammonium as NH4	mg/L	0.22	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27
Bicarbonate Alkalinity	mg/L	65	SM 2320B	8.0	2.0	06/19/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/19/13 13:15	1
Chloride	mg/L	68	EPA 300.0	2.0	0.50	06/11/13 17:47	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/19/13 13:15	1
Nitrate (as N)	mg/L	43	EPA 300.0	0.40	0.10	06/11/13 17:47	10
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01	06/11/13 17:42	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/19/13 13:15	1
Total Alkalinity	mg/L	65	SM 2320B	8.0	2.0	06/19/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	2.9	EPA 351.2	0.20	0.05	06/22/13 09:07	06/25/13 14:51
Nitrate+Nitrite (N)	mg/L	43	EPA 300.0	0.44	0.11	06/11/13 17:47	10

Sample Description	TA1-LY-24-C
Matrix	Groundwater
SAL Sample Number	1305558-02
Date/Time Collected	06/13/13 10:33
Collected by	Sean Schmidt
Date/Time Received	06/13/13 14:30

Client Provided Field Data

pH	6.06
Temperature	29.0 °C
Conductivity	514 umhos
Dissolved Oxygen	3.43 mg/L

Inorganics

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009	07/06/13 09:03	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55
Bicarbonate Alkalinity	mg/L	44	SM 2320B	8.0	2.0	06/27/13 09:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/27/13 09:15	1
Chloride	mg/L	43	EPA 300.0	2.0	0.50	06/26/13 18:26	10
Fluoride	mg/L	0.26	EPA 300.0	0.040	0.010	06/14/13 18:00	1

Florida Certification Number: E84129

NELAP Accredited

Francis I. Daniels, Laboratory Director

Leslie C. Boardman, Q.A. Manager

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July 23, 2013

Work Order: 1305558

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA1-LY-24-C						
Matrix		Groundwater						
SAL Sample Number		1305558-02						
Date/Time Collected		06/13/13 10:33						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						
<u>Client Provided Field Data</u>								
pH		6.06						
Temperature		29.0 °C						
Conductivity		514 umhos						
Dissolved Oxygen		3.43 mg/L						
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	19	EPA 300.0	0.04	0.01		06/14/13 18:00	1
Nitrite (as N)	mg/L	0.11	EPA 300.0	0.04	0.01		06/14/13 18:00	1
Orthophosphate as P	mg/L	0.13	EPA 300.0	0.040	0.010		06/14/13 18:00	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Sulfate	mg/L	27	EPA 300.0	0.60	0.20		06/14/13 18:00	1
Total Alkalinity	mg/L	44	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	2.8	EPA 351.2	0.20	0.05	06/28/13 11:21	07/01/13 14:27	1
Nitrate+Nitrite (N)	mg/L	19	EPA 300.0	0.08	0.02		06/14/13 18:00	1
<u>Inorganic, Dissolved</u>								
Dissolved Organic Carbon	mg/L	24	SM 5310B	1.0	0.50		06/27/13 09:48	1
<u>Metals</u>								
Boron	mg/L	0.19	EPA 200.7	0.10	0.050	06/17/13 10:12	06/19/13 13:04	1
Calcium	mg/L	14	EPA 200.7	0.50	0.042	06/17/13 10:12	06/19/13 13:04	1
Iron	mg/L	0.039 I	EPA 200.7	0.10	0.020	06/17/13 10:12	06/19/13 13:04	1
Magnesium	mg/L	3.7	EPA 200.7	0.50	0.020	06/17/13 10:12	06/19/13 13:04	1
Manganese	mg/L	0.0030 I	EPA 200.7	0.010	0.0010	06/17/13 10:12	06/19/13 16:59	1
Potassium	mg/L	11	EPA 200.7	0.050	0.010	06/17/13 10:12	06/19/13 13:04	1
Sodium	mg/L	75	EPA 200.7	0.50	0.13	06/17/13 10:12	06/19/13 13:04	1

Sample Description	TA1-LY-12-S
Matrix	Groundwater
SAL Sample Number	1305558-03
Date/Time Collected	06/13/13 09:45
Collected by	Sean Schmidt
Date/Time Received	06/13/13 14:30

Client Provided Field Data

pH	6.69
Temperature	27.6 °C
Conductivity	915 umhos
Dissolved Oxygen	4.09 mg/L

Inorganics

Florida Certification Number: E84129

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Leslie C. Boardman, Q.A. Manager

SOUTHERN ANALYTICAL LABORATORIES, INC.

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July 23, 2013

Work Order: 1305558

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA1-LY-12-S						
Matrix		Groundwater						
SAL Sample Number		1305558-03						
Date/Time Collected		06/13/13 09:45						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						
<u>Client Provided Field Data</u>								
pH		6.69						
Temperature		27.6 °C						
Conductivity		915 umhos						
Dissolved Oxygen		4.09 mg/L						
Ammonia as N	mg/L	0.019 I	EPA 350.1	0.040	0.009		07/03/13 12:17	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	230	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chloride	mg/L	57	EPA 300.0	2.0	0.50		06/13/13 21:58	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	32	EPA 300.0	0.40	0.10		06/13/13 21:58	10
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 18:14	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Alkalinity	mg/L	230	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	1.6	EPA 351.2	0.20	0.05	06/28/13 11:21	07/01/13 14:28	1
Nitrate+Nitrite (N)	mg/L	32	EPA 300.0	0.44	0.11		06/14/13 18:14	10

Sample Description	TA1-LY-24-S
Matrix	Groundwater
SAL Sample Number	1305558-04
Date/Time Collected	06/13/13 10:00
Collected by	Sean Schmidt
Date/Time Received	06/13/13 14:30

Client Provided Field Data

pH	6.40
Temperature	27.8 °C
Conductivity	684 umhos
Dissolved Oxygen	3.89 mg/L

Inorganics

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		07/03/13 12:19	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	55	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/19/13 10:14	06/20/13 13:45	1
Chloride	mg/L	50	EPA 300.0	2.0	0.50		06/13/13 21:58	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1

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July 23, 2013

Work Order: 1305558

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA1-LY-24-S						
Matrix		Groundwater						
SAL Sample Number		1305558-04						
Date/Time Collected		06/13/13 10:00						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						
<u>Client Provided Field Data</u>								
pH		6.40						
Temperature		27.8 °C						
Conductivity		684 umhos						
Dissolved Oxygen		3.89 mg/L						
Nitrate (as N)	mg/L	25	EPA 300.0	0.40	0.10		06/13/13 21:58	10
Nitrite (as N)	mg/L	0.10 U	EPA 300.0	0.40	0.10		06/13/13 21:58	10
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	0.20	SM 4500P-E	0.040	0.010	06/25/13 09:17	06/28/13 13:07	1
Total Alkalinity	mg/L	55	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	1.7	EPA 351.2	0.20	0.05	06/28/13 11:21	07/01/13 14:29	1
Nitrate+Nitrite (N)	mg/L	25	EPA 300.0	0.80	0.20		06/13/13 21:58	10
Sample Description		TA1-LY-42-S						
Matrix		Groundwater						
SAL Sample Number		1305558-05						
Date/Time Collected		06/13/13 10:46						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						
<u>Client Provided Field Data</u>								
pH		5.74						
Temperature		29.0 °C						
Conductivity		962 umhos						
Dissolved Oxygen		3.29 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.010 I	EPA 350.1	0.040	0.009		07/03/13 12:21	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/19/13 10:14	06/20/13 13:45	1
Chloride	mg/L	80	EPA 300.0	2.0	0.50		06/13/13 21:58	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	46	EPA 300.0	0.40	0.10		06/13/13 21:58	10
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/13/13 21:58	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	0.034 I	SM 4500P-E	0.040	0.010	06/25/13 09:17	06/28/13 13:09	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/27/13 09:15	1

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July 23, 2013

Work Order: 1305558

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA1-LY-42-S						
Matrix		Groundwater						
SAL Sample Number		1305558-05						
Date/Time Collected		06/13/13 10:46						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						
<u>Client Provided Field Data</u>								
pH		5.74						
Temperature		29.0 °C						
Conductivity		962 umhos						
Dissolved Oxygen		3.29 mg/L						
Total Kjeldahl Nitrogen	mg/L	3.6	EPA 351.2	0.20	0.05	06/28/13 11:21	07/01/13 14:30	1
Nitrate+Nitrite (N)	mg/L	46	EPA 300.0	0.44	0.11		06/13/13 21:58	10
Sample Description		TA1-PZ-11-EF2						
Matrix		Groundwater						
SAL Sample Number		1305558-06						
Date/Time Collected		06/12/13 12:13						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		4.64						
Temperature		25.8 °C						
Conductivity		934 umhos						
Dissolved Oxygen		4.22 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.35	EPA 350.1	0.040	0.009		07/01/13 12:40	1
Ammonium as NH4	mg/L	0.45	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/18/13 08:45	06/18/13 13:10	1
Chloride	mg/L	83	EPA 300.0	2.0	0.50		06/13/13 21:58	10
Fluoride	mg/L	0.072	EPA 300.0	0.040	0.010		06/13/13 17:56	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Nitrate (as N)	mg/L	51	EPA 300.0	0.40	0.10		06/13/13 21:58	10
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/13/13 17:56	1
Orthophosphate as P	mg/L	0.010 U	EPA 300.0	0.040	0.010		06/13/13 17:56	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Phosphorous - Total as P	mg/L	0.024 I	SM 4500P-E	0.040	0.010	06/25/13 09:17	06/28/13 13:10	1
Sulfate	mg/L	56	EPA 300.0	0.60	0.20		06/13/13 17:56	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Total Kjeldahl Nitrogen	mg/L	2.9	EPA 351.2	0.20	0.05	06/26/13 15:00	07/01/13 11:38	1
Total Organic Carbon	mg/L	4.5	SM 5310B	1.0	0.50		06/27/13 09:48	1

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July 23, 2013

Work Order: 1305558

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA1-PZ-11-EF2						
Matrix		Groundwater						
SAL Sample Number		1305558-06						
Date/Time Collected		06/12/13 12:13						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						

Client Provided Field Data

pH		4.64						
Temperature		25.8 °C						
Conductivity		934 umhos						
Dissolved Oxygen		4.22 mg/L						
Nitrate+Nitrite (N)	mg/L	51	EPA 300.0	0.44	0.11		06/13/13 21:58	10
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	3.8	SM 5310B	1.0	0.50		06/27/13 09:48	1
Metals								
Boron	mg/L	0.16	EPA 200.7	0.10	0.050	06/13/13 16:16	06/17/13 17:35	1
Calcium	mg/L	69	EPA 200.7	0.50	0.042	06/13/13 16:16	06/17/13 17:35	1
Iron	mg/L	0.044 I	EPA 200.7	0.10	0.020	06/13/13 16:16	06/17/13 17:35	1
Magnesium	mg/L	17	EPA 200.7	0.50	0.020	06/13/13 16:16	06/17/13 17:35	1
Manganese	mg/L	0.017	EPA 200.7	0.010	0.0010	06/13/13 16:16	06/17/13 17:35	1
Potassium	mg/L	22	EPA 200.7	0.050	0.010	06/13/13 16:16	06/17/13 17:35	1
Sodium	mg/L	54	EPA 200.7	0.50	0.13	06/13/13 16:16	06/17/13 17:35	1

Sample Description	TA1-PZ-11-J4
Matrix	Groundwater
SAL Sample Number	1305558-07
Date/Time Collected	06/12/13 12:22
Collected by	Sean Schmidt
Date/Time Received	06/12/13 15:44

Client Provided Field Data

pH		4.66						
Temperature		26.4 °C						
Conductivity		706 umhos						
Dissolved Oxygen		3.88 mg/L						
Inorganics								
Ammonia as N	mg/L	0.018 I	EPA 350.1	0.040	0.009		07/01/13 12:42	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/17/13 11:42	06/17/13 15:15	1
Chloride	mg/L	54	EPA 300.0	2.0	0.50		06/13/13 21:58	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Nitrate (as N)	mg/L	34	EPA 300.0	0.40	0.10		06/13/13 21:58	10

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July 23, 2013

Work Order: 1305558

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA1-PZ-11-J4						
Matrix		Groundwater						
SAL Sample Number		1305558-07						
Date/Time Collected		06/12/13 12:22						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		4.66						
Temperature		26.4 °C						
Conductivity		706 umhos						
Dissolved Oxygen		3.88 mg/L						
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/13/13 18:05	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Phosphorous - Total as P	mg/L	0.030 I	SM 4500P-E	0.040	0.010	06/25/13 09:17	06/28/13 13:11	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Total Kjeldahl Nitrogen	mg/L	2.3	EPA 351.2	0.20	0.05	06/26/13 15:00	07/01/13 11:40	1
Nitrate+Nitrite (N)	mg/L	34	EPA 300.0	0.44	0.11		06/13/13 21:58	10
Sample Description		TA1-PZ-11-K4						
Matrix		Groundwater						
SAL Sample Number		1305558-08						
Date/Time Collected		06/12/13 12:35						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		4.51						
Temperature		26.1 °C						
Conductivity		495 umhos						
Dissolved Oxygen		2.51 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.026 I	EPA 350.1	0.040	0.009		07/01/13 12:44	1
Ammonium as NH4	mg/L	0.03 I	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/24/13 12:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/17/13 11:42	06/17/13 15:15	1
Chloride	mg/L	36	EPA 300.0	0.20	0.050		06/13/13 18:15	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Nitrate (as N)	mg/L	26	EPA 300.0	0.04	0.01		06/13/13 18:15	1
Nitrite (as N)	mg/L	0.12	EPA 300.0	0.04	0.01		06/13/13 18:15	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Phosphorous - Total as P	mg/L	0.023 I	SM 4500P-E	0.040	0.010	06/25/13 09:17	06/28/13 16:25	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/24/13 12:00	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	06/26/13 15:00	07/01/13 11:41	1

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July 23, 2013

Work Order: 1305558

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA1-PZ-11-K4						
Matrix		Groundwater						
SAL Sample Number		1305558-08						
Date/Time Collected		06/12/13 12:35						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		4.51						
Temperature		26.1 °C						
Conductivity		495 umhos						
Dissolved Oxygen		2.51 mg/L						
Nitrate+Nitrite (N)	mg/L	26	EPA 300.0	0.08	0.02		06/13/13 18:15	1
Sample Description		TA1-PZ-11-L2						
Matrix		Groundwater						
SAL Sample Number		1305558-09						
Date/Time Collected		06/12/13 13:21						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		4.84						
Temperature		26.7 °C						
Conductivity		913 umhos						
Dissolved Oxygen		3.32 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.024 I	EPA 350.1	0.040	0.009		06/27/13 10:39	1
Ammonium as NH4	mg/L	0.03 I	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Chemical Oxygen Demand	mg/L	14 I	EPA 410.4	25	10	06/17/13 11:42	06/17/13 15:15	1
Chloride	mg/L	75	EPA 300.0	2.0	0.50		06/13/13 21:58	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Nitrate (as N)	mg/L	49	EPA 300.0	0.40	0.10		06/13/13 21:58	10
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/13/13 18:24	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Phosphorous - Total as P	mg/L	0.014 I	SM 4500P-E	0.040	0.010	06/19/13 16:56	06/24/13 14:50	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	2.0	EPA 351.2	0.20	0.05	06/22/13 09:07	06/25/13 14:52	1
Nitrate+Nitrite (N)	mg/L	49	EPA 300.0	0.44	0.11		06/13/13 21:58	10

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Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA1-PZ-11-L2-DUP						
Matrix		Groundwater						
SAL Sample Number		1305558-10						
Date/Time Collected		06/12/13 13:26						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		4.84						
Temperature		26.7 °C						
Conductivity		913 umhos						
Dissolved Oxygen		3.32 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.021 I	EPA 350.1	0.040	0.009		07/01/13 12:46	1
Ammonium as NH4	mg/L	0.03 I	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Chemical Oxygen Demand	mg/L	12 I	EPA 410.4	25	10	06/17/13 11:42	06/17/13 15:15	1
Chloride	mg/L	77	EPA 300.0	2.0	0.50		06/13/13 21:58	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Nitrate (as N)	mg/L	51	EPA 300.0	0.40	0.10		06/13/13 21:58	10
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/13/13 18:33	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Phosphorous - Total as P	mg/L	0.025 I	SM 4500P-E	0.040	0.010	06/25/13 09:17	06/28/13 13:18	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Total Kjeldahl Nitrogen	mg/L	1.9	EPA 351.2	0.20	0.05	06/26/13 15:00	07/01/13 12:32	1
Nitrate+Nitrite (N)	mg/L	51	EPA 300.0	0.44	0.11		06/13/13 21:58	10

Sample Description	TA1-PZ-11-L3
Matrix	Groundwater
SAL Sample Number	1305558-12
Date/Time Collected	06/12/13 13:08
Collected by	Sean Schmidt
Date/Time Received	06/12/13 15:44

<u>Client Provided Field Data</u>	
pH	4.92
Temperature	26.5 °C
Conductivity	811 umhos
Dissolved Oxygen	2.91 mg/L

<u>Inorganics</u>	
Ammonia as N	mg/L
Ammonium as NH4	mg/L
Bicarbonate Alkalinity	mg/L
Carbonate Alkalinity	mg/L

Florida Certification Number: E84129

NELAP Accredited

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

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

July 23, 2013

Work Order: 1305558

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA1-PZ-11-L3						
Matrix		Groundwater						
SAL Sample Number		1305558-12						
Date/Time Collected		06/12/13 13:08						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						

Client Provided Field Data

pH		4.92						
Temperature		26.5 °C						
Conductivity		811 umhos						
Dissolved Oxygen		2.91 mg/L						
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/17/13 11:42	06/17/13 15:15	1
Chloride	mg/L	58	EPA 300.0	2.0	0.50		06/13/13 21:58	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Nitrate (as N)	mg/L	36	EPA 300.0	0.40	0.10		06/13/13 21:58	10
Nitrite (as N)	mg/L	0.10 U	EPA 300.0	0.40	0.10	06/13/13 19:11	06/13/13 21:58	10
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Phosphorous - Total as P	mg/L	0.068	SM 4500P-E	0.040	0.010	06/25/13 09:17	06/28/13 13:20	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/24/13 12:00	1
Total Kjeldahl Nitrogen	mg/L	1.9	EPA 351.2	0.20	0.05	06/26/13 15:00	07/01/13 11:44	1
Nitrate+Nitrite (N)	mg/L	36	EPA 300.0	0.80	0.20		06/13/13 21:58	10

Sample Description	TA1-PZ-11-L3-DUP
Matrix	Groundwater
SAL Sample Number	1305558-13
Date/Time Collected	06/12/13 13:13
Collected by	Sean Schmidt
Date/Time Received	06/12/13 15:44

Client Provided Field Data

pH		4.92						
Temperature		26.5 °C						
Conductivity		811 umhos						
Dissolved Oxygen		2.91 mg/L						

Inorganics

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		07/01/13 12:50	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/25/13 15:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/17/13 11:42	06/17/13 15:15	1
Chloride	mg/L	57	EPA 300.0	2.0	0.50		06/13/13 21:58	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Nitrate (as N)	mg/L	36	EPA 300.0	0.40	0.10		06/13/13 21:58	10
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/13/13 19:20	1

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July 23, 2013
Work Order: 1305558

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution

Sample Description **TA1-PZ-11-L3-DUP**
 Matrix **Groundwater**
 SAL Sample Number **1305558-13**
 Date/Time Collected **06/12/13 13:13**
 Collected by **Sean Schmidt**
 Date/Time Received **06/12/13 15:44**

Client Provided Field Data

pH		4.92						
Temperature		26.5 °C						
Conductivity		811 umhos						
Dissolved Oxygen		2.91 mg/L						
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00		1
Phosphorous - Total as P	mg/L	0.064	SM 4500P-E	0.040	0.010	06/25/13 09:17	06/28/13 13:21	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/25/13 15:00		1
Total Kjeldahl Nitrogen	mg/L	1.7	EPA 351.2	0.20	0.05	06/26/13 15:00	07/01/13 11:45	1
Nitrate+Nitrite (N)	mg/L	36	EPA 300.0	0.44	0.11	06/13/13 21:58		10

Sample Description **TA1-PZ-11-L4**
 Matrix **Groundwater**
 SAL Sample Number **1305558-14**
 Date/Time Collected **06/12/13 12:57**
 Collected by **Sean Schmidt**
 Date/Time Received **06/12/13 15:44**

Client Provided Field Data

pH		4.97						
Temperature		26.4 °C						
Conductivity		693 umhos						
Dissolved Oxygen		3.74 mg/L						

Inorganics

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009	07/01/13 12:52		1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/02/13 11:50		1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/25/13 15:00		1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00		1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/17/13 11:42	06/17/13 15:15	1
Chloride	mg/L	50	EPA 300.0	2.0	0.50	06/13/13 21:58		10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00		1
Nitrate (as N)	mg/L	31	EPA 300.0	0.40	0.10	06/13/13 21:58		10
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01	06/13/13 19:30		1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00		1
Phosphorous - Total as P	mg/L	0.046	SM 4500P-E	0.040	0.010	06/25/13 09:17	06/28/13 13:22	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/25/13 15:00		1
Total Kjeldahl Nitrogen	mg/L	1.4	EPA 351.2	0.20	0.05	06/26/13 15:00	07/01/13 11:47	1
Nitrate+Nitrite (N)	mg/L	31	EPA 300.0	0.44	0.11	06/13/13 21:58		10

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July 23, 2013

Work Order: 1305558

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA1-PZ-11-L5						
Matrix		Groundwater						
SAL Sample Number		1305558-15						
Date/Time Collected		06/12/13 12:46						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						

Client Provided Field Data

pH	4.55
Temperature	26.2 °C
Conductivity	359.1 umhos
Dissolved Oxygen	1.72 mg/L

Inorganics

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009	07/01/13 12:54	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/25/13 15:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/17/13 11:42	06/17/13 15:15
Chloride	mg/L	18	EPA 300.0	0.20	0.050	06/13/13 19:39	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00	1
Nitrate (as N)	mg/L	17	EPA 300.0	0.04	0.01	06/13/13 19:39	1
Nitrite (as N)	mg/L	0.07	EPA 300.0	0.04	0.01	06/13/13 19:39	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00	1
Phosphorous - Total as P	mg/L	0.049	SM 4500P-E	0.040	0.010	06/25/13 09:17	06/28/13 13:23
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/25/13 15:00	1
Total Kjeldahl Nitrogen	mg/L	0.95	EPA 351.2	0.20	0.05	06/26/13 15:00	07/01/13 11:48
Nitrate+Nitrite (N)	mg/L	17	EPA 300.0	0.08	0.02	06/13/13 19:39	1

Sample Description	TA1-PZ-09-N3
Matrix	Groundwater
SAL Sample Number	1305558-16
Date/Time Collected	06/12/13 10:40
Collected by	Sean Schmidt
Date/Time Received	06/12/13 15:44

Client Provided Field Data

pH	6.00
Temperature	26.4 °C
Conductivity	231.7 umhos
Dissolved Oxygen	3.84 mg/L

Inorganics

Ammonia as N	mg/L	0.057	EPA 350.1	0.040	0.009	07/01/13 12:56	1
Ammonium as NH4	mg/L	0.07	EPA 350.1	0.05	0.01	07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	55	SM 2320B	8.0	2.0	06/25/13 15:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00	1

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July 23, 2013

Work Order: 1305558

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA1-PZ-09-N3						
Matrix		Groundwater						
SAL Sample Number		1305558-16						
Date/Time Collected		06/12/13 10:40						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						

Client Provided Field Data

pH		6.00						
Temperature		26.4 °C						
Conductivity		231.7 umhos						
Dissolved Oxygen		3.84 mg/L						
Chloride	mg/L	16	EPA 300.0	0.20	0.050		06/13/13 19:49	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Nitrate (as N)	mg/L	4.1	EPA 300.0	0.04	0.01		06/13/13 19:49	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		06/13/13 19:49	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Alkalinity	mg/L	55	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	06/26/13 15:00	07/01/13 11:49	1
Nitrate+Nitrite (N)	mg/L	4.2	EPA 300.0	0.08	0.02		06/13/13 19:49	1

Sample Description	TA1-PZ-09-N3-DUP
Matrix	Groundwater
SAL Sample Number	1305558-17
Date/Time Collected	06/12/13 10:45
Collected by	Sean Schmidt
Date/Time Received	06/12/13 15:44

Client Provided Field Data

pH		6.00						
Temperature		26.4 °C						
Conductivity		231.7 umhos						
Dissolved Oxygen		3.84 mg/L						

Inorganics

Ammonia as N	mg/L	0.035 I	EPA 350.1	0.040	0.009		07/01/13 12:58	1
Ammonium as NH4	mg/L	0.04 I	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	55	SM 2320B	8.0	2.0		06/25/13 15:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Chloride	mg/L	17	EPA 300.0	0.20	0.050		06/13/13 19:58	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Nitrate (as N)	mg/L	4.1	EPA 300.0	0.04	0.01		06/13/13 19:58	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		06/13/13 19:58	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Alkalinity	mg/L	55	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	06/26/13 15:00	07/01/13 11:51	1

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July 23, 2013

Work Order: 1305558

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA1-PZ-09-N3-DUP							
Matrix	Groundwater							
SAL Sample Number	1305558-17							
Date/Time Collected	06/12/13 10:45							
Collected by	Sean Schmidt							
Date/Time Received	06/12/13 15:44							
<u>Client Provided Field Data</u>								
pH		6.00						
Temperature		26.4 °C						
Conductivity		231.7 umhos						
Dissolved Oxygen		3.84 mg/L						
Nitrate+Nitrite (N)	mg/L	4.2	EPA 300.0	0.08	0.02		06/13/13 19:58	1
Sample Description	TA1-PZ-16-N3							
Matrix	Groundwater							
SAL Sample Number	1305558-18							
Date/Time Collected	06/12/13 10:54							
Collected by	Sean Schmidt							
Date/Time Received	06/12/13 15:44							
<u>Client Provided Field Data</u>								
pH		4.88						
Temperature		25.3 °C						
Conductivity		374 umhos						
Dissolved Oxygen		1.17 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		07/01/13 13:08	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/25/13 15:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Chloride	mg/L	18	EPA 300.0	0.20	0.050		06/13/13 20:07	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Nitrate (as N)	mg/L	19	EPA 300.0	0.04	0.01		06/13/13 20:07	1
Nitrite (as N)	mg/L	0.07	EPA 300.0	0.04	0.01		06/13/13 20:07	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Kjeldahl Nitrogen	mg/L	2.1	EPA 351.2	0.20	0.05	06/26/13 15:00	07/01/13 11:58	1
Nitrate+Nitrite (N)	mg/L	19	EPA 300.0	0.08	0.02		06/13/13 20:07	1

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July 23, 2013

Work Order: 1305558

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA1-PZ-09-O7						
Matrix		Groundwater						
SAL Sample Number		1305558-19						
Date/Time Collected		06/12/13 11:06						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						

Client Provided Field Data

pH	5.42
Temperature	26.4 °C
Conductivity	182.8 umhos
Dissolved Oxygen	2.14 mg/L

Inorganics

Ammonia as N	mg/L	0.011 I	EPA 350.1	0.040	0.009	07/01/13 13:10	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/25/13 15:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00	1
Chemical Oxygen Demand	mg/L	16 I	EPA 410.4	25	10	06/17/13 11:42	06/17/13 15:15
Chloride	mg/L	7.9	EPA 300.0	0.20	0.050	06/13/13 20:17	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00	1
Nitrate (as N)	mg/L	1.8	EPA 300.0	0.04	0.01	06/13/13 20:17	1
Nitrite (as N)	mg/L	0.06	EPA 300.0	0.04	0.01	06/13/13 20:17	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00	1
Phosphorous - Total as P	mg/L	0.20	SM 4500P-E	0.040	0.010	06/25/13 09:17	06/28/13 13:25
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/25/13 15:00	1
Total Kjeldahl Nitrogen	mg/L	0.51	EPA 351.2	0.20	0.05	06/26/13 15:00	07/01/13 11:59
Nitrate+Nitrite (N)	mg/L	1.8	EPA 300.0	0.08	0.02	06/13/13 20:17	1

Sample Description	TA1-PZ-16-O7
Matrix	Groundwater
SAL Sample Number	1305558-20
Date/Time Collected	06/12/13 11:17
Collected by	Sean Schmidt
Date/Time Received	06/12/13 15:44

Client Provided Field Data

pH	5.03
Temperature	25.6 °C
Conductivity	355.3 umhos
Dissolved Oxygen	1.46 mg/L

Inorganics

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009	07/01/13 13:12	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/25/13 15:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00	1

Florida Certification Number: E84129

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July 23, 2013

Work Order: 1305558

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA1-PZ-16-O7						
Matrix		Groundwater						
SAL Sample Number		1305558-20						
Date/Time Collected		06/12/13 11:17						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						

Client Provided Field Data

pH		5.03						
Temperature		25.6 °C						
Conductivity		355.3 umhos						
Dissolved Oxygen		1.46 mg/L						
Chemical Oxygen Demand	mg/L	14 I	EPA 410.4	25	10	06/17/13 11:42	06/17/13 15:15	1
Chloride	mg/L	15	EPA 300.0	0.20	0.050		06/13/13 20:26	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Nitrate (as N)	mg/L	16	EPA 300.0	0.04	0.01		06/13/13 20:26	1
Nitrite (as N)	mg/L	0.07	EPA 300.0	0.04	0.01		06/13/13 20:26	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Phosphorous - Total as P	mg/L	1.2	SM 4500P-E	0.040	0.010	06/25/13 09:17	06/28/13 13:26	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Kjeldahl Nitrogen	mg/L	1.6	EPA 351.2	0.20	0.05	06/26/13 15:00	07/01/13 12:00	1
Nitrate+Nitrite (N)	mg/L	16	EPA 300.0	0.08	0.02		06/13/13 20:26	1

Sample Description	TA1-PZ-09-M9
Matrix	Groundwater
SAL Sample Number	1305558-21
Date/Time Collected	06/12/13 11:28
Collected by	Sean Schmidt
Date/Time Received	06/12/13 15:44

Client Provided Field Data

pH		6.00						
Temperature		26.6 °C						
Conductivity		203.1 umhos						
Dissolved Oxygen		2.46 mg/L						

Inorganics

Ammonia as N	mg/L	0.014 I	EPA 350.1	0.040	0.009		07/01/13 13:14	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	33	SM 2320B	8.0	2.0		06/25/13 15:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Chloride	mg/L	16	EPA 300.0	0.20	0.050		06/13/13 20:35	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Nitrate (as N)	mg/L	1.0	EPA 300.0	0.04	0.01		06/13/13 20:35	1
Nitrite (as N)	mg/L	0.03 I	EPA 300.0	0.04	0.01		06/13/13 20:35	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1

Florida Certification Number: E84129

NELAP Accredited

Francis I. Daniels, Laboratory Director

Leslie C. Boardman, Q.A. Manager

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

July 23, 2013

Work Order: 1305558

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA1-PZ-09-M9						
Matrix		Groundwater						
SAL Sample Number		1305558-21						
Date/Time Collected		06/12/13 11:28						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		6.00						
Temperature		26.6 °C						
Conductivity		203.1 umhos						
Dissolved Oxygen		2.46 mg/L						
Total Alkalinity	mg/L	33	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Kjeldahl Nitrogen	mg/L	0.54	EPA 351.2	0.20	0.05	06/26/13 15:00	07/01/13 12:02	1
Nitrate+Nitrite (N)	mg/L	1.1	EPA 300.0	0.08	0.02		06/13/13 20:35	1
Sample Description		TA1-PZ-16-M9						
Matrix		Groundwater						
SAL Sample Number		1305558-22						
Date/Time Collected		06/12/13 11:39						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		5.03						
Temperature		25.5 °C						
Conductivity		406.3 umhos						
Dissolved Oxygen		1.38 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		07/01/13 13:16	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/25/13 15:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Chloride	mg/L	18	EPA 300.0	0.20	0.050		06/13/13 21:41	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Nitrate (as N)	mg/L	22	EPA 300.0	0.04	0.01		06/13/13 21:41	1
Nitrite (as N)	mg/L	0.07	EPA 300.0	0.04	0.01		06/13/13 21:41	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	06/26/13 15:00	07/01/13 12:03	1
Nitrate+Nitrite (N)	mg/L	22	EPA 300.0	0.08	0.02		06/13/13 21:41	1

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July 23, 2013

Work Order: 1305558

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA1-PZ-09-I7						
Matrix		Groundwater						
SAL Sample Number		1305558-23						
Date/Time Collected		06/12/13 11:51						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		5.76						
Temperature		26.7 °C						
Conductivity		164.3 umhos						
Dissolved Oxygen		3.41 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.070	EPA 350.1	0.040	0.009		07/01/13 13:18	1
Ammonium as NH4	mg/L	0.09	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/25/13 15:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Chemical Oxygen Demand	mg/L	32	EPA 410.4	25	10	06/18/13 08:45	06/18/13 13:10	1
Chloride	mg/L	6.0	EPA 300.0	0.20	0.050		06/13/13 21:50	1
Fluoride	mg/L	0.010 U	EPA 300.0	0.040	0.010		06/13/13 21:50	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Nitrate (as N)	mg/L	2.0	EPA 300.0	0.04	0.01		06/13/13 21:50	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		06/13/13 21:50	1
Orthophosphate as P	mg/L	0.010 U	EPA 300.0	0.040	0.010		06/13/13 21:50	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Phosphorous - Total as P	mg/L	0.56	SM 4500P-E	0.040	0.010	06/24/13 14:08	06/28/13 11:00	1
Sulfate	mg/L	24	EPA 300.0	0.60	0.20		06/13/13 21:50	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Kjeldahl Nitrogen	mg/L	0.87	EPA 351.2	0.20	0.05	06/24/13 09:45	06/27/13 12:53	1
Total Organic Carbon	mg/L	13	SM 5310B	1.0	0.50		06/27/13 09:48	1
Nitrate+Nitrite (N)	mg/L	2.1	EPA 300.0	0.08	0.02		06/13/13 21:50	1
<u>Inorganic, Dissolved</u>								
Dissolved Organic Carbon	mg/L	11	SM 5310B	1.0	0.50		06/27/13 09:48	1
<u>Metals</u>								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	06/13/13 16:16	06/17/13 17:45	1
Calcium	mg/L	8.7	EPA 200.7	0.50	0.042	06/13/13 16:16	06/17/13 17:45	1
Iron	mg/L	0.14	EPA 200.7	0.10	0.020	06/13/13 16:16	06/17/13 17:45	1
Magnesium	mg/L	2.3	EPA 200.7	0.50	0.020	06/13/13 16:16	06/17/13 17:45	1
Manganese	mg/L	0.024	EPA 200.7	0.010	0.0010	06/13/13 16:16	06/17/13 17:45	1
Potassium	mg/L	14	EPA 200.7	0.050	0.010	06/13/13 16:16	06/17/13 17:45	1
Sodium	mg/L	11	EPA 200.7	0.50	0.13	06/13/13 16:16	06/17/13 17:45	1

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July 23, 2013

Work Order: 1305558

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA1-PZ-16-I7						
Matrix		Groundwater						
SAL Sample Number		1305558-24						
Date/Time Collected		06/12/13 12:05						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		5.09						
Temperature		25.6 °C						
Conductivity		390.9 umhos						
Dissolved Oxygen		2.01 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/27/13 10:41	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/19/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/13/13 10:00	06/13/13 14:10	1
Chloride	mg/L	18	EPA 300.0	0.20	0.050		06/13/13 22:00	1
Fluoride	mg/L	0.010 U	EPA 300.0	0.040	0.010		06/13/13 22:00	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Nitrate (as N)	mg/L	22	EPA 300.0	0.04	0.01		06/13/13 22:00	1
Nitrite (as N)	mg/L	0.09	EPA 300.0	0.04	0.01		06/13/13 22:00	1
Orthophosphate as P	mg/L	0.010 U	EPA 300.0	0.040	0.010		06/13/13 22:00	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Phosphorous - Total as P	mg/L	0.018 I	SM 4500P-E	0.040	0.010	06/19/13 16:56	06/24/13 14:51	1
Sulfate	mg/L	38	EPA 300.0	0.60	0.20		06/13/13 22:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/19/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	06/22/13 09:07	06/25/13 14:53	1
Total Organic Carbon	mg/L	2.8	SM 5310B	1.0	0.50		06/18/13 23:15	1
Nitrate+Nitrite (N)	mg/L	22	EPA 300.0	0.08	0.02		06/13/13 22:00	1
<u>Inorganic, Dissolved</u>								
Dissolved Organic Carbon	mg/L	2.0	SM 5310B	1.0	0.50		06/17/13 23:29	1
<u>Metals</u>								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	06/13/13 16:16	06/17/13 17:55	1
Calcium	mg/L	43	EPA 200.7	0.50	0.042	06/13/13 16:16	06/17/13 17:55	1
Iron	mg/L	0.11	EPA 200.7	0.10	0.020	06/13/13 16:16	06/17/13 17:55	1
Magnesium	mg/L	9.0	EPA 200.7	0.50	0.020	06/13/13 16:16	06/17/13 17:55	1
Manganese	mg/L	0.31	EPA 200.7	0.010	0.0010	06/13/13 16:16	06/17/13 17:55	1
Potassium	mg/L	10	EPA 200.7	0.050	0.010	06/13/13 16:16	06/17/13 17:55	1
Sodium	mg/L	7.8	EPA 200.7	0.50	0.13	06/13/13 16:16	06/17/13 17:55	1

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July 23, 2013

Work Order: 1305558

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA1-PZ-09-RS16						
Matrix		Groundwater						
SAL Sample Number		1305558-25						
Date/Time Collected		06/12/13 10:15						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						

Client Provided Field Data

pH	5.34
Temperature	26.1 °C
Conductivity	209.8 umhos
Dissolved Oxygen	2.45 mg/L

Inorganics

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009	07/01/13 13:19	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/25/13 15:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00	1
Chloride	mg/L	6.7	EPA 300.0	0.20	0.050	06/13/13 22:09	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00	1
Nitrate (as N)	mg/L	3.3	EPA 300.0	0.04	0.01	06/13/13 22:09	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01	06/13/13 22:09	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/25/13 15:00	1
Total Kjeldahl Nitrogen	mg/L	1.1	EPA 351.2	0.20	0.05	06/24/13 09:45	06/27/13 12:54
Nitrate+Nitrite (N)	mg/L	3.3	EPA 300.0	0.08	0.02	06/13/13 22:09	1

Sample Description	TA1-PZ-16-RS16
Matrix	Groundwater
SAL Sample Number	1305558-26
Date/Time Collected	06/12/13 10:26
Collected by	Sean Schmidt
Date/Time Received	06/12/13 15:44

Client Provided Field Data

pH	5.38
Temperature	26.1 °C
Conductivity	197.3 umhos
Dissolved Oxygen	2.62 mg/L

Inorganics

Ammonia as N	mg/L	0.014 I	EPA 350.1	0.040	0.009	07/01/13 13:21	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01	07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/25/13 15:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00	1
Chloride	mg/L	6.8	EPA 300.0	0.20	0.050	06/13/13 22:19	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00	1

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July 23, 2013

Work Order: 1305558

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA1-PZ-16-RS16							
Matrix		Groundwater						
SAL Sample Number		1305558-26						
Date/Time Collected		06/12/13 10:26						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		5.38						
Temperature		26.1 °C						
Conductivity		197.3 umhos						
Dissolved Oxygen		2.62 mg/L						
Nitrate (as N)	mg/L	3.1	EPA 300.0	0.04	0.01		06/13/13 22:19	1
Nitrite (as N)	mg/L	0.06	EPA 300.0	0.04	0.01		06/13/13 22:19	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Kjeldahl Nitrogen	mg/L	0.63	EPA 351.2	0.20	0.05	06/24/13 09:45	06/27/13 12:56	1
Nitrate+Nitrite (N)	mg/L	3.2	EPA 300.0	0.08	0.02		06/13/13 22:19	1
Sample Description	TA1-PZ-09-RS18							
Matrix		Groundwater						
SAL Sample Number		1305558-27						
Date/Time Collected		06/12/13 09:51						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		5.31						
Temperature		26.4 °C						
Conductivity		111 umhos						
Dissolved Oxygen		3.48 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.040	EPA 350.1	0.040	0.009		07/01/13 13:23	1
Ammonium as NH4	mg/L	0.05	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/25/13 15:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Chloride	mg/L	3.6	EPA 300.0	0.20	0.050		06/13/13 22:28	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Nitrate (as N)	mg/L	0.32	EPA 300.0	0.04	0.01		06/13/13 22:28	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01		06/13/13 22:28	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Kjeldahl Nitrogen	mg/L	0.66	EPA 351.2	0.20	0.05	06/24/13 09:45	06/27/13 12:57	1
Nitrate+Nitrite (N)	mg/L	0.36	EPA 300.0	0.08	0.02		06/13/13 22:28	1

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July 23, 2013

Work Order: 1305558

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA1-PZ-16-RS18						
Matrix		Groundwater						
SAL Sample Number		1305558-28						
Date/Time Collected		06/12/13 10:03						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		5.04						
Temperature		25.3 °C						
Conductivity		315 umhos						
Dissolved Oxygen		1.31 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		07/01/13 13:24	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/25/13 15:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Chloride	mg/L	12	EPA 300.0	0.20	0.050		06/13/13 22:37	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Nitrate (as N)	mg/L	11	EPA 300.0	0.04	0.01		06/13/13 22:37	1
Nitrite (as N)	mg/L	0.07	EPA 300.0	0.04	0.01		06/13/13 22:37	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Kjeldahl Nitrogen	mg/L	0.74	EPA 351.2	0.20	0.05	06/24/13 09:45	06/27/13 12:58	1
Nitrate+Nitrite (N)	mg/L	11	EPA 300.0	0.08	0.02		06/13/13 22:37	1

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Work Order: 1305558

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31126 - Ion Chromatography 300.0 Prep										
Blank (BF31126-BLK1) Prepared & Analyzed: 06/11/13										
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
LCS (BF31126-BS1) Prepared & Analyzed: 06/11/13										
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4	93	85-115			
LCS Dup (BF31126-BSD1) Prepared & Analyzed: 06/11/13										
Nitrite (as N)	1.46	0.04	0.01	mg/L	1.4	104	85-115	12	200	
Matrix Spike (BF31126-MS1) Source: 1305556-02 Prepared: 06/10/13 Analyzed: 06/11/13										
Nitrite (as N)	1.34	0.04	0.01	mg/L	1.4	0.0320	93	85-115		
Matrix Spike (BF31126-MS2) Source: 1305571-09 Prepared & Analyzed: 06/11/13										
Nitrite (as N)	1.54	0.04	0.01	mg/L	1.4	ND	110	85-115		
Batch BF31302 - Ion Chromatography 300.0 Prep										
Blank (BF31302-BLK1) Prepared & Analyzed: 06/13/13										
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						
Fluoride	0.010 U	0.040	0.010	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
Sulfate	0.20 U	0.60	0.20	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
LCS (BF31302-BS1) Prepared & Analyzed: 06/13/13										
Fluoride	0.913	0.040	0.010	mg/L	0.90	101	85-115			
Nitrite (as N)	1.44	0.04	0.01	mg/L	1.4	102	85-115			
Orthophosphate as P	0.850	0.040	0.010	mg/L	0.90	94	85-115			
Sulfate	8.76	0.60	0.20	mg/L	9.0	97	85-115			
Chloride	2.94	0.20	0.050	mg/L	3.0	98	85-115			
Nitrate (as N)	1.66	0.04	0.01	mg/L	1.7	98	85-115			

SOUTHERN ANALYTICAL LABORATORIES, INC.

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July 23, 2013

Work Order: 1305558

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31302 - Ion Chromatography 300.0 Prep										
LCS Dup (BF31302-BSD1)										
Prepared & Analyzed: 06/13/13										
Sulfate	8.16	0.60	0.20	mg/L	9.0	91	85-115	7	200	
Orthophosphate as P	0.846	0.040	0.010	mg/L	0.90	94	85-115	0.5	200	
Nitrite (as N)	1.29	0.04	0.01	mg/L	1.4	92	85-115	10	200	
Chloride	2.76	0.20	0.050	mg/L	3.0	92	85-115	7	200	
Nitrate (as N)	1.56	0.04	0.01	mg/L	1.7	92	85-115	6	200	
Fluoride	0.833	0.040	0.010	mg/L	0.90	93	85-115	9	200	
Matrix Spike (BF31302-MS1)										
Source: 1305558-10										
Prepared & Analyzed: 06/13/13										
Nitrate (as N)	17.0 L	0.04	0.01	mg/L	1.7	51.1	NR	85-115		
Sulfate	56.1	0.60	0.20	mg/L	9.0	47.1	100	85-115		
Nitrite (as N)	1.54	0.04	0.01	mg/L	1.4	ND	110	85-115		
Fluoride	0.923	0.040	0.010	mg/L	0.90	0.0980	92	85-115		
Chloride	30.0 L	0.20	0.050	mg/L	3.0	77.4	NR	80-120		
Orthophosphate as P	0.961	0.040	0.010	mg/L	0.90	ND	107	85-115		
Matrix Spike (BF31302-MS2)										
Source: 1305558-21										
Prepared & Analyzed: 06/13/13										
Nitrite (as N)	1.26	0.04	0.01	mg/L	1.4	0.0310	88	85-115		
Orthophosphate as P	0.813	0.040	0.010	mg/L	0.90	ND	90	85-115		
Sulfate	33.9	0.60	0.20	mg/L	9.0	24.9	100	85-115		
Nitrate (as N)	2.65	0.04	0.01	mg/L	1.7	1.05	94	85-115		
Chloride	18.9	0.20	0.050	mg/L	3.0	16.1	93	80-120		
Fluoride	0.821	0.040	0.010	mg/L	0.90	ND	91	85-115		
Batch BF31303 - Ion Chromatography 300.0 Prep										
Blank (BF31303-BLK1)										
Prepared & Analyzed: 06/13/13										
Sulfate	0.20 U	0.60	0.20	mg/L						
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
Fluoride	0.010 U	0.040	0.010	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31303 - Ion Chromatography 300.0 Prep										
LCS (BF31303-BS1)										
Prepared & Analyzed: 06/13/13										
Sulfate	8.61	0.60	0.20	mg/L	9.0		96	85-115		
Chloride	2.88	0.20	0.050	mg/L	3.0		96	85-115		
Nitrate (as N)	1.58	0.04	0.01	mg/L	1.7		93	85-115		
Fluoride	0.882	0.040	0.010	mg/L	0.90		98	85-115		
Orthophosphate as P	0.841	0.040	0.010	mg/L	0.90		93	85-115		
Nitrite (as N)	1.40	0.04	0.01	mg/L	1.4		100	85-115		
LCS Dup (BF31303-BSD1)										
Prepared & Analyzed: 06/13/13										
Nitrate (as N)	1.57	0.04	0.01	mg/L	1.7		92	85-115	0.6	200
Sulfate	8.16	0.60	0.20	mg/L	9.0		91	85-115	5	200
Orthophosphate as P	0.850	0.040	0.010	mg/L	0.90		94	85-115	1	200
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4		93	85-115	8	200
Fluoride	0.823	0.040	0.010	mg/L	0.90		91	85-115	7	200
Chloride	2.75	0.20	0.050	mg/L	3.0		92	85-115	5	200
Matrix Spike (BF31303-MS1)										
Source: 1305562-08										
Prepared & Analyzed: 06/13/13										
Nitrite (as N)	1.50	0.04	0.01	mg/L	1.4	ND	107	85-115		
Nitrate (as N)	17.0 L	0.04	0.01	mg/L	1.7	29.1	NR	85-115		
Sulfate	56.7	0.60	0.20	mg/L	9.0	47.7	100	85-115		
Fluoride	0.932	0.040	0.010	mg/L	0.90	0.101	92	85-115		
Orthophosphate as P	0.939	0.040	0.010	mg/L	0.90	ND	104	85-115		
Chloride	30.0 L	0.20	0.050	mg/L	3.0	48.9	NR	80-120		
Matrix Spike (BF31303-MS2)										
Source: 1306062-02										
Prepared & Analyzed: 06/14/13										
Chloride	30.0 L	0.20	0.050	mg/L	3.0	152	NR	80-120		
Nitrate (as N)	1.96	0.04	0.01	mg/L	1.7	0.150	106	85-115		
Fluoride	1.13	0.040	0.010	mg/L	0.90	0.169	107	85-115		
Nitrite (as N)	1.50	0.04	0.01	mg/L	1.4	ND	108	85-115		
Sulfate	28.0	0.60	0.20	mg/L	9.0	19.8	91	85-115		
Orthophosphate as P	1.74	0.040	0.010	mg/L	0.90	0.860	98	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 BF31313 - COD prep										
Blank (BF31313-BLK1) Prepared & Analyzed: 06/13/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31313-BS1) Prepared & Analyzed: 06/13/13										
Chemical Oxygen Demand	49	25	10	mg/L	50	98	90-110			
LCS (BF31313-BS2) Prepared & Analyzed: 06/13/13										
Chemical Oxygen Demand	51	25	10	mg/L	50	102	90-110			
LCS (BF31313-BS3) Prepared & Analyzed: 06/13/13										
Chemical Oxygen Demand	53	25	10	mg/L	50	106	90-110			
LCS (BF31313-BS4) Prepared & Analyzed: 06/13/13										
Chemical Oxygen Demand	51	25	10	mg/L	50	102	90-110			
LCS (BF31313-BS5) Prepared & Analyzed: 06/13/13										
Chemical Oxygen Demand	49	25	10	mg/L	50	98	90-110			
Matrix Spike (BF31313-MS1) Source: 1305558-24 Prepared & Analyzed: 06/13/13										
Chemical Oxygen Demand	51	25	10	mg/L	50	ND	102	85-115		
Matrix Spike Dup (BF31313-MSD1) Source: 1305558-24 Prepared & Analyzed: 06/13/13										
Chemical Oxygen Demand	51	25	10	mg/L	50	ND	102	85-115	0	32

Batch BF31412 - Ion Chromatography 300.0 Prep

Blank (BF31412-BLK1)					Prepared & Analyzed: 06/14/13					
Sulfate	0.20 U	0.60	0.20	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Fluoride	0.010 U	0.040	0.010	mg/L						
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31412 - Ion Chromatography 300.0 Prep										
LCS (BF31412-BS1)										
Prepared & Analyzed: 06/14/13										
Orthophosphate as P	0.843	0.040	0.010	mg/L	0.90	94	85-115			
Fluoride	0.865	0.040	0.010	mg/L	0.90	96	85-115			
Sulfate	8.50	0.60	0.20	mg/L	9.0	94	85-115			
Nitrate (as N)	1.57	0.04	0.01	mg/L	1.7	92	85-115			
Nitrite (as N)	1.38	0.04	0.01	mg/L	1.4	98	85-115			
LCS Dup (BF31412-BSD1)										
Prepared & Analyzed: 06/14/13										
Fluoride	0.955	0.040	0.010	mg/L	0.90	106	85-115	10	200	
Nitrate (as N)	1.71	0.04	0.01	mg/L	1.7	101	85-115	9	200	
Sulfate	8.85	0.60	0.20	mg/L	9.0	98	85-115	4	200	
Orthophosphate as P	0.857	0.040	0.010	mg/L	0.90	95	85-115	2	200	
Nitrite (as N)	1.46	0.04	0.01	mg/L	1.4	104	85-115	6	200	
Matrix Spike (BF31412-MS1)										
Source: 1306112-01					Prepared & Analyzed: 06/14/13					
Fluoride	1.09	0.040	0.010	mg/L	0.90	0.260	93	85-115		
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4	ND	93	85-115		
Sulfate	12.4	0.60	0.20	mg/L	9.0	4.23	91	85-115		
Nitrate (as N)	1.70	0.04	0.01	mg/L	1.7	0.148	91	85-115		
Orthophosphate as P	0.829	0.040	0.010	mg/L	0.90	ND	92	85-115		
Matrix Spike (BF31412-MS2)										
Source: 1305558-04					Prepared & Analyzed: 06/14/13					
Orthophosphate as P	0.867	0.040	0.010	mg/L	0.90	ND	96	85-115		
Fluoride	0.962	0.040	0.010	mg/L	0.90	0.970	NR	85-115		
Nitrate (as N)	17.0 K	0.04	0.01	mg/L	1.7	25.2	NR	85-115		
Nitrite (as N)	1.49	0.04	0.01	mg/L	1.4	ND	107	85-115		
Sulfate	42.3 L	0.60	0.20	mg/L	9.0	328	NR	85-115		

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Work Order: 1305558

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31413 - Ion Chromatography 300.0 Prep										
Blank (BF31413-BLK1) Prepared & Analyzed: 06/14/13										
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
LCS (BF31413-BS1) Prepared & Analyzed: 06/14/13										
Nitrite (as N)	1.38	0.04	0.01	mg/L	1.4	98	85-115			
LCS Dup (BF31413-BSD1) Prepared & Analyzed: 06/14/13										
Nitrite (as N)	1.41	0.04	0.01	mg/L	1.4	101	85-115	3	200	
Matrix Spike (BF31413-MS1) Source: 1305562-06 Prepared & Analyzed: 06/14/13										
Nitrite (as N)	1.48	0.04	0.01	mg/L	1.4	ND	105	85-115		
Matrix Spike (BF31413-MS2) Source: 1305570-08 Prepared & Analyzed: 06/15/13										
Nitrite (as N)	1.27	0.04	0.01	mg/L	1.4	ND	91	85-115		
Batch BF31723 - COD prep										
Blank (BF31723-BLK1) Prepared & Analyzed: 06/17/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31723-BS1) Prepared & Analyzed: 06/17/13										
Chemical Oxygen Demand	53	25	10	mg/L	50	106	90-110			
Matrix Spike (BF31723-MS1) Source: 1305558-07 Prepared & Analyzed: 06/17/13										
Chemical Oxygen Demand	57	25	10	mg/L	50	ND	114	85-115		
Matrix Spike Dup (BF31723-MSD1) Source: 1305558-07 Prepared & Analyzed: 06/17/13										
Chemical Oxygen Demand	57	25	10	mg/L	50	ND	114	85-115	0	32

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31733 - Ion Chromatography 300.0 Prep										
Blank (BF31733-BLK1) Prepared & Analyzed: 06/17/13										
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BF31733-BS1) Prepared & Analyzed: 06/17/13										
Nitrate (as N)	1.59	0.04	0.01	mg/L	1.7		93	85-115		
Chloride	2.72	0.20	0.050	mg/L	3.0		91	85-115		
LCS Dup (BF31733-BSD1) Prepared & Analyzed: 06/17/13										
Nitrate (as N)	1.70	0.04	0.01	mg/L	1.7		100	85-115	7	200
Chloride	2.96	0.20	0.050	mg/L	3.0		98	85-115	8	200
Matrix Spike (BF31733-MS1) Source: 1305558-12 Prepared & Analyzed: 06/17/13										
Nitrite (as N)	14.4	0.40	0.10	mg/L	14	ND	103	85-115		
Chloride	89.1	2.0	0.50	mg/L	30	57.7	105	80-120		
Nitrate (as N)	53.8	0.40	0.10	mg/L	17	36.4	103	85-115		
Matrix Spike (BF31733-MS2) Source: 1305558-04 Prepared & Analyzed: 06/17/13										
Chloride	79.6	2.0	0.50	mg/L	30	49.8	99	80-120		
Nitrate (as N)	41.1	0.40	0.10	mg/L	17	25.2	94	85-115		
Batch BF31807 - COD prep										
Blank (BF31807-BLK1) Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31807-BS1) Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	49	25	10	mg/L	50		98	90-110		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31807 - COD prep										
Matrix Spike (BF31807-MS1) Source: 1305558-06 Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	57	25	10	mg/L	50	ND	114	85-115		
Matrix Spike Dup (BF31807-MSD1) Source: 1305558-06 Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	55	25	10	mg/L	50	ND	110	85-115	4	32
Batch BF31808 - TOC prep										
Blank (BF31808-BLK1) Prepared & Analyzed: 06/18/13										
Total Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BF31808-BS1) Prepared & Analyzed: 06/18/13										
Total Organic Carbon	9.73	1.0	0.50	mg/L	10		97	90-110		
Matrix Spike (BF31808-MS1) Source: 1305997-01 Prepared & Analyzed: 06/18/13										
Total Organic Carbon	15.3	1.0	0.50	mg/L	10	5.08	102	85-115		
Matrix Spike Dup (BF31808-MSD1) Source: 1305997-01 Prepared & Analyzed: 06/18/13										
Total Organic Carbon	15.2	1.0	0.50	mg/L	10	5.08	102	85-115	0.4	10
Batch BF31824 - Ion Chromatography 300.0 Prep										
Blank (BF31824-BLK1) Prepared & Analyzed: 06/18/13										
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BF31824-BS1) Prepared & Analyzed: 06/18/13										
Nitrate (as N)	1.58	0.04	0.01	mg/L	1.7		93	85-115		
Chloride	2.83	0.20	0.050	mg/L	3.0		94	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 BF31824 - Ion Chromatography 300.0 Prep										
LCS Dup (BF31824-BSD1) Prepared & Analyzed: 06/18/13										
Nitrate (as N)	1.58	0.04	0.01	mg/L	1.7	93	85-115	0.4	200	
Chloride	2.82	0.20	0.050	mg/L	3.0	94	85-115	0.4	200	
Matrix Spike (BF31824-MS1) Source: 1305558-05 Prepared & Analyzed: 06/18/13										
Chloride	107	2.0	0.50	mg/L	30	79.6	92	80-120		
Nitrate (as N)	63.2	0.40	0.10	mg/L	17	45.9	102	85-115		
Matrix Spike (BF31824-MS2) Source: 1305987-02 Prepared & Analyzed: 06/18/13										
Chloride	30.0 L	0.20	0.050	mg/L	3.0	215	NR	80-120		
Nitrate (as N)	1.62	0.04	0.01	mg/L	1.7	0.0880	90	85-115		
Batch BF31915 - COD prep										
Blank (BF31915-BLK1) Prepared: 06/19/13 Analyzed: 06/20/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31915-BS1) Prepared: 06/19/13 Analyzed: 06/20/13										
Chemical Oxygen Demand	55	25	10	mg/L	50		110	90-110		
Matrix Spike (BF31915-MS1) Source: 1305562-05 Prepared: 06/19/13 Analyzed: 06/20/13										
Chemical Oxygen Demand	67	25	10	mg/L	50	16	102	85-115		
Matrix Spike Dup (BF31915-MSD1) Source: 1305562-05 Prepared: 06/19/13 Analyzed: 06/20/13										
Chemical Oxygen Demand	67	25	10	mg/L	50	16	102	85-115	0	32
Batch BF31936 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF31936-BLK1) Prepared: 06/19/13 Analyzed: 06/24/13										
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31936 - Digestion for TP by EPA 365.2/SM4500PE										
LCS (BF31936-BS1) Prepared: 06/19/13 Analyzed: 06/24/13										
Phosphorous - Total as P	0.821	0.040	0.010	mg/L	0.80		103	90-110		
Matrix Spike (BF31936-MS1) Source: 1306287-07 Prepared: 06/19/13 Analyzed: 06/24/13										
Phosphorous - Total as P	1.04	0.040	0.010	mg/L	1.0	0.0229	101	90-110		
Matrix Spike Dup (BF31936-MSD1) Source: 1306287-07 Prepared: 06/19/13 Analyzed: 06/24/13										
Phosphorous - Total as P	1.07	0.040	0.010	mg/L	1.0	0.0229	105	90-110	3	25
Batch BF32042 - alkalinity										
Blank (BF32042-BLK1) Prepared & Analyzed: 06/19/13										
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BF32042-BS1) Prepared & Analyzed: 06/19/13										
Total Alkalinity	120	8.0	2.0	mg/L	120		96	90-110		
Matrix Spike (BF32042-MS1) Source: 1306090-01 Prepared & Analyzed: 06/19/13										
Total Alkalinity	240	8.0	2.0	mg/L	120	130	87	80-120		
Matrix Spike Dup (BF32042-MSD1) Source: 1306090-01 Prepared & Analyzed: 06/19/13										
Total Alkalinity	240	8.0	2.0	mg/L	120	130	87	80-120	0	26

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July 23, 2013

Work Order: 1305558

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32203 - Digestion for TKN by EPA 351.2										
Blank (BF32203-BLK1) Prepared: 06/22/13 Analyzed: 06/25/13										
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF32203-BS1) Prepared: 06/22/13 Analyzed: 06/25/13										
Total Kjeldahl Nitrogen	2.61	0.20	0.05	mg/L	2.5		103	90-110		
Matrix Spike (BF32203-MS1) Source: 1305560-06 Prepared: 06/22/13 Analyzed: 06/25/13										
Total Kjeldahl Nitrogen	4.43	0.20	0.05	mg/L	2.7	1.58	107	90-110		
Batch BF32412 - Digestion for TKN by EPA 351.2										
Blank (BF32412-BLK1) Prepared: 06/24/13 Analyzed: 06/27/13										
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF32412-BS1) Prepared: 06/24/13 Analyzed: 06/27/13										
Total Kjeldahl Nitrogen	2.75	0.20	0.05	mg/L	2.5		108	90-110		
Matrix Spike (BF32412-MS1) Source: 1305558-23 Prepared: 06/24/13 Analyzed: 06/27/13										
Total Kjeldahl Nitrogen	3.57	0.20	0.05	mg/L	2.5	0.871	106	90-110		
Matrix Spike Dup (BF32412-MSD1) Source: 1305558-23 Prepared: 06/24/13 Analyzed: 06/27/13										
Total Kjeldahl Nitrogen	3.62	0.20	0.05	mg/L	2.5	0.871	108	90-110	1	20
Batch BF32426 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF32426-BLK1) Prepared: 06/24/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32426 - Digestion for TP by EPA 365.2/SM4500PE										
LCS (BF32426-BS1) Prepared: 06/24/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.801	0.040	0.010	mg/L	0.80		100	90-110		
Matrix Spike (BF32426-MS1) Source: 1305589-01 Prepared: 06/24/13 Analyzed: 06/28/13										
Phosphorous - Total as P	1.00	0.040	0.010	mg/L	1.0	0.0180	98	90-110		
Matrix Spike (BF32426-MS2) Source: 1306010-07 Prepared: 06/24/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.982	0.040	0.010	mg/L	1.0	0.0430	94	90-110		
Matrix Spike Dup (BF32426-MSD1) Source: 1305589-01 Prepared: 06/24/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.986	0.040	0.010	mg/L	1.0	0.0180	97	90-110	2	25
Matrix Spike Dup (BF32426-MSD2) Source: 1306010-07 Prepared: 06/24/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.990	0.040	0.010	mg/L	1.0	0.0430	95	90-110	0.8	25
Batch BF32508 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF32508-BLK1) Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						
LCS (BF32508-BS1) Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.764	0.040	0.010	mg/L	0.80		95	90-110		
Matrix Spike (BF32508-MS1) Source: 1305558-06 Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.978	0.040	0.010	mg/L	1.0	0.0237	95	90-110		
Matrix Spike (BF32508-MS2) Source: 1305558-15 Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.993	0.040	0.010	mg/L	1.0	0.0486	94	90-110		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32508 - Digestion for TP by EPA 365.2/SM4500PE										
Matrix Spike Dup (BF32508-MSD1) Source: 1305558-06 Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.995	0.040	0.010	mg/L	1.0	0.0237	97	90-110	2	25
Matrix Spike Dup (BF32508-MSD2) Source: 1305558-15 Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.987	0.040	0.010	mg/L	1.0	0.0486	94	90-110	0.7	25
Batch BF32515 - alkalinity										
Blank (BF32515-BLK1) Prepared & Analyzed: 06/24/13										
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BF32515-BS1) Prepared & Analyzed: 06/24/13										
Total Alkalinity	130	8.0	2.0	mg/L	120		105	90-110		
Matrix Spike (BF32515-MS1) Source: 1305593-11 Prepared & Analyzed: 06/24/13										
Total Alkalinity	130	8.0	2.0	mg/L	120	11	96	80-120		
Matrix Spike Dup (BF32515-MSD1) Source: 1305593-11 Prepared & Analyzed: 06/24/13										
Total Alkalinity	130	8.0	2.0	mg/L	120	11	96	80-120	0	26
Batch BF32537 - alkalinity										
Blank (BF32537-BLK1) Prepared & Analyzed: 06/25/13										
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate 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 BF32537 - alkalinity										
LCS (BF32537-BS1) Prepared & Analyzed: 06/25/13										
Total Alkalinity	130	8.0	2.0	mg/L	120	105	90-110			
Matrix Spike (BF32537-MS1) Source: 1305562-07 Prepared & Analyzed: 06/25/13										
Total Alkalinity	130	8.0	2.0	mg/L	120	11	96	80-120		
Matrix Spike Dup (BF32537-MSD1) Source: 1305562-07 Prepared & Analyzed: 06/25/13										
Total Alkalinity	130	8.0	2.0	mg/L	120	11	96	80-120	0	26
Batch BF32602 - Ammonia by SEAL										
Blank (BF32602-BLK1) Prepared & Analyzed: 06/27/13										
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BF32602-BS1) Prepared & Analyzed: 06/27/13										
Ammonia as N	0.47	0.040	0.009	mg/L	0.50	95	90-110			
Matrix Spike (BF32602-MS1) Source: 1305560-12 Prepared & Analyzed: 06/27/13										
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	ND	100	90-110		
Matrix Spike (BF32602-MS2) Source: 1305560-12 Prepared & Analyzed: 06/27/13										
Ammonia as N	0.47	0.040	0.009	mg/L	0.50	ND	94	90-110		
Matrix Spike Dup (BF32602-MSD1) Source: 1305560-12 Prepared & Analyzed: 06/27/13										
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	ND	99	90-110	0.3	10
Matrix Spike Dup (BF32602-MSD2) Source: 1305560-12 Prepared & Analyzed: 06/27/13										
Ammonia as N	0.48	0.040	0.009	mg/L	0.50	ND	95	90-110	1	10

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32613 - Ion Chromatography 300.0 Prep										
Blank (BF32613-BLK1) Prepared & Analyzed: 06/26/13										
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BF32613-BS1) Prepared & Analyzed: 06/26/13										
Chloride	2.99	0.20	0.050	mg/L	3.0		100	85-115		
LCS Dup (BF32613-BSD1) Prepared & Analyzed: 06/26/13										
Chloride	2.93	0.20	0.050	mg/L	3.0		98	85-115	2	200
Matrix Spike (BF32613-MS1) Source: 1305594-02 Prepared & Analyzed: 06/26/13										
Chloride	82.1	2.0	0.50	mg/L	30	52.9	97	80-120		
Matrix Spike (BF32613-MS2) Source: 1306546-01 Prepared & Analyzed: 06/26/13										
Chloride	300 L	2.0	0.50	mg/L	30	1230	NR	80-120		
Batch BF32622 - Digestion for TKN by EPA 351.2										
Blank (BF32622-BLK1) Prepared: 06/26/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF32622-BS1) Prepared: 06/26/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	2.47	0.20	0.05	mg/L	2.5		97	90-110		
Matrix Spike (BF32622-MS1) Source: 1306356-02 Prepared: 06/26/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	3.39	0.20	0.05	mg/L	2.5	0.695	106	90-110		
Matrix Spike (BF32622-MS2) Source: 1306374-07 Prepared: 06/26/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	3.34	0.20	0.05	mg/L	2.5	0.716	104	90-110		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch BF32622 - Digestion for TKN by EPA 351.2

Matrix Spike Dup (BF32622-MSD1)	Source: 1306356-02				Prepared: 06/26/13 Analyzed: 07/01/13					
Total Kjeldahl Nitrogen	3.26	0.20	0.05	mg/L	2.5	0.695	101	90-110	4	20
Matrix Spike Dup (BF32622-MSD2)	Source: 1306374-07				Prepared: 06/26/13 Analyzed: 07/01/13					
Total Kjeldahl Nitrogen	3.25	0.20	0.05	mg/L	2.5	0.716	100	90-110	3	20

Batch BF32718 - TOC prep

Blank (BF32718-BLK1)	Prepared & Analyzed: 06/27/13					
Total Organic Carbon	0.50 U	1.0	0.50	mg/L		
LCS (BF32718-BS1)	Prepared & Analyzed: 06/27/13					
Total Organic Carbon	9.56	1.0	0.50	mg/L	10	96
Matrix Spike (BF32718-MS1)	Source: 1305589-03 Prepared & Analyzed: 06/27/13					
Total Organic Carbon	9.52	1.0	0.50	mg/L	10	ND
Matrix Spike Dup (BF32718-MSD1)	Source: 1305589-03 Prepared & Analyzed: 06/27/13					
Total Organic Carbon	9.51	1.0	0.50	mg/L	10	ND

Batch BF32810 - alkalinity

Blank (BF32810-BLK1)	Prepared & Analyzed: 06/27/13					
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L		
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L		
Total Alkalinity	2.0 U	8.0	2.0	mg/L		
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L		
Bicarbonate 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 BF32810 - alkalinity										
Blank (BF32810-BLK2) Prepared & Analyzed: 06/27/13										
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BF32810-BS1) Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120		96	90-110		
LCS (BF32810-BS2) Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120		96	90-110		
Matrix Spike (BF32810-MS1) Source: 1305593-13 Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	11	87	80-120		
Matrix Spike (BF32810-MS2) Source: 1305558-05 Prepared & Analyzed: 06/27/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120		
Matrix Spike Dup (BF32810-MSD1) Source: 1305593-13 Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	11	87	80-120	0	26
Matrix Spike Dup (BF32810-MSD2) Source: 1305558-05 Prepared & Analyzed: 06/27/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120	0	26
Batch BF32817 - Digestion for TKN by EPA 351.2										
Blank (BF32817-BLK1) Prepared: 06/28/13 Analyzed: 07/02/13										
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 BF32817 - Digestion for TKN by EPA 351.2										
LCS (BF32817-BS1) Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	2.69	0.20	0.05	mg/L	2.5		106	90-110		
Matrix Spike (BF32817-MS1) Source: 1305557-05 Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	4.56	0.20	0.05	mg/L	2.5	2.05	99	90-110		
Matrix Spike Dup (BF32817-MSD1) Source: 1305557-05 Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	4.61	0.20	0.05	mg/L	2.5	2.05	101	90-110	1	20
Batch BG30104 - Ammonia by SEAL										
Blank (BG30104-BLK1) Prepared & Analyzed: 07/01/13										
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BG30104-BS1) Prepared & Analyzed: 07/01/13										
Ammonia as N	0.54	0.040	0.009	mg/L	0.50		107	90-110		
Matrix Spike (BG30104-MS1) Source: 1305558-08 Prepared & Analyzed: 07/01/13										
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	0.026	94	90-110		
Matrix Spike (BG30104-MS2) Source: 1305558-22 Prepared & Analyzed: 07/01/13										
Ammonia as N	0.49	0.040	0.009	mg/L	0.50	ND	98	90-110		
Matrix Spike Dup (BG30104-MSD1) Source: 1305558-08 Prepared & Analyzed: 07/01/13										
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	0.026	94	90-110	0.3	10
Matrix Spike Dup (BG30104-MSD2) Source: 1305558-22 Prepared & Analyzed: 07/01/13										
Ammonia as N	0.52	0.040	0.009	mg/L	0.50	ND	105	90-110	6	10

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch BG30313 - Ammonia by SEAL

Blank (BG30313-BLK1)	Prepared & Analyzed: 07/03/13								
Ammonia as N	0.009 U	0.040	0.009	mg/L					
LCS (BG30313-BS1)	Prepared & Analyzed: 07/03/13								
Ammonia as N	0.52	0.040	0.009	mg/L	0.50	104	90-110		
Matrix Spike (BG30313-MS1)	Source: 1305558-03 Prepared & Analyzed: 07/03/13								
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	0.019	98	90-110	
Matrix Spike (BG30313-MS2)	Source: 1305558-04 Prepared & Analyzed: 07/03/13								
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	103	90-110	
Matrix Spike Dup (BG30313-MSD1)	Source: 1305558-03 Prepared & Analyzed: 07/03/13								
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	0.019	101	90-110	3
Matrix Spike Dup (BG30313-MSD2)	Source: 1305558-04 Prepared & Analyzed: 07/03/13								
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	102	90-110	0.8
									10

Batch BG30505 - Ammonia by SEAL

Blank (BG30505-BLK1)	Prepared & Analyzed: 07/06/13								
Ammonia as N	0.009 U	0.040	0.009	mg/L					
LCS (BG30505-BS1)	Prepared & Analyzed: 07/05/13								
Ammonia as N	0.47	0.040	0.009	mg/L	0.50	94	90-110		
Matrix Spike (BG30505-MS1)	Source: 1306198-04 Prepared & Analyzed: 07/05/13								
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	102	90-110	

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BG30505 - Ammonia by SEAL										
Matrix Spike (BG30505-MS2) Source: 1306401-02 Prepared & Analyzed: 07/05/13										
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	0.022	97	90-110		
Matrix Spike Dup (BG30505-MSD1) Source: 1306198-04 Prepared & Analyzed: 07/05/13										
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	102	90-110	0.08	10
Matrix Spike Dup (BG30505-MSD2) Source: 1306401-02 Prepared & Analyzed: 07/05/13										
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	0.022	95	90-110	1	10

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Inorganic, Dissolved - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31809 - DOC prep										
Blank (BF31809-BLK1) Prepared & Analyzed: 06/17/13										
Dissolved Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BF31809-BS1) Prepared & Analyzed: 06/17/13										
Dissolved Organic Carbon	10.3	1.0	0.50	mg/L	10	103	90-110			
Matrix Spike (BF31809-MS1) Source: 1305997-01 Prepared & Analyzed: 06/17/13										
Dissolved Organic Carbon	13.8	1.0	0.50	mg/L	10	4.20	96	85-125		
Matrix Spike Dup (BF31809-MSD1) Source: 1305997-01 Prepared & Analyzed: 06/17/13										
Dissolved Organic Carbon	14.4	1.0	0.50	mg/L	10	4.20	102	85-125	4	25
Batch BF32719 - DOC prep										
Blank (BF32719-BLK1) Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BF32719-BS1) Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	9.65	1.0	0.50	mg/L	10	96	90-110			
Matrix Spike (BF32719-MS1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	9.33	1.0	0.50	mg/L	10	ND	93	85-125		
Matrix Spike Dup (BF32719-MSD1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	8.90	1.0	0.50	mg/L	10	ND	89	85-125	5	25

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Hazen and Sawyer
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Tampa, FL 33619

July 23, 2013

Work Order: 1305558

Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31333 - Metals Preparation for EPA Method 200.7										
Blank (BF31333-BLK1)										
Manganese	0.0010 U	0.010	0.0010	mg/L						
Calcium	0.042 U	0.50	0.042	mg/L						
Magnesium	0.020 U	0.50	0.020	mg/L						
Potassium	0.098	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						
Iron	0.020 U	0.10	0.020	mg/L						
LCS (BF31333-BS1)										
Calcium	21	0.50	0.042	mg/L	20		105	85-115		
Boron	0.40	0.10	0.050	mg/L	0.40		100	85-115		
Manganese	0.42	0.010	0.0010	mg/L	0.40		105	85-115		
Sodium	22	0.50	0.13	mg/L	20		108	85-115		
Iron	8.6	0.10	0.020	mg/L	8.0		107	85-115		
Magnesium	21	0.50	0.020	mg/L	20		105	85-115		
Potassium	21	0.050	0.010	mg/L	20		104	85-115		
Matrix Spike (BF31333-MS1)										
		Source: 1305558-06								
Iron	8.8	0.10	0.020	mg/L	8.0	0.044	109	70-130		
Calcium	95	0.50	0.042	mg/L	20	69	129	70-130		
Potassium	45	0.050	0.010	mg/L	20	22	117	70-130		
Manganese	0.44	0.010	0.0010	mg/L	0.40	0.017	106	70-130		
Boron	0.67	0.10	0.050	mg/L	0.40	0.16	127	70-130		
Sodium	79	0.50	0.13	mg/L	20	54	122	70-130		
Magnesium	40	0.50	0.020	mg/L	20	17	112	70-130		
Matrix Spike (BF31333-MS2)										
		Source: 1305871-01								
Iron	8.5	0.10	0.020	mg/L	8.0	ND	106	70-130		
Sodium	29	0.50	0.13	mg/L	20	10	93	70-130		
Potassium	21	0.050	0.010	mg/L	20	0.92	98	70-130		
Magnesium	34	0.50	0.020	mg/L	20	17	87	70-130		
Manganese	0.41	0.010	0.0010	mg/L	0.40	ND	102	70-130		
Boron	0.51	0.10	0.050	mg/L	0.40	ND	126	70-130		
Calcium	62	0.50	0.042	mg/L	20	50	62	70-130		

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Tampa, FL 33619

July 23, 2013

Work Order: 1305558

Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31333 - Metals Preparation for EPA Method 200.7										
Matrix Spike Dup (BF31333-MSD1)										
Source: 1305558-06 Prepared: 06/13/13 Analyzed: 06/17/13										
Iron	8.5	0.10	0.020	mg/L	8.0	0.044	106	70-130	3	20
Potassium	44	0.050	0.010	mg/L	20	22	108	70-130	4	20
Sodium	74	0.50	0.13	mg/L	20	54	101	70-130	5	20
Manganese	0.42	0.010	0.0010	mg/L	0.40	0.017	100	70-130	5	20
Calcium	91	0.50	0.042	mg/L	20	69	109	70-130	4	20
Boron	0.64	0.10	0.050	mg/L	0.40	0.16	119	70-130	5	20
Magnesium	38	0.50	0.020	mg/L	20	17	101	70-130	6	20
Matrix Spike Dup (BF31333-MSD2)										
Source: 1305871-01 Prepared: 06/13/13 Analyzed: 06/17/13										
Sodium	31	0.50	0.13	mg/L	20	10	103	70-130	6	20
Potassium	22	0.050	0.010	mg/L	20	0.92	104	70-130	6	20
Calcium	66	0.50	0.042	mg/L	20	50	83	70-130	7	20
Boron	0.52	0.10	0.050	mg/L	0.40	ND	131	70-130	3	20
Magnesium	36	0.50	0.020	mg/L	20	17	98	70-130	6	20
Iron	8.5	0.10	0.020	mg/L	8.0	ND	106	70-130	0.1	20
Manganese	0.42	0.010	0.0010	mg/L	0.40	ND	105	70-130	4	20
Batch BF31714 - Metals Preparation for EPA Method 200.7										
Blank (BF31714-BLK1)										
Prepared: 06/17/13 Analyzed: 06/19/13										
Boron	0.050 U	0.10	0.050	mg/L						
Calcium	0.042 U	0.50	0.042	mg/L						
Manganese	0.0010 U	0.010	0.0010	mg/L						
Potassium	0.085	0.050	0.010	mg/L						
Magnesium	0.020 U	0.50	0.020	mg/L						
Sodium	0.13 U	0.50	0.13	mg/L						
Iron	0.020 U	0.10	0.020	mg/L						

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July 23, 2013

Work Order: 1305558

Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31714 - Metals Preparation for EPA Method 200.7										
LCS (BF31714-BS1)										
Prepared: 06/17/13 Analyzed: 06/19/13										
Boron	0.42	0.10	0.050	mg/L	0.40		105	85-115		
Iron	8.1	0.10	0.020	mg/L	8.0		101	85-115		
Manganese	0.40	0.010	0.0010	mg/L	0.40		99	85-115		
Calcium	20	0.50	0.042	mg/L	20		100	85-115		
Potassium	20	0.050	0.010	mg/L	20		100	85-115		
Magnesium	20	0.50	0.020	mg/L	20		101	85-115		
Sodium	21	0.50	0.13	mg/L	20		103	85-115		
Matrix Spike (BF31714-MS1)										
Source: 1305562-02 Prepared: 06/17/13 Analyzed: 06/19/13										
Magnesium	24	0.50	0.020	mg/L	20	6.2	91	70-130		
Boron	0.57	0.10	0.050	mg/L	0.40	0.18	98	70-130		
Potassium	25	0.050	0.010	mg/L	20	7.4	90	70-130		
Sodium	91	0.50	0.13	mg/L	20	74	85	70-130		
Manganese	0.40	0.010	0.0010	mg/L	0.40	0.0093	97	70-130		
Calcium	37	0.50	0.042	mg/L	20	19	88	70-130		
Iron	8.1	0.10	0.020	mg/L	8.0	0.053	101	70-130		
Matrix Spike (BF31714-MS2)										
Source: 1305867-08 Prepared: 06/17/13 Analyzed: 06/19/13										
Iron	8.8	0.10	0.020	mg/L	8.0	0.50	104	70-130		
Manganese	0.45	0.010	0.0010	mg/L	0.40	0.038	104	70-130		
Magnesium	33	0.50	0.020	mg/L	20	13	96	70-130		
Calcium	53	0.50	0.042	mg/L	20	35	90	70-130		
Boron	0.59	0.10	0.050	mg/L	0.40	0.17	106	70-130		
Sodium	49	0.50	0.13	mg/L	20	30	95	70-130		
Potassium	24	0.050	0.010	mg/L	20	5.0	94	70-130		
Matrix Spike Dup (BF31714-MSD1)										
Source: 1305562-02 Prepared: 06/17/13 Analyzed: 06/19/13										
Calcium	40	0.50	0.042	mg/L	20	19	104	70-130	8	20
Magnesium	27	0.50	0.020	mg/L	20	6.2	102	70-130	9	20
Iron	8.3	0.10	0.020	mg/L	8.0	0.053	103	70-130	3	20
Manganese	0.40	0.010	0.0010	mg/L	0.40	0.0093	98	70-130	0.8	20
Sodium	96	0.50	0.13	mg/L	20	74	106	70-130	5	20
Potassium	29	0.050	0.010	mg/L	20	7.4	107	70-130	12	20
Boron	0.59	0.10	0.050	mg/L	0.40	0.18	102	70-130	3	20

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July 23, 2013

Work Order: 1305558

Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31714 - Metals Preparation for EPA Method 200.7										
Matrix Spike Dup (BF31714-MSD2) Source: 1305867-08 Prepared: 06/17/13 Analyzed: 06/19/13										
Potassium	24	0.050	0.010	mg/L	20	5.0	97	70-130	2	20
Magnesium	34	0.50	0.020	mg/L	20	13	104	70-130	5	20
Iron	8.7	0.10	0.020	mg/L	8.0	0.50	103	70-130	0.7	20
Calcium	56	0.50	0.042	mg/L	20	35	105	70-130	5	20
Boron	0.58	0.10	0.050	mg/L	0.40	0.17	104	70-130	1	20
Sodium	48	0.50	0.13	mg/L	20	30	90	70-130	2	20
Manganese	0.45	0.010	0.0010	mg/L	0.40	0.038	102	70-130	2	20

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July 23, 2013

Work Order: 1305558

* 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 limits and the laboratory practical quantitation limit.

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

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

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

- L Off-scale high. Result exceeded highest calibration standard.
K The value is known to be less than the reported value based on sample size, dilution.

Questions regarding this report should be directed to :

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

Kathryn@southernanalyticallabs.com

A handwritten signature in black ink that appears to read "Francis I. Daniels".

SOUTHERN ANALYTICAL LABORATORIES, INC.

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Contact / Phone:

Project Name / Location		S&GW Test Facility SE #6 (TA1)		Parameter / Container Description		Field DO	
Samplers: (Signature) <i>Opieko, LHD</i>						Field Conductivity	
Matrix Codes: DW=Drinking Water WW=Water-Slurry SW=Surface Water SL=Sludge SO=Soil GW=Groundwater SA=Saline Water O=Other R=Reagent Water						Field Temperature	
Sal. Use Only Sample No.		Sample Description		Date	Time	Field pH	
01	TA1-PAN-12N	6/10/13	10:41	GW	X	1	6.26
02	TA1-LY-24-C			GW	X	1	6.22
03	TA1-LY-12-S			GW	X	1	6.22
04	TA1-LY-24-S			GW	X	1	6.22
05	TA1-LY-42-S			GW	X	1	6.22
06	TA1-PZ-11-EF2			GW	X	1	6.22
07	TA1-PZ-11-14			GW	X	1	6.22
08	TA1-PZ-11-K4			GW	X	1	6.22
09	TA1-PZ-11-L2			GW	X	1	6.22
10	TA1-PZ-11-L2-DUP			GW	X	1	6.22
11	TA1-PZ-11-L2			GW	X	1	6.22
12	TA1-PZ-11-L3			GW	X	1	6.22
Containers Prepared/ Relinquished:		Date/Time:	Received:	Date/Time:	Received:	Instructions / Remarks:	
<i>J. Thompson</i>		6/10/13 12:23		6/10/13 16:00		Seal intact? <input checked="" type="checkbox"/> N/A Samples intact upon arrival? <input checked="" type="checkbox"/> N/A Received on ice? Temp _____ <input checked="" type="checkbox"/> N/A Proper preservatives indicated? <input checked="" type="checkbox"/> N/A Rec'd within holding time? <input checked="" type="checkbox"/> N/A Volatiles rec'd w/out headspace? <input checked="" type="checkbox"/> Y N <input checked="" type="checkbox"/> Proper containers used? <input checked="" type="checkbox"/> N/A	
Relinquished:		Date/Time:	Received:	Date/Time:	Received:		
Relinquished:		Date/Time:	Received:	Date/Time:	Received:		
Relinquished:		Date/Time:	Received:	Date/Time:	Received:		

Chain of Custody
Rev Date 11/18/07

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

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Contact / Phone:

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

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Client Name		Project Name / Location		Samplers: (Signature)		Contact / Phone:			
S&GW Test Facility SE #6 (TA1)									
Matrix Codes: DW-Drinking Water WW-Wastewater SW-Surface Water SL-Sludge SO-Soil GW-Groundwater SA-Saline Water O-Other R-Reagent Water									
SAL Use Date Sample Code	Sample Description	Date	Time	Matrix	PARAMETER / CONTAINER DESCRIPTION				
					Field PH	Field Temperature	Field Conductivity	Field DO	
13	TA1-PZ-11-L3-DUP	10/12/13	13:53	GW	X	4.92	26.5	811	2.91
14	TA1-PZ-11-L4	10/12/13	14:57	GW	X	4.97	26.4	893	3.74
15	TA1-PZ-11-L5	10/14/13	14:40	GW	X	4.55	26.2	357.1	1.72
16	TA1-PZ-09-N3	10/10/13	10:40	GW	X	6.00	26.9	231.7	3.84
17	TA1-PZ-09-N3-DUP	10/15/13	10:45	GW	X	—	—	—	—
18	TA1-PZ-16-N3	10/15/13	10:54	GW	X	4.88	25.3	274	1.17
19	TA1-PZ-09-07	11/06/13	11:00	GW	X	5.42	26.4	182.8	2.14
20	TA1-PZ-16-07	11/17/13	11:17	GW	X	5.03	25.6	355.3	1.46
21	TA1-PZ-09-M9	11/18/13	11:28	GW	X	6.02	26.6	222.1	2.46
22	TA1-PZ-16-M9	11/29/13	11:39	GW	X	5.63	25.5	462.8	1.38
23	TA1-PZ-09-17	11/51/13	11:51	GW	X	5.16	26.7	167.5	3.41
24	TA1-PZ-16-17	12/05/13	12:05	GW	X	5.09	25.6	390.9	2.01
Container Prepared		Date/Time:	Date/Time:	Instructions / Remarks:					
Relinquished		Received:	Date/Time:	Samples intact?					
Relinquished		Received:	Date/Time:	Received on ice? Temp.					
Relinquished		Received:	Date/Time:	Proper preservatives indicated?					
Relinquished		Received:	Date/Time:	Rec'd w/in holding time?					
Relinquished		Received:	Date/Time:	Volatile rec'd w/out headspace?					
Relinquished		Received:	Date/Time:	Proper containers used?					

Chain of Custody
Rev Date 11/18/01

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Contact / Phone:

Sheet 2

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

July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name	S&GW Test Facility SE#6							
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution

Sample Description **TA2-PAM-12-N**
 Matrix **Groundwater**
 SAL Sample Number **1305560-01**
 Date/Time Collected **06/10/13 10:41**
 Collected by **Josephine Edeback-Hirst**
 Date/Time Received **06/10/13 16:00**

Client Provided Field Data

pH **6.87**
 Temperature **26.5 °C**
 Conductivity **777 umhos**
 Dissolved Oxygen **2.07 mg/L**

Inorganics

Ammonia as N	mg/L	0.041	EPA 350.1	0.040	0.009		06/27/13 10:43	1
Ammonium as NH4	mg/L	0.05	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	160	SM 2320B	8.0	2.0		06/19/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Chloride	mg/L	79	EPA 300.0	2.0	0.50		06/19/13 15:29	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Nitrate (as N)	mg/L	1.1	EPA 300.0	0.04	0.01		06/11/13 18:18	1
Nitrite (as N)	mg/L	1.2	EPA 300.0	0.04	0.01		06/11/13 18:18	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Total Alkalinity	mg/L	160	SM 2320B	8.0	2.0		06/19/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	06/22/13 09:07	06/25/13 14:55	1
Nitrate+Nitrite (N)	mg/L	2.3	EPA 300.0	0.08	0.02		06/11/13 18:18	1

Sample Description **TA2-PAM-12-N**
 Matrix **Groundwater**
 SAL Sample Number **1305560-01RE1**
 Date/Time Collected **06/10/13 10:41**
 Collected by **Josephine Edeback-Hirst**
 Date/Time Received **06/10/13 16:00**

Client Provided Field Data

pH **6.87**
 Temperature **26.5 °C**
 Conductivity **777 umhos**
 Dissolved Oxygen **2.07 mg/L**

Inorganics

Nitrate (as N)	mg/L	1.7	EPA 300.0	0.40	0.10		06/19/13 16:00	10
Nitrite (as N)	mg/L	0.90	EPA 300.0	0.40	0.10		06/19/13 16:00	10
Nitrate+Nitrite (N)	mg/L	2.7	EPA 300.0	0.80	0.20		06/19/13 16:00	10

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Hazen and Sawyer
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Tampa, FL 33619

July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name	S&GW Test Facility SE#6							
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution

Sample Description **TA2-LY-12-S**
 Matrix **Groundwater**
 SAL Sample Number **1305560-03**
 Date/Time Collected **06/13/13 08:47**
 Collected by **Sean Schmidt**
 Date/Time Received **06/13/13 14:30**

Client Provided Field Data

pH **6.79**
 Temperature **26.7 °C**
 Conductivity **873 umhos**
 Dissolved Oxygen **4.70 mg/L**

Inorganics

Ammonia as N	mg/L	0.012 I	EPA 350.1	0.040	0.009		07/03/13 12:23	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	87	SM 2320B	8.0	2.0		06/25/13 16:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 16:00	1
Chloride	mg/L	73	EPA 300.0	2.0	0.50		06/14/13 20:31	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 16:00	1
Nitrate (as N)	mg/L	23	EPA 300.0	0.40	0.10		06/14/13 20:31	10
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 20:31	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 16:00	1
Total Alkalinity	mg/L	87	SM 2320B	8.0	2.0		06/25/13 16:00	1
Total Kjeldahl Nitrogen	mg/L	2.1	EPA 351.2	0.20	0.05	06/28/13 11:21	07/01/13 14:32	1
Nitrate+Nitrite (N)	mg/L	23	EPA 300.0	0.44	0.11		06/14/13 20:31	10

Sample Description **TA2-LY-24-S**
 Matrix **Groundwater**
 SAL Sample Number **1305560-04**
 Date/Time Collected **06/13/13 08:51**
 Collected by **Sean Schmidt**
 Date/Time Received **06/13/13 14:30**

Client Provided Field Data

pH **6.62**
 Temperature **26.8 °C**
 Conductivity **714 umhos**
 Dissolved Oxygen **2.74 mg/L**

Inorganics

Ammonia as N	mg/L	0.032 I	EPA 350.1	0.040	0.009		07/03/13 12:25	1
Ammonium as NH4	mg/L	0.04 I	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	55	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	53	EPA 410.4	25	10	06/18/13 12:51	06/18/13 16:20	1
Chloride	mg/L	64	EPA 300.0	2.0	0.50		06/24/13 19:03	10

Florida Certification Number: E84129

NELAP Accredited

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SOUTHERN ANALYTICAL LABORATORIES, INC.

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

July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA2-LY-24-S						
Matrix		Groundwater						
SAL Sample Number		1305560-04						
Date/Time Collected		06/13/13 08:51						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						
<u>Client Provided Field Data</u>								
pH		6.62						
Temperature		26.8 °C						
Conductivity		714 umhos						
Dissolved Oxygen		2.74 mg/L						
Fluoride	mg/L	0.20	EPA 300.0	0.040	0.010			
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0			
Nitrate (as N)	mg/L	19	EPA 300.0	0.04	0.01			
Nitrite (as N)	mg/L	0.45	EPA 300.0	0.04	0.01			
Orthophosphate as P	mg/L	0.16	EPA 300.0	0.040	0.010			
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0			
Sulfate	mg/L	43	EPA 300.0	0.60	0.20			
Total Alkalinity	mg/L	55	SM 2320B	8.0	2.0			
Total Kjeldahl Nitrogen	mg/L	2.5	EPA 351.2	0.20	0.05	06/28/13 11:21	07/01/13 14:33	
Nitrate+Nitrite (N)	mg/L	19	EPA 300.0	0.08	0.02			
<u>Inorganic, Dissolved</u>								
Dissolved Organic Carbon	mg/L	25	SM 5310B	1.0	0.50			
<u>Metals</u>								
Boron	mg/L	0.25	EPA 200.7	0.10	0.050	06/17/13 10:12	06/19/13 13:07	
Calcium	mg/L	17	EPA 200.7	0.50	0.042	06/17/13 10:12	06/19/13 13:07	
Iron	mg/L	0.057 I	EPA 200.7	0.10	0.020	06/17/13 10:12	06/19/13 13:07	
Magnesium	mg/L	6.5	EPA 200.7	0.50	0.020	06/17/13 10:12	06/19/13 13:07	
Manganese	mg/L	0.0010 U	EPA 200.7	0.010	0.0010	06/17/13 10:12	06/19/13 17:02	
Potassium	mg/L	15	EPA 200.7	0.050	0.010	06/17/13 10:12	06/19/13 13:07	
Sodium	mg/L	100	EPA 200.7	0.50	0.13	06/17/13 10:12	06/19/13 13:07	

Sample Description	TA2-LY-42-S
Matrix	Groundwater
SAL Sample Number	1305560-05
Date/Time Collected	06/13/13 09:00
Collected by	Sean Schmidt
Date/Time Received	06/13/13 14:30

<u>Client Provided Field Data</u>
pH
Temperature
Conductivity
Dissolved Oxygen

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July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA2-LY-42-S						
Matrix		Groundwater						
SAL Sample Number		1305560-05						
Date/Time Collected		06/13/13 09:00						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						

Client Provided Field Data

pH	6.30
Temperature	26.9 °C
Conductivity	648 umhos
Dissolved Oxygen	1.77 mg/L

Inorganics

Ammonia as N	mg/L	0.011 I	EPA 350.1	0.040	0.009		07/03/13 12:27	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/19/13 10:14	06/20/13 13:45	1
Chloride	mg/L	75	EPA 300.0	2.0	0.50		06/24/13 19:13	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	16	EPA 300.0	0.04	0.01		06/14/13 20:44	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 20:44	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	0.24	SM 4500P-E	0.040	0.010	06/25/13 09:17	06/28/13 13:27	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	1.9	EPA 351.2	0.20	0.05	06/28/13 11:21	07/01/13 14:34	1
Nitrate+Nitrite (N)	mg/L	16	EPA 300.0	0.08	0.02		06/14/13 20:44	1

Sample Description	TA2-PZ-10-EF2
Matrix	Groundwater
SAL Sample Number	1305560-06
Date/Time Collected	06/11/13 10:57
Collected by	Sean Schmidt
Date/Time Received	06/11/13 15:15

Client Provided Field Data

pH	4.72
Temperature	25.5 °C
Conductivity	608 umhos
Dissolved Oxygen	5.29 mg/L

Inorganics

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/27/13 10:45	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/19/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1

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July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA2-PZ-10-EF2						
Matrix		Groundwater						
SAL Sample Number		1305560-06						
Date/Time Collected		06/11/13 10:57						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						

Client Provided Field Data

pH		4.72						
Temperature		25.5 °C						
Conductivity		608 umhos						
Dissolved Oxygen		5.29 mg/L						
Chloride	mg/L	71	EPA 300.0	2.0	0.50		06/19/13 16:34	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Nitrate (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/12/13 15:00	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/12/13 15:00	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/19/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	1.6	EPA 351.2	0.20	0.05	06/22/13 09:07	06/25/13 14:56	1
Nitrate+Nitrite (N)	mg/L	0.02 U	EPA 300.0	0.08	0.02		06/12/13 15:00	1

Sample Description	TA2-PZ-10-H5
Matrix	Groundwater
SAL Sample Number	1305560-07
Date/Time Collected	06/11/13 09:05
Collected by	Sean Schmidt
Date/Time Received	06/11/13 15:15

Client Provided Field Data

pH		4.30						
Temperature		25.1 °C						
Conductivity		470.6 umhos						
Dissolved Oxygen		2.56 mg/L						

Inorganics

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/27/13 10:47	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/14/13 11:58	06/14/13 16:10	1
Chloride	mg/L	45	EPA 300.0	2.0	0.50		06/19/13 16:44	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Nitrate (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/12/13 15:09	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/12/13 15:09	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Phosphorous - Total as P	mg/L	0.016 I	SM 4500P-E	0.040	0.010	06/12/13 11:25	06/17/13 15:04	1

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July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA2-PZ-10-H5						
Matrix		Groundwater						
SAL Sample Number		1305560-07						
Date/Time Collected		06/11/13 09:05						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
pH		4.30						
Temperature		25.1 °C						
Conductivity		470.6 umhos						
Dissolved Oxygen		2.56 mg/L						
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	1.7	EPA 351.2	0.20	0.05	06/22/13 09:07	06/25/13 14:58	1
Nitrate+Nitrite (N)	mg/L	0.02 U	EPA 300.0	0.08	0.02		06/12/13 15:09	1
Sample Description		TA2-PZ-10-J5						
Matrix		Groundwater						
SAL Sample Number		1305560-08						
Date/Time Collected		06/11/13 09:19						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
pH		4.83						
Temperature		25.3 °C						
Conductivity		562 umhos						
Dissolved Oxygen		2.91 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.017 I	EPA 350.1	0.040	0.009		06/27/13 10:49	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/19/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Chemical Oxygen Demand	mg/L	51	EPA 410.4	25	10	06/14/13 09:54	06/14/13 13:28	1
Chloride	mg/L	80	EPA 300.0	2.0	0.50		06/19/13 16:53	10
Fluoride	mg/L	0.14	EPA 300.0	0.040	0.010		06/12/13 15:19	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Nitrate (as N)	mg/L	13	EPA 300.0	0.04	0.01		06/12/13 15:19	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/12/13 15:19	1
Orthophosphate as P	mg/L	0.010 U	EPA 300.0	0.040	0.010		06/12/13 15:19	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Sulfate	mg/L	48	EPA 300.0	0.60	0.20		06/12/13 15:19	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/19/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	1.7	EPA 351.2	0.20	0.05	06/22/13 09:07	06/25/13 14:59	1
Nitrate+Nitrite (N)	mg/L	13	EPA 300.0	0.08	0.02		06/12/13 15:19	1

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July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name	S&GW Test Facility SE#6							
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA2-PZ-10-K5						
Matrix		Groundwater						
SAL Sample Number		1305560-09						
Date/Time Collected		06/11/13 09:32						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						

Client Provided Field Data

pH	5.00
Temperature	25.2 °C
Conductivity	488.9 umhos
Dissolved Oxygen	1.78 mg/L

Inorganics

Ammonia as N	mg/L	0.012 I	EPA 350.1	0.040	0.009		06/27/13 13:49	1
Ammonium as NH4	mg/L	0.48	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/19/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Chemical Oxygen Demand	mg/L	18 I	EPA 410.4	25	10	06/14/13 11:58	06/14/13 16:10	1
Chloride	mg/L	69	EPA 300.0	2.0	0.50		06/19/13 17:02	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Nitrate (as N)	mg/L	11	EPA 300.0	0.04	0.01		06/12/13 15:56	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/12/13 15:56	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Phosphorous - Total as P	mg/L	0.010 U	SM 4500P-E	0.040	0.010	06/12/13 11:25	06/17/13 16:03	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/19/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	1.4	EPA 351.2	0.20	0.05	06/22/13 09:07	06/25/13 15:42	1
Nitrate+Nitrite (N)	mg/L	11	EPA 300.0	0.08	0.02		06/12/13 15:56	1

Sample Description	TA2-PZ-10-K5-DUP
Matrix	Groundwater
SAL Sample Number	1305560-10
Date/Time Collected	06/11/13 09:37
Collected by	Sean Schmidt
Date/Time Received	06/11/13 15:15

Client Provided Field Data

pH	5.00
Temperature	25.2 °C
Conductivity	488.9 umhos
Dissolved Oxygen	1.78 mg/L

Inorganics

Ammonia as N	mg/L	0.017 I	EPA 350.1	0.040	0.009		06/27/13 14:53	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/19/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1

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July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA2-PZ-10-K5-DUP							
Matrix	Groundwater							
SAL Sample Number	1305560-10							
Date/Time Collected	06/11/13 09:37							
Collected by	Sean Schmidt							
Date/Time Received	06/11/13 15:15							
<u>Client Provided Field Data</u>								
pH		5.00						
Temperature		25.2 °C						
Conductivity		488.9 umhos						
Dissolved Oxygen		1.78 mg/L						
Chemical Oxygen Demand	mg/L	16 I	EPA 410.4	25	10	06/14/13 09:54	06/14/13 13:28	1
Chloride	mg/L	71	EPA 300.0	2.0	0.50		06/19/13 17:12	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Nitrate (as N)	mg/L	12	EPA 300.0	0.04	0.01		06/12/13 16:06	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/12/13 16:06	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Phosphorous - Total as P	mg/L	0.010 U	SM 4500P-E	0.040	0.010	06/12/13 11:25	06/17/13 15:06	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/19/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	1.4	EPA 351.2	0.20	0.05	06/22/13 09:07	06/25/13 15:02	1
Nitrate+Nitrite (N)	mg/L	12	EPA 300.0	0.08	0.02		06/12/13 16:06	1

Sample Description	TA2-PZ-10-L2
Matrix	Groundwater
SAL Sample Number	1305560-11
Date/Time Collected	06/11/13 10:44
Collected by	Sean Schmidt
Date/Time Received	06/11/13 15:15

Client Provided Field Data

pH	4.19
Temperature	25.9 °C
Conductivity	315.4 umhos
Dissolved Oxygen	2.05 mg/L

Inorganics

Ammonia as N	mg/L	0.018 I	EPA 350.1	0.040	0.009		06/27/13 11:03	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Chemical Oxygen Demand	mg/L	12 I	EPA 410.4	25	10	06/14/13 09:54	06/14/13 13:28	1
Chloride	mg/L	28	EPA 300.0	0.20	0.050		06/12/13 16:15	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Nitrate (as N)	mg/L	7.0	EPA 300.0	0.04	0.01		06/12/13 16:15	1
Nitrite (as N)	mg/L	0.14	EPA 300.0	0.04	0.01		06/12/13 16:15	1

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July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA2-PZ-10-L2						
Matrix		Groundwater						
SAL Sample Number		1305560-11						
Date/Time Collected		06/11/13 10:44						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
pH		4.19						
Temperature		25.9 °C						
Conductivity		315.4 umhos						
Dissolved Oxygen		2.05 mg/L						
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Phosphorous - Total as P	mg/L	0.025 I	SM 4500P-E	0.040	0.010	06/12/13 11:25	06/17/13 15:07	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	1.1	EPA 351.2	0.20	0.05	06/22/13 09:07	06/25/13 15:03	1
Nitrate+Nitrite (N)	mg/L	7.2	EPA 300.0	0.08	0.02		06/12/13 16:15	1
Sample Description		TA2-PZ-10-L3						
Matrix		Groundwater						
SAL Sample Number		1305560-12						
Date/Time Collected		06/11/13 10:30						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
pH		4.30						
Temperature		25.8 °C						
Conductivity		449.3 umhos						
Dissolved Oxygen		2.84 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/27/13 11:05	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/13/13 10:00	06/13/13 14:10	1
Chloride	mg/L	49	EPA 300.0	2.0	0.50		06/19/13 17:21	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Nitrate (as N)	mg/L	10	EPA 300.0	0.04	0.01		06/12/13 16:24	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/12/13 16:24	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Phosphorous - Total as P	mg/L	0.013 I	SM 4500P-E	0.040	0.010	06/12/13 11:25	06/17/13 15:08	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	1.2	EPA 351.2	0.20	0.05	06/22/13 09:07	06/25/13 15:10	1
Nitrate+Nitrite (N)	mg/L	10	EPA 300.0	0.08	0.02		06/12/13 16:24	1

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SOUTHERN ANALYTICAL LABORATORIES, INC.

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10002 Princess Palm Ave, Suite 200
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July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA2-PZ-10-L4						
Matrix		Groundwater						
SAL Sample Number		1305560-13						
Date/Time Collected		06/11/13 10:16						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						

Client Provided Field Data

pH	4.42
Temperature	25.8 °C
Conductivity	738 umhos
Dissolved Oxygen	4.24 mg/L

Inorganics

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/27/13 11:08	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Chemical Oxygen Demand	mg/L	24 I	EPA 410.4	25	10	06/14/13 09:54	06/14/13 13:28	1
Chloride	mg/L	92	EPA 300.0	2.0	0.50		06/19/13 17:30	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Nitrate (as N)	mg/L	20	EPA 300.0	0.04	0.01		06/12/13 16:34	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/12/13 16:34	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Phosphorous - Total as P	mg/L	0.038 I	SM 4500P-E	0.040	0.010	06/12/13 11:25	06/17/13 15:09	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/19/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	1.7	EPA 351.2	0.20	0.05	06/22/13 09:07	06/25/13 15:11	1
Nitrate+Nitrite (N)	mg/L	20	EPA 300.0	0.08	0.02		06/12/13 16:34	1

Sample Description	TA2-PZ-10-L5
Matrix	Groundwater
SAL Sample Number	1305560-14
Date/Time Collected	06/11/13 10:01
Collected by	Sean Schmidt
Date/Time Received	06/11/13 15:15

Client Provided Field Data

pH	4.26
Temperature	25.3 °C
Conductivity	588 umhos
Dissolved Oxygen	2.92 mg/L

Inorganics

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/27/13 11:10	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1

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July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA2-PZ-10-L5						
Matrix		Groundwater						
SAL Sample Number		1305560-14						
Date/Time Collected		06/11/13 10:01						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						

Client Provided Field Data

pH		4.26						
Temperature		25.3 °C						
Conductivity		588 umhos						
Dissolved Oxygen		2.92 mg/L						
Chemical Oxygen Demand	mg/L	12 I	EPA 410.4	25	10	06/14/13 11:58	06/14/13 16:10	1
Chloride	mg/L	72	EPA 300.0	2.0	0.50		06/19/13 17:40	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Nitrate (as N)	mg/L	15	EPA 300.0	0.04	0.01		06/12/13 16:43	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/12/13 16:43	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Phosphorous - Total as P	mg/L	0.069	SM 4500P-E	0.040	0.010	06/19/13 16:54	06/22/13 13:38	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	1.6	EPA 351.2	0.20	0.05	06/22/13 09:07	06/25/13 15:13	1
Nitrate+Nitrite (N)	mg/L	15	EPA 300.0	0.08	0.02		06/12/13 16:43	1

Sample Description	TA2-PZ-10-L5-DUP
Matrix	Groundwater
SAL Sample Number	1305560-15
Date/Time Collected	06/11/13 10:06
Collected by	Sean Schmidt
Date/Time Received	06/11/13 15:15

Client Provided Field Data

pH		4.26						
Temperature		25.3 °C						
Conductivity		588 umhos						
Dissolved Oxygen		2.92 mg/L						

Inorganics

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/27/13 11:11	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Chemical Oxygen Demand	mg/L	12 I	EPA 410.4	25	10	06/13/13 10:00	06/13/13 14:10	1
Chloride	mg/L	71	EPA 300.0	2.0	0.50		06/19/13 17:49	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Nitrate (as N)	mg/L	15	EPA 300.0	0.04	0.01		06/12/13 16:53	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/12/13 16:53	1

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July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA2-PZ-10-L5-DUP							
Matrix	Groundwater							
SAL Sample Number	1305560-15							
Date/Time Collected	06/11/13 10:06							
Collected by	Sean Schmidt							
Date/Time Received	06/11/13 15:15							

Client Provided Field Data

pH	4.26							
Temperature	25.3 °C							
Conductivity	588 umhos							
Dissolved Oxygen	2.92 mg/L							
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/21/13 13:15	1	
Phosphorous - Total as P	mg/L	0.056	SM 4500P-E	0.040	0.010	06/19/13 16:54	06/22/13 13:39	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/21/13 13:15	1	
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	06/22/13 09:07	06/25/13 15:14	1
Nitrate+Nitrite (N)	mg/L	15	EPA 300.0	0.08	0.02	06/12/13 16:53		

Sample Description	TA2-PZ-10-L6
Matrix	Groundwater
SAL Sample Number	1305560-16
Date/Time Collected	06/11/13 09:46
Collected by	Sean Schmidt
Date/Time Received	06/11/13 15:15

Client Provided Field Data

pH	4.71							
Temperature	25.6 °C							
Conductivity	414.6 umhos							
Dissolved Oxygen	1.53 mg/L							

Inorganics

Ammonia as N	mg/L	0.016 I	EPA 350.1	0.040	0.009	06/27/13 11:13	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/21/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/21/13 13:15	1
Chemical Oxygen Demand	mg/L	16 I	EPA 410.4	25	10	06/14/13 09:54	06/14/13 13:28
Chloride	mg/L	52	EPA 300.0	2.0	0.50	06/19/13 17:59	10
Fluoride	mg/L	0.12	EPA 300.0	0.040	0.010	06/12/13 17:02	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/21/13 13:15	1
Nitrate (as N)	mg/L	11	EPA 300.0	0.04	0.01	06/12/13 17:02	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01	06/12/13 17:02	1
Orthophosphate as P	mg/L	0.010 U	EPA 300.0	0.040	0.010	06/12/13 17:02	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/21/13 13:15	1
Sulfate	mg/L	41	EPA 300.0	0.60	0.20	06/12/13 17:02	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/21/13 13:15	1

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July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA2-PZ-10-L6						
Matrix		Groundwater						
SAL Sample Number		1305560-16						
Date/Time Collected		06/11/13 09:46						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						

Client Provided Field Data

pH		4.71						
Temperature		25.6 °C						
Conductivity		414.6 umhos						
Dissolved Oxygen		1.53 mg/L						
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	06/22/13 09:07	06/25/13 15:15	1
Total Organic Carbon	mg/L	7.4	SM 5310B	1.0	0.50		06/18/13 23:15	1
Nitrate+Nitrite (N)	mg/L	11	EPA 300.0	0.08	0.02		06/12/13 17:02	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	6.1	SM 5310B	1.0	0.50		06/17/13 23:29	1
Metals								
Boron	mg/L	0.067 I	EPA 200.7	0.10	0.050	06/12/13 08:49	06/12/13 15:12	1
Calcium	mg/L	27	EPA 200.7	0.50	0.042	06/12/13 08:49	06/12/13 15:12	1
Iron	mg/L	0.035 I	EPA 200.7	0.10	0.020	06/12/13 08:49	06/12/13 15:12	1
Magnesium	mg/L	7.6	EPA 200.7	0.50	0.020	06/12/13 08:49	06/12/13 15:12	1
Manganese	mg/L	0.041	EPA 200.7	0.010	0.0010	06/12/13 08:49	06/12/13 15:12	1
Potassium	mg/L	7.2	EPA 200.7	0.050	0.010	06/12/13 08:49	06/12/13 15:12	1
Sodium	mg/L	32	EPA 200.7	0.50	0.13	06/12/13 08:49	06/12/13 15:12	1

Sample Description	TA2-PZ-09-M4
Matrix	Groundwater
SAL Sample Number	1305560-17
Date/Time Collected	06/10/13 07:07
Collected by	Sean Schmidt
Date/Time Received	06/11/13 15:15

Client Provided Field Data

pH		5.14						
Temperature		24.7 °C						
Conductivity		300.1 umhos						
Dissolved Oxygen		2.09 mg/L						
Inorganics								
Ammonia as N	mg/L	0.044	EPA 350.1	0.040	0.009		06/27/13 11:15	1
Ammonium as NH4	mg/L	0.06	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Chemical Oxygen Demand	mg/L	34	EPA 410.4	25	10	06/12/13 08:44	06/12/13 13:24	1
Chloride	mg/L	27	EPA 300.0	0.20	0.050		06/12/13 06:11	1

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July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA2-PZ-09-M4						
Matrix		Groundwater						
SAL Sample Number		1305560-17						
Date/Time Collected		06/10/13 07:07						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						

Client Provided Field Data

pH		5.14						
Temperature		24.7 °C						
Conductivity		300.1 umhos						
Dissolved Oxygen		2.09 mg/L						
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Nitrate (as N)	mg/L	5.2	EPA 300.0	0.04	0.01		06/12/13 06:11	1
Nitrite (as N)	mg/L	0.15	EPA 300.0	0.04	0.01		06/12/13 06:11	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Phosphorous - Total as P	mg/L	1.7	SM 4500P-E	0.040	0.010	06/19/13 16:54	06/22/13 13:40	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	1.8	EPA 351.2	0.20	0.05	06/22/13 09:07	06/25/13 15:16	1
Nitrate+Nitrite (N)	mg/L	5.3	EPA 300.0	0.08	0.02		06/12/13 06:11	1

Sample Description	TA2-PZ-16-M4
Matrix	Groundwater
SAL Sample Number	1305560-18
Date/Time Collected	06/10/13 07:50
Collected by	Sean Schmidt
Date/Time Received	06/11/13 15:15

Client Provided Field Data

pH		5.09						
Temperature		24.2 °C						
Conductivity		217.7 umhos						
Dissolved Oxygen		1.64 mg/L						

Inorganics

Ammonia as N	mg/L	0.018 I	EPA 350.1	0.040	0.009		06/27/13 11:16	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Chloride	mg/L	6.1	EPA 300.0	0.20	0.050		06/12/13 07:21	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Nitrate (as N)	mg/L	2.9	EPA 300.0	0.04	0.01		06/12/13 07:21	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/12/13 07:21	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	0.69	EPA 351.2	0.20	0.05	06/22/13 09:07	06/25/13 15:18	1

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July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA2-PZ-16-M4						
Matrix		Groundwater						
SAL Sample Number		1305560-18						
Date/Time Collected		06/10/13 07:50						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
pH		5.09						
Temperature		24.2 °C						
Conductivity		217.7 umhos						
Dissolved Oxygen		1.64 mg/L						
Nitrate+Nitrite (N)	mg/L	2.9	EPA 300.0	0.08	0.02		06/12/13 07:21	1
Sample Description		TA2-PZ-09-N7						
Matrix		Groundwater						
SAL Sample Number		1305560-19						
Date/Time Collected		06/10/13 08:06						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
pH		4.99						
Temperature		25.3 °C						
Conductivity		367.0 umhos						
Dissolved Oxygen		1.90 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/27/13 11:18	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/12/13 08:44	06/12/13 13:24	1
Chloride	mg/L	32	EPA 300.0	0.20	0.050		06/11/13 18:26	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Nitrate (as N)	mg/L	7.9	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Phosphorous - Total as P	mg/L	0.22	SM 4500P-E	0.040	0.010	06/19/13 16:54	06/22/13 13:41	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	1.0	EPA 351.2	0.20	0.05	06/22/13 09:07	06/25/13 15:19	1
Nitrate+Nitrite (N)	mg/L	7.9	EPA 300.0	0.08	0.02		06/11/13 18:26	1

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name	S&GW Test Facility SE#6							
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution

Sample Description **TA2-PZ-09-N7-DUP**
 Matrix **Groundwater**
 SAL Sample Number **1305560-20**
 Date/Time Collected **06/10/13 08:11**
 Collected by **Sean Schmidt**
 Date/Time Received **06/11/13 15:15**

Client Provided Field Data

pH **4.99**
 Temperature **25.3 °C**
 Conductivity **367 umhos**
 Dissolved Oxygen **1.90 mg/L**

Inorganics

Ammonia as N	mg/L	0.026 I	EPA 350.1	0.040	0.009		06/26/13 12:22	1
Ammonium as NH4	mg/L	0.03 I	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/12/13 13:22	06/12/13 17:00	1
Chloride	mg/L	32	EPA 300.0	0.20	0.050		06/11/13 18:26	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Nitrate (as N)	mg/L	7.9	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Phosphorous - Total as P	mg/L	0.22	SM 4500P-E	0.040	0.010	06/19/13 16:54	06/22/13 13:42	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	0.82	EPA 351.2	0.20	0.05	06/22/13 09:07	06/25/13 15:44	1
Nitrate+Nitrite (N)	mg/L	7.9	EPA 300.0	0.08	0.02		06/11/13 18:26	1

Sample Description **TA2-PZ-16-N7**
 Matrix **Groundwater**
 SAL Sample Number **1305560-21**
 Date/Time Collected **06/10/13 08:20**
 Collected by **Sean Schmidt**
 Date/Time Received **06/11/13 15:15**

Client Provided Field Data

pH **5.02**
 Temperature **24.5 °C**
 Conductivity **236.1 umhos**
 Dissolved Oxygen **1.16 mg/L**

Inorganics

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/26/13 12:24	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1

Florida Certification Number: E84129

NELAP Accredited

Francis I. Daniels, Laboratory Director

Leslie C. Boardman, Q.A. Manager

SOUTHERN ANALYTICAL LABORATORIES, INC.

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Tampa, FL 33619

July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA2-PZ-16-N7						
Matrix		Groundwater						
SAL Sample Number		1305560-21						
Date/Time Collected		06/10/13 08:20						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
Client Provided Field Data								
pH		5.02						
Temperature		24.5 °C						
Conductivity		236.1 umhos						
Dissolved Oxygen		1.16 mg/L						
Chloride	mg/L	8.4	EPA 300.0	0.20	0.050		06/11/13 18:26	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Nitrate (as N)	mg/L	5.0	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	0.81	EPA 351.2	0.20	0.05	06/22/13 09:07	06/25/13 15:22	1
Nitrate+Nitrite (N)	mg/L	5.0	EPA 300.0	0.08	0.02		06/11/13 18:26	1
Sample Description		TA2-PZ-09-I7						
Matrix		Groundwater						
SAL Sample Number		1305560-22						
Date/Time Collected		06/10/13 14:01						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						
Client Provided Field Data								
pH		4.57						
Temperature		26.7 °C						
Conductivity		217.4 umhos						
Dissolved Oxygen		1.57 mg/L						
Inorganics								
Ammonia as N	mg/L	0.034 I	EPA 350.1	0.040	0.009		06/26/13 12:26	1
Ammonium as NH4	mg/L	0.04 I	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Chloride	mg/L	14	EPA 300.0	0.20	0.050		06/11/13 18:26	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Nitrate (as N)	mg/L	3.3	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	06/22/13 09:11	06/26/13 10:10	1

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July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA2-PZ-09-I7						
Matrix		Groundwater						
SAL Sample Number		1305560-22						
Date/Time Collected		06/10/13 14:01						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						
<u>Client Provided Field Data</u>								
pH		4.57						
Temperature		26.7 °C						
Conductivity		217.4 umhos						
Dissolved Oxygen		1.57 mg/L						
Nitrate+Nitrite (N)	mg/L	3.4	EPA 300.0	0.08	0.02		06/11/13 18:26	1
Sample Description		TA2-PZ-16-I7						
Matrix		Groundwater						
SAL Sample Number		1305560-23						
Date/Time Collected		06/10/13 14:16						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
pH		5.00						
Temperature		25.4 °C						
Conductivity		234.2 umhos						
Dissolved Oxygen		1.20 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.014 I	EPA 350.1	0.040	0.009		06/26/13 12:28	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Chloride	mg/L	7.7	EPA 300.0	0.20	0.050		06/11/13 18:26	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Nitrate (as N)	mg/L	4.7	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	1.4	EPA 351.2	0.20	0.05	06/22/13 09:11	06/26/13 10:11	1
Nitrate+Nitrite (N)	mg/L	4.8	EPA 300.0	0.08	0.02		06/11/13 18:26	1

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July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name	S&GW Test Facility SE#6							
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution

Sample Description **TA2-PZ-09-L8**
 Matrix **Groundwater**
 SAL Sample Number **1305560-24**
 Date/Time Collected **06/11/13 08:35**
 Collected by **Sean Schmidt**
 Date/Time Received **06/11/13 15:15**

Client Provided Field Data

pH 6.31
 Temperature 25.7 °C
 Conductivity 295.5 umhos
 Dissolved Oxygen 3.13 mg/L

Inorganics

Ammonia as N	mg/L	0.24	EPA 350.1	0.040	0.009		06/26/13 12:30	1
Ammonium as NH4	mg/L	0.36	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	76	SM 2320B	8.0	2.0		06/21/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Chloride	mg/L	22	EPA 300.0	0.20	0.050		06/11/13 18:26	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Nitrate (as N)	mg/L	1.3	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Nitrite (as N)	mg/L	0.16	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Alkalinity	mg/L	76	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	2.2	EPA 351.2	0.20	0.05	06/22/13 09:11	06/26/13 10:12	1
Nitrate+Nitrite (N)	mg/L	1.5	EPA 300.0	0.08	0.02		06/11/13 18:26	1

Sample Description **TA2-PZ-16-L8**
 Matrix **Groundwater**
 SAL Sample Number **1305560-25**
 Date/Time Collected **06/11/13 08:47**
 Collected by **Sean Schmidt**
 Date/Time Received **06/11/13 15:15**

Client Provided Field Data

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/26/13 12:32	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01		07/02/13 11:30	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Chloride	mg/L	7.4	EPA 300.0	0.20	0.050		06/11/13 18:26	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Nitrate (as N)	mg/L	4.6	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1

Florida Certification Number: E84129

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SOUTHERN ANALYTICAL LABORATORIES, INC.

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July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA2-PZ-16-L8						
Matrix		Groundwater						
SAL Sample Number		1305560-25						
Date/Time Collected		06/11/13 08:47						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	1.0	EPA 351.2	0.20	0.05	06/22/13 09:11	06/26/13 10:14	1
Nitrate+Nitrite (N)	mg/L	4.7	EPA 300.0	0.08	0.02		06/11/13 18:26	1
Sample Description		TA2-PZ-09-TU19						
Matrix		Groundwater						
SAL Sample Number		1305560-26						
Date/Time Collected		06/10/13 13:29						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						
<u>Client Provided Field Data</u>								
pH		4.30						
Temperature		26.8 °C						
Conductivity		166.9 umhos						
Dissolved Oxygen		1.88 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.014 I	EPA 350.1	0.040	0.009		06/26/13 12:34	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Chloride	mg/L	2.8	EPA 300.0	0.20	0.050		06/11/13 18:27	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Nitrate (as N)	mg/L	3.4	EPA 300.0	0.04	0.01		06/11/13 18:27	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01		06/11/13 18:27	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	1.4	EPA 351.2	0.20	0.05	06/22/13 09:11	06/26/13 10:30	1
Nitrate+Nitrite (N)	mg/L	3.5	EPA 300.0	0.08	0.02		06/11/13 18:27	1
Sample Description		TA2-PZ-16-TU19						
Matrix		Groundwater						
SAL Sample Number		1305560-27						
Date/Time Collected		06/10/13 13:44						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						

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July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA2-PZ-16-TU19						
Matrix		Groundwater						
SAL Sample Number		1305560-27						
Date/Time Collected		06/10/13 13:44						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						

Client Provided Field Data

pH	5.03
Temperature	25.7 °C
Conductivity	196.2 umhos
Dissolved Oxygen	1.31 mg/L

Inorganics

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/26/13 12:36	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Chloride	mg/L	5.9	EPA 300.0	0.20	0.050		06/11/13 18:36	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Nitrate (as N)	mg/L	1.8	EPA 300.0	0.04	0.01		06/11/13 18:36	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01		06/11/13 18:36	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	0.46	EPA 351.2	0.20	0.05	06/22/13 09:11	06/26/13 10:32	1
Nitrate+Nitrite (N)	mg/L	1.8	EPA 300.0	0.08	0.02		06/11/13 18:36	1

Sample Description	TA2-PZ-09-TU21
Matrix	Groundwater
SAL Sample Number	1305560-28
Date/Time Collected	06/10/13 13:04
Collected by	Sean Schmidt
Date/Time Received	06/10/13 16:00

Client Provided Field Data

pH	4.07
Temperature	26.9 °C
Conductivity	166.7 umhos
Dissolved Oxygen	1.27 mg/L

Inorganics

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/26/13 12:38	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Chloride	mg/L	3.6	EPA 300.0	0.20	0.050		06/11/13 18:54	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1

Florida Certification Number: E84129

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July 23, 2013

Work Order: 1305560

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA2-PZ-09-TU21							
Matrix		Groundwater						
SAL Sample Number		1305560-28						
Date/Time Collected		06/10/13 13:04						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						
<u>Client Provided Field Data</u>								
pH		4.07						
Temperature		26.9 °C						
Conductivity		166.7 umhos						
Dissolved Oxygen		1.27 mg/L						
Nitrate (as N)	mg/L	3.9	EPA 300.0	0.04	0.01		06/11/13 18:54	1
Nitrite (as N)	mg/L	0.17	EPA 300.0	0.04	0.01		06/11/13 18:54	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	0.82	EPA 351.2	0.20	0.05	06/22/13 09:11	06/26/13 10:33	1
Nitrate+Nitrite (N)	mg/L	4.0	EPA 300.0	0.08	0.02		06/11/13 18:54	1
Sample Description	TA2-PZ-16-TU21							
Matrix		Groundwater						
SAL Sample Number		1305560-29						
Date/Time Collected		06/10/13 13:20						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						
<u>Client Provided Field Data</u>								
pH		4.91						
Temperature		25.7 °C						
Conductivity		198.4 umhos						
Dissolved Oxygen		1.36 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/26/13 12:40	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Chloride	mg/L	6.4	EPA 300.0	0.20	0.050		06/11/13 19:03	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Nitrate (as N)	mg/L	2.3	EPA 300.0	0.04	0.01		06/11/13 19:03	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01		06/11/13 19:03	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	0.49	EPA 351.2	0.20	0.05	06/22/13 09:11	06/26/13 10:34	1
Nitrate+Nitrite (N)	mg/L	2.3	EPA 300.0	0.08	0.02		06/11/13 19:03	1

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

July 23, 2013

Work Order: 1305560

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31126 - Ion Chromatography 300.0 Prep										
Blank (BF31126-BLK1) Prepared & Analyzed: 06/11/13										
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BF31126-BS1) Prepared & Analyzed: 06/11/13										
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4		93	85-115		
Chloride	2.77	0.20	0.050	mg/L	3.0		92	85-115		
Nitrate (as N)	1.57	0.04	0.01	mg/L	1.7		92	85-115		
LCS Dup (BF31126-BSD1) Prepared & Analyzed: 06/11/13										
Chloride	2.99	0.20	0.050	mg/L	3.0		100	85-115	8	200
Nitrate (as N)	1.69	0.04	0.01	mg/L	1.7		99	85-115	7	200
Nitrite (as N)	1.46	0.04	0.01	mg/L	1.4		104	85-115	12	200
Matrix Spike (BF31126-MS1) Source: 1305556-02 Prepared: 06/10/13 Analyzed: 06/11/13										
Nitrate (as N)	112	0.04	0.01	mg/L	1.7	111	99	85-115		
Nitrite (as N)	1.34	0.04	0.01	mg/L	1.4	0.0320	93	85-115		
Chloride	21.3	0.20	0.050	mg/L	3.0	18.6	91	80-120		
Matrix Spike (BF31126-MS2) Source: 1305571-09 Prepared & Analyzed: 06/11/13										
Chloride	30.0 L	0.20	0.050	mg/L	3.0	75.4	NR	80-120		
Nitrate (as N)	17.2	0.04	0.01	mg/L	1.7	15.5	100	85-115		
Nitrite (as N)	1.54	0.04	0.01	mg/L	1.4	ND	110	85-115		
Batch BF31206 - COD prep										
Blank (BF31206-BLK1) Prepared & Analyzed: 06/12/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						

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July 23, 2013

Work Order: 1305560

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31206 - COD prep										
LCS (BF31206-BS1) Prepared & Analyzed: 06/12/13										
Chemical Oxygen Demand	51	25	10	mg/L	50	102	90-110			
Matrix Spike (BF31206-MS1) Source: 1305937-01 Prepared & Analyzed: 06/12/13										
Chemical Oxygen Demand	83	25	10	mg/L	50	26	114	85-115		
Matrix Spike Dup (BF31206-MSD1) Source: 1305937-01 Prepared & Analyzed: 06/12/13										
Chemical Oxygen Demand	83	25	10	mg/L	50	26	114	85-115	0	32
Batch BF31208 - Ion Chromatography 300.0 Prep										
Blank (BF31208-BLK1) Prepared & Analyzed: 06/12/13										
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Sulfate	0.20 U	0.60	0.20	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
Fluoride	0.010 U	0.040	0.010	mg/L						
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						
LCS (BF31208-BS1) Prepared & Analyzed: 06/12/13										
Nitrite (as N)	1.32	0.04	0.01	mg/L	1.4	94	85-115			
Orthophosphate as P	0.872	0.040	0.010	mg/L	0.90	97	85-115			
Chloride	2.82	0.20	0.050	mg/L	3.0	94	85-115			
Fluoride	0.850	0.040	0.010	mg/L	0.90	94	85-115			
Nitrate (as N)	1.59	0.04	0.01	mg/L	1.7	94	85-115			
Sulfate	8.62	0.60	0.20	mg/L	9.0	96	85-115			
LCS Dup (BF31208-BSD1) Prepared & Analyzed: 06/12/13										
Fluoride	0.832	0.040	0.010	mg/L	0.90	92	85-115	2	200	
Chloride	2.75	0.20	0.050	mg/L	3.0	92	85-115	3	200	
Orthophosphate as P	0.846	0.040	0.010	mg/L	0.90	94	85-115	3	200	
Nitrate (as N)	1.56	0.04	0.01	mg/L	1.7	91	85-115	2	200	
Sulfate	8.15	0.60	0.20	mg/L	9.0	91	85-115	6	200	
Nitrite (as N)	1.29	0.04	0.01	mg/L	1.4	92	85-115	2	200	

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July 23, 2013

Work Order: 1305560

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch BF31208 - Ion Chromatography 300.0 Prep

Matrix Spike (BF31208-MS1)	Source: 1305560-08				Prepared & Analyzed: 06/12/13				
Chloride	30.0 L	0.20	0.050	mg/L	3.0	80.1	NR	80-120	
Sulfate	57.4	0.60	0.20	mg/L	9.0	48.1	104	85-115	
Orthophosphate as P	0.819	0.040	0.010	mg/L	0.90	ND	91	85-115	
Nitrite (as N)	1.52	0.04	0.01	mg/L	1.4	ND	108	85-115	
Nitrate (as N)	14.4	0.04	0.01	mg/L	1.7	12.7	101	85-115	
Fluoride	1.10	0.040	0.010	mg/L	0.90	0.138	107	85-115	
Matrix Spike (BF31208-MS2)	Source: 1305560-18				Prepared & Analyzed: 06/12/13				
Chloride	9.34	0.20	0.050	mg/L	3.0	6.11	108	80-120	
Orthophosphate as P	0.891	0.040	0.010	mg/L	0.90	ND	99	85-115	
Nitrite (as N)	1.28	0.04	0.01	mg/L	1.4	ND	91	85-115	
Fluoride	0.991	0.040	0.010	mg/L	0.90	0.0380	106	85-115	
Sulfate	60.0	0.60	0.20	mg/L	9.0	51.3	97	85-115	
Nitrate (as N)	4.62	0.04	0.01	mg/L	1.7	2.87	103	85-115	

Batch BF31209 - Ion Chromatography 300.0 Prep

Blank (BF31209-BLK1)	Prepared & Analyzed: 06/11/13									
Chloride	0.050 U	0.20	0.050	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
LCS (BF31209-BS1)	Prepared & Analyzed: 06/11/13									
Nitrate (as N)	1.58	0.04	0.01	mg/L	1.7		93	85-115		
Nitrite (as N)	1.28	0.04	0.01	mg/L	1.4		92	85-115		
Chloride	2.75	0.20	0.050	mg/L	3.0		92	85-115		

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July 23, 2013

Work Order: 1305560

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	
Batch BF31209 - Ion Chromatography 300.0 Prep											
LCS Dup (BF31209-BSD1)											
Chloride	2.76	0.20	0.050	mg/L	3.0	92	85-115	0.04	200		
Nitrate (as N)	1.59	0.04	0.01	mg/L	1.7	93	85-115	0.7	200		
Nitrite (as N)	1.28	0.04	0.01	mg/L	1.4	92	85-115	0.08	200		
Matrix Spike (BF31209-MS1)											
	Source: 1305562-18				Prepared & Analyzed: 06/11/13						
Nitrate (as N)	11.9	0.04	0.01	mg/L	1.7	10.2	104	85-115			
Chloride	16.2	0.20	0.050	mg/L	3.0	12.9	112	80-120			
Nitrite (as N)	1.31	0.04	0.01	mg/L	1.4	ND	94	85-115			
Matrix Spike (BF31209-MS2)											
	Source: 1305590-02				Prepared & Analyzed: 06/11/13						
Nitrate (as N)	9.02	0.04	0.01	mg/L	1.7	7.31	101	85-115			
Nitrite (as N)	1.35	0.04	0.01	mg/L	1.4	ND	96	85-115			
Chloride	19.8	0.20	0.050	mg/L	3.0	16.4	112	80-120			
Batch BF31217 - Digestion for TP by EPA 365.2/SM4500PE											
Blank (BF31217-BLK1)											
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L		Prepared: 06/12/13 Analyzed: 06/17/13					
LCS (BF31217-BS1)											
Phosphorous - Total as P	0.787	0.040	0.010	mg/L	0.80	98	90-110				
Matrix Spike (BF31217-MS1)											
	Source: 1305865-01				Prepared: 06/12/13 Analyzed: 06/17/13						
Phosphorous - Total as P	uses at 90%	0.040	0.010	mg/L	1.0	0.0275	90	90-110			
Matrix Spike Dup (BF31217-MSD1)											
	Source: 1305865-01				Prepared: 06/12/13 Analyzed: 06/17/13						
Phosphorous - Total as P	0.982	0.040	0.010	mg/L	1.0	0.0275	95	90-110	6	25	

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July 23, 2013

Work Order: 1305560

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31227 - COD prep										
Blank (BF31227-BLK1) Prepared & Analyzed: 06/12/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31227-BS1) Prepared & Analyzed: 06/12/13										
Chemical Oxygen Demand	46	25	10	mg/L	50	92	90-110			
Matrix Spike (BF31227-MS1) Source: 1305571-07 Prepared & Analyzed: 06/12/13										
Chemical Oxygen Demand	53	25	10	mg/L	50	ND	106	85-115		
Matrix Spike Dup (BF31227-MSD1) Source: 1305571-07 Prepared & Analyzed: 06/12/13										
Chemical Oxygen Demand	53	25	10	mg/L	50	ND	106	85-115	0	32
Batch BF31313 - COD prep										
Blank (BF31313-BLK1) Prepared & Analyzed: 06/13/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31313-BS1) Prepared & Analyzed: 06/13/13										
Chemical Oxygen Demand	49	25	10	mg/L	50	98	90-110			
LCS (BF31313-BS2) Prepared & Analyzed: 06/13/13										
Chemical Oxygen Demand	51	25	10	mg/L	50	102	90-110			
LCS (BF31313-BS3) Prepared & Analyzed: 06/13/13										
Chemical Oxygen Demand	53	25	10	mg/L	50	106	90-110			
LCS (BF31313-BS4) Prepared & Analyzed: 06/13/13										
Chemical Oxygen Demand	51	25	10	mg/L	50	102	90-110			

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July 23, 2013

Work Order: 13055560

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31313 - COD prep										
LCS (BF31313-BS5) Prepared & Analyzed: 06/13/13										
Chemical Oxygen Demand	49	25	10	mg/L	50	98	90-110			
Matrix Spike (BF31313-MS1) Source: 1305558-24 Prepared & Analyzed: 06/13/13										
Chemical Oxygen Demand	51	25	10	mg/L	50	ND	102	85-115		
Matrix Spike Dup (BF31313-MSD1) Source: 1305558-24 Prepared & Analyzed: 06/13/13										
Chemical Oxygen Demand	51	25	10	mg/L	50	ND	102	85-115	0	32
Batch BF31409 - COD prep										
Blank (BF31409-BLK1) Prepared & Analyzed: 06/14/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31409-BS1) Prepared & Analyzed: 06/14/13										
Chemical Oxygen Demand	51	25	10	mg/L	50	102	90-110			
Matrix Spike (BF31409-MS1) Source: 1305590-07 Prepared & Analyzed: 06/14/13										
Chemical Oxygen Demand	95	25	10	mg/L	50	49	92	85-115		
Matrix Spike Dup (BF31409-MSD1) Source: 1305590-07 Prepared & Analyzed: 06/14/13										
Chemical Oxygen Demand	95	25	10	mg/L	50	49	92	85-115	0	32
Batch BF31413 - Ion Chromatography 300.0 Prep										
Blank (BF31413-BLK1) Prepared & Analyzed: 06/14/13										
Fluoride	0.010 U	0.040	0.010	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Sulfate	0.20 U	0.60	0.20	mg/L						
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						

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July 23, 2013

Work Order: 1305560

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31413 - Ion Chromatography 300.0 Prep										
LCS (BF31413-BS1)										
Prepared & Analyzed: 06/14/13										
Nitrite (as N)	1.38	0.04	0.01	mg/L	1.4	98	85-115			
Orthophosphate as P	0.845	0.040	0.010	mg/L	0.90	94	85-115			
Sulfate	8.52	0.60	0.20	mg/L	9.0	95	85-115			
Nitrate (as N)	1.57	0.04	0.01	mg/L	1.7	93	85-115			
Fluoride	0.865	0.040	0.010	mg/L	0.90	96	85-115			
LCS Dup (BF31413-BSD1)										
Prepared & Analyzed: 06/14/13										
Nitrite (as N)	1.41	0.04	0.01	mg/L	1.4	101	85-115	3	200	
Fluoride	0.920	0.040	0.010	mg/L	0.90	102	85-115	6	200	
Sulfate	8.67	0.60	0.20	mg/L	9.0	96	85-115	2	200	
Orthophosphate as P	0.841	0.040	0.010	mg/L	0.90	93	85-115	0.5	200	
Nitrate (as N)	1.61	0.04	0.01	mg/L	1.7	95	85-115	3	200	
Matrix Spike (BF31413-MS1)										
Source: 1305562-06										
Prepared & Analyzed: 06/14/13										
Orthophosphate as P	0.921	0.040	0.010	mg/L	0.90	ND	102	85-115		
Nitrate (as N)	32.8	0.04	0.01	mg/L	1.7	30.7	122	85-115		
Fluoride	0.906	0.040	0.010	mg/L	0.90	ND	101	85-115		
Sulfate	52.0	0.60	0.20	mg/L	9.0	43.6	93	85-115		
Nitrite (as N)	1.48	0.04	0.01	mg/L	1.4	ND	105	85-115		
Matrix Spike (BF31413-MS2)										
Source: 1305570-08										
Prepared & Analyzed: 06/15/13										
Nitrate (as N)	1.61	0.04	0.01	mg/L	1.7	ND	95	85-115		
Orthophosphate as P	8.25	0.040	0.010	mg/L	0.90	7.29	107	85-115		
Sulfate	58.5	0.60	0.20	mg/L	9.0	49.8	97	85-115		
Nitrite (as N)	1.27	0.04	0.01	mg/L	1.4	ND	91	85-115		
Fluoride	2.01	0.040	0.010	mg/L	0.90	1.10	101	85-115		

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July 23, 2013

Work Order: 1305560

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31419 - COD prep										
Blank (BF31419-BLK1) Prepared & Analyzed: 06/14/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31419-BS1) Prepared & Analyzed: 06/14/13										
Chemical Oxygen Demand	55	25	10	mg/L	50		110	90-110		
Matrix Spike (BF31419-MS1) Source: 1305560-07 Prepared & Analyzed: 06/14/13										
Chemical Oxygen Demand	53	25	10	mg/L	50	ND	106	85-115		
Matrix Spike Dup (BF31419-MSD1) Source: 1305560-07 Prepared & Analyzed: 06/14/13										
Chemical Oxygen Demand	53	25	10	mg/L	50	ND	106	85-115	0	32
Batch BF31808 - TOC prep										
Blank (BF31808-BLK1) Prepared & Analyzed: 06/18/13										
Total Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BF31808-BS1) Prepared & Analyzed: 06/18/13										
Total Organic Carbon	9.73	1.0	0.50	mg/L	10		97	90-110		
Matrix Spike (BF31808-MS1) Source: 1305997-01 Prepared & Analyzed: 06/18/13										
Total Organic Carbon	15.3	1.0	0.50	mg/L	10	5.08	102	85-115		
Matrix Spike Dup (BF31808-MSD1) Source: 1305997-01 Prepared & Analyzed: 06/18/13										
Total Organic Carbon	15.2	1.0	0.50	mg/L	10	5.08	102	85-115	0.4	10
Batch BF31824 - Ion Chromatography 300.0 Prep										
Blank (BF31824-BLK1) Prepared & Analyzed: 06/18/13										
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						

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July 23, 2013

Work Order: 1305560

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31824 - Ion Chromatography 300.0 Prep										
LCS (BF31824-BS1) Prepared & Analyzed: 06/18/13										
Chloride	2.83	0.20	0.050	mg/L	3.0	94	85-115			
Nitrate (as N)	1.58	0.04	0.01	mg/L	1.7	93	85-115			
LCS Dup (BF31824-BSD1) Prepared & Analyzed: 06/18/13										
Nitrate (as N)	1.58	0.04	0.01	mg/L	1.7	93	85-115	0.4	200	
Chloride	2.82	0.20	0.050	mg/L	3.0	94	85-115	0.4	200	
Matrix Spike (BF31824-MS1) Source: 1305558-05 Prepared & Analyzed: 06/18/13										
Chloride	107	2.0	0.50	mg/L	30	79.6	92	80-120		
Nitrate (as N)	63.2	0.40	0.10	mg/L	17	45.9	102	85-115		
Matrix Spike (BF31824-MS2) Source: 1305987-02 Prepared & Analyzed: 06/18/13										
Chloride	30.0 L	0.20	0.050	mg/L	3.0	215	NR	80-120		
Nitrate (as N)	1.62	0.04	0.01	mg/L	1.7	0.0880	90	85-115		
Batch BF31832 - COD prep										
Blank (BF31832-BLK1) Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31832-BS1) Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	53	25	10	mg/L	50	105	90-110			
Matrix Spike (BF31832-MS1) Source: 1305562-08 Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	51	25	10	mg/L	50	ND	102	85-115		
Matrix Spike Dup (BF31832-MSD1) Source: 1305562-08 Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	49	25	10	mg/L	50	ND	98	85-115	4	32

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Tampa, FL 33619

July 23, 2013

Work Order: 1305560

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31913 - Ion Chromatography 300.0 Prep										
Blank (BF31913-BLK1) Prepared & Analyzed: 06/19/13										
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BF31913-BS1) Prepared & Analyzed: 06/19/13										
Chloride	2.78	0.20	0.050	mg/L	3.0		92	85-115		
Nitrite (as N)	1.38	0.04	0.01	mg/L	1.4		98	85-115		
Nitrate (as N)	1.56	0.04	0.01	mg/L	1.7		92	85-115		
LCS Dup (BF31913-BSD1) Prepared & Analyzed: 06/19/13										
Chloride	2.92	0.20	0.050	mg/L	3.0		97	85-115	5	200
Nitrite (as N)	1.45	0.04	0.01	mg/L	1.4		103	85-115	5	200
Nitrate (as N)	1.60	0.04	0.01	mg/L	1.7		94	85-115	3	200
Matrix Spike (BF31913-MS1) Source: 1305905-02 Prepared & Analyzed: 06/19/13										
Chloride	15.7	0.20	0.050	mg/L	3.0	12.6	104	80-120		
Nitrite (as N)	1.39	0.04	0.01	mg/L	1.4	0.0960	92	85-115		
Nitrate (as N)	5.22	0.04	0.01	mg/L	1.7	3.44	105	85-115		
Matrix Spike (BF31913-MS2) Source: 1305560-01 Prepared & Analyzed: 06/19/13										
Nitrite (as N)	16.8	0.40	0.10	mg/L	14	0.905	113	85-115		
Chloride	108	2.0	0.50	mg/L	30	78.8	96	80-120		
Nitrate (as N)	18.0	0.40	0.10	mg/L	17	1.75	96	85-115		
Batch BF31914 - Ion Chromatography 300.0 Prep										
Blank (BF31914-BLK1) Prepared & Analyzed: 06/19/13										
Chloride	0.050 U	0.20	0.050	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 BF31914 - Ion Chromatography 300.0 Prep										
LCS (BF31914-BS1) Prepared & Analyzed: 06/19/13										
Chloride	2.77	0.20	0.050	mg/L	3.0		92	85-115		
LCS Dup (BF31914-BSD1) Prepared & Analyzed: 06/19/13										
Chloride	2.78	0.20	0.050	mg/L	3.0		93	85-115	0.5	200
Matrix Spike (BF31914-MS1) Source: 1305560-16 Prepared & Analyzed: 06/19/13										
Chloride	82.2	2.0	0.50	mg/L	30	52.1	100	80-120		
Matrix Spike (BF31914-MS2) Source: 1305571-15 Prepared & Analyzed: 06/19/13										
Chloride	94.9	2.0	0.50	mg/L	30	67.3	92	80-120		
Batch BF31915 - COD prep										
Blank (BF31915-BLK1) Prepared: 06/19/13 Analyzed: 06/20/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31915-BS1) Prepared: 06/19/13 Analyzed: 06/20/13										
Chemical Oxygen Demand	55	25	10	mg/L	50		110	90-110		
Matrix Spike (BF31915-MS1) Source: 1305562-05 Prepared: 06/19/13 Analyzed: 06/20/13										
Chemical Oxygen Demand	67	25	10	mg/L	50	16	102	85-115		
Matrix Spike Dup (BF31915-MSD1) Source: 1305562-05 Prepared: 06/19/13 Analyzed: 06/20/13										
Chemical Oxygen Demand	67	25	10	mg/L	50	16	102	85-115	0	32
Batch BF31934 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF31934-BLK1) Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31934 - Digestion for TP by EPA 365.2/SM4500PE										
LCS (BF31934-BS1) Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	0.770	0.040	0.010	mg/L	0.80	96	90-110			
Matrix Spike (BF31934-MS1) Source: 1305560-14 Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	1.02	0.040	0.010	mg/L	1.0	0.0694	96	90-110		
Matrix Spike (BF31934-MS2) Source: 1305571-10 Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	0.990	0.040	0.010	mg/L	1.0	0.0531	94	90-110		
Matrix Spike Dup (BF31934-MSD1) Source: 1305560-14 Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	1.03	0.040	0.010	mg/L	1.0	0.0694	96	90-110	0.8	25
Matrix Spike Dup (BF31934-MSD2) Source: 1305571-10 Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	1.03	0.040	0.010	mg/L	1.0	0.0531	98	90-110	4	25

Batch BF32042 - alkalinity

Blank (BF32042-BLK1) Prepared & Analyzed: 06/19/13										
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BF32042-BS1) Prepared & Analyzed: 06/19/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	96	90-110			
Matrix Spike (BF32042-MS1) Source: 1306090-01 Prepared & Analyzed: 06/19/13										
Total Alkalinity	240	8.0	2.0	mg/L	120	130	87	80-120		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32042 - alkalinity										
Matrix Spike Dup (BF32042-MSD1) Source: 1306090-01 Prepared & Analyzed: 06/19/13										
Total Alkalinity	240	8.0	2.0	mg/L	120	130	87	80-120	0	26
Batch BF32202 - alkalinity										
Blank (BF32202-BLK1) Prepared & Analyzed: 06/21/13										
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BF32202-BS1) Prepared & Analyzed: 06/21/13										
Total Alkalinity	130	8.0	2.0	mg/L	120		105	90-110		
Matrix Spike (BF32202-MS1) Source: 1305562-16 Prepared & Analyzed: 06/21/13										
Total Alkalinity	250	8.0	2.0	mg/L	120	130	96	80-120		
Matrix Spike Dup (BF32202-MSD1) Source: 1305562-16 Prepared & Analyzed: 06/21/13										
Total Alkalinity	250	8.0	2.0	mg/L	120	130	96	80-120	0	26
Batch BF32203 - Digestion for TKN by EPA 351.2										
Blank (BF32203-BLK1) Prepared: 06/22/13 Analyzed: 06/25/13										
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF32203-BS1) Prepared: 06/22/13 Analyzed: 06/25/13										
Total Kjeldahl Nitrogen	2.61	0.20	0.05	mg/L	2.5		103	90-110		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32203 - Digestion for TKN by EPA 351.2										
Matrix Spike (BF32203-MS1) Source: 1305560-06 Prepared: 06/22/13 Analyzed: 06/25/13										
Total Kjeldahl Nitrogen	4.43	0.20	0.05	mg/L	2.7	1.58	107	90-110		
Batch BF32204 - Digestion for TKN by EPA 351.2										
Blank (BF32204-BLK1) Prepared: 06/22/13 Analyzed: 06/26/13										
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF32204-BS1) Prepared: 06/22/13 Analyzed: 06/26/13										
Total Kjeldahl Nitrogen	2.54	0.20	0.05	mg/L	2.5		100	90-110		
Matrix Spike (BF32204-MS1) Source: 1305560-25 Prepared: 06/22/13 Analyzed: 06/26/13										
Total Kjeldahl Nitrogen	3.56	0.20	0.05	mg/L	2.5	1.05	99	90-110		
Matrix Spike (BF32204-MS2) Source: 1305562-24 Prepared: 06/22/13 Analyzed: 06/26/13										
Total Kjeldahl Nitrogen	3.68	0.20	0.05	mg/L	2.5	0.892	110	90-110		
Matrix Spike Dup (BF32204-MSD1) Source: 1305560-25 Prepared: 06/22/13 Analyzed: 06/26/13										
Total Kjeldahl Nitrogen	3.74	0.20	0.05	mg/L	2.5	1.05	106	90-110	5	20
Matrix Spike Dup (BF32204-MSD2) Source: 1305562-24 Prepared: 06/22/13 Analyzed: 06/26/13										
Total Kjeldahl Nitrogen	3.60	0.20	0.05	mg/L	2.5	0.892	107	90-110	2	20
Batch BF32417 - Ion Chromatography 300.0 Prep										
Blank (BF32417-BLK1) Prepared & Analyzed: 06/24/13										
Chloride	0.050 U	0.20	0.050	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 BF32417 - Ion Chromatography 300.0 Prep										
LCS (BF32417-BS1) Prepared & Analyzed: 06/24/13										
Chloride	3.02	0.20	0.050	mg/L	3.0	101	85-115			
LCS Dup (BF32417-BSD1) Prepared & Analyzed: 06/24/13										
Chloride	2.95	0.20	0.050	mg/L	3.0	98	85-115	3	200	
Matrix Spike (BF32417-MS1) Source: 1305571-06 Prepared & Analyzed: 06/24/13										
Chloride	101	2.0	0.50	mg/L	30	72.0	97	80-120		
Matrix Spike (BF32417-MS2) Source: 1305987-03 Prepared & Analyzed: 06/24/13										
Chloride	1,150	20	5.0	mg/L	300	833	104	80-120		
Batch BF32508 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF32508-BLK1) Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						
LCS (BF32508-BS1) Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.764	0.040	0.010	mg/L	0.80	95	90-110			
Matrix Spike (BF32508-MS1) Source: 1305558-06 Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.978	0.040	0.010	mg/L	1.0	0.0237	95	90-110		
Matrix Spike (BF32508-MS2) Source: 1305558-15 Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.993	0.040	0.010	mg/L	1.0	0.0486	94	90-110		
Matrix Spike Dup (BF32508-MSD1) Source: 1305558-06 Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.995	0.040	0.010	mg/L	1.0	0.0237	97	90-110	2	25

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32508 - Digestion for TP by EPA 365.2/SM4500PE										
Matrix Spike Dup (BF32508-MSD2)		Source: 1305558-15				Prepared: 06/25/13 Analyzed: 06/28/13				
Phosphorous - Total as P	0.987	0.040	0.010	mg/L	1.0	0.0486	94	90-110	0.7	25
Batch BF32601 - Ammonia by SEAL										
Blank (BF32601-BLK1)		Prepared & Analyzed: 06/26/13								
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BF32601-BS1)		Prepared & Analyzed: 06/26/13								
Ammonia as N	0.50	0.040	0.009	mg/L	0.50		101	90-110		
Matrix Spike (BF32601-MS1)		Source: 1305560-21				Prepared & Analyzed: 06/26/13				
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	ND	106	90-110		
Matrix Spike (BF32601-MS2)		Source: 1305562-23				Prepared & Analyzed: 06/26/13				
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	ND	100	90-110		
Matrix Spike Dup (BF32601-MSD1)		Source: 1305560-21				Prepared & Analyzed: 06/26/13				
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	ND	106	90-110	0.2	10
Matrix Spike Dup (BF32601-MSD2)		Source: 1305562-23				Prepared & Analyzed: 06/26/13				
Ammonia as N	0.49	0.040	0.009	mg/L	0.50	ND	98	90-110	2	10
Batch BF32602 - Ammonia by SEAL										
Blank (BF32602-BLK1)		Prepared & Analyzed: 06/27/13								
Ammonia as N	0.009 U	0.040	0.009	mg/L						

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch BF32602 - Ammonia by SEAL

LCS (BF32602-BS1)	Prepared & Analyzed: 06/27/13								
Ammonia as N	0.47	0.040	0.009	mg/L	0.50	95	90-110		
Matrix Spike (BF32602-MS1)	Source: 1305556-12 Prepared & Analyzed: 06/27/13								
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	ND	100	90-110	
Matrix Spike (BF32602-MS2)	Source: 1305560-12 Prepared & Analyzed: 06/27/13								
Ammonia as N	0.47	0.040	0.009	mg/L	0.50	ND	94	90-110	
Matrix Spike Dup (BF32602-MSD1)	Source: 1305556-12 Prepared & Analyzed: 06/27/13								
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	ND	99	90-110	0.3
Matrix Spike Dup (BF32602-MSD2)	Source: 1305560-12 Prepared & Analyzed: 06/27/13								
Ammonia as N	0.48	0.040	0.009	mg/L	0.50	ND	95	90-110	1
									10

Batch BF32810 - alkalinity

Blank (BF32810-BLK1)	Prepared & Analyzed: 06/27/13							
Total Alkalinity	2.0 U	8.0	2.0	mg/L				
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L				
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L				
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L				
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L				
Blank (BF32810-BLK2)	Prepared & Analyzed: 06/27/13							
Total Alkalinity	2.0 U	8.0	2.0	mg/L				
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L				
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L				
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L				
Bicarbonate 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 BF32810 - alkalinity										
LCS (BF32810-BS1) Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	96	90-110			
LCS (BF32810-BS2) Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	96	90-110			
Matrix Spike (BF32810-MS1) Source: 1305593-13 Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	11	87	80-120		
Matrix Spike (BF32810-MS2) Source: 1305558-05 Prepared & Analyzed: 06/27/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120		
Matrix Spike Dup (BF32810-MSD1) Source: 1305593-13 Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	11	87	80-120	0	26
Matrix Spike Dup (BF32810-MSD2) Source: 1305558-05 Prepared & Analyzed: 06/27/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120	0	26
Batch BF32811 - alkalinity										
Blank (BF32811-BLK1) Prepared & Analyzed: 06/25/13										
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BF32811-BS1) Prepared & Analyzed: 06/25/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	96	90-110			

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32811 - alkalinity										
Matrix Spike (BF32811-MS1) Source: 1306198-02 Prepared & Analyzed: 06/25/13										
Total Alkalinity	190	8.0	2.0	mg/L	120	65	96	80-120		
Matrix Spike Dup (BF32811-MSD1) Source: 1306198-02 Prepared & Analyzed: 06/25/13										
Total Alkalinity	190	8.0	2.0	mg/L	120	65	96	80-120	0	26
Batch BF32817 - Digestion for TKN by EPA 351.2										
Blank (BF32817-BLK1) Prepared: 06/28/13 Analyzed: 07/02/13										
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF32817-BS1) Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	2.69	0.20	0.05	mg/L	2.5		106	90-110		
Matrix Spike (BF32817-MS1) Source: 1305557-05 Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	4.56	0.20	0.05	mg/L	2.5	2.05	99	90-110		
Matrix Spike Dup (BF32817-MSD1) Source: 1305557-05 Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	4.61	0.20	0.05	mg/L	2.5	2.05	101	90-110	1	20
Batch BG30313 - Ammonia by SEAL										
Blank (BG30313-BLK1) Prepared & Analyzed: 07/03/13										
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BG30313-BS1) Prepared & Analyzed: 07/03/13										
Ammonia as N	0.52	0.040	0.009	mg/L	0.50		104	90-110		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BG30313 - Ammonia by SEAL										
Matrix Spike (BG30313-MS1) Source: 1305558-03 Prepared & Analyzed: 07/03/13										
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	0.019	98	90-110		
Matrix Spike (BG30313-MS2) Source: 1305558-04 Prepared & Analyzed: 07/03/13										
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	103	90-110		
Matrix Spike Dup (BG30313-MSD1) Source: 1305558-03 Prepared & Analyzed: 07/03/13										
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	0.019	101	90-110	3	10
Matrix Spike Dup (BG30313-MSD2) Source: 1305558-04 Prepared & Analyzed: 07/03/13										
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	102	90-110	0.8	10

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

July 23, 2013

Work Order: 1305560

Inorganic, Dissolved - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31809 - DOC prep										
Blank (BF31809-BLK1) Prepared & Analyzed: 06/17/13										
Dissolved Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BF31809-BS1) Prepared & Analyzed: 06/17/13										
Dissolved Organic Carbon	10.3	1.0	0.50	mg/L	10	103	90-110			
Matrix Spike (BF31809-MS1) Source: 1305997-01 Prepared & Analyzed: 06/17/13										
Dissolved Organic Carbon	13.8	1.0	0.50	mg/L	10	4.20	96	85-125		
Matrix Spike Dup (BF31809-MSD1) Source: 1305997-01 Prepared & Analyzed: 06/17/13										
Dissolved Organic Carbon	14.4	1.0	0.50	mg/L	10	4.20	102	85-125	4	25
Batch BF32719 - DOC prep										
Blank (BF32719-BLK1) Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BF32719-BS1) Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	9.65	1.0	0.50	mg/L	10	96	90-110			
Matrix Spike (BF32719-MS1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	9.33	1.0	0.50	mg/L	10	ND	93	85-125		
Matrix Spike Dup (BF32719-MSD1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	8.90	1.0	0.50	mg/L	10	ND	89	85-125	5	25

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Tampa, FL 33619

July 23, 2013

Work Order: 13055560

Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31207 - Metals Preparation for EPA Method 200.7										
Blank (BF31207-BLK1)										
Manganese	0.0010 U	0.010	0.0010	mg/L						
Calcium	0.042 U	0.50	0.042	mg/L						
Magnesium	0.020 U	0.50	0.020	mg/L						
Potassium	0.17	0.050	0.010	mg/L						
Iron	0.020 U	0.10	0.020	mg/L						
Sodium	0.13 U	0.50	0.13	mg/L						
Boron	0.050 U	0.10	0.050	mg/L						
Blank (BF31207-BLK2)										
Magnesium	0.027 I	0.50	0.020	mg/L						
Calcium	0.042 U	0.50	0.042	mg/L						
Potassium	0.073	0.050	0.010	mg/L						
Boron	0.050 U	0.10	0.050	mg/L						
Manganese	0.0010 U	0.010	0.0010	mg/L						
Sodium	0.13 U	0.50	0.13	mg/L						
Iron	0.020 U	0.10	0.020	mg/L						
LCS (BF31207-BS1)										
Iron	8.3	0.10	0.020	mg/L	8.0		104	85-115		
Calcium	20	0.50	0.042	mg/L	20		101	85-115		
Potassium	21	0.050	0.010	mg/L	20		103	85-115		
Magnesium	20	0.50	0.020	mg/L	20		100	85-115		
Manganese	0.40	0.010	0.0010	mg/L	0.40		101	85-115		
Sodium	21	0.50	0.13	mg/L	20		107	85-115		
Boron	0.43	0.10	0.050	mg/L	0.40		107	85-115		
Matrix Spike (BF31207-MS1)										
Source: 1305556-06					Prepared & Analyzed: 06/12/13					
Calcium	130	0.50	0.042	mg/L	20	110	94	70-130		
Boron	0.49	0.10	0.050	mg/L	0.40	ND	122	70-130		
Sodium	40	0.50	0.13	mg/L	20	21	95	70-130		
Iron	8.3	0.10	0.020	mg/L	8.0	ND	104	70-130		
Potassium	22	0.050	0.010	mg/L	20	1.7	103	70-130		
Magnesium	23	0.50	0.020	mg/L	20	2.9	102	70-130		
Manganese	0.44	0.010	0.0010	mg/L	0.40	0.031	101	70-130		

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July 23, 2013

Work Order: 1305560

Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31207 - Metals Preparation for EPA Method 200.7										
Matrix Spike (BF31207-MS2)										
Source: 1305560-16 Prepared & Analyzed: 06/12/13										
Potassium	27	0.050	0.010	mg/L	20	7.2	97	70-130		
Sodium	51	0.50	0.13	mg/L	20	32	98	70-130		
Magnesium	26	0.50	0.020	mg/L	20	7.6	94	70-130		
Iron	8.5	0.10	0.020	mg/L	8.0	0.035	105	70-130		
Calcium	46	0.50	0.042	mg/L	20	27	95	70-130		
Boron	0.51	0.10	0.050	mg/L	0.40	0.067	111	70-130		
Manganese	0.45	0.010	0.0010	mg/L	0.40	0.041	102	70-130		
Matrix Spike Dup (BF31207-MSD1)										
Source: 1305556-06 Prepared & Analyzed: 06/12/13										
Potassium	21	0.050	0.010	mg/L	20	1.7	98	70-130	5	20
Sodium	40	0.50	0.13	mg/L	20	21	98	70-130	1	20
Calcium	130	0.50	0.042	mg/L	20	110	75	70-130	3	20
Manganese	0.44	0.010	0.0010	mg/L	0.40	0.031	103	70-130	1	20
Iron	8.4	0.10	0.020	mg/L	8.0	ND	105	70-130	0.8	20
Magnesium	23	0.50	0.020	mg/L	20	2.9	100	70-130	2	20
Boron	0.50	0.10	0.050	mg/L	0.40	ND	124	70-130	2	20
Matrix Spike Dup (BF31207-MSD2)										
Source: 1305560-16 Prepared & Analyzed: 06/12/13										
Potassium	28	0.050	0.010	mg/L	20	7.2	104	70-130	6	20
Sodium	52	0.50	0.13	mg/L	20	32	100	70-130	0.9	20
Iron	8.5	0.10	0.020	mg/L	8.0	0.035	105	70-130	0.05	20
Manganese	0.44	0.010	0.0010	mg/L	0.40	0.041	101	70-130	1	20
Magnesium	29	0.50	0.020	mg/L	20	7.6	105	70-130	8	20
Boron	0.51	0.10	0.050	mg/L	0.40	0.067	111	70-130	0.4	20
Calcium	48	0.50	0.042	mg/L	20	27	107	70-130	5	20

Batch BF31714 - Metals Preparation for EPA Method 200.7

Blank (BF31714-BLK1)	Prepared: 06/17/13 Analyzed: 06/19/13				
Manganese	0.0010 U	0.010	0.0010	mg/L	
Sodium	0.13 U	0.50	0.13	mg/L	
Calcium	0.042 U	0.50	0.042	mg/L	
Potassium	0.085	0.050	0.010	mg/L	
Boron	0.050 U	0.10	0.050	mg/L	
Iron	0.020 U	0.10	0.020	mg/L	
Magnesium	0.020 U	0.50	0.020	mg/L	

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July 23, 2013

Work Order: 1305560

Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31714 - Metals Preparation for EPA Method 200.7										
LCS (BF31714-BS1)										
Prepared: 06/17/13 Analyzed: 06/19/13										
Magnesium	20	0.50	0.020	mg/L	20		101	85-115		
Potassium	20	0.050	0.010	mg/L	20		100	85-115		
Manganese	0.40	0.010	0.0010	mg/L	0.40		99	85-115		
Boron	0.42	0.10	0.050	mg/L	0.40		105	85-115		
Sodium	21	0.50	0.13	mg/L	20		103	85-115		
Iron	8.1	0.10	0.020	mg/L	8.0		101	85-115		
Calcium	20	0.50	0.042	mg/L	20		100	85-115		
Matrix Spike (BF31714-MS1)										
Source: 1305562-02 Prepared: 06/17/13 Analyzed: 06/19/13										
Magnesium	24	0.50	0.020	mg/L	20	6.2	91	70-130		
Iron	8.1	0.10	0.020	mg/L	8.0	0.053	101	70-130		
Sodium	91	0.50	0.13	mg/L	20	74	85	70-130		
Potassium	25	0.050	0.010	mg/L	20	7.4	90	70-130		
Boron	0.57	0.10	0.050	mg/L	0.40	0.18	98	70-130		
Manganese	0.40	0.010	0.0010	mg/L	0.40	0.0093	97	70-130		
Calcium	37	0.50	0.042	mg/L	20	19	88	70-130		
Matrix Spike (BF31714-MS2)										
Source: 1305867-08 Prepared: 06/17/13 Analyzed: 06/19/13										
Boron	0.59	0.10	0.050	mg/L	0.40	0.17	106	70-130		
Sodium	49	0.50	0.13	mg/L	20	30	95	70-130		
Iron	8.8	0.10	0.020	mg/L	8.0	0.50	104	70-130		
Calcium	53	0.50	0.042	mg/L	20	35	90	70-130		
Potassium	24	0.050	0.010	mg/L	20	5.0	94	70-130		
Magnesium	33	0.50	0.020	mg/L	20	13	96	70-130		
Manganese	0.45	0.010	0.0010	mg/L	0.40	0.038	104	70-130		
Matrix Spike Dup (BF31714-MSD1)										
Source: 1305562-02 Prepared: 06/17/13 Analyzed: 06/19/13										
Magnesium	27	0.50	0.020	mg/L	20	6.2	102	70-130	9	20
Manganese	0.40	0.010	0.0010	mg/L	0.40	0.0093	98	70-130	0.8	20
Boron	0.59	0.10	0.050	mg/L	0.40	0.18	102	70-130	3	20
Sodium	96	0.50	0.13	mg/L	20	74	106	70-130	5	20
Iron	8.3	0.10	0.020	mg/L	8.0	0.053	103	70-130	3	20
Calcium	40	0.50	0.042	mg/L	20	19	104	70-130	8	20
Potassium	29	0.050	0.010	mg/L	20	7.4	107	70-130	12	20

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July 23, 2013

Work Order: 1305560

Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31714 - Metals Preparation for EPA Method 200.7										
Matrix Spike Dup (BF31714-MSD2) Source: 1305867-08 Prepared: 06/17/13 Analyzed: 06/19/13										
Magnesium	34	0.50	0.020	mg/L	20	13	104	70-130	5	20
Boron	0.58	0.10	0.050	mg/L	0.40	0.17	104	70-130	1	20
Manganese	0.45	0.010	0.0010	mg/L	0.40	0.038	102	70-130	2	20
Calcium	56	0.50	0.042	mg/L	20	35	105	70-130	5	20
Potassium	24	0.050	0.010	mg/L	20	5.0	97	70-130	2	20
Sodium	48	0.50	0.13	mg/L	20	30	90	70-130	2	20
Iron	8.7	0.10	0.020	mg/L	8.0	0.50	103	70-130	0.7	20

Hazen and Sawyer
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July 23, 2013

Work Order: 1305560

*** 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 limits and the laboratory practical quantitation limit.

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

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

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

L Off-scale high. Result exceeded highest calibration standard.

Questions regarding this report should be directed to :

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

Kathryn@southernanalyticallabs.com



SOUTHERN ANALYTICAL LABORATORIES, INC.

SOUTHERN ANALYTICAL LABORATORIES, INC.
110 BAYVIEW BOULEVARD
DISMAR FL 32637-5200 904/634-2218
FAX 904/634-2218

Chain of Custody #
B-1-Sub: 11/1000

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, OLMSTED, FL 34677 B13-B55-1844 fax B13-B55-2218

Contact / Phone:

Client Name	Hazen and Sawyer
Project Name / Location	S&GW Test Facility SE #6 (TA2)
Samplers: (Signature)	

Sample Description	Date	Time	Matrix	PARAMETER / CONTAINER DESCRIPTION										Field DO					
				Field DO	Field Conductivity	Field Temperature	Field pH	TOC	4OMLA, HCl	TKN, NH ₃ , COD, TP	125MLP, H ₂ SO ₄	B, Ca, Fe, Mg, Mn, K, Na	250MLP, HNO ₃	DOC	DODC	40MLA, H ₂ SO ₄	TOC	TKN, NH ₃ , COD, TP	125MLP, H ₂ SO ₄
13 TA2-PZ-10-L4	6/11/13	10:00	GW	X	1											4.42	25.8	73.8	4.7
14 TA2-PZ-10-L5	6/11/13	10:01	GW	X	1											4.26	25.3	72.8	2.92
15 TA2-PZ-10-L5-DUP	6/11/13	10:04	GW	X	1											1	1	1	1
16 TA2-PZ-10-L6	6/11/13	09:40	GW	X	1	1	1	1								7.71	25.6	74.4	4.7
17 TA2-PZ-09-M4	6/11/13	09:42	GW	X	1											5.44	24.7	82.1	2.09
18 TA2-PZ-16-M4	6/11/13	09:45	GW	X	1											5.09	24.2	21.2	1.69
19 TA2-PZ-09-N7	6/11/13	09:46	GW	X	1											4.99	25.3	76.7	1.90
20 TA2-PZ-09-N7-DUP	6/11/13	09:47	GW	X	1											4.99	25.3	76.7	1.90
21 TA2-PZ-16-N7	6/11/13	09:49	GW	X	1											5.02	24.5	72.6	4.66
22 TA2-PZ-09-N7	6/11/13	10:00	GW	X	1											4.57	24.7	71.7	1.57
23 TA2-PZ-16-N7	6/11/13	10:01	GW	X	1											5.00	25.4	73.4	1.20
24 TA2-PZ-09-L8	6/11/13	10:03	GW	X	1											6.31	25.7	85.5	3.11
Containers Prepared/ Relinquished:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:
Relinquished:	6/11/13	15:15	Received:	6/11/13	15:15	Received:	6/11/13	15:15	Received:	6/11/13	15:15	Received:	6/11/13	15:15	Received:	6/11/13	15:15	Received:	6/11/13
Relinquished:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:
Relinquished:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:
Instructions / Remarks:																			
Samples intact upon arrival?																			
Received on ice? Temp _____																			
Proper preservatives indicated?																			
Rec'd w/in holding time?																			
Vials/rec'd w/out headspace																			
Proper containers used?																			

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

July 23, 2013

Work Order: 1305562

Laboratory Report

Project Name	S&GW Test Facility SE#6							
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution

Sample Description **TA3-PAN-12-N**
 Matrix **Groundwater**
 SAL Sample Number **1305562-01**
 Date/Time Collected **06/10/13 10:50**
 Collected by **Josephine Edeback-Hirst**
 Date/Time Received **06/10/13 16:00**

Client Provided Field Data

pH **5.71**
 Temperature **27.1 °C**
 Conductivity **593 umhos**
 Dissolved Oxygen **4.27 mg/L**

Inorganics

Ammonia as N	mg/L	3.0	EPA 350.1	0.040	0.009		06/26/13 12:50	1
Ammonium as NH4	mg/L	3.9	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:27	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Chloride	mg/L	48	EPA 300.0	2.0	0.50		06/11/13 22:47	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Nitrate (as N)	mg/L	25	EPA 300.0	0.40	0.10		06/11/13 22:47	10
Nitrite (as N)	mg/L	0.27	EPA 300.0	0.04	0.01		06/11/13 19:13	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	5.8	EPA 351.2	0.20	0.05	06/22/13 09:11	06/26/13 11:31	9.62
Nitrate+Nitrite (N)	mg/L	26	EPA 300.0	0.44	0.11		06/11/13 22:47	10

Sample Description **TA3-LY-24-C**
 Matrix **Groundwater**
 SAL Sample Number **1305562-02**
 Date/Time Collected **06/13/13 09:40**
 Collected by **Sean Schmidt**
 Date/Time Received **06/13/13 14:30**

Client Provided Field Data

pH **6.54**
 Temperature **27.5 °C**
 Conductivity **532 umhos**
 Dissolved Oxygen **3.78 mg/L**

Inorganics

Ammonia as N	mg/L	0.014 I	EPA 350.1	0.040	0.009		07/03/13 12:29	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	65	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chloride	mg/L	37	EPA 300.0	0.20	0.050		06/14/13 20:58	1
Fluoride	mg/L	0.26	EPA 300.0	0.040	0.010		06/14/13 20:58	1

Florida Certification Number: E84129

NELAP Accredited

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

SOUTHERN ANALYTICAL LABORATORIES, INC.

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July 23, 2013

Work Order: 1305562

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA3-LY-24-C						
Matrix		Groundwater						
SAL Sample Number		1305562-02						
Date/Time Collected		06/13/13 09:40						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						
<u>Client Provided Field Data</u>								
pH		6.54						
Temperature		27.5 °C						
Conductivity		532 umhos						
Dissolved Oxygen		3.78 mg/L						
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	22	EPA 300.0	0.04	0.01		06/14/13 20:58	1
Nitrite (as N)	mg/L	0.24	EPA 300.0	0.04	0.01		06/14/13 20:58	1
Orthophosphate as P	mg/L	0.38	EPA 300.0	0.040	0.010		06/14/13 20:58	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Sulfate	mg/L	25	EPA 300.0	0.60	0.20		06/14/13 20:58	1
Total Alkalinity	mg/L	65	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	3.0	EPA 351.2	0.20	0.05	06/28/13 11:18	07/01/13 13:42	1
Nitrate+Nitrite (N)	mg/L	22	EPA 300.0	0.08	0.02		06/14/13 20:58	1
<u>Inorganic, Dissolved</u>								
Dissolved Organic Carbon	mg/L	25	SM 5310B	1.0	0.50		06/27/13 09:48	1
<u>Metals</u>								
Boron	mg/L	0.18	EPA 200.7	0.10	0.050	06/17/13 10:12	06/19/13 13:11	1
Calcium	mg/L	19	EPA 200.7	0.50	0.042	06/17/13 10:12	06/19/13 13:11	1
Iron	mg/L	0.053 I	EPA 200.7	0.10	0.020	06/17/13 10:12	06/19/13 13:11	1
Magnesium	mg/L	6.2	EPA 200.7	0.50	0.020	06/17/13 10:12	06/19/13 13:11	1
Manganese	mg/L	0.0093 I	EPA 200.7	0.010	0.0010	06/17/13 10:12	06/19/13 17:06	1
Potassium	mg/L	7.4	EPA 200.7	0.050	0.010	06/17/13 10:12	06/19/13 13:11	1
Sodium	mg/L	74	EPA 200.7	0.50	0.13	06/17/13 10:12	06/19/13 13:11	1

Sample Description	TA3-LY-12-S
Matrix	Groundwater
SAL Sample Number	1305562-03
Date/Time Collected	06/13/13 09:20
Collected by	Sean Schmidt
Date/Time Received	06/13/13 14:30

Client Provided Field Data

pH	6.55
Temperature	27.7 °C
Conductivity	680 umhos
Dissolved Oxygen	4.38 mg/L

Inorganics

Florida Certification Number: E84129
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Francis I. Daniels, Laboratory Director
Leslie C. Boardman, Q.A. Manager

SOUTHERN ANALYTICAL LABORATORIES, INC.

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July 23, 2013

Work Order: 1305562

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA3-LY-12-S						
Matrix		Groundwater						
SAL Sample Number		1305562-03						
Date/Time Collected		06/13/13 09:20						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						

Client Provided Field Data

pH		6.55						
Temperature		27.7 °C						
Conductivity		680 umhos						
Dissolved Oxygen		4.38 mg/L						
Ammonia as N	mg/L	0.048	EPA 350.1	0.040	0.009		07/03/13 14:15	1
Ammonium as NH4	mg/L	0.06	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	76	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	16 I	EPA 410.4	25	10	06/19/13 10:14	06/20/13 13:45	1
Chloride	mg/L	41	EPA 300.0	2.0	0.50		06/14/13 21:12	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	23	EPA 300.0	0.40	0.10		06/14/13 21:12	10
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 21:12	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	8.3	SM 4500P-E	0.20	0.050	06/25/13 09:17	06/28/13 14:08	5
Total Alkalinity	mg/L	76	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	2.4	EPA 351.2	0.20	0.05	06/28/13 11:18	07/01/13 13:43	1
Nitrate+Nitrite (N)	mg/L	23	EPA 300.0	0.44	0.11		06/14/13 21:12	10

Sample Description	TA3-LY-12-S-DUP
Matrix	Groundwater
SAL Sample Number	1305562-04
Date/Time Collected	06/13/13 09:22
Collected by	Sean Schmidt
Date/Time Received	06/13/13 14:30

Client Provided Field Data

pH		6.55						
Temperature		27.7 °C						
Conductivity		680 umhos						
Dissolved Oxygen		4.38 mg/L						

Inorganics

Ammonia as N	mg/L	0.047	EPA 350.1	0.040	0.009		07/03/13 12:33	1
Ammonium as NH4	mg/L	0.06	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	87	SM 2320B	8.0	2.0		06/25/13 16:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 16:00	1
Chemical Oxygen Demand	mg/L	16 I	EPA 410.4	25	10	06/19/13 11:34	06/19/13 16:40	1

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July 23, 2013

Work Order: 1305562

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA3-LY-12-S-DUP							
Matrix	Groundwater							
SAL Sample Number	1305562-04							
Date/Time Collected	06/13/13 09:22							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
<u>Client Provided Field Data</u>								
pH		6.55						
Temperature		27.7 °C						
Conductivity		680 umhos						
Dissolved Oxygen		4.38 mg/L						
Chloride	mg/L	41	EPA 300.0	2.0	0.50		06/14/13 21:25	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 16:00	1
Nitrate (as N)	mg/L	23	EPA 300.0	0.40	0.10		06/14/13 21:25	10
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 21:25	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 16:00	1
Phosphorous - Total as P	mg/L	8.1	SM 4500P-E	0.20	0.050	06/25/13 09:17	06/28/13 14:08	5
Total Alkalinity	mg/L	87	SM 2320B	8.0	2.0		06/25/13 16:00	1
Total Kjeldahl Nitrogen	mg/L	2.2	EPA 351.2	0.20	0.05	06/28/13 11:18	07/01/13 13:44	1
Nitrate+Nitrite (N)	mg/L	23	EPA 300.0	0.44	0.11		06/14/13 21:25	10

Sample Description	TA3-LY-24-S
Matrix	Groundwater
SAL Sample Number	1305562-05
Date/Time Collected	06/13/13 09:26
Collected by	Sean Schmidt
Date/Time Received	06/13/13 14:30

<u>Client Provided Field Data</u>								
pH		6.65						
Temperature		28.2 °C						
Conductivity		644 umhos						
Dissolved Oxygen		3.63 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.015 I	EPA 350.1	0.040	0.009		07/03/13 12:35	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	76	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	16 I	EPA 410.4	25	10	06/19/13 10:14	06/20/13 13:45	1
Chloride	mg/L	39	EPA 300.0	2.0	0.50		06/14/13 21:39	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	18	EPA 300.0	0.40	0.10		06/14/13 21:39	10
Nitrite (as N)	mg/L	0.21	EPA 300.0	0.04	0.01		06/14/13 21:39	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1

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July 23, 2013

Work Order: 1305562

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA3-LY-24-S						
Matrix		Groundwater						
SAL Sample Number		1305562-05						
Date/Time Collected		06/13/13 09:26						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						
<u>Client Provided Field Data</u>								
pH		6.65						
Temperature		28.2 °C						
Conductivity		644 umhos						
Dissolved Oxygen		3.63 mg/L						
Phosphorous - Total as P	mg/L	0.21	SM 4500P-E	0.040	0.010	06/25/13 09:26	07/03/13 10:36	1
Total Alkalinity	mg/L	76	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	2.5	EPA 351.2	0.20	0.05	06/28/13 11:18	07/01/13 13:46	1
Nitrate+Nitrite (N)	mg/L	18	EPA 300.0	0.44	0.11		06/14/13 21:39	10
Sample Description		TA3-LY-42-S						
Matrix		Groundwater						
SAL Sample Number		1305562-06						
Date/Time Collected		06/13/13 09:32						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						
<u>Client Provided Field Data</u>								
pH		6.20						
Temperature		27.5 °C						
Conductivity		815 umhos						
Dissolved Oxygen		3.51 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.014 I	EPA 350.1	0.040	0.009		07/03/13 12:45	1
Ammonium as NH4	mg/L	0.06	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	44	SM 2320B	8.0	2.0		06/25/13 16:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 16:00	1
Chloride	mg/L	53	EPA 300.0	2.0	0.50		06/14/13 21:53	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 16:00	1
Nitrate (as N)	mg/L	31	EPA 300.0	0.40	0.10		06/14/13 21:53	10
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 21:53	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 16:00	1
Total Alkalinity	mg/L	44	SM 2320B	8.0	2.0		06/25/13 16:00	1
Total Kjeldahl Nitrogen	mg/L	3.4	EPA 351.2	0.20	0.05	06/28/13 11:18	07/01/13 13:47	1
Nitrate+Nitrite (N)	mg/L	31	EPA 300.0	0.44	0.11		06/14/13 21:53	10

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July 23, 2013

Work Order: 1305562

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA3-LY-42-S						
Matrix		Groundwater						
SAL Sample Number		1305562-06RE1						
Date/Time Collected		06/13/13 09:32						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						
<u>Client Provided Field Data</u>								
pH		6.20						
Temperature		27.5 °C						
Conductivity		815 umhos						
Dissolved Oxygen		3.51 mg/L						
<u>Inorganics</u>								
Chloride	mg/L	54	EPA 300.0	0.20	0.050		06/14/13 21:53	1
Nitrate (as N)	mg/L	31	EPA 300.0	0.04	0.01		06/14/13 21:53	1
Nitrate+Nitrite (N)	mg/L	31	EPA 300.0	0.04	0.01		06/14/13 21:53	1
Sample Description		TA3-PZ-11-EF2						
Matrix		Groundwater						
SAL Sample Number		1305562-07						
Date/Time Collected		06/12/13 09:10						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		4.66						
Temperature		25.0 °C						
Conductivity		451.7 umhos						
Dissolved Oxygen		2.77 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.045	EPA 350.1	0.040	0.009		07/01/13 13:08	1
Ammonium as NH4	mg/L	0.06	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/25/13 15:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Chemical Oxygen Demand	mg/L	22 I	EPA 410.4	25	10	06/18/13 12:51	06/18/13 16:20	1
Chloride	mg/L	31	EPA 300.0	0.20	0.050		06/13/13 22:56	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Nitrate (as N)	mg/L	18	EPA 300.0	0.04	0.01		06/13/13 22:56	1
Nitrite (as N)	mg/L	0.12	EPA 300.0	0.04	0.01		06/13/13 22:56	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Phosphorous - Total as P	mg/L	0.023 I	SM 4500P-E	0.040	0.010	06/24/13 14:08	06/28/13 11:02	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Kjeldahl Nitrogen	mg/L	1.1	EPA 351.2	0.20	0.05	06/24/13 09:45	06/27/13 12:59	1
Nitrate+Nitrite (N)	mg/L	18	EPA 300.0	0.08	0.02		06/13/13 22:56	1

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July 23, 2013

Work Order: 1305562

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA3-PZ-11-I2						
Matrix		Groundwater						
SAL Sample Number		1305562-08						
Date/Time Collected		06/12/13 09:22						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		4.51						
Temperature		25.0 °C						
Conductivity		673 umhos						
Dissolved Oxygen		3.21 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.022 I	EPA 350.1	0.040	0.009		06/26/13 12:52	1
Ammonium as NH4	mg/L	0.03 I	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:38	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/18/13 12:51	06/18/13 16:20	1
Chloride	mg/L	49	EPA 300.0	2.0	0.50		06/13/13 21:58	10
Fluoride	mg/L	0.10	EPA 300.0	0.040	0.010		06/13/13 23:06	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Nitrate (as N)	mg/L	29	EPA 300.0	0.40	0.10		06/13/13 21:58	10
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/13/13 23:06	1
Orthophosphate as P	mg/L	0.010 U	EPA 300.0	0.040	0.010		06/13/13 23:06	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Phosphorous - Total as P	mg/L	0.028 I	SM 4500P-E	0.040	0.010	06/24/13 14:08	06/28/13 11:03	1
Sulfate	mg/L	48	EPA 300.0	0.60	0.20		06/13/13 23:06	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	06/24/13 09:45	06/27/13 13:01	1
Total Organic Carbon	mg/L	5.1	SM 5310B	1.0	0.50		06/27/13 09:48	1
Nitrate+Nitrite (N)	mg/L	29	EPA 300.0	0.44	0.11		06/13/13 23:06	10
<u>Inorganic, Dissolved</u>								
Dissolved Organic Carbon	mg/L	3.9	SM 5310B	1.0	0.50		06/27/13 09:48	1
<u>Metals</u>								
Boron	mg/L	0.11	EPA 200.7	0.10	0.050	06/13/13 16:16	06/17/13 17:58	1
Calcium	mg/L	48	EPA 200.7	0.50	0.042	06/13/13 16:16	06/17/13 17:58	1
Iron	mg/L	0.042 I	EPA 200.7	0.10	0.020	06/13/13 16:16	06/17/13 17:58	1
Magnesium	mg/L	13	EPA 200.7	0.50	0.020	06/13/13 16:16	06/17/13 17:58	1
Manganese	mg/L	0.068	EPA 200.7	0.010	0.0010	06/13/13 16:16	06/17/13 17:58	1
Potassium	mg/L	14	EPA 200.7	0.050	0.010	06/13/13 16:16	06/17/13 17:58	1
Sodium	mg/L	36	EPA 200.7	0.50	0.13	06/13/13 16:16	06/17/13 17:58	1

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July 23, 2013

Work Order: 1305562

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA3-PZ-10-J5						
Matrix		Groundwater						
SAL Sample Number		1305562-09						
Date/Time Collected		06/12/13 07:53						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						

Client Provided Field Data

pH	4.28
Temperature	24.6 °C
Conductivity	518 umhos
Dissolved Oxygen	1.79 mg/L

Inorganics

Ammonia as N	mg/L	0.61	EPA 350.1	0.040	0.009	07/01/13 13:10	1	
Ammonium as NH4	mg/L	0.78	EPA 350.1	0.05	0.01	07/02/13 11:50	1	
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00	1	
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00	1	
Chloride	mg/L	35	EPA 300.0	0.20	0.050	06/13/13 23:43	1	
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00	1	
Nitrate (as N)	mg/L	19	EPA 300.0	0.04	0.01	06/13/13 23:43	1	
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01	06/13/13 23:43	1	
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00	1	
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00	1	
Total Kjeldahl Nitrogen	mg/L	1.6	EPA 351.2	0.20	0.05	06/24/13 09:45	06/27/13 13:02	1
Nitrate+Nitrite (N)	mg/L	19	EPA 300.0	0.08	0.02	06/13/13 23:43	1	

Sample Description	TA3-PZ-10-J5-Dup
Matrix	Groundwater
SAL Sample Number	1305562-10
Date/Time Collected	06/12/13 07:58
Collected by	Sean Schmidt
Date/Time Received	06/12/13 15:44

Client Provided Field Data

pH	4.28
Temperature	24.6 °C
Conductivity	518 umhos
Dissolved Oxygen	1.79 mg/L

Inorganics

Ammonia as N	mg/L	0.64	EPA 350.1	0.040	0.009	07/01/13 13:12	1
Ammonium as NH4	mg/L	0.83	EPA 350.1	0.05	0.01	07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00	1
Chloride	mg/L	35	EPA 300.0	0.20	0.050	06/13/13 23:52	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/25/13 15:00	1

Florida Certification Number: E84129

NELAP Accredited

Francis I. Daniels, Laboratory Director

Leslie C. Boardman, Q.A. Manager

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

July 23, 2013

Work Order: 1305562

Laboratory Report

Project Name	S&GW Test Facility SE#6							
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution

Sample Description **TA3-PZ-10-J5-Dup**
 Matrix **Groundwater**
 SAL Sample Number **1305562-10**
 Date/Time Collected **06/12/13 07:58**
 Collected by **Sean Schmidt**
 Date/Time Received **06/12/13 15:44**

Client Provided Field Data

pH		4.28						
Temperature		24.6 °C						
Conductivity		518 umhos						
Dissolved Oxygen		1.79 mg/L						
Nitrate (as N)	mg/L	19	EPA 300.0	0.04	0.01		06/13/13 23:52	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/13/13 23:52	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Kjeldahl Nitrogen	mg/L	1.6	EPA 351.2	0.20	0.05	06/24/13 09:45	06/27/13 14:01	1
Nitrate+Nitrite (N)	mg/L	19	EPA 300.0	0.08	0.02		06/13/13 23:52	1

Sample Description **TA3-PZ-10-K5**
 Matrix **Groundwater**
 SAL Sample Number **1305562-11**
 Date/Time Collected **06/12/13 08:08**
 Collected by **Sean Schmidt**
 Date/Time Received **06/12/13 15:44**

Client Provided Field Data

pH		4.31						
Temperature		24.6 °C						
Conductivity		490.4 umhos						
Dissolved Oxygen		2.01 mg/L						

Inorganics

Ammonia as N	mg/L	0.63	EPA 350.1	0.040	0.009		07/01/13 13:14	1
Ammonium as NH4	mg/L	0.81	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Chemical Oxygen Demand	mg/L	18 I	EPA 410.4	25	10	06/18/13 12:51	06/18/13 16:20	1
Chloride	mg/L	30	EPA 300.0	0.20	0.050		06/14/13 00:02	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Nitrate (as N)	mg/L	16	EPA 300.0	0.04	0.01		06/14/13 00:02	1
Nitrite (as N)	mg/L	0.12	EPA 300.0	0.04	0.01		06/14/13 00:02	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Phosphorous - Total as P	mg/L	0.016 I	SM 4500P-E	0.040	0.010	06/24/13 14:08	06/28/13 11:04	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 15:00	1
Total Kjeldahl Nitrogen	mg/L	2.5	EPA 351.2	0.20	0.05	06/24/13 09:45	06/27/13 13:04	1

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July 23, 2013

Work Order: 1305562

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA3-PZ-10-K5							
Matrix	Groundwater							
SAL Sample Number	1305562-11							
Date/Time Collected	06/12/13 08:08							
Collected by	Sean Schmidt							
Date/Time Received	06/12/13 15:44							
<u>Client Provided Field Data</u>								
pH		4.31						
Temperature		24.6 °C						
Conductivity		490.4 umhos						
Dissolved Oxygen		2.01 mg/L						
Nitrate+Nitrite (N)	mg/L	16	EPA 300.0	0.08	0.02	06/14/13 00:02	1	
Sample Description	TA3-PZ-11-L2							
Matrix	Groundwater							
SAL Sample Number	1305562-12							
Date/Time Collected	06/12/13 08:57							
Collected by	Sean Schmidt							
Date/Time Received	06/12/13 15:44							
<u>Client Provided Field Data</u>								
pH		4.67						
Temperature		25.3 °C						
Conductivity		716 umhos						
Dissolved Oxygen		3.60 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.017 I	EPA 350.1	0.040	0.009	07/01/13 13:16	1	
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/02/13 11:50	1	
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1	
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1	
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/18/13 12:51	06/18/13 16:20	1
Chloride	mg/L	75	EPA 300.0	2.0	0.50	06/13/13 21:58	10	
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1	
Nitrate (as N)	mg/L	29	EPA 300.0	0.40	0.10	06/13/13 21:58	10	
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01	06/14/13 00:11	1	
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1	
Phosphorous - Total as P	mg/L	0.036 I	SM 4500P-E	0.040	0.010	06/24/13 14:08	06/28/13 11:05	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1	
Total Kjeldahl Nitrogen	mg/L	2.3	EPA 351.2	0.20	0.05	06/24/13 09:43	06/28/13 14:27	1
Nitrate+Nitrite (N)	mg/L	29	EPA 300.0	0.44	0.11	06/14/13 00:11	10	

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July 23, 2013

Work Order: 1305562

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA3-PZ-11-L3						
Matrix		Groundwater						
SAL Sample Number		1305562-13						
Date/Time Collected		06/12/13 08:42						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						

Client Provided Field Data

pH	4.42
Temperature	25.0 °C
Conductivity	528 umhos
Dissolved Oxygen	2.10 mg/L

Inorganics

Ammonia as N	mg/L	0.092	EPA 350.1	0.040	0.009	07/01/13 13:18	1
Ammonium as NH4	mg/L	0.12	EPA 350.1	0.05	0.01	07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/18/13 08:45	06/18/13 13:10
Chloride	mg/L	40	EPA 300.0	2.0	0.50	06/24/13 18:26	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1
Nitrate (as N)	mg/L	18	EPA 300.0	0.04	0.01	06/14/13 02:13	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01	06/14/13 02:13	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1
Phosphorous - Total as P	mg/L	0.026 I	SM 4500P-E	0.040	0.010	06/24/13 14:08	06/28/13 11:06
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1
Total Kjeldahl Nitrogen	mg/L	1.8	EPA 351.2	0.20	0.05	06/24/13 09:43	06/28/13 14:28
Nitrate+Nitrite (N)	mg/L	18	EPA 300.0	0.08	0.02	06/14/13 02:13	1

Sample Description	TA3-PZ-11-L4
Matrix	Groundwater
SAL Sample Number	1305562-14
Date/Time Collected	06/13/13 09:03
Collected by	Sean Schmidt
Date/Time Received	06/13/13 14:30

Client Provided Field Data

pH	4.23
Temperature	25.3 °C
Conductivity	661 umhos
Dissolved Oxygen	2.30 mg/L

Inorganics

Ammonia as N	mg/L	0.34	EPA 350.1	0.040	0.009	07/03/13 12:47	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/27/13 09:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	12 I	EPA 410.4	25	10	06/19/13 11:34	06/19/13 16:40

Florida Certification Number: E84129

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July 23, 2013

Work Order: 1305562

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA3-PZ-11-L4						
Matrix		Groundwater						
SAL Sample Number		1305562-14						
Date/Time Collected		06/13/13 09:03						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						
<u>Client Provided Field Data</u>								
pH		4.23						
Temperature		25.3 °C						
Conductivity		661 umhos						
Dissolved Oxygen		2.30 mg/L						
Chloride	mg/L	61	EPA 300.0	2.0	0.50		06/14/13 22:39	10
Fluoride	mg/L	0.11	EPA 300.0	0.040	0.010		06/14/13 22:39	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	27	EPA 300.0	0.40	0.10		06/14/13 22:39	10
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 22:39	1
Orthophosphate as P	mg/L	0.010 U	EPA 300.0	0.040	0.010		06/14/13 22:39	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	0.056	SM 4500P-E	0.040	0.010	06/25/13 09:26	07/03/13 10:37	1
Sulfate	mg/L	52	EPA 300.0	0.60	0.20		06/14/13 22:39	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	1.4	EPA 351.2	0.20	0.05	06/28/13 11:18	07/01/13 13:48	1
Total Organic Carbon	mg/L	5.6	SM 5310B	1.0	0.50		06/27/13 09:48	1
Nitrate+Nitrite (N)	mg/L	27	EPA 300.0	0.44	0.11		06/14/13 22:39	10
<u>Inorganic Dissolved</u>								
Dissolved Organic Carbon	mg/L	4.0	SM 5310B	1.0	0.50		06/27/13 09:48	1
<u>Metals</u>								
Boron	mg/L	0.078 I	EPA 200.7	0.10	0.050	06/19/13 10:01	06/19/13 17:35	1
Calcium	mg/L	50	EPA 200.7	0.50	0.042	06/19/13 10:01	06/19/13 17:35	1
Iron	mg/L	0.020 U	EPA 200.7	0.10	0.020	06/19/13 10:01	06/19/13 17:35	1
Magnesium	mg/L	14	EPA 200.7	0.50	0.020	06/19/13 10:01	06/19/13 17:35	1
Manganese	mg/L	0.088	EPA 200.7	0.010	0.0010	06/19/13 10:01	06/19/13 17:35	1
Potassium	mg/L	13	EPA 200.7	0.050	0.010	06/19/13 10:01	06/19/13 17:35	1
Sodium	mg/L	43	EPA 200.7	0.50	0.13	06/19/13 10:01	06/19/13 17:35	1

Sample Description	TA3-PZ-10-L5
Matrix	Groundwater
SAL Sample Number	1305562-15
Date/Time Collected	06/12/13 08:21
Collected by	Sean Schmidt
Date/Time Received	06/12/13 15:44

Client Provided Field Data

pH 4.42

Florida Certification Number: E84129

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July 23, 2013

Work Order: 1305562

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA3-PZ-10-L5						
Matrix		Groundwater						
SAL Sample Number		1305562-15						
Date/Time Collected		06/12/13 08:21						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						

Client Provided Field Data

pH	4.42
Temperature	24.9 °C
Conductivity	467.4 umhos
Dissolved Oxygen	2.04 mg/L

Inorganics

Ammonia as N	mg/L	0.64	EPA 350.1	0.040	0.009	07/01/13 13:28	1
Ammonium as NH4	mg/L	0.82	EPA 350.1	0.05	0.01	07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/18/13 08:45	06/18/13 13:10
Chloride	mg/L	28	EPA 300.0	0.20	0.050	06/14/13 02:23	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1
Nitrate (as N)	mg/L	18	EPA 300.0	0.04	0.01	06/14/13 02:23	1
Nitrite (as N)	mg/L	0.10	EPA 300.0	0.04	0.01	06/14/13 02:23	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1
Phosphorous - Total as P	mg/L	0.019 I	SM 4500P-E	0.040	0.010	06/24/13 14:08	06/28/13 11:08
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1
Total Kjeldahl Nitrogen	mg/L	2.2	EPA 351.2	0.20	0.05	06/24/13 09:43	06/28/13 14:29
Nitrate+Nitrite (N)	mg/L	18	EPA 300.0	0.08	0.02	06/14/13 02:23	1

Sample Description	TA3-PZ-09-N3
Matrix	Groundwater
SAL Sample Number	1305562-16
Date/Time Collected	06/11/13 12:22
Collected by	Sean Schmidt
Date/Time Received	06/11/13 15:15

Client Provided Field Data

pH	6.37
Temperature	26.8 °C
Conductivity	434.5 umhos
Dissolved Oxygen	1.68 mg/L

Inorganics

Ammonia as N	mg/L	0.48	EPA 350.1	0.040	0.009	06/26/13 12:54	1
Ammonium as NH4	mg/L	0.61	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:38
Bicarbonate Alkalinity	mg/L	130	SM 2320B	8.0	2.0	06/21/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/21/13 13:15	1

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July 23, 2013

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Laboratory Report

Project Name	S&GW Test Facility SE#6							
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution

Sample Description **TA3-PZ-09-N3**
 Matrix **Groundwater**
 SAL Sample Number **1305562-16**
 Date/Time Collected **06/11/13 12:22**
 Collected by **Sean Schmidt**
 Date/Time Received **06/11/13 15:15**

Client Provided Field Data

pH		6.37						
Temperature		26.8 °C						
Conductivity		434.5 umhos						
Dissolved Oxygen		1.68 mg/L						
Chemical Oxygen Demand	mg/L	67	EPA 410.4	25	10	06/14/13 09:54	06/14/13 13:28	1
Chloride	mg/L	8.8	EPA 300.0	0.20	0.050		06/11/13 18:26	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Nitrate (as N)	mg/L	6.0	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Nitrite (as N)	mg/L	0.09	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Phosphorous - Total as P	mg/L	1.6	SM 4500P-E	0.040	0.010	06/19/13 16:54	06/22/13 13:44	1
Total Alkalinity	mg/L	130	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	2.2	EPA 351.2	0.20	0.05	06/22/13 09:11	06/26/13 10:37	1
Nitrate+Nitrite (N)	mg/L	6.0	EPA 300.0	0.08	0.02		06/11/13 18:26	1

Sample Description **TA3-PZ-16-N3**
 Matrix **Groundwater**
 SAL Sample Number **1305562-17**
 Date/Time Collected **06/11/13 12:33**
 Collected by **Sean Schmidt**
 Date/Time Received **06/11/13 15:15**

Client Provided Field Data

pH		5.45						
Temperature		25.4 °C						
Conductivity		372.6 umhos						
Dissolved Oxygen		1.45 mg/L						

Inorganics

Ammonia as N	mg/L	0.073	EPA 350.1	0.040	0.009		06/26/13 12:57	1
Ammonium as NH4	mg/L	0.09	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:38	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Chemical Oxygen Demand	mg/L	16 I	EPA 410.4	25	10	06/14/13 09:54	06/14/13 13:28	1
Chloride	mg/L	16	EPA 300.0	0.20	0.050		06/11/13 18:26	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Nitrate (as N)	mg/L	18	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Nitrite (as N)	mg/L	0.09	EPA 300.0	0.04	0.01		06/11/13 18:26	1

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July 23, 2013

Work Order: 1305562

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA3-PZ-16-N3						
Matrix		Groundwater						
SAL Sample Number		1305562-17						
Date/Time Collected		06/11/13 12:33						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
pH		5.45						
Temperature		25.4 °C						
Conductivity		372.6 umhos						
Dissolved Oxygen		1.45 mg/L						
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Phosphorous - Total as P	mg/L	0.048	SM 4500P-E	0.040	0.010	06/19/13 16:54	06/22/13 13:45	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	1.0	EPA 351.2	0.20	0.05	06/22/13 09:11	06/26/13 10:44	1
Nitrate+Nitrite (N)	mg/L	18	EPA 300.0	0.08	0.02		06/11/13 18:26	1
Sample Description		TA3-PZ-09-O7						
Matrix		Groundwater						
SAL Sample Number		1305562-18						
Date/Time Collected		06/11/13 12:47						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
pH		4.60						
Temperature		26.0 °C						
Conductivity		339.1 umhos						
Dissolved Oxygen		1.82 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.20	EPA 350.1	0.040	0.009		06/26/13 12:59	1
Ammonium as NH4	mg/L	0.26	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:38	1
Bicarbonate Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/21/13 13:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Chloride	mg/L	13	EPA 300.0	0.20	0.050		06/11/13 18:26	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Nitrate (as N)	mg/L	10	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/21/13 13:15	1
Total Kjeldahl Nitrogen	mg/L	1.4	EPA 351.2	0.20	0.05	06/22/13 09:11	06/26/13 10:45	1
Nitrate+Nitrite (N)	mg/L	10	EPA 300.0	0.08	0.02		06/11/13 18:26	1

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

July 23, 2013

Work Order: 1305562

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA3-PZ-16-O7						
Matrix		Groundwater						
SAL Sample Number		1305562-19						
Date/Time Collected		06/11/13 13:00						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						

Client Provided Field Data

pH		4.99
Temperature		25.2 °C
Conductivity		368.6 umhos
Dissolved Oxygen		1.49 mg/L

Inorganics

Ammonia as N	mg/L	0.13	EPA 350.1	0.040	0.009	06/26/13 13:00	1
Ammonium as NH4	mg/L	0.17	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:38
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Chloride	mg/L	15	EPA 300.0	0.20	0.050	06/11/13 18:26	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Nitrate (as N)	mg/L	15	EPA 300.0	0.04	0.01	06/11/13 18:26	1
Nitrite (as N)	mg/L	0.08	EPA 300.0	0.04	0.01	06/11/13 18:26	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	06/22/13 09:11	06/26/13 10:47
Nitrate+Nitrite (N)	mg/L	15	EPA 300.0	0.08	0.02	06/11/13 18:26	1

Sample Description		TA3-PZ-09-I7
Matrix		Groundwater
SAL Sample Number		1305562-20
Date/Time Collected		06/11/13 13:42
Collected by		Sean Schmidt
Date/Time Received		06/11/13 15:15

Client Provided Field Data

pH		5.62
Temperature		25.8 °C
Conductivity		257.3 umhos
Dissolved Oxygen		3.00 mg/L

Inorganics

Ammonia as N	mg/L	0.045	EPA 350.1	0.040	0.009	06/26/13 13:02	1
Ammonium as NH4	mg/L	0.06	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:38
Bicarbonate Alkalinity	mg/L	65	SM 2320B	8.0	2.0	06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Chloride	mg/L	9.5	EPA 300.0	0.20	0.050	06/11/13 18:26	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1

Florida Certification Number: E84129

NELAP Accredited

Francis I. Daniels, Laboratory Director

Leslie C. Boardman, Q.A. Manager

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July 23, 2013

Work Order: 1305562

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA3-PZ-09-I7							
Matrix		Groundwater						
SAL Sample Number		1305562-20						
Date/Time Collected		06/11/13 13:42						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
pH		5.62						
Temperature		25.8 °C						
Conductivity		257.3 umhos						
Dissolved Oxygen		3.00 mg/L						
Nitrate (as N)	mg/L	0.97	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Nitrite (as N)	mg/L	0.07	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	65	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	0.55	EPA 351.2	0.20	0.05	06/22/13 09:11	06/26/13 10:48	1
Nitrate+Nitrite (N)	mg/L	1.0	EPA 300.0	0.08	0.02		06/11/13 18:26	1
Sample Description	TA3-PZ-16-I7							
Matrix		Groundwater						
SAL Sample Number		1305562-21						
Date/Time Collected		06/11/13 13:55						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
pH		5.16						
Temperature		24.9 °C						
Conductivity		353.2 umhos						
Dissolved Oxygen		1.63 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/26/13 13:04	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:38	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chloride	mg/L	12	EPA 300.0	0.20	0.050		06/11/13 18:26	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	13	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Nitrite (as N)	mg/L	0.07	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	06/22/13 09:11	06/26/13 10:49	1
Nitrate+Nitrite (N)	mg/L	14	EPA 300.0	0.08	0.02		06/11/13 18:26	1

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July 23, 2013

Work Order: 1305562

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA3-PZ-09-M9						
Matrix		Groundwater						
SAL Sample Number		1305562-22						
Date/Time Collected		06/11/13 13:15						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						

Client Provided Field Data

pH	5.83
Temperature	25.7 °C
Conductivity	292.9 umhos
Dissolved Oxygen	1.49 mg/L

Inorganics

Ammonia as N	mg/L	0.031 I	EPA 350.1	0.040	0.009		06/26/13 13:05	1
Ammonium as NH4	mg/L	0.04 I	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:38	1
Bicarbonate Alkalinity	mg/L	55	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chloride	mg/L	10	EPA 300.0	0.20	0.050		06/11/13 18:26	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	4.7	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Nitrite (as N)	mg/L	0.15	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	55	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	1.8	EPA 351.2	0.20	0.05	06/22/13 09:11	06/26/13 10:51	1
Nitrate+Nitrite (N)	mg/L	4.9	EPA 300.0	0.08	0.02		06/11/13 18:26	1

Sample Description	TA3-PZ-16-M9
Matrix	Groundwater
SAL Sample Number	1305562-23
Date/Time Collected	06/11/13 13:27
Collected by	Sean Schmidt
Date/Time Received	06/11/13 15:15

Client Provided Field Data

pH	5.16
Temperature	24.8 °C
Conductivity	388.2 umhos
Dissolved Oxygen	1.50 mg/L

Inorganics

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/26/13 13:07	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	06/28/13 09:25	06/28/13 09:38	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chloride	mg/L	14	EPA 300.0	0.20	0.050		06/11/13 18:26	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1

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Work Order: 1305562

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA3-PZ-16-M9							
Matrix		Groundwater						
SAL Sample Number		1305562-23						
Date/Time Collected		06/11/13 13:27						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
pH		5.16						
Temperature		24.8 °C						
Conductivity		388.2 umhos						
Dissolved Oxygen		1.50 mg/L						
Nitrate (as N)	mg/L	16	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Nitrite (as N)	mg/L	0.07	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	2.0	EPA 351.2	0.20	0.05	06/22/13 09:11	06/26/13 10:52	1
Nitrate+Nitrite (N)	mg/L	16	EPA 300.0	0.08	0.02		06/11/13 18:26	1
Sample Description	TA3-PZ-09-ST14							
Matrix		Groundwater						
SAL Sample Number		1305562-24						
Date/Time Collected		06/11/13 11:29						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
pH		4.49						
Temperature		26.8 °C						
Conductivity		255.5 umhos						
Dissolved Oxygen		1.47 mg/L						
<u>Inorganics</u>								
Ammonia N	mg/L	0.050	EPA 350.1	0.040	0.009		06/25/13 14:58	1
Ammonium as NH4	mg/L	0.06	EPA 350.1	0.05	0.01		07/02/13 11:30	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chloride	mg/L	6.6	EPA 300.0	0.20	0.050		06/11/13 18:26	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	5.1	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	0.89	EPA 351.2	0.20	0.05	06/22/13 09:11	06/26/13 10:53	1
Nitrate+Nitrite (N)	mg/L	5.1	EPA 300.0	0.08	0.02		06/11/13 18:26	1

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July 23, 2013

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Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA3-PZ-16-ST14						
Matrix		Groundwater						
SAL Sample Number		1305562-25						
Date/Time Collected		06/11/13 11:42						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						

Client Provided Field Data

pH 5.16
Temperature 25.7 °C
Conductivity 346.3 umhos
Dissolved Oxygen 1.25 mg/L

Inorganics

Ammonia as N	mg/L	0.026 I	EPA 350.1	0.040	0.009	06/25/13 15:00	1
Ammonium as NH4	mg/L	0.03 I	EPA 350.1	0.05	0.01	07/03/13 11:28	07/03/13 11:42
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Chloride	mg/L	13	EPA 300.0	0.20	0.050	06/11/13 18:26	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Nitrate (as N)	mg/L	14	EPA 300.0	0.04	0.01	06/11/13 18:26	1
Nitrite (as N)	mg/L	0.08	EPA 300.0	0.04	0.01	06/11/13 18:26	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	0.97	EPA 351.2	0.20	0.05	06/22/13 09:11	06/26/13 10:54
Nitrate+Nitrite (N)	mg/L	14	EPA 300.0	0.08	0.02	06/11/13 18:26	1

Sample Description TA3-PZ-09-ST16
Matrix Groundwater
SAL Sample Number 1305562-26
Date/Time Collected 06/13/13 09:24
Collected by Sean Schmidt
Date/Time Received 06/13/13 14:30

Client Provided Field Data

pH 5.11
Temperature 26.2 °C
Conductivity 243.3 umhos
Dissolved Oxygen 1.25 mg/L

Inorganics

Ammonia as N	mg/L	0.012 I	EPA 350.1	0.040	0.009	07/03/13 12:49	1
Ammonium as NH4	mg/L	0.03 I	EPA 350.1	0.05	0.01	07/02/13 11:30	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/27/13 09:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/27/13 09:15	1
Chloride	mg/L	4.9	EPA 300.0	0.20	0.050	06/14/13 22:48	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/27/13 09:15	1

Florida Certification Number: E84129

NELAP Accredited

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Work Order: 1305562

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA3-PZ-09-ST16							
Matrix	Groundwater							
SAL Sample Number	1305562-26							
Date/Time Collected	06/13/13 09:24							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
<u>Client Provided Field Data</u>								
pH		5.11						
Temperature		26.2 °C						
Conductivity		243.3 umhos						
Dissolved Oxygen		1.25 mg/L						
Nitrate (as N)	mg/L	3.4	EPA 300.0	0.04	0.01		06/14/13 22:48	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		06/14/13 22:48	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	1.1	EPA 351.2	0.20	0.05	06/22/13 09:11	06/26/13 10:56	1
Nitrate+Nitrite (N)	mg/L	3.5	EPA 300.0	0.08	0.02		06/14/13 22:48	1
Sample Description	TA3-PZ-16-ST16							
Matrix	Groundwater							
SAL Sample Number	1305562-27							
Date/Time Collected	06/11/13 11:14							
Collected by	Sean Schmidt							
Date/Time Received	06/11/13 15:15							
<u>Client Provided Field Data</u>								
pH		5.17						
Temperature		25.4 °C						
Conductivity		338.7 umhos						
Dissolved Oxygen		0.94 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.015 I	EPA 350.1	0.040	0.009		06/25/13 15:02	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01		07/02/13 11:30	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chloride	mg/L	12	EPA 300.0	0.20	0.050		06/11/13 18:26	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	12	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Nitrite (as N)	mg/L	0.06	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	1.2	EPA 351.2	0.20	0.05	06/22/13 09:14	06/28/13 12:03	1
Nitrate+Nitrite (N)	mg/L	12	EPA 300.0	0.08	0.02		06/11/13 18:26	1

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31126 - Ion Chromatography 300.0 Prep										
Blank (BF31126-BLK1) Prepared & Analyzed: 06/11/13										
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
LCS (BF31126-BS1) Prepared & Analyzed: 06/11/13										
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4	93	85-115			
LCS Dup (BF31126-BSD1) Prepared & Analyzed: 06/11/13										
Nitrite (as N)	1.46	0.04	0.01	mg/L	1.4	104	85-115	12	200	
Matrix Spike (BF31126-MS1) Source: 1305556-02 Prepared: 06/10/13 Analyzed: 06/11/13										
Nitrite (as N)	1.34	0.04	0.01	mg/L	1.4	0.0320	93	85-115		
Matrix Spike (BF31126-MS2) Source: 1305571-09 Prepared & Analyzed: 06/11/13										
Nitrite (as N)	1.54	0.04	0.01	mg/L	1.4	ND	110	85-115		
Batch BF31209 - Ion Chromatography 300.0 Prep										
Blank (BF31209-BLK1) Prepared & Analyzed: 06/11/13										
Chloride	0.050 U	0.20	0.050	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
LCS (BF31209-BS1) Prepared & Analyzed: 06/11/13										
Nitrate (as N)	1.58	0.04	0.01	mg/L	1.7	93	85-115			
Nitrite (as N)	1.28	0.04	0.01	mg/L	1.4	92	85-115			
Chloride	2.75	0.20	0.050	mg/L	3.0	92	85-115			
LCS Dup (BF31209-BSD1) Prepared & Analyzed: 06/11/13										
Nitrate (as N)	1.59	0.04	0.01	mg/L	1.7	93	85-115	0.7	200	
Chloride	2.76	0.20	0.050	mg/L	3.0	92	85-115	0.04	200	
Nitrite (as N)	1.28	0.04	0.01	mg/L	1.4	92	85-115	0.08	200	

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31209 - Ion Chromatography 300.0 Prep										
Matrix Spike (BF31209-MS1) Source: 1305562-18 Prepared & Analyzed: 06/11/13										
Nitrite (as N)	1.31	0.04	0.01	mg/L	1.4	ND	94	85-115		
Nitrate (as N)	11.9	0.04	0.01	mg/L	1.7	10.2	104	85-115		
Chloride	16.2	0.20	0.050	mg/L	3.0	12.9	112	80-120		
Matrix Spike (BF31209-MS2) Source: 1305590-02 Prepared & Analyzed: 06/11/13										
Nitrate (as N)	9.02	0.04	0.01	mg/L	1.7	7.31	101	85-115		
Nitrite (as N)	1.35	0.04	0.01	mg/L	1.4	ND	96	85-115		
Chloride	19.8	0.20	0.050	mg/L	3.0	16.4	112	80-120		
Batch BF31303 - Ion Chromatography 300.0 Prep										
Blank (BF31303-BLK1) Prepared & Analyzed: 06/13/13										
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Fluoride	0.010 U	0.040	0.010	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
Sulfate	0.20 U	0.60	0.20	mg/L						
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
LCS (BF31303-BS1) Prepared & Analyzed: 06/13/13										
Nitrate (as N)	1.58	0.04	0.01	mg/L	1.7		93	85-115		
Sulfate	8.61	0.60	0.20	mg/L	9.0		96	85-115		
Chloride	2.88	0.20	0.050	mg/L	3.0		96	85-115		
Fluoride	0.882	0.040	0.010	mg/L	0.90		98	85-115		
Orthophosphate as P	0.841	0.040	0.010	mg/L	0.90		93	85-115		
Nitrite (as N)	1.40	0.04	0.01	mg/L	1.4		100	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 BF31303 - Ion Chromatography 300.0 Prep										
LCS Dup (BF31303-BSD1)										
Prepared & Analyzed: 06/13/13										
Orthophosphate as P	0.850	0.040	0.010	mg/L	0.90	94	85-115	1	200	
Nitrate (as N)	1.57	0.04	0.01	mg/L	1.7	92	85-115	0.6	200	
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4	93	85-115	8	200	
Sulfate	8.16	0.60	0.20	mg/L	9.0	91	85-115	5	200	
Fluoride	0.823	0.040	0.010	mg/L	0.90	91	85-115	7	200	
Chloride	2.75	0.20	0.050	mg/L	3.0	92	85-115	5	200	
Matrix Spike (BF31303-MS1)										
Source: 1305562-08										
Prepared & Analyzed: 06/13/13										
Nitrate (as N)	17.0 L	0.04	0.01	mg/L	1.7	29.1	NR	85-115		
Sulfate	56.7	0.60	0.20	mg/L	9.0	47.7	100	85-115		
Orthophosphate as P	0.939	0.040	0.010	mg/L	0.90	ND	104	85-115		
Nitrite (as N)	1.50	0.04	0.01	mg/L	1.4	ND	107	85-115		
Fluoride	0.932	0.040	0.010	mg/L	0.90	0.101	92	85-115		
Chloride	30.0 L	0.20	0.050	mg/L	3.0	48.9	NR	80-120		
Matrix Spike (BF31303-MS2)										
Source: 1306062-02										
Prepared & Analyzed: 06/14/13										
Orthophosphate as P	1.74	0.040	0.010	mg/L	0.90	0.860	98	85-115		
Nitrate (as N)	1.96	0.04	0.01	mg/L	1.7	0.150	106	85-115		
Nitrite (as N)	1.50	0.04	0.01	mg/L	1.4	ND	108	85-115		
Fluoride	1.13	0.040	0.010	mg/L	0.90	0.169	107	85-115		
Chloride	30.0 L	0.20	0.050	mg/L	3.0	152	NR	80-120		
Sulfate	28.0	0.60	0.20	mg/L	9.0	19.8	91	85-115		
Batch BF31328 - Ion Chromatography 300.0 Prep										
Blank (BF31328-BLK1)										
Prepared & Analyzed: 06/14/13										
Chloride	0.050 U	0.20	0.050	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31328 - Ion Chromatography 300.0 Prep										
LCS (BF31328-BS1)										
Chloride	2.93	0.20	0.050	mg/L	3.0	98	85-115			
Nitrite (as N)	1.42	0.04	0.01	mg/L	1.4	101	85-115			
Nitrate (as N)	1.58	0.04	0.01	mg/L	1.7	93	85-115			
LCS Dup (BF31328-BSD1)										
Nitrite (as N)	1.46	0.04	0.01	mg/L	1.4	105	85-115	3	200	
Nitrate (as N)	1.67	0.04	0.01	mg/L	1.7	98	85-115	6	200	
Chloride	3.02	0.20	0.050	mg/L	3.0	101	85-115	3	200	
Matrix Spike (BF31328-MS1)										
Source: 1305593-15					Prepared & Analyzed: 06/14/13					
Nitrate (as N)	4.24	0.04	0.01	mg/L	1.7	2.44	106	85-115		
Nitrite (as N)	1.48	0.04	0.01	mg/L	1.4	0.118	97	85-115		
Chloride	8.87	0.20	0.050	mg/L	3.0	5.84	101	80-120		
Matrix Spike (BF31328-MS2)										
Source: 1306132-01					Prepared & Analyzed: 06/14/13					
Nitrate (as N)	1.75	0.04	0.01	mg/L	1.7	0.0760	98	85-115		
Nitrite (as N)	1.54	0.04	0.01	mg/L	1.4	ND	110	85-115		
Chloride	49.0	0.20	0.050	mg/L	3.0	46.3	90	80-120		
Batch BF31409 - COD prep										
Blank (BF31409-BLK1)										
Chemical Oxygen Demand	10 U	25	10	mg/L	Prepared & Analyzed: 06/14/13					
LCS (BF31409-BS1)										
Chemical Oxygen Demand	51	25	10	mg/L	50	102	90-110			

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31409 - COD prep										
Matrix Spike (BF31409-MS1) Source: 1305590-07 Prepared & Analyzed: 06/14/13										
Chemical Oxygen Demand	95	25	10	mg/L	50	49	92	85-115		
Matrix Spike Dup (BF31409-MSD1) Source: 1305590-07 Prepared & Analyzed: 06/14/13										
Chemical Oxygen Demand	95	25	10	mg/L	50	49	92	85-115	0	32
Batch BF31413 - Ion Chromatography 300.0 Prep										
Blank (BF31413-BLK1) Prepared & Analyzed: 06/14/13										
Sulfate	0.20 U	0.60	0.20	mg/L						
Fluoride	0.010 U	0.040	0.010	mg/L						
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BF31413-BS1) Prepared & Analyzed: 06/14/13										
Sulfate	8.52	0.60	0.20	mg/L	9.0		95	85-115		
Fluoride	0.865	0.040	0.010	mg/L	0.90		96	85-115		
Nitrate (as N)	1.57	0.04	0.01	mg/L	1.7		93	85-115		
Orthophosphate as P	0.845	0.040	0.010	mg/L	0.90		94	85-115		
Nitrite (as N)	1.38	0.04	0.01	mg/L	1.4		98	85-115		
Chloride	2.91	0.20	0.050	mg/L	3.0		97	85-115		
LCS Dup (BF31413-BSD1) Prepared & Analyzed: 06/14/13										
Chloride	2.92	0.20	0.050	mg/L	3.0		97	85-115	0.5	200
Orthophosphate as P	0.841	0.040	0.010	mg/L	0.90		93	85-115	0.5	200
Nitrate (as N)	1.61	0.04	0.01	mg/L	1.7		95	85-115	3	200
Fluoride	0.920	0.040	0.010	mg/L	0.90		102	85-115	6	200
Sulfate	8.67	0.60	0.20	mg/L	9.0		96	85-115	2	200
Nitrite (as N)	1.41	0.04	0.01	mg/L	1.4		101	85-115	3	200

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31413 - Ion Chromatography 300.0 Prep										
Matrix Spike (BF31413-MS1)										
Source: 1305562-06 Prepared & Analyzed: 06/14/13										
Fluoride	0.906	0.040	0.010	mg/L	0.90	ND	101	85-115		
Nitrate (as N)	32.8	0.04	0.01	mg/L	1.7	31.0	104	85-115		
Nitrite (as N)	1.48	0.04	0.01	mg/L	1.4	ND	105	85-115		
Sulfate	52.0	0.60	0.20	mg/L	9.0	43.6	93	85-115		
Chloride	30.0 L	0.20	0.050	mg/L	3.0	54.5	NR	80-120		
Orthophosphate as P	0.921	0.040	0.010	mg/L	0.90	ND	102	85-115		
Matrix Spike (BF31413-MS2)										
Source: 1305570-08 Prepared & Analyzed: 06/15/13										
Fluoride	2.01	0.040	0.010	mg/L	0.90	1.10	101	85-115		
Sulfate	58.5	0.60	0.20	mg/L	9.0	49.8	97	85-115		
Orthophosphate as P	8.25	0.040	0.010	mg/L	0.90	7.29	107	85-115		
Chloride	43.8	0.20	0.050	mg/L	3.0	40.6	106	80-120		
Nitrite (as N)	1.27	0.04	0.01	mg/L	1.4	ND	91	85-115		
Nitrate (as N)	1.61	0.04	0.01	mg/L	1.7	ND	95	85-115		
Batch BF31733 - Ion Chromatography 300.0 Prep										
Blank (BF31733-BLK1)										
Prepared & Analyzed: 06/17/13										
Chloride	0.050 U	0.20	0.050	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
LCS (BF31733-BS1)										
Prepared & Analyzed: 06/17/13										
Chloride	2.72	0.20	0.050	mg/L	3.0		91	85-115		
Nitrate (as N)	1.59	0.04	0.01	mg/L	1.7		93	85-115		
LCS Dup (BF31733-BSD1)										
Prepared & Analyzed: 06/17/13										
Nitrate (as N)	1.70	0.04	0.01	mg/L	1.7		100	85-115	7	200
Chloride	2.96	0.20	0.050	mg/L	3.0		98	85-115	8	200

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31733 - Ion Chromatography 300.0 Prep										
Matrix Spike (BF31733-MS1) Source: 1305558-12 Prepared & Analyzed: 06/17/13										
Nitrate (as N)	53.8	0.40	0.10	mg/L	17	36.4	103	85-115		
Chloride	89.1	2.0	0.50	mg/L	30	57.7	105	80-120		
Matrix Spike (BF31733-MS2) Source: 1305558-04 Prepared & Analyzed: 06/17/13										
Chloride	79.6	2.0	0.50	mg/L	30	49.8	99	80-120		
Nitrate (as N)	41.1	0.40	0.10	mg/L	17	25.2	94	85-115		
Batch BF31807 - COD prep										
Blank (BF31807-BLK1) Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31807-BS1) Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	49	25	10	mg/L	50		98	90-110		
Matrix Spike (BF31807-MS1) Source: 1305558-06 Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	57	25	10	mg/L	50	ND	114	85-115		
Matrix Spike Dup (BF31807-MSD1) Source: 1305558-06 Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	55	25	10	mg/L	50	ND	110	85-115	4	32
Batch BF31824 - Ion Chromatography 300.0 Prep										
Blank (BF31824-BLK1) Prepared & Analyzed: 06/18/13										
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31824 - Ion Chromatography 300.0 Prep										
LCS (BF31824-BS1) Prepared & Analyzed: 06/18/13										
Chloride	2.83	0.20	0.050	mg/L	3.0	94	85-115			
Nitrate (as N)	1.58	0.04	0.01	mg/L	1.7	93	85-115			
LCS Dup (BF31824-BSD1) Prepared & Analyzed: 06/18/13										
Chloride	2.82	0.20	0.050	mg/L	3.0	94	85-115	0.4	200	
Nitrate (as N)	1.58	0.04	0.01	mg/L	1.7	93	85-115	0.4	200	
Matrix Spike (BF31824-MS1) Source: 1305558-05 Prepared & Analyzed: 06/18/13										
Chloride	107	2.0	0.50	mg/L	30	79.6	92	80-120		
Nitrate (as N)	63.2	0.40	0.10	mg/L	17	45.9	102	85-115		
Matrix Spike (BF31824-MS2) Source: 1305987-02 Prepared & Analyzed: 06/18/13										
Nitrate (as N)	1.62	0.04	0.01	mg/L	1.7	0.0880	90	85-115		
Chloride	30.0 L	0.20	0.050	mg/L	3.0	215	NR	80-120		
Batch BF31832 - COD prep										
Blank (BF31832-BLK1) Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31832-BS1) Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	53	25	10	mg/L	50	105	90-110			
Matrix Spike (BF31832-MS1) Source: 1305562-08 Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	51	25	10	mg/L	50	ND	102	85-115		
Matrix Spike Dup (BF31832-MSD1) Source: 1305562-08 Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	49	25	10	mg/L	50	ND	98	85-115	4	32

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31915 - COD prep										
Blank (BF31915-BLK1) Prepared: 06/19/13 Analyzed: 06/20/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31915-BS1) Prepared: 06/19/13 Analyzed: 06/20/13										
Chemical Oxygen Demand	55	25	10	mg/L	50		110	90-110		
Matrix Spike (BF31915-MS1) Source: 1305562-05 Prepared: 06/19/13 Analyzed: 06/20/13										
Chemical Oxygen Demand	67	25	10	mg/L	50	16	102	85-115		
Matrix Spike Dup (BF31915-MSD1) Source: 1305562-05 Prepared: 06/19/13 Analyzed: 06/20/13										
Chemical Oxygen Demand	67	25	10	mg/L	50	16	102	85-115	0	32
Batch BF31916 - COD prep										
Blank (BF31916-BLK1) Prepared & Analyzed: 06/19/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31916-BS1) Prepared & Analyzed: 06/19/13										
Chemical Oxygen Demand	49	25	10	mg/L	50		98	90-110		
Matrix Spike (BF31916-MS1) Source: 1305562-14 Prepared & Analyzed: 06/19/13										
Chemical Oxygen Demand	59	25	10	mg/L	50	12	94	85-115		
Matrix Spike Dup (BF31916-MSD1) Source: 1305562-14 Prepared & Analyzed: 06/19/13										
Chemical Oxygen Demand	59	25	10	mg/L	50	12	94	85-115	0	32
Batch BF31934 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF31934-BLK1) Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31934 - Digestion for TP by EPA 365.2/SM4500PE										
LCS (BF31934-BS1) Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	0.770	0.040	0.010	mg/L	0.80		96	90-110		
Matrix Spike (BF31934-MS1) Source: 1305560-14 Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	1.02	0.040	0.010	mg/L	1.0	0.0694	96	90-110		
Matrix Spike (BF31934-MS2) Source: 1305571-10 Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	0.990	0.040	0.010	mg/L	1.0	0.0531	94	90-110		
Matrix Spike Dup (BF31934-MSD1) Source: 1305560-14 Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	1.03	0.040	0.010	mg/L	1.0	0.0694	96	90-110	0.8	25
Matrix Spike Dup (BF31934-MSD2) Source: 1305571-10 Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	1.03	0.040	0.010	mg/L	1.0	0.0531	98	90-110	4	25
Batch BF32202 - alkalinity										
Blank (BF32202-BLK1) Prepared & Analyzed: 06/21/13										
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BF32202-BS1) Prepared & Analyzed: 06/21/13										
Total Alkalinity	130	8.0	2.0	mg/L	120		105	90-110		
Matrix Spike (BF32202-MS1) Source: 1305562-16 Prepared & Analyzed: 06/21/13										
Total Alkalinity	250	8.0	2.0	mg/L	120	130	96	80-120		

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July 23, 2013

Work Order: 1305562

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32202 - alkalinity										
Matrix Spike Dup (BF32202-MSD1) Source: 1305562-16 Prepared & Analyzed: 06/21/13										
Total Alkalinity	250	8.0	2.0	mg/L	120	130	96	80-120	0	26
Batch BF32204 - Digestion for TKN by EPA 351.2										
Blank (BF32204-BLK1) Prepared: 06/22/13 Analyzed: 06/26/13										
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF32204-BS1) Prepared: 06/22/13 Analyzed: 06/26/13										
Total Kjeldahl Nitrogen	2.54	0.20	0.05	mg/L	2.5		100	90-110		
Matrix Spike (BF32204-MS1) Source: 1305560-25 Prepared: 06/22/13 Analyzed: 06/26/13										
Total Kjeldahl Nitrogen	3.56	0.20	0.05	mg/L	2.5	1.05	99	90-110		
Matrix Spike (BF32204-MS2) Source: 1305562-24 Prepared: 06/22/13 Analyzed: 06/26/13										
Total Kjeldahl Nitrogen	3.68	0.20	0.05	mg/L	2.5	0.892	110	90-110		
Matrix Spike Dup (BF32204-MSD1) Source: 1305560-25 Prepared: 06/22/13 Analyzed: 06/26/13										
Total Kjeldahl Nitrogen	3.74	0.20	0.05	mg/L	2.5	1.05	106	90-110	5	20
Matrix Spike Dup (BF32204-MSD2) Source: 1305562-24 Prepared: 06/22/13 Analyzed: 06/26/13										
Total Kjeldahl Nitrogen	3.60	0.20	0.05	mg/L	2.5	0.892	107	90-110	2	20
Batch BF32205 - Digestion for TKN by EPA 351.2										
Blank (BF32205-BLK1) Prepared: 06/22/13 Analyzed: 06/28/13										
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 BF32205 - Digestion for TKN by EPA 351.2										
LCS (BF32205-BS1) Prepared: 06/22/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	2.34	0.20	0.05	mg/L	2.5		92	90-110		
Matrix Spike (BF32205-MS1) Source: 1305593-08 Prepared: 06/22/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	3.47	0.20	0.05	mg/L	2.5	0.776	107	90-110		
Matrix Spike (BF32205-MS2) Source: 1306010-07 Prepared: 06/22/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	3.13	0.20	0.05	mg/L	2.5	0.778	93	90-110		
Matrix Spike Dup (BF32205-MSD1) Source: 1305593-08 Prepared: 06/22/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	3.14	0.20	0.05	mg/L	2.5	0.776	93	90-110	10	20
Matrix Spike Dup (BF32205-MSD2) Source: 1306010-07 Prepared: 06/22/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	3.17	0.20	0.05	mg/L	2.5	0.778	94	90-110	1	20
Batch BF32208 - alkalinity										
Blank (BF32208-BLK1) Prepared & Analyzed: 06/22/13										
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Blank (BF32208-BLK2) Prepared & Analyzed: 06/22/13										
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate 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 BF32208 - alkalinity										
Blank (BF32208-BLK3) Prepared & Analyzed: 06/22/13										
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BF32208-BS1) Prepared & Analyzed: 06/22/13										
Total Alkalinity	130	8.0	2.0	mg/L	120	105	90-110			
LCS (BF32208-BS2) Prepared & Analyzed: 06/22/13										
Total Alkalinity	130	8.0	2.0	mg/L	120	105	90-110			
LCS (BF32208-BS3) Prepared & Analyzed: 06/22/13										
Total Alkalinity	130	8.0	2.0	mg/L	120	105	90-110			
Matrix Spike (BF32208-MS1) Source: 1305562-22 Prepared & Analyzed: 06/22/13										
Total Alkalinity	170	8.0	2.0	mg/L	120	55	96	80-120		
Matrix Spike (BF32208-MS2) Source: 1305590-04 Prepared & Analyzed: 06/22/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120		
Matrix Spike (BF32208-MS3) Source: 1305590-15 Prepared & Analyzed: 06/22/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120		
Matrix Spike Dup (BF32208-MSD1) Source: 1305562-22 Prepared & Analyzed: 06/22/13										
Total Alkalinity	170	8.0	2.0	mg/L	120	55	96	80-120	0	26
Matrix Spike Dup (BF32208-MSD2) Source: 1305590-04 Prepared & Analyzed: 06/22/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120	0	26

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32208 - alkalinity										
Matrix Spike Dup (BF32208-MSD3) Source: 1305590-15 Prepared & Analyzed: 06/22/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120	0	26
Batch BF32411 - Digestion for TKN by EPA 351.2										
Blank (BF32411-BLK1) Prepared: 06/24/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF32411-BS1) Prepared: 06/24/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	2.49	0.20	0.05	mg/L	2.5		98	90-110		
Matrix Spike (BF32411-MS1) Source: 1305593-18 Prepared: 06/24/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	2.89	0.20	0.05	mg/L	2.5	0.289	103	90-110		
Matrix Spike (BF32411-MS2) Source: 1305930-01 Prepared: 06/24/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	3.97	0.20	0.05	mg/L	2.5	1.74	88	90-110		
Matrix Spike Dup (BF32411-MSD1) Source: 1305593-18 Prepared: 06/24/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	2.85	0.20	0.05	mg/L	2.5	0.289	101	90-110	1	20
Matrix Spike Dup (BF32411-MSD2) Source: 1305930-01 Prepared: 06/24/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	4.51	0.20	0.05	mg/L	2.5	1.74	109	90-110	13	20
Batch BF32412 - Digestion for TKN by EPA 351.2										
Blank (BF32412-BLK1) Prepared: 06/24/13 Analyzed: 06/27/13										
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 BF32412 - Digestion for TKN by EPA 351.2										
LCS (BF32412-BS1) Prepared: 06/24/13 Analyzed: 06/27/13										
Total Kjeldahl Nitrogen	2.75	0.20	0.05	mg/L	2.5		108	90-110		
Matrix Spike (BF32412-MS1) Source: 1305558-23 Prepared: 06/24/13 Analyzed: 06/27/13										
Total Kjeldahl Nitrogen	3.57	0.20	0.05	mg/L	2.5	0.871	106	90-110		
Matrix Spike Dup (BF32412-MSD1) Source: 1305558-23 Prepared: 06/24/13 Analyzed: 06/27/13										
Total Kjeldahl Nitrogen	3.62	0.20	0.05	mg/L	2.5	0.871	108	90-110	1	20
Batch BF32417 - Ion Chromatography 300.0 Prep										
Blank (BF32417-BLK1) Prepared & Analyzed: 06/24/13										
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BF32417-BS1) Prepared & Analyzed: 06/24/13										
Chloride	3.02	0.20	0.050	mg/L	3.0		101	85-115		
LCS Dup (BF32417-BSD1) Prepared & Analyzed: 06/24/13										
Chloride	2.95	0.20	0.050	mg/L	3.0		98	85-115	3	200
Matrix Spike (BF32417-MS1) Source: 1305571-06 Prepared & Analyzed: 06/24/13										
Chloride	101	2.0	0.50	mg/L	30	72.0	97	80-120		
Matrix Spike (BF32417-MS2) Source: 1305987-03 Prepared & Analyzed: 06/24/13										
Chloride	1,150	20	5.0	mg/L	300	833	104	80-120		
Batch BF32426 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF32426-BLK1) Prepared: 06/24/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32426 - Digestion for TP by EPA 365.2/SM4500PE										
LCS (BF32426-BS1) Prepared: 06/24/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.801	0.040	0.010	mg/L	0.80		100	90-110		
Matrix Spike (BF32426-MS1) Source: 1305589-01 Prepared: 06/24/13 Analyzed: 06/28/13										
Phosphorous - Total as P	1.00	0.040	0.010	mg/L	1.0	0.0180	98	90-110		
Matrix Spike (BF32426-MS2) Source: 1306010-07 Prepared: 06/24/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.982	0.040	0.010	mg/L	1.0	0.0430	94	90-110		
Matrix Spike Dup (BF32426-MSD1) Source: 1305589-01 Prepared: 06/24/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.986	0.040	0.010	mg/L	1.0	0.0180	97	90-110	2	25
Matrix Spike Dup (BF32426-MSD2) Source: 1306010-07 Prepared: 06/24/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.990	0.040	0.010	mg/L	1.0	0.0430	95	90-110	0.8	25
Batch BF32503 - Ammonia by SEAL										
Blank (BF32503-BLK1) Prepared & Analyzed: 06/26/13										
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BF32503-BS1) Prepared & Analyzed: 06/25/13										
Ammonia as N	0.49	0.040	0.009	mg/L	0.50		99	90-110		
Matrix Spike (BF32503-MS1) Source: 1305562-24 Prepared & Analyzed: 06/25/13										
Ammonia as N	0.57	0.040	0.009	mg/L	0.50	0.050	105	90-110		
Matrix Spike (BF32503-MS2) Source: 1305571-22 Prepared & Analyzed: 06/25/13										
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	0.025	97	90-110		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32503 - Ammonia by SEAL										
Matrix Spike Dup (BF32503-MSD1) Source: 1305562-24 Prepared & Analyzed: 06/25/13										
Ammonia as N	0.57	0.040	0.009	mg/L	0.50	0.050	104	90-110	1	10
Matrix Spike Dup (BF32503-MSD2) Source: 1305571-22 Prepared & Analyzed: 06/25/13										
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	0.025	100	90-110	3	10
Batch BF32508 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF32508-BLK1) Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						
LCS (BF32508-BS1) Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.764	0.040	0.010	mg/L	0.80		95	90-110		
Matrix Spike (BF32508-MS1) Source: 1305558-06 Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.978	0.040	0.010	mg/L	1.0	0.0237	95	90-110		
Matrix Spike (BF32508-MS2) Source: 1305558-15 Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.993	0.040	0.010	mg/L	1.0	0.0486	94	90-110		
Matrix Spike Dup (BF32508-MSD1) Source: 1305558-06 Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.995	0.040	0.010	mg/L	1.0	0.0237	97	90-110	2	25
Matrix Spike Dup (BF32508-MSD2) Source: 1305558-15 Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.987	0.040	0.010	mg/L	1.0	0.0486	94	90-110	0.7	25
Batch BF32510 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF32510-BLK1) Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32510 - Digestion for TP by EPA 365.2/SM4500PE										
LCS (BF32510-BS1) Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	0.809	0.040	0.010	mg/L	0.80		101	90-110		
Matrix Spike (BF32510-MS1) Source: 1305570-01 Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	1.05	0.040	0.010	mg/L	1.0	0.0183	103	90-110		
Matrix Spike (BF32510-MS2) Source: 1305593-13 Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	1.04	0.040	0.010	mg/L	1.0	0.0595	98	90-110		
Matrix Spike Dup (BF32510-MSD1) Source: 1305570-01 Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	1.02	0.040	0.010	mg/L	1.0	0.0183	100	90-110	3	25
Matrix Spike Dup (BF32510-MSD2) Source: 1305593-13 Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	0.979	0.040	0.010	mg/L	1.0	0.0595	92	90-110	6	25

Batch BF32537 - alkalinity

Blank (BF32537-BLK1) Prepared & Analyzed: 06/25/13										
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BF32537-BS1) Prepared & Analyzed: 06/25/13										
Total Alkalinity	130	8.0	2.0	mg/L	120		105	90-110		
Matrix Spike (BF32537-MS1) Source: 1305562-07 Prepared & Analyzed: 06/25/13										
Total Alkalinity	130	8.0	2.0	mg/L	120	11	96	80-120		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32537 - alkalinity										
Matrix Spike Dup (BF32537-MSD1) Source: 1305562-07 Prepared & Analyzed: 06/25/13										
Total Alkalinity	130	8.0	2.0	mg/L	120	11	96	80-120	0	26
Batch BF32601 - Ammonia by SEAL										
Blank (BF32601-BLK1) Prepared & Analyzed: 06/26/13										
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BF32601-BS1) Prepared & Analyzed: 06/26/13										
Ammonia as N	0.50	0.040	0.009	mg/L	0.50		101	90-110		
Matrix Spike (BF32601-MS1) Source: 1305560-21 Prepared & Analyzed: 06/26/13										
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	ND	106	90-110		
Matrix Spike (BF32601-MS2) Source: 1305562-23 Prepared & Analyzed: 06/26/13										
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	ND	100	90-110		
Matrix Spike Dup (BF32601-MSD1) Source: 1305560-21 Prepared & Analyzed: 06/26/13										
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	ND	106	90-110	0.2	10
Matrix Spike Dup (BF32601-MSD2) Source: 1305562-23 Prepared & Analyzed: 06/26/13										
Ammonia as N	0.49	0.040	0.009	mg/L	0.50	ND	98	90-110	2	10
Batch BF32718 - TOC prep										
Blank (BF32718-BLK1) Prepared & Analyzed: 06/27/13										
Total Organic Carbon	0.50 U	1.0	0.50	mg/L						

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32718 - TOC prep										
LCS (BF32718-BS1) Prepared & Analyzed: 06/27/13										
Total Organic Carbon	9.56	1.0	0.50	mg/L	10	96	90-110			
Matrix Spike (BF32718-MS1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Total Organic Carbon	9.52	1.0	0.50	mg/L	10	ND	95	85-115		
Matrix Spike Dup (BF32718-MSD1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Total Organic Carbon	9.51	1.0	0.50	mg/L	10	ND	95	85-115	0.07	10
Batch BF32733 - alkalinity										
Blank (BF32733-BLK1) Prepared & Analyzed: 06/26/13										
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BF32733-BS1) Prepared & Analyzed: 06/26/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	96	90-110			
Matrix Spike (BF32733-MS1) Source: 1305589-03 Prepared & Analyzed: 06/26/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	ND	96	80-120		
Matrix Spike Dup (BF32733-MSD1) Source: 1305589-03 Prepared & Analyzed: 06/26/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	ND	96	80-120	0	26

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32810 - alkalinity										
Blank (BF32810-BLK1) Prepared & Analyzed: 06/27/13										
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Blank (BF32810-BLK2) Prepared & Analyzed: 06/27/13										
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BF32810-BS1) Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	96	90-110			
LCS (BF32810-BS2) Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	96	90-110			
Matrix Spike (BF32810-MS1) Source: 1305593-13 Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	11	87	80-120		
Matrix Spike (BF32810-MS2) Source: 1305558-05 Prepared & Analyzed: 06/27/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120		
Matrix Spike Dup (BF32810-MSD1) Source: 1305593-13 Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	11	87	80-120	0	26

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32810 - alkalinity										
Matrix Spike Dup (BF32810-MSD2)		Source: 1305558-05			Prepared & Analyzed: 06/27/13					
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120	0	26
Batch BF32811 - alkalinity										
Blank (BF32811-BLK1)		Prepared & Analyzed: 06/25/13								
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BF32811-BS1)		Prepared & Analyzed: 06/25/13								
Total Alkalinity	120	8.0	2.0	mg/L	120		96	90-110		
Matrix Spike (BF32811-MS1)		Source: 1306198-02			Prepared & Analyzed: 06/25/13					
Total Alkalinity	190	8.0	2.0	mg/L	120	65	96	80-120		
Matrix Spike Dup (BF32811-MSD1)		Source: 1306198-02			Prepared & Analyzed: 06/25/13					
Total Alkalinity	190	8.0	2.0	mg/L	120	65	96	80-120	0	26
Batch BF32816 - Digestion for TKN by EPA 351.2										
Blank (BF32816-BLK1)		Prepared: 06/28/13 Analyzed: 07/01/13								
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF32816-BS1)		Prepared: 06/28/13 Analyzed: 07/01/13								
Total Kjeldahl Nitrogen	2.64	0.20	0.05	mg/L	2.5		104	90-110		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32816 - Digestion for TKN by EPA 351.2										
Matrix Spike (BF32816-MS1) Source: 1305562-02 Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	5.60	0.20	0.05	mg/L	2.5	3.01	102	90-110		
Matrix Spike (BF32816-MS2) Source: 1305571-02 Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	5.21	0.20	0.05	mg/L	2.5	2.61	103	90-110		
Matrix Spike Dup (BF32816-MSD1) Source: 1305562-02 Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	5.88	0.20	0.05	mg/L	2.5	3.01	113	90-110	5	20
Matrix Spike Dup (BF32816-MSD2) Source: 1305571-02 Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	5.29	0.20	0.05	mg/L	2.5	2.61	106	90-110	2	20
Batch BG30106 - Ammonia by SEAL										
Blank (BG30106-BLK1) Prepared & Analyzed: 07/01/13										
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BG30106-BS1) Prepared & Analyzed: 07/01/13										
Ammonia as N	0.52	0.040	0.009	mg/L	0.50		104	90-110		
Matrix Spike (BG30106-MS1) Source: 1305562-07 Prepared & Analyzed: 07/01/13										
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	0.045	92	90-110		
Matrix Spike (BG30106-MS2) Source: 1305589-02 Prepared & Analyzed: 07/01/13										
Ammonia as N	0.52 J5	0.040	0.009	mg/L	0.50	ND	104	90-110		
Matrix Spike Dup (BG30106-MSD1) Source: 1305562-07 Prepared & Analyzed: 07/01/13										
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	0.045	91	90-110	1	10

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BG30106 - Ammonia by SEAL										
Matrix Spike Dup (BG30106-MSD2) Source: 1305589-02 Prepared & Analyzed: 07/01/13										
Ammonia as N	0.47	0.040	0.009	mg/L	0.50	ND	94	90-110	10	10
Batch BG30313 - Ammonia by SEAL										
Blank (BG30313-BLK1) Prepared & Analyzed: 07/03/13										
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BG30313-BS1) Prepared & Analyzed: 07/03/13										
Ammonia as N	0.52	0.040	0.009	mg/L	0.50		104	90-110		
Matrix Spike (BG30313-MS1) Source: 1305558-03 Prepared & Analyzed: 07/03/13										
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	0.019	98	90-110		
Matrix Spike (BG30313-MS2) Source: 1305558-04 Prepared & Analyzed: 07/03/13										
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	103	90-110		
Matrix Spike Dup (BG30313-MSD1) Source: 1305558-03 Prepared & Analyzed: 07/03/13										
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	0.019	101	90-110	3	10
Matrix Spike Dup (BG30313-MSD2) Source: 1305558-04 Prepared & Analyzed: 07/03/13										
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	102	90-110	0.8	10

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Inorganic, Dissolved - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32719 - DOC prep										
Blank (BF32719-BLK1) Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BF32719-BS1) Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	9.65	1.0	0.50	mg/L	10		96	90-110		
Matrix Spike (BF32719-MS1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	9.33	1.0	0.50	mg/L	10	ND	93	85-125		
Matrix Spike Dup (BF32719-MSD1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	8.90	1.0	0.50	mg/L	10	ND	89	85-125	5	25

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Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31333 - Metals Preparation for EPA Method 200.7										
Blank (BF31333-BLK1)										
Boron	0.050 U	0.10	0.050	mg/L						
Magnesium	0.020 U	0.50	0.020	mg/L						
Manganese	0.0010 U	0.010	0.0010	mg/L						
Sodium	0.13 U	0.50	0.13	mg/L						
Calcium	0.042 U	0.50	0.042	mg/L						
Potassium	0.098	0.050	0.010	mg/L						
Iron	0.020 U	0.10	0.020	mg/L						
LCS (BF31333-BS1)										
Iron	8.6	0.10	0.020	mg/L	8.0		107	85-115		
Boron	0.40	0.10	0.050	mg/L	0.40		100	85-115		
Magnesium	21	0.50	0.020	mg/L	20		105	85-115		
Calcium	21	0.50	0.042	mg/L	20		105	85-115		
Potassium	21	0.050	0.010	mg/L	20		104	85-115		
Manganese	0.42	0.010	0.0010	mg/L	0.40		105	85-115		
Sodium	22	0.50	0.13	mg/L	20		108	85-115		
Matrix Spike (BF31333-MS1)										
		Source: 1305558-06								
Boron	0.67	0.10	0.050	mg/L	0.40	0.16	127	70-130		
Iron	8.8	0.10	0.020	mg/L	8.0	0.044	109	70-130		
Manganese	0.44	0.010	0.0010	mg/L	0.40	0.017	106	70-130		
Magnesium	40	0.50	0.020	mg/L	20	17	112	70-130		
Sodium	79	0.50	0.13	mg/L	20	54	122	70-130		
Potassium	45	0.050	0.010	mg/L	20	22	117	70-130		
Calcium	95	0.50	0.042	mg/L	20	69	129	70-130		
Matrix Spike (BF31333-MS2)										
		Source: 1305871-01								
Manganese	0.41	0.010	0.0010	mg/L	0.40	ND	102	70-130		
Iron	8.5	0.10	0.020	mg/L	8.0	ND	106	70-130		
Calcium	62	0.50	0.042	mg/L	20	50	62	70-130		
Magnesium	34	0.50	0.020	mg/L	20	17	87	70-130		
Boron	0.51	0.10	0.050	mg/L	0.40	ND	126	70-130		
Potassium	21	0.050	0.010	mg/L	20	0.92	98	70-130		
Sodium	29	0.50	0.13	mg/L	20	10	93	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 BF31333 - Metals Preparation for EPA Method 200.7										
Matrix Spike Dup (BF31333-MSD1)										
Source: 1305558-06 Prepared: 06/13/13 Analyzed: 06/17/13										
Iron	8.5	0.10	0.020	mg/L	8.0	0.044	106	70-130	3	20
Sodium	74	0.50	0.13	mg/L	20	54	101	70-130	5	20
Potassium	44	0.050	0.010	mg/L	20	22	108	70-130	4	20
Calcium	91	0.50	0.042	mg/L	20	69	109	70-130	4	20
Magnesium	38	0.50	0.020	mg/L	20	17	101	70-130	6	20
Boron	0.64	0.10	0.050	mg/L	0.40	0.16	119	70-130	5	20
Manganese	0.42	0.010	0.0010	mg/L	0.40	0.017	100	70-130	5	20
Matrix Spike Dup (BF31333-MSD2)										
Source: 1305871-01 Prepared: 06/13/13 Analyzed: 06/17/13										
Calcium	66	0.50	0.042	mg/L	20	50	83	70-130	7	20
Iron	8.5	0.10	0.020	mg/L	8.0	ND	106	70-130	0.1	20
Potassium	22	0.050	0.010	mg/L	20	0.92	104	70-130	6	20
Sodium	31	0.50	0.13	mg/L	20	10	103	70-130	6	20
Boron	0.52	0.10	0.050	mg/L	0.40	ND	131	70-130	3	20
Magnesium	36	0.50	0.020	mg/L	20	17	98	70-130	6	20
Manganese	0.42	0.010	0.0010	mg/L	0.40	ND	105	70-130	4	20
Batch BF31334 - Metals Preparation for EPA Method 200.7										
Blank (BF31334-BLK1)										
Prepared & Analyzed: 06/19/13										
Calcium	0.042 U	0.50	0.042	mg/L						
Iron	0.020 U	0.10	0.020	mg/L						
Boron	0.050 U	0.10	0.050	mg/L						
Manganese	0.0010 U	0.010	0.0010	mg/L						
Magnesium	0.020 U	0.50	0.020	mg/L						
Potassium	0.014 I	0.050	0.010	mg/L						
Sodium	0.13 U	0.50	0.13	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 BF31334 - Metals Preparation for EPA Method 200.7										
LCS (BF31334-BS1)										
Prepared & Analyzed: 06/19/13										
Calcium	20	0.50	0.042	mg/L	20	101	85-115			
Iron	8.2	0.10	0.020	mg/L	8.0	102	85-115			
Boron	0.43	0.10	0.050	mg/L	0.40	106	85-115			
Manganese	0.40	0.010	0.0010	mg/L	0.40	101	85-115			
Potassium	20	0.050	0.010	mg/L	20	102	85-115			
Sodium	22	0.50	0.13	mg/L	20	109	85-115			
Magnesium	20	0.50	0.020	mg/L	20	101	85-115			
Matrix Spike (BF31334-MS1)										
Source: 1306057-02										
Prepared & Analyzed: 06/19/13										
Sodium	25	0.50	0.13	mg/L	20	4.9	102	70-130		
Manganese	0.40	0.010	0.0010	mg/L	0.40	0.0014	101	70-130		
Calcium	72	0.50	0.042	mg/L	20	50	111	70-130		
Boron	0.44	0.10	0.050	mg/L	0.40	ND	109	70-130		
Magnesium	32	0.50	0.020	mg/L	20	11	106	70-130		
Potassium	22	0.050	0.010	mg/L	20	0.80	104	70-130		
Iron	8.2	0.10	0.020	mg/L	8.0	ND	102	70-130		
Matrix Spike (BF31334-MS2)										
Source: 1306070-01										
Prepared & Analyzed: 06/19/13										
Potassium	120 L	0.050	0.010	mg/L	20	120	2	70-130		
Calcium	230	0.50	0.042	mg/L	20	210	107	70-130		
Iron	9.2	0.10	0.020	mg/L	8.0	1.3	100	70-130		
Manganese	0.43	0.010	0.0010	mg/L	0.40	0.024	100	70-130		
Magnesium	120 L	0.50	0.020	mg/L	20	380	NR	70-130		
Sodium	120 L	0.50	0.13	mg/L	20	ND	625	70-130		
Boron	1.6	0.10	0.050	mg/L	0.40	1.1	122	70-130		
Matrix Spike Dup (BF31334-MSD1)										
Source: 1306057-02										
Prepared & Analyzed: 06/19/13										
Manganese	0.41	0.010	0.0010	mg/L	0.40	0.0014	101	70-130	0.6	20
Calcium	73	0.50	0.042	mg/L	20	50	116	70-130	1	20
Boron	0.44	0.10	0.050	mg/L	0.40	ND	110	70-130	1	20
Sodium	26	0.50	0.13	mg/L	20	4.9	108	70-130	5	20
Iron	8.2	0.10	0.020	mg/L	8.0	ND	103	70-130	0.7	20
Potassium	22	0.050	0.010	mg/L	20	0.80	108	70-130	3	20
Magnesium	32	0.50	0.020	mg/L	20	11	105	70-130	0.4	20

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Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch BF31334 - Metals Preparation for EPA Method 200.7

Matrix Spike Dup (BF31334-MSD2)	Source: 1306070-01			Prepared & Analyzed: 06/19/13						
Magnesium	120 L	0.50	0.020	mg/L	20	380	NR	70-130	0	20
Iron	9.2	0.10	0.020	mg/L	8.0	1.3	99	70-130	0.4	20
Calcium	220	0.50	0.042	mg/L	20	210	43	70-130	6	20
Manganese	0.42	0.010	0.0010	mg/L	0.40	0.024	100	70-130	0.7	20
Boron	1.5	0.10	0.050	mg/L	0.40	1.1	118	70-130	0.9	20
Sodium	120 L	0.50	0.13	mg/L	20	ND	625	70-130	0	20
Potassium	120 L	0.050	0.010	mg/L	20	120	2	70-130	0	20

Batch BF31714 - Metals Preparation for EPA Method 200.7

Blank (BF31714-BLK1)	Prepared: 06/17/13 Analyzed: 06/19/13									
Potassium	0.085	0.050	0.010	mg/L						
Magnesium	0.020 U	0.50	0.020	mg/L						
Sodium	0.13 U	0.50	0.13	mg/L						
Calcium	0.042 U	0.50	0.042	mg/L						
Iron	0.020 U	0.10	0.020	mg/L						
Boron	0.050 U	0.10	0.050	mg/L						
Manganese	0.0010 U	0.010	0.0010	mg/L						

LCS (BF31714-BS1)

	Prepared: 06/17/13 Analyzed: 06/19/13						
Sodium	21	0.50	0.13	mg/L	20	103	85-115
Boron	0.42	0.10	0.050	mg/L	0.40	105	85-115
Calcium	20	0.50	0.042	mg/L	20	100	85-115
Potassium	20	0.050	0.010	mg/L	20	100	85-115
Magnesium	20	0.50	0.020	mg/L	20	101	85-115
Manganese	0.40	0.010	0.0010	mg/L	0.40	99	85-115
Iron	8.1	0.10	0.020	mg/L	8.0	101	85-115

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Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31714 - Metals Preparation for EPA Method 200.7										
Matrix Spike (BF31714-MS1)										
Source: 1305562-02 Prepared: 06/17/13 Analyzed: 06/19/13										
Magnesium	24	0.50	0.020	mg/L	20	6.2	91	70-130		
Calcium	37	0.50	0.042	mg/L	20	19	88	70-130		
Boron	0.57	0.10	0.050	mg/L	0.40	0.18	98	70-130		
Potassium	25	0.050	0.010	mg/L	20	7.4	90	70-130		
Manganese	0.40	0.010	0.0010	mg/L	0.40	0.0093	97	70-130		
Sodium	91	0.50	0.13	mg/L	20	74	85	70-130		
Iron	8.1	0.10	0.020	mg/L	8.0	0.053	101	70-130		
Matrix Spike (BF31714-MS2)										
Source: 1305867-08 Prepared: 06/17/13 Analyzed: 06/19/13										
Iron	8.8	0.10	0.020	mg/L	8.0	0.50	104	70-130		
Boron	0.59	0.10	0.050	mg/L	0.40	0.17	106	70-130		
Magnesium	33	0.50	0.020	mg/L	20	13	96	70-130		
Potassium	24	0.050	0.010	mg/L	20	5.0	94	70-130		
Calcium	53	0.50	0.042	mg/L	20	35	90	70-130		
Sodium	49	0.50	0.13	mg/L	20	30	95	70-130		
Manganese	0.45	0.010	0.0010	mg/L	0.40	0.038	104	70-130		
Matrix Spike Dup (BF31714-MSD1)										
Source: 1305562-02 Prepared: 06/17/13 Analyzed: 06/19/13										
Magnesium	27	0.50	0.020	mg/L	20	6.2	102	70-130	9	20
Manganese	0.40	0.010	0.0010	mg/L	0.40	0.0093	98	70-130	0.8	20
Sodium	96	0.50	0.13	mg/L	20	74	106	70-130	5	20
Potassium	29	0.050	0.010	mg/L	20	7.4	107	70-130	12	20
Boron	0.59	0.10	0.050	mg/L	0.40	0.18	102	70-130	3	20
Calcium	40	0.50	0.042	mg/L	20	19	104	70-130	8	20
Iron	8.3	0.10	0.020	mg/L	8.0	0.053	103	70-130	3	20
Matrix Spike Dup (BF31714-MSD2)										
Source: 1305867-08 Prepared: 06/17/13 Analyzed: 06/19/13										
Iron	8.7	0.10	0.020	mg/L	8.0	0.50	103	70-130	0.7	20
Sodium	48	0.50	0.13	mg/L	20	30	90	70-130	2	20
Potassium	24	0.050	0.010	mg/L	20	5.0	97	70-130	2	20
Boron	0.58	0.10	0.050	mg/L	0.40	0.17	104	70-130	1	20
Calcium	56	0.50	0.042	mg/L	20	35	105	70-130	5	20
Magnesium	34	0.50	0.020	mg/L	20	13	104	70-130	5	20
Manganese	0.45	0.010	0.0010	mg/L	0.40	0.038	102	70-130	2	20

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

July 23, 2013

Work Order: 1305562

* 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 limits and the laboratory practical quantitation limit.

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

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

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

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

Questions regarding this report should be directed to :

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

Kathryn@southernanalyticallabs.com

A handwritten signature in black ink that appears to read "Francis I. Daniels".

SOUTHERN ANALYTICAL LABORATORIES, INC.

1110 BAYVIEW BOULEVARD, OLMSTAD, FL 346877 813-855-1844 fax 813-856-2218

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SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, OLMSTED, FL 34877 813-855-1844 fax 813-855-2218

Client Name	Hazen and Sawyer	Contact / Phone:
Project Name / Location	S&GW Test Facility SE #6 (TA3)	
Samplers: (Signature)		

Sample Description	Date	Time	Matrix	Parameter / Container Description			
				Field PH	Field Temperature	Field Conductivity	Field DO
DW-Drinking Water	GW	X					
WW-Wastewater	GW	X					
SW-Groundwater	GW	X					
SL-Sludge	GW	X					
SO-Soil	GW	X					
SA-Saline Water	GW	X					
O-Other	GW	X					
R-Reagent Water	GW	X					
01 TA3-PAN-12-N	GW	X	1	1	1	1	
02 TA3-LY-24-C	GW	X	1	1	1	1	
03 TA3-LY-12-S	GW	X	1	1	1	1	
04 TA3-LY-12-S-DUP	GW	X	1	1	1	1	
05 TA3-LY-24-S	GW	X	1	1	1	1	
06 TA3-LY-42-S	GW	X	1	1	1	1	
07 TA3-PZ-11-EF2	GW	X	1	1	1	1	
08 TA3-PZ-11-I2	GW	X	1	1	1	1	
09 TA3-PZ-10-J5	GW	X	1	1	1	1	
10 TA3-PZ-10-J5-Dup	GW	X	1	1	1	1	
11 TA3-PZ-10-K5	GW	X	1	1	1	1	
12 TA3-PZ-11-L2	GW	X	1	1	1	1	
Containers Prepared:	Received:	Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:
Relinquished:		02-06-13		11-12-13		6-12-13 1544	
Relinquished:		Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:
Relinquished:		Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:
Relinquished:		Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:
Relinquished:		Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:
Relinquished:		Date/Time:	Received:	Date/Time:	Received:	Date/Time:	Received:
Instructions / Remarks:							
Seal intact?	<input checked="" type="checkbox"/> N N A						
Samples intact upon arrival?	<input checked="" type="checkbox"/> N N A						
Received on ice? Temp _____	<input checked="" type="checkbox"/> N N A						
Proper preservatives indicated?	<input checked="" type="checkbox"/> N N A						
Rec'd within holding time?	<input checked="" type="checkbox"/> N N A						
Voltiles rec'd w/out headspace? Y N	<input checked="" type="checkbox"/> N N A						
Proper containers used?	<input checked="" type="checkbox"/> N N A						

Chain of Custody

Chain of Custody Rev Date 11/15/01

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

Contact / Phone:

Hazen and Sawyer

SGW Test Facility SE #2 (TA3)

Project Name / Location	Hazen and Sawyer	Contact / Phone:
Client Name	S&GW Test Facility SF #6 (TA3)	

Chain of Custody

Chain of Custody
Rev. Date 11/18/01

SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, OLMSTED, FL 34877 813-855-1844 Fax 813-855-2218

Client Name	Hazen and Sawyer		Contact / Phone:							
Project Name / Location	S&GW Test Facility SE #5 (TAs)									
Samplers: (Signature)										
Sample No.	Matrix Codes: DW-Drinking Water WW-Wastewater SW-Surface Water SL-Sludge SO-Soil GW-Groundwater SA-Saline Water O-Other R-Reagent Water	Sample Description	Date	Time	Matrix	Composite	TOC 40MLAV, HCl	Field Conductivity TKN, NH ₃ , COD, TP 125MLP, H ₂ SO ₄ , B, Ca, Fe, Mg, Mn, K, Na 250MLP, HNO ₃ , DOD, Cool	Field Temperature 4.9° 22.9° 27.4° 4.9° 22.9° 27.4°	Field DO 4.9° 25.0° 25.8° 2.0° 4.9° 22.9° 27.4° 2.0°
13	TA3-PZ-11-L3	10/2/13 0842	GW	X			1		1	
14	TA3-PZ-11-L4	10/2/13 0821	GW	X			1	1	1	
15	TA3-PZ-10-L5	10/2/13 0821	GW	X			1	1	1	
16	TA3-PZ-09-N3		GW	X			1		1	
17	TA3-PZ-16-N3		GW	X			1		1	
18	TA3-PZ-09-07		GW	X	1		1			
19	TA3-PZ-16-07		GW	X	1		1			
20	TA3-PZ-09-17		GW	X	1		1			
21	TA3-PZ-16-17		GW	X	1		1			
22	TA3-PZ-09-M9		GW	X	1		1			
23	TA3-PZ-16-M9		GW	X	1		1			
24	TA3-PZ-09-ST14		GW	X	1		1			
		Date/Time: 10/2/13 0842	Received:		Date/Time:		Instructions / Remarks:			
		Date/Time: 10/2/13 0821	Received:		Date/Time:		Seal intact? <input checked="" type="checkbox"/> N/A			
		Date/Time: 10/2/13 0821	Received:		Date/Time:		Samples intact upon arrival? <input checked="" type="checkbox"/> N/A			
		Date/Time: 10/2/13 0821	Received:		Date/Time:		Received on ice? Temp _____ <input checked="" type="checkbox"/> N/A			
		Date/Time: 10/2/13 0821	Received:		Date/Time:		Proper preservatives indicated? <input checked="" type="checkbox"/> N/A			
		Date/Time: 10/2/13 0821	Received:		Date/Time:		Rec'd within holding time? <input checked="" type="checkbox"/> N/A			
		Date/Time: 10/2/13 0821	Received:		Date/Time:		Volatile rec'd w/out headspace? <input checked="" type="checkbox"/> N/A			
		Date/Time: 10/2/13 0821	Received:		Date/Time:		Proper containers used? <input checked="" type="checkbox"/> N/A			

Chain of Custody

Chain of Custody Rev. Date 11/16/01

SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, ODESMAR, FL 34877 813-855-1844 fax 813-855-2218

Client Name	Hazen and Sawyer	Project Name / Location	SGGW Test Facility SE #46 (TA3)	Contact / Phone:					
Samplers: (Signature) <i>[Signature]</i>									
Matrix Codes: DW=Drinking Water, WV=Wastewater SW=Surface Water, SL=Sludge, SC=Soil GW=Groundwater, SA=Saline Water O=Other R=Reagent Water	Sample Description	Date	Time	PARAMETER / CONTAINER DESCRIPTION					
				Matrix	Date	Time	Method	Parameter	
13 TA3-PZ-11-L3			GW	X	1	1	1	1	Field DO
14 TA3-PZ-11-L4			GW	X		1	1	2	Field Conductivity
15 TA3-PZ-10-L5			GW	X		1	1	1	Field Temperature
16 TA3-PZ-09-N3	1/11/13 1/22/13		GW	X	1	1	1	1	Field pH
17 TA3-PZ-16-N3	1/23/13		GW	X	1	1	1	1	
18 TA3-PZ-09-07	1/24/13		GW	X	1	1	1	1	
19 TA3-PZ-16-07	1/20/13		GW	X	1	1	1	1	
20 TA3-PZ-09-17	1/34/13		GW	X	1	1	1	1	
21 TA3-PZ-16-17	1/35/13		GW	X	1	1	1	1	
22 TA3-PZ-09-M9	1/31/13		GW	X	1	1	1	1	
23 TA3-PZ-16-M9	1/32/13		GW	X	1	1	1	1	
24 TA3-PZ-09-ST14	1/31/13 1/29		GW	X	1	1	1	1	
					Date/Time:	Instructions / Remarks:			
					1/30	Seal intact?			
					06-05-13	Samples intact upon arrival?			
					Received: 5/15	Received on ice? Temp _____			
					Received: 6/11/13	Proper preservatives indicated? _____			
					Date/Time: _____	Rec'd within holding time? _____			
					Date/Time: _____	Volatile rec'd w/out headspace? _____			
					Date/Time: _____	Proper containers used? _____			

Chain of Custody #4
Rev/Date 11/18/01

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.
110 BAYVIEW AVENUE • DIAZON, GA 31334 • (404) 962-3487
ANALYTICAL • **CHROMATOGRAPHY** • **TESTS**

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

Client Name

Contact / Phone:

Chain of Custody

Chain of Custody

Chain of Custody

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

July 10, 2013

Work Order: 13055570

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA5-PZ-I							
Matrix	Groundwater							
SAL Sample Number	13055570-01							
Date/Time Collected	06/13/13 09:44							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Inorganics								
Hydrogen Sulfide (Unionized)	mg/L	0.01 U	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		07/03/13 12:51	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/25/13 16:00	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 16:00	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/20/13 08:33	06/21/13 12:50	1
Chloride	mg/L	12	EPA 300.0	0.20	0.050		06/14/13 22:58	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 16:00	1
Nitrate (as N)	mg/L	4.7	EPA 300.0	0.04	0.01		06/14/13 22:58	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 22:58	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 16:00	1
Phosphorous - Total as P	mg/L	0.018 I	SM 4500P-E	0.040	0.010	06/25/13 09:26	07/03/13 10:38	1
Sulfate	mg/L	74	EPA 300.0	0.60	0.20		06/14/13 22:58	1
Sulfide	mg/L	0.10 U	SM 4500SF	0.40	0.10		06/18/13 10:20	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/25/13 16:00	1
Total Kjeldahl Nitrogen	mg/L	0.67	EPA 351.2	0.20	0.05	06/28/13 11:18	07/01/13 13:50	1
Total Suspended Solids	mg/L	4	SM 2540D	1	1	06/19/13 16:49	06/20/13 13:37	1
Nitrate+Nitrite (N)	mg/L	4.7	EPA 300.0	0.08	0.02		06/14/13 22:58	1
Microbiology								
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	06/13/13 15:41	06/14/13 14:21	1

Sample Description	TA5-PZ-I-DUP							
Matrix	Groundwater							
SAL Sample Number	13055570-02							
Date/Time Collected	06/13/13 09:49							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							

Inorganics								
Hydrogen Sulfide (Unionized)	mg/L	0.01 U	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		07/03/13 12:53	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/20/13 08:33	06/21/13 12:50	1

SOUTHERN ANALYTICAL LABORATORIES, INC.

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813-855-1844 FAX 813-855-2218



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

July 10, 2013

Work Order: 1305570

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA5-PZ-I-DUP							
Matrix	Groundwater							
SAL Sample Number	1305570-02							
Date/Time Collected	06/13/13 09:49							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Chloride	mg/L	11	EPA 300.0	0.20	0.050		06/14/13 23:07	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	4.7	EPA 300.0	0.04	0.01		06/14/13 23:07	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 23:07	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	0.013 I	SM 4500P-E	0.040	0.010	06/25/13 09:26	07/03/13 10:39	1
Sulfate	mg/L	74	EPA 300.0	0.60	0.20		06/14/13 23:07	1
Sulfide	mg/L	0.10 U	SM 4500SF	0.40	0.10		06/18/13 10:20	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	0.73	EPA 351.2	0.20	0.05	06/28/13 11:18	07/01/13 13:51	1
Total Suspended Solids	mg/L	4	SM 2540D	1	1	06/19/13 16:49	06/20/13 13:37	1
Nitrate+Nitrite (N)	mg/L	4.7	EPA 300.0	0.08	0.02		06/14/13 23:07	1
Microbiology								
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	06/13/13 15:41	06/14/13 14:21	1
Sample Description	TA5-LY-C							
Matrix	Groundwater							
SAL Sample Number	1305570-03							
Date/Time Collected	06/13/13 09:12							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Inorganics								
Hydrogen Sulfide (Unionized)	mg/L	4.0	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	0.10	EPA 350.1	0.040	0.009		07/03/13 12:55	1
Ammonium as NH4	mg/L	0.13	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	85	EPA 410.4	25	10	06/20/13 08:33	06/21/13 12:50	1
Chloride	mg/L	26	EPA 300.0	0.20	0.050		06/14/13 23:16	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	12	EPA 300.0	0.04	0.01		06/14/13 23:16	1
Nitrite (as N)	mg/L	0.08	EPA 300.0	0.04	0.01		06/14/13 23:16	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	5.9	SM 4500P-E	0.20	0.050	06/25/13 09:26	07/03/13 11:21	5
Sulfate	mg/L	12	EPA 300.0	0.60	0.20		06/14/13 23:16	1
Sulfide	mg/L	5.1	SM 4500SF	0.40	0.10		06/18/13 10:20	1

Florida Certification Number: E84129

NELAP Accredited

Francis I. Daniels, Laboratory Director

Leslie C. Boardman, Q.A. Manager

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

July 10, 2013

Work Order: 13055570

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA5-LY-C							
Matrix	Groundwater							
SAL Sample Number	13055570-03							
Date/Time Collected	06/13/13 09:12							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	4.2	EPA 351.2	0.20	0.05	06/28/13 11:18	07/01/13 13:53	1
Total Suspended Solids	mg/L	1 U	SM 2540D	1	1	06/19/13 16:49	06/20/13 13:37	1
Nitrate+Nitrite (N)	mg/L	12	EPA 300.0	0.08	0.02		06/14/13 23:16	1
Sample Description	TA5-LINER-SP							
Matrix	Groundwater							
SAL Sample Number	13055570-04							
Date/Time Collected	06/13/13 12:25							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Inorganics								
Ammonia as N	mg/L	1.3	EPA 350.1	0.040	0.009		07/03/13 12:57	1
Ammonium as NH4	mg/L	1.7	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	220	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	170	EPA 410.4	25	10	06/20/13 08:33	06/21/13 12:50	1
Chloride	mg/L	53	EPA 300.0	2.0	0.50		06/20/13 23:50	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	2.9	EPA 300.0	0.04	0.01		06/14/13 23:26	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 23:26	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	11	SM 4500P-E	1.0	0.26	06/25/13 09:26	07/03/13 11:43	25.71
Sulfate	mg/L	25	EPA 300.0	0.60	0.20		06/14/13 23:26	1
Total Alkalinity	mg/L	220	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	4.5	EPA 351.2	0.20	0.05	06/28/13 11:18	07/01/13 15:01	5
Total Suspended Solids	mg/L	54	SM 2540D	1	1	06/19/13 16:49	06/20/13 13:37	1
Nitrate+Nitrite (N)	mg/L	2.9	EPA 300.0	0.08	0.02		06/14/13 23:26	1
Sample Description	TA5-Denite Tank							
Matrix	Groundwater							
SAL Sample Number	13055570-05							
Date/Time Collected	06/13/13 10:35							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							

Florida Certification Number: E84129

NELAP Accredited

Francis I. Daniels, Laboratory Director

Leslie C. Boardman, Q.A. Manager

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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

July 10, 2013

Work Order: 1305570

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA5-Denite Tank							
Matrix	Groundwater							
SAL Sample Number	1305570-05							
Date/Time Collected	06/13/13 10:35							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Inorganics								
Hydrogen Sulfide (Unionized)	mg/L	0.88	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	1.1	EPA 350.1	0.040	0.009		07/03/13 12:59	1
Ammonium as NH4	mg/L	1.4	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	160	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	110	EPA 410.4	25	10	06/20/13 08:33	06/21/13 12:50	1
Chloride	mg/L	43	EPA 300.0	2.0	0.50		06/20/13 23:59	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	0.15	EPA 300.0	0.04	0.01		06/14/13 23:35	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 23:35	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	8.2	SM 4500P-E	1.0	0.26	06/25/13 09:26	07/03/13 11:44	25.71
Sulfate	mg/L	140	EPA 300.0	6.0	2.0		06/20/13 23:59	10
Sulfide	mg/L	1.3	SM 4500SF	0.40	0.10		06/18/13 10:20	1
Total Alkalinity	mg/L	160	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	4.4	EPA 351.2	0.20	0.05	06/28/13 11:18	07/01/13 14:01	1
Total Organic Carbon	mg/L	57	SM 5310B	1.0	0.50		06/27/13 09:48	1
Total Suspended Solids	mg/L	1 U	SM 2540D	1	1	06/19/13 16:49	06/20/13 13:37	1
Nitrate+Nitrite (N)	mg/L	0.15	EPA 300.0	0.08	0.02		06/14/13 23:35	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	52	SM 5310B	1.0	0.50		06/27/13 09:48	1
Microbiology								
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	06/13/13 15:41	06/14/13 14:21	1

Sample Description	TA5-Denite Tank-DUP							
Matrix	Groundwater							
SAL Sample Number	1305570-06							
Date/Time Collected	06/13/13 11:40							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Inorganics								
Hydrogen Sulfide (Unionized)	mg/L	0.88	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	1.3	EPA 350.1	0.040	0.009		07/03/13 13:02	1
Ammonium as NH4	mg/L	1.7	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	160	SM 2320B	8.0	2.0		06/27/13 09:15	1

Florida Certification Number: E84129

NELAP Accredited

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

SOUTHERN ANALYTICAL LABORATORIES, INC.

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813-855-1844 FAX 813-855-2218



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

July 10, 2013

Work Order: 1305570

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA5-Denite Tank-DUP							
Matrix	Groundwater							
SAL Sample Number	1305570-06							
Date/Time Collected	06/13/13 11:40							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	100	EPA 410.4	25	10	06/19/13 10:14	06/20/13 13:45	1
Chloride	mg/L	43	EPA 300.0	2.0	0.50		06/21/13 00:09	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	0.15	EPA 300.0	0.04	0.01		06/14/13 23:45	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 23:45	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	7.3	SM 4500P-E	0.20	0.050	06/25/13 09:26	07/03/13 11:24	5
Sulfate	mg/L	150	EPA 300.0	6.0	2.0		06/21/13 00:09	10
Sulfide	mg/L	1.3	SM 4500SF	0.40	0.10		06/18/13 10:20	1
Total Alkalinity	mg/L	160	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	4.3	EPA 351.2	0.20	0.05	06/28/13 11:18	07/01/13 14:02	1
Total Organic Carbon	mg/L	57	SM 5310B	1.0	0.50		06/27/13 09:48	1
Total Suspended Solids	mg/L	1 U	SM 2540D	1	1	06/19/13 16:49	06/20/13 13:37	1
Nitrate+Nitrite (N)	mg/L	0.15	EPA 300.0	0.08	0.02		06/14/13 23:45	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	55	SM 5310B	1.0	0.50		06/27/13 09:48	1
Microbiology								
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	06/13/13 15:41	06/14/13 14:21	1
Sample Description	TA5-SULFUR-3 inch							
Matrix	Groundwater							
SAL Sample Number	1305570-07							
Date/Time Collected	06/13/13 11:30							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Inorganics								
Hydrogen Sulfide (Unionized)	mg/L	21	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	3.1	EPA 350.1	0.20	0.047		07/03/13 14:17	5
Ammonium as NH4	mg/L	4.0	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	240	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonaceous BOD	mg/L	40	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	170	EPA 410.4	25	10	06/20/13 08:33	06/21/13 12:50	1
Chloride	mg/L	39	EPA 300.0	0.20	0.050		06/14/13 23:54	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1

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Tampa, FL 33619

July 10, 2013

Work Order: 13055570

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA5-SULFUR-3 inch							
Matrix	Groundwater							
SAL Sample Number	13055570-07							
Date/Time Collected	06/13/13 11:30							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Nitrate (as N)	mg/L	0.08	EPA 300.0	0.04	0.01		06/14/13 23:54	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 23:54	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	9.2	SM 4500P-E	1.0	0.26	06/25/13 09:26	07/03/13 11:45	25.71
Sulfate	mg/L	50	EPA 300.0	0.60	0.20		06/14/13 23:54	1
Sulfide	mg/L	36	SM 4500SF	0.40	0.10		06/18/13 10:20	1
Total Alkalinity	mg/L	240	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	6.2	EPA 351.2	0.20	0.05	06/28/13 11:18	07/01/13 15:02	5
Total Suspended Solids	mg/L	2	SM 2540D	1	1	06/19/13 16:49	06/20/13 13:37	1
Nitrate+Nitrite (N)	mg/L	0.08	EPA 300.0	0.08	0.02		06/14/13 23:54	1
Microbiology								
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	06/13/13 15:41	06/14/13 14:21	1
Sample Description	TA5-SULFUR-7 inch							
Matrix	Groundwater							
SAL Sample Number	13055570-08							
Date/Time Collected	06/13/13 11:25							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Inorganics								
Hydrogen Sulfide (Unionized)	mg/L	7.6	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	2.5	EPA 350.1	0.40	0.095		07/05/13 14:54	10
Ammonium as NH4	mg/L	3.2	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	310	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonaceous BOD	mg/L	28	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	49	EPA 410.4	25	10	06/18/13 12:51	06/18/13 16:20	1
Chloride	mg/L	41	EPA 300.0	0.20	0.050		06/15/13 00:03	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/15/13 00:03	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/15/13 00:03	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	10	SM 4500P-E	1.0	0.26	06/25/13 09:26	07/03/13 11:46	25.71
Sulfate	mg/L	50	EPA 300.0	0.60	0.20		06/15/13 00:03	1
Sulfide	mg/L	13	SM 4500SF	0.40	0.10		06/18/13 10:20	1
Total Alkalinity	mg/L	310	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	5.7	EPA 351.2	0.20	0.05	06/28/13 11:18	07/01/13 15:03	5

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July 10, 2013

Work Order: 13055570

Laboratory Report

S&GW Test Facility SE#6								
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA5-SULFUR-7 inch							
Matrix	Groundwater							
SAL Sample Number	13055570-08							
Date/Time Collected	06/13/13 11:25							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Total Suspended Solids	mg/L	2	SM 2540D	1	1	06/19/13 16:49	06/20/13 13:37	1
Nitrate+Nitrite (N)	mg/L	0.02 U	EPA 300.0	0.08	0.02		06/15/13 00:03	1
Microbiology								
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	06/13/13 15:41	06/14/13 14:21	1
Sample Description	TA5-SULFUR-12 inch							
Matrix	Groundwater							
SAL Sample Number	13055570-09							
Date/Time Collected	06/13/13 11:15							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Inorganics								
Hydrogen Sulfide (Unionized)	mg/L	15	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	2.2	EPA 350.1	0.40	0.095		07/05/13 14:56	10
Ammonium as NH4	mg/L	2.8	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	320	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonaceous BOD	mg/L	19	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	200	EPA 410.4	25	10	06/19/13 11:34	06/19/13 16:40	1
Chloride	mg/L	40	EPA 300.0	0.20	0.050		06/14/13 01:09	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	0.08	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	9.6	SM 4500P-E	1.0	0.26	06/25/13 09:26	07/03/13 11:47	25.71
Sulfate	mg/L	47	EPA 300.0	0.60	0.20		06/14/13 01:09	1
Sulfide	mg/L	28	SM 4500SF	0.40	0.10		06/18/13 10:20	1
Total Alkalinity	mg/L	320	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	5.5	EPA 351.2	0.20	0.05	06/28/13 11:18	07/01/13 15:05	5
Total Suspended Solids	mg/L	1 U	SM 2540D	1	1	06/19/13 16:49	06/20/13 13:37	1
Nitrate+Nitrite (N)	mg/L	0.08	EPA 300.0	0.08	0.02		06/14/13 01:09	1
Microbiology								
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	06/13/13 15:41	06/14/13 14:21	1

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July 10, 2013

Work Order: 1305570

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA5-SULFUR-18 inch							
Matrix	Groundwater							
SAL Sample Number	1305570-10							
Date/Time Collected	06/13/13 11:05							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Inorganics								
Hydrogen Sulfide (Unionized)	mg/L	2.6	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	0.018 I	EPA 350.1	0.040	0.009		07/03/13 13:18	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	200	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	130	EPA 410.4	25	10	06/20/13 08:33	06/21/13 12:50	1
Chloride	mg/L	41	EPA 300.0	2.0	0.50		06/24/13 19:22	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	0.18	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	9.0	SM 4500P-E	1.0	0.26	06/25/13 09:26	07/03/13 11:48	25.71
Sulfate	mg/L	150	EPA 300.0	6.0	2.0		06/24/13 19:22	10
Sulfide	mg/L	4.2	SM 4500SF	0.40	0.10		06/18/13 10:20	1
Total Alkalinity	mg/L	200	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	4.4	EPA 351.2	0.20	0.05	06/28/13 11:18	07/01/13 14:08	1
Total Suspended Solids	mg/L	223	SM 2540D	1	1	06/19/13 16:49	06/20/13 13:37	1
Nitrate+Nitrite (N)	mg/L	0.18	EPA 300.0	0.08	0.02		06/14/13 01:09	1
Microbiology								
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	06/13/13 15:41	06/14/13 14:21	1

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31413 - Ion Chromatography 300.0 Prep										
Blank (BF31413-BLK1)										
Nitrite (as N)	0.01 U	0.04	0.01	mg/L				Prepared & Analyzed: 06/14/13		
Sulfate	0.20 U	0.60	0.20	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BF31413-BS1)										
Sulfate	8.52	0.60	0.20	mg/L	9.0		95	85-115		
Nitrite (as N)	1.38	0.04	0.01	mg/L	1.4		98	85-115		
Nitrate (as N)	1.57	0.04	0.01	mg/L	1.7		93	85-115		
Chloride	2.91	0.20	0.050	mg/L	3.0		97	85-115		
LCS Dup (BF31413-BSD1)										
Nitrite (as N)	1.41	0.04	0.01	mg/L	1.4		101	85-115	3	200
Chloride	2.92	0.20	0.050	mg/L	3.0		97	85-115	0.5	200
Sulfate	8.67	0.60	0.20	mg/L	9.0		96	85-115	2	200
Nitrate (as N)	1.61	0.04	0.01	mg/L	1.7		95	85-115	3	200
Matrix Spike (BF31413-MS1)										
Chloride	30.0 L	0.20	0.050	mg/L	3.0	53.3	NR	80-120		
Sulfate	52.0	0.60	0.20	mg/L	9.0	43.6	93	85-115		
Nitrate (as N)	32.8	0.04	0.01	mg/L	1.7	30.7	122	85-115		
Nitrite (as N)	1.48	0.04	0.01	mg/L	1.4	ND	105	85-115		
Matrix Spike (BF31413-MS2)										
Sulfate	58.5	0.60	0.20	mg/L	9.0	49.8	97	85-115		
Chloride	43.8	0.20	0.050	mg/L	3.0	40.6	106	80-120		
Nitrate (as N)	1.61	0.04	0.01	mg/L	1.7	ND	95	85-115		
Nitrite (as N)	1.27	0.04	0.01	mg/L	1.4	ND	91	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 BF31414 - Ion Chromatography 300.0 Prep										
Blank (BF31414-BLK1) Prepared & Analyzed: 06/14/13										
Sulfate	0.20 U	0.60	0.20	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
LCS (BF31414-BS1) Prepared & Analyzed: 06/14/13										
Nitrate (as N)	1.57	0.04	0.01	mg/L	1.7		92	85-115		
Chloride	2.80	0.20	0.050	mg/L	3.0		93	85-115		
Sulfate	8.44	0.60	0.20	mg/L	9.0		94	85-115		
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4		93	85-115		
LCS Dup (BF31414-BSD1) Prepared & Analyzed: 06/14/13										
Nitrate (as N)	1.58	0.04	0.01	mg/L	1.7		93	85-115	0.6	200
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4		93	85-115	0.4	200
Sulfate	8.48	0.60	0.20	mg/L	9.0		94	85-115	0.6	200
Chloride	2.80	0.20	0.050	mg/L	3.0		94	85-115	0.3	200
Matrix Spike (BF31414-MS1) Source: 1305594-01 Prepared & Analyzed: 06/14/13										
Chloride	30.0 L	0.20	0.050	mg/L	3.0	54.6	NR	80-120		
Nitrite (as N)	1.49	0.04	0.01	mg/L	1.4	ND	106	85-115		
Nitrate (as N)	13.6	0.04	0.01	mg/L	1.7	11.8	104	85-115		
Sulfate	42.0	0.60	0.20	mg/L	9.0	33.5	94	85-115		
Matrix Spike (BF31414-MS2) Source: 1305867-02 Prepared & Analyzed: 06/14/13										
Chloride	30.0 L	0.20	0.050	mg/L	3.0	46.1	NR	80-120		
Nitrate (as N)	1.91	0.04	0.01	mg/L	1.7	0.351	92	85-115		
Sulfate	89.7	0.60	0.20	mg/L	9.0	80.2	105	85-115		
Nitrite (as N)	1.53	0.04	0.01	mg/L	1.4	ND	110	85-115		

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July 10, 2013

Work Order: 1305570

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31432 - BOD										
Blank (BF31432-BLK1) Prepared: 06/14/13 Analyzed: 06/19/13										
Carbonaceous BOD	2 U	2	2	mg/L						
Blank (BF31432-BLK2) Prepared: 06/14/13 Analyzed: 06/19/13										
Carbonaceous BOD	2 U	2	2	mg/L						
LCS (BF31432-BS1) Prepared: 06/14/13 Analyzed: 06/19/13										
Carbonaceous BOD	200	2	2	mg/L	200		100	85-115		
LCS (BF31432-BS2) Prepared: 06/14/13 Analyzed: 06/19/13										
Carbonaceous BOD	195	2	2	mg/L	200		97	85-115		
LCS Dup (BF31432-BSD1) Prepared: 06/14/13 Analyzed: 06/19/13										
Carbonaceous BOD	192	2	2	mg/L	200		96	85-115	4	200
LCS Dup (BF31432-BSD2) Prepared: 06/14/13 Analyzed: 06/19/13										
Carbonaceous BOD	194	2	2	mg/L	200		97	85-115	0.3	200
Duplicate (BF31432-DUP1) Source: 1305570-04 Prepared: 06/14/13 Analyzed: 06/19/13										
Carbonaceous BOD	2 U	2	2	mg/L		ND				25
Duplicate (BF31432-DUP2) Source: 1305594-09 Prepared: 06/14/13 Analyzed: 06/19/13										
Carbonaceous BOD	13	2	2	mg/L		12			2	25
Batch BF31832 - COD prep										
Blank (BF31832-BLK1) Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	10 U	25	10	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 BF31832 - COD prep										
LCS (BF31832-BS1) Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	53	25	10	mg/L	50		105	90-110		
Matrix Spike (BF31832-MS1) Source: 1305562-08 Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	51	25	10	mg/L	50	ND	102	85-115		
Matrix Spike Dup (BF31832-MSD1) Source: 1305562-08 Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	49	25	10	mg/L	50	ND	98	85-115	4	32
Batch BF31842 - Sulfide prep										
Blank (BF31842-BLK1) Prepared & Analyzed: 06/18/13										
Sulfide	0.10 U	0.40	0.10	mg/L						
Blank (BF31842-BLK2) Prepared & Analyzed: 06/18/13										
Sulfide	0.10 U	0.40	0.10	mg/L						
LCS (BF31842-BS1) Prepared & Analyzed: 06/18/13										
Sulfide	4.86	0.40	0.10	mg/L	5.0		97	85-115		
LCS (BF31842-BS2) Prepared & Analyzed: 06/18/13										
Sulfide	4.65	0.40	0.10	mg/L	5.0		93	85-115		
Matrix Spike (BF31842-MS1) Source: 1305570-02 Prepared & Analyzed: 06/18/13										
Sulfide	4.86	0.40	0.10	mg/L	5.0	ND	97	85-115		
Matrix Spike (BF31842-MS2) Source: 1306228-01 Prepared & Analyzed: 06/18/13										
Sulfide	5.26	0.40	0.10	mg/L	5.0	0.710	91	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 BF31842 - Sulfide prep										
Matrix Spike Dup (BF31842-MSD1) Source: 1305570-02 Prepared & Analyzed: 06/18/13										
Sulfide	4.86	0.40	0.10	mg/L	5.0	ND	97	85-115	0	14
Matrix Spike Dup (BF31842-MSD2) Source: 1306228-01 Prepared & Analyzed: 06/18/13										
Sulfide	5.26	0.40	0.10	mg/L	5.0	0.710	91	85-115	0	14
Batch BF31915 - COD prep										
Blank (BF31915-BLK1) Prepared: 06/19/13 Analyzed: 06/20/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31915-BS1) Prepared: 06/19/13 Analyzed: 06/20/13										
Chemical Oxygen Demand	55	25	10	mg/L	50		110	90-110		
Matrix Spike (BF31915-MS1) Source: 1305562-05 Prepared: 06/19/13 Analyzed: 06/20/13										
Chemical Oxygen Demand	67	25	10	mg/L	50	16	102	85-115		
Matrix Spike Dup (BF31915-MSD1) Source: 1305562-05 Prepared: 06/19/13 Analyzed: 06/20/13										
Chemical Oxygen Demand	67	25	10	mg/L	50	16	102	85-115	0	32
Batch BF31916 - COD prep										
Blank (BF31916-BLK1) Prepared & Analyzed: 06/19/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31916-BS1) Prepared & Analyzed: 06/19/13										
Chemical Oxygen Demand	49	25	10	mg/L	50		98	90-110		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31916 - COD prep										
Matrix Spike (BF31916-MS1) Source: 1305562-14 Prepared & Analyzed: 06/19/13										
Chemical Oxygen Demand	59	25	10	mg/L	50	12	94	85-115		
Matrix Spike Dup (BF31916-MSD1) Source: 1305562-14 Prepared & Analyzed: 06/19/13										
Chemical Oxygen Demand	59	25	10	mg/L	50	12	94	85-115	0	32
Batch BF31932 - TSS prep										
Blank (BF31932-BLK1) Prepared: 06/19/13 Analyzed: 06/20/13										
Total Suspended Solids	1 U	1	1	mg/L						
LCS (BF31932-BS1) Prepared: 06/19/13 Analyzed: 06/20/13										
Total Suspended Solids	44.0	1	1	mg/L	50		88	85-115		
Duplicate (BF31932-DUP1) Source: 1305557-05 Prepared: 06/19/13 Analyzed: 06/20/13										
Total Suspended Solids	2.00	1	1	mg/L		2.00			0	30
Batch BF32004 - COD prep										
Blank (BF32004-BLK1) Prepared: 06/20/13 Analyzed: 06/21/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF32004-BS1) Prepared: 06/20/13 Analyzed: 06/21/13										
Chemical Oxygen Demand	51	25	10	mg/L	50		102	90-110		
Matrix Spike (BF32004-MS1) Source: 1305570-03 Prepared: 06/20/13 Analyzed: 06/21/13										
Chemical Oxygen Demand	130	25	10	mg/L	50	85	94	85-115		

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32004 - COD prep										
Matrix Spike Dup (BF32004-MSD1) Source: 1305570-03 Prepared: 06/20/13 Analyzed: 06/21/13										
Chemical Oxygen Demand 130 25 10 mg/L 50 85 90 85-115 2 32										
Batch BF32031 - Ion Chromatography 300.0 Prep										
Blank (BF32031-BLK1) Prepared & Analyzed: 06/20/13										
Sulfate	0.20 U	0.60	0.20	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BF32031-BS1) Prepared & Analyzed: 06/20/13										
Chloride	2.85	0.20	0.050	mg/L	3.0		95	85-115		
Sulfate	8.48	0.60	0.20	mg/L	9.0		94	85-115		
LCS Dup (BF32031-BSD1) Prepared & Analyzed: 06/20/13										
Chloride	3.00	0.20	0.050	mg/L	3.0		100	85-115	5	200
Sulfate	8.81	0.60	0.20	mg/L	9.0		98	85-115	4	200
Matrix Spike (BF32031-MS1) Source: 1306371-04 Prepared & Analyzed: 06/20/13										
Chloride	30.0 L	0.20	0.050	mg/L	3.0	285	NR	80-120		
Sulfate	90.0 L	0.60	0.20	mg/L	9.0	121	NR	85-115		
Matrix Spike (BF32031-MS2) Source: 1306198-11 Prepared & Analyzed: 06/21/13										
Sulfate	115	6.0	2.0	mg/L	90	181	NR	85-115		
Chloride	87.8	2.0	0.50	mg/L	30	55.4	108	80-120		
Batch BF32417 - Ion Chromatography 300.0 Prep										
Blank (BF32417-BLK1) Prepared & Analyzed: 06/24/13										
Sulfate	0.20 U	0.60	0.20	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						

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Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32417 - Ion Chromatography 300.0 Prep										
LCS (BF32417-BS1) Prepared & Analyzed: 06/24/13										
Sulfate	8.85	0.60	0.20	mg/L	9.0	98	85-115			
Chloride	3.02	0.20	0.050	mg/L	3.0	101	85-115			
LCS Dup (BF32417-BSD1) Prepared & Analyzed: 06/24/13										
Sulfate	8.53	0.60	0.20	mg/L	9.0	95	85-115	4	200	
Chloride	2.95	0.20	0.050	mg/L	3.0	98	85-115	3	200	
Matrix Spike (BF32417-MS1) Source: 1305571-06 Prepared & Analyzed: 06/24/13										
Sulfate	134	6.0	2.0	mg/L	90	50.8	93	85-115		
Chloride	101	2.0	0.50	mg/L	30	72.0	97	80-120		
Matrix Spike (BF32417-MS2) Source: 1305987-03 Prepared & Analyzed: 06/24/13										
Chloride	1,150	20	5.0	mg/L	300	833	104	80-120		
Sulfate	913	60	20	mg/L	900	29.8	98	85-115		
Batch BF32510 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF32510-BLK1) Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						
LCS (BF32510-BS1) Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	0.809	0.040	0.010	mg/L	0.80	101	90-110			
Matrix Spike (BF32510-MS1) Source: 1305570-01 Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	1.05	0.040	0.010	mg/L	1.0	0.0183	103	90-110		
Matrix Spike (BF32510-MS2) Source: 1305593-13 Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	1.04	0.040	0.010	mg/L	1.0	0.0595	98	90-110		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32510 - Digestion for TP by EPA 365.2/SM4500PE										
Matrix Spike Dup (BF32510-MSD1)		Source: 1305570-01				Prepared: 06/25/13 Analyzed: 07/03/13				
Phosphorous - Total as P	1.02	0.040	0.010	mg/L	1.0	0.0183	100	90-110	3	25

Matrix Spike Dup (BF32510-MSD2)		Source: 1305593-13				Prepared: 06/25/13 Analyzed: 07/03/13				
Phosphorous - Total as P	0.979	0.040	0.010	mg/L	1.0	0.0595	92	90-110	6	25

Batch BF32718 - TOC prep

Blank (BF32718-BLK1)		Prepared & Analyzed: 06/27/13								
Total Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BF32718-BS1)		Prepared & Analyzed: 06/27/13								
Total Organic Carbon	9.56	1.0	0.50	mg/L	10		96	90-110		
Matrix Spike (BF32718-MS1)		Source: 1305589-03				Prepared & Analyzed: 06/27/13				
Total Organic Carbon	9.52	1.0	0.50	mg/L	10	ND	95	85-115		
Matrix Spike Dup (BF32718-MSD1)		Source: 1305589-03				Prepared & Analyzed: 06/27/13				
Total Organic Carbon	9.51	1.0	0.50	mg/L	10	ND	95	85-115	0.07	10

Batch BF32810 - alkalinity

Blank (BF32810-BLK1)		Prepared & Analyzed: 06/27/13								
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
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 BF32810 - alkalinity										
Blank (BF32810-BLK2) Prepared & Analyzed: 06/27/13										
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BF32810-BS1) Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120		96	90-110		
LCS (BF32810-BS2) Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120		96	90-110		
Matrix Spike (BF32810-MS1) Source: 1305593-13 Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	11	87	80-120		
Matrix Spike (BF32810-MS2) Source: 1305558-05 Prepared & Analyzed: 06/27/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120		
Matrix Spike Dup (BF32810-MSD1) Source: 1305593-13 Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	11	87	80-120	0	26
Matrix Spike Dup (BF32810-MSD2) Source: 1305558-05 Prepared & Analyzed: 06/27/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120	0	26
Batch BF32811 - alkalinity										
Blank (BF32811-BLK1) Prepared & Analyzed: 06/25/13										
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate 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 BF32811 - alkalinity										
LCS (BF32811-BS1) Prepared & Analyzed: 06/25/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	96	90-110			
Matrix Spike (BF32811-MS1) Source: 1306198-02 Prepared & Analyzed: 06/25/13										
Total Alkalinity	190	8.0	2.0	mg/L	120	65	96	80-120		
Matrix Spike Dup (BF32811-MSD1) Source: 1306198-02 Prepared & Analyzed: 06/25/13										
Total Alkalinity	190	8.0	2.0	mg/L	120	65	96	80-120	0	26
Batch BF32816 - Digestion for TKN by EPA 351.2										
Blank (BF32816-BLK1) Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF32816-BS1) Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	2.64	0.20	0.05	mg/L	2.5	104	90-110			
Matrix Spike (BF32816-MS1) Source: 1305562-02 Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	5.60	0.20	0.05	mg/L	2.5	3.01	102	90-110		
Matrix Spike (BF32816-MS2) Source: 1305571-02 Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	5.21	0.20	0.05	mg/L	2.5	2.61	103	90-110		
Matrix Spike Dup (BF32816-MSD1) Source: 1305562-02 Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	5.88	0.20	0.05	mg/L	2.5	3.01	113	90-110	5	20
Matrix Spike Dup (BF32816-MSD2) Source: 1305571-02 Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	5.29	0.20	0.05	mg/L	2.5	2.61	106	90-110	2	20

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch BG30313 - Ammonia by SEAL

Blank (BG30313-BLK1)										
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BG30313-BS1)										
Ammonia as N	0.52	0.040	0.009	mg/L	0.50		104	90-110		
Matrix Spike (BG30313-MS1)					Source: 1305558-03					
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	0.019	98	90-110		
Matrix Spike (BG30313-MS2)					Source: 1305558-04					
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	103	90-110		
Matrix Spike Dup (BG30313-MSD1)					Source: 1305558-03					
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	0.019	101	90-110	3	10
Matrix Spike Dup (BG30313-MSD2)					Source: 1305558-04					
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	102	90-110	0.8	10

Batch BG30315 - Ammonia by SEAL

Blank (BG30315-BLK1)										
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BG30315-BS1)										
Ammonia as N	0.50	0.040	0.009	mg/L	0.50		101	90-110		
Matrix Spike (BG30315-MS1)					Source: 1306374-07					
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	103	90-110		

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10002 Princess Palm Ave, Suite 200
Tampa, FL 33619

July 10, 2013

Work Order: 1305570

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BG30315 - Ammonia by SEAL										
Matrix Spike Dup (BG30315-MSD1) Source: 1306374-07 Prepared & Analyzed: 07/03/13										
Ammonia as N	0.52	0.040	0.009	mg/L	0.50	ND	104	90-110	1	10
Batch BG30505 - Ammonia by SEAL										
Blank (BG30505-BLK1) Prepared & Analyzed: 07/06/13										
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BG30505-BS1) Prepared & Analyzed: 07/05/13										
Ammonia as N	0.47	0.040	0.009	mg/L	0.50		94	90-110		
Matrix Spike (BG30505-MS1) Source: 1306198-04 Prepared & Analyzed: 07/05/13										
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	102	90-110		
Matrix Spike (BG30505-MS2) Source: 1306401-02 Prepared & Analyzed: 07/05/13										
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	0.022	97	90-110		
Matrix Spike Dup (BG30505-MSD1) Source: 1306198-04 Prepared & Analyzed: 07/05/13										
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	102	90-110	0.08	10
Matrix Spike Dup (BG30505-MSD2) Source: 1306401-02 Prepared & Analyzed: 07/05/13										
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	0.022	95	90-110	1	10

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Work Order: 1305570

Inorganic, Dissolved - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32719 - DOC prep										
Blank (BF32719-BLK1) Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BF32719-BS1) Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	9.65	1.0	0.50	mg/L	10		96	90-110		
Matrix Spike (BF32719-MS1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	9.33	1.0	0.50	mg/L	10	ND	93	85-125		
Matrix Spike Dup (BF32719-MSD1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	8.90	1.0	0.50	mg/L	10	ND	89	85-125	5	25

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July 10, 2013

Work Order: 1305570

Microbiology - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31331 - FC-MF										
Blank (BF31331-BLK1) Prepared: 06/13/13 Analyzed: 06/14/13										
Fecal Coliforms	1 U	1	1	CFU/100 ml						
Duplicate (BF31331-DUP1) Source: 1305594-01 Prepared: 06/13/13 Analyzed: 06/14/13										
Fecal Coliforms	1 U	1	1	CFU/100 ml		ND				200
Duplicate (BF31331-DUP2) Source: 1305570-01 Prepared: 06/13/13 Analyzed: 06/14/13										
Fecal Coliforms	1 U	1	1	CFU/100 ml		ND				200
Duplicate (BF31331-DUP3) Source: 1305557-06 Prepared: 06/13/13 Analyzed: 06/14/13										
Fecal Coliforms	1 U	1	1	CFU/100 ml		ND				200

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*** 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 limits and the laboratory practical quantitation limit.

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

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

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

L Off-scale high. Result exceeded highest calibration standard.

Questions regarding this report should be directed to :

Kathryn Nordmark
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Kathryn@southernanalyticallabs.com

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

July 23, 2013

Work Order: 1305571

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA4-PAN-12-N						
Matrix		Groundwater						
SAL Sample Number		1305571-01						
Date/Time Collected		06/10/13 10:33						
Collected by		Josephine Edeback-Hirst						
Date/Time Received		06/10/13 16:00						

Client Provided Field Data

pH	6.73
Temperature	26.4 °C
Conductivity	580 umhos
Dissolved Oxygen	3.63 mg/L

Inorganics

Ammonia as N	mg/L	0.054	EPA 350.1	0.040	0.009	06/25/13 15:04	1
Ammonium as NH4	mg/L	0.07	EPA 350.1	0.05	0.01	07/02/13 11:30	1
Bicarbonate Alkalinity	mg/L	120	SM 2320B	8.0	2.0	06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Chloride	mg/L	49	EPA 300.0	2.0	0.50	06/19/13 18:36	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Nitrate (as N)	mg/L	4.7	EPA 300.0	0.04	0.01	06/11/13 19:22	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01	06/11/13 19:22	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Total Alkalinity	mg/L	120	SM 2320B	8.0	2.0	06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	2.7	EPA 351.2	0.20	0.05	06/22/13 09:14	06/28/13 12:04
Nitrate+Nitrite (N)	mg/L	4.7	EPA 300.0	0.08	0.02	06/11/13 19:22	1

Sample Description	TA4-LY-24-C
Matrix	Groundwater
SAL Sample Number	1305571-02
Date/Time Collected	06/13/13 08:39
Collected by	Sean Schmidt
Date/Time Received	06/13/13 14:30

Client Provided Field Data

pH	6.71
Temperature	27.1 °C
Conductivity	605 umhos
Dissolved Oxygen	3.74 mg/L

Inorganics

Ammonia as N	mg/L	0.017 I	EPA 350.1	0.040	0.009	07/03/13 13:20	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55
Bicarbonate Alkalinity	mg/L	110	SM 2320B	8.0	2.0	06/27/13 09:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	26	EPA 410.4	25	10	06/20/13 08:33	06/21/13 12:50
Chloride	mg/L	45	EPA 300.0	2.0	0.50	06/24/13 19:32	10

Florida Certification Number: E84129

NELAP Accredited

Francis I. Daniels, Laboratory Director

Leslie C. Boardman, Q.A. Manager

SOUTHERN ANALYTICAL LABORATORIES, INC.

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July 23, 2013

Work Order: 1305571

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA4-LY-24-C						
Matrix		Groundwater						
SAL Sample Number		1305571-02						
Date/Time Collected		06/13/13 08:39						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						

Client Provided Field Data

pH		6.71						
Temperature		27.1 °C						
Conductivity		605 umhos						
Dissolved Oxygen		3.74 mg/L						
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	11	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	0.20	SM 4500P-E	0.040	0.010	06/25/13 09:26	07/03/13 10:51	1
Total Alkalinity	mg/L	110	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	2.6	EPA 351.2	0.20	0.05	06/28/13 11:18	07/01/13 14:09	1
Nitrate+Nitrite (N)	mg/L	11	EPA 300.0	0.08	0.02		06/14/13 01:09	1

Sample Description	TA4-LY-12-S
Matrix	Groundwater
SAL Sample Number	1305571-03
Date/Time Collected	06/13/13 08:23
Collected by	Sean Schmidt
Date/Time Received	06/13/13 14:30

Client Provided Field Data

pH		6.87						
Temperature		27.0 °C						
Conductivity		666 umhos						
Dissolved Oxygen		4.90 mg/L						

Inorganics

Ammonia as N	mg/L	0.017 I	EPA 350.1	0.040	0.009		07/03/13 13:22	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	98	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	36	EPA 410.4	25	10	06/20/13 08:33	06/21/13 12:50	1
Chloride	mg/L	38	EPA 300.0	0.20	0.050		06/14/13 01:09	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	14	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	9.0	SM 4500P-E	1.0	0.26	06/25/13 09:26	07/03/13 11:48	25.71

Florida Certification Number: E84129

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July 23, 2013

Work Order: 1305571

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA4-LY-12-S						
Matrix		Groundwater						
SAL Sample Number		1305571-03						
Date/Time Collected		06/13/13 08:23						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						
<u>Client Provided Field Data</u>								
pH		6.87						
Temperature		27.0 °C						
Conductivity		666 umhos						
Dissolved Oxygen		4.90 mg/L						
Total Alkalinity	mg/L	98	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	2.9	EPA 351.2	0.20	0.05	06/28/13 11:18	07/01/13 14:10	1
Nitrate+Nitrite (N)	mg/L	14	EPA 300.0	0.08	0.02		06/14/13 01:09	1
Sample Description		TA4-LY-12-S-DUP						
Matrix		Groundwater						
SAL Sample Number		1305571-04						
Date/Time Collected		06/13/13 08:25						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						
<u>Client Provided Field Data</u>								
pH		6.87						
Temperature		27.0 °C						
Conductivity		666 umhos						
Dissolved Oxygen		4.90 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		07/03/13 13:24	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	87	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	42	EPA 410.4	25	10	06/19/13 11:34	06/19/13 16:40	1
Chloride	mg/L	38	EPA 300.0	0.20	0.050		06/14/13 01:09	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	14	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	9.2	SM 4500P-E	1.0	0.26	06/25/13 09:26	07/03/13 11:49	25.71
Total Alkalinity	mg/L	87	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	2.9	EPA 351.2	0.20	0.05	06/28/13 11:18	07/01/13 15:06	1
Nitrate+Nitrite (N)	mg/L	14	EPA 300.0	0.08	0.02		06/14/13 01:09	1

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Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA4-LY-24-S						
Matrix		Groundwater						
SAL Sample Number		1305571-05						
Date/Time Collected		06/13/13 08:27						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						
<u>Client Provided Field Data</u>								
pH		6.91						
Temperature		26.7 °C						
Conductivity		473 umhos						
Dissolved Oxygen		4.40 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.058	EPA 350.1	0.040	0.009		07/03/13 13:26	1
Ammonium as NH4	mg/L	0.07	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	87	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	77	EPA 410.4	25	10	06/19/13 11:34	06/19/13 16:40	1
Chloride	mg/L	34	EPA 300.0	0.20	0.050		06/14/13 01:09	1
Fluoride	mg/L	0.36	EPA 300.0	0.040	0.010		06/14/13 01:09	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	11	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Nitrite (as N)	mg/L	0.11	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Orthophosphate as P	mg/L	0.49	EPA 300.0	0.040	0.010		06/14/13 01:09	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	0.50	SM 4500P-E	0.040	0.010	06/25/13 09:26	07/03/13 10:54	1
Sulfate	mg/L	22	EPA 300.0	0.60	0.20		06/14/13 01:09	1
Total Alkalinity	mg/L	87	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	2.8	EPA 351.2	0.20	0.05	06/28/13 11:18	07/01/13 14:13	1
Nitrate+Nitrite (N)	mg/L	11	EPA 300.0	0.08	0.02		06/14/13 01:09	1
<u>Inorganic, Dissolved</u>								
Dissolved Organic Carbon	mg/L	40	SM 5310B	1.0	0.50		06/27/13 09:48	1
<u>Metals</u>								
Boron	mg/L	0.16	EPA 200.7	0.10	0.050	06/19/13 10:01	06/19/13 17:39	1
Calcium	mg/L	8.9	EPA 200.7	0.50	0.042	06/19/13 10:01	06/19/13 17:39	1
Iron	mg/L	0.10	EPA 200.7	0.10	0.020	06/19/13 10:01	06/19/13 17:39	1
Magnesium	mg/L	2.9	EPA 200.7	0.50	0.020	06/19/13 10:01	06/19/13 17:39	1
Manganese	mg/L	0.0036 I	EPA 200.7	0.010	0.0010	06/19/13 10:01	06/19/13 17:39	1
Potassium	mg/L	9.0	EPA 200.7	0.050	0.010	06/19/13 10:01	06/19/13 17:39	1
Sodium	mg/L	84	EPA 200.7	0.50	0.13	06/19/13 10:01	06/19/13 17:39	1

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July 23, 2013

Work Order: 1305571

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA4-LY-42-S						
Matrix		Groundwater						
SAL Sample Number		1305571-06						
Date/Time Collected		06/13/13 08:35						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						
<u>Client Provided Field Data</u>								
pH		6.56						
Temperature		26.6 °C						
Conductivity		646 umhos						
Dissolved Oxygen		2.93 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.060	EPA 350.1	0.040	0.009		07/03/13 14:46	1
Ammonium as NH4	mg/L	0.08	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	33	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chloride	mg/L	72	EPA 300.0	2.0	0.50		06/24/13 19:41	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	16	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Alkalinity	mg/L	33	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	2.1	EPA 351.2	0.20	0.05	06/28/13 11:10	07/05/13 15:23	1
Nitrate+Nitrite (N)	mg/L	16	EPA 300.0	0.08	0.02		06/14/13 01:09	1
 <u>Client Provided Field Data</u>								
Sample Description		TA4-LY-42-S						
Matrix		Groundwater						
SAL Sample Number		1305571-06RE1						
Date/Time Collected		06/13/13 08:35						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						
 <u>Client Provided Field Data</u>								
pH		6.56						
Temperature		26.6 °C						
Conductivity		646 umhos						
Dissolved Oxygen		2.93 mg/L						
 <u>Inorganics</u>								
Nitrate (as N)	mg/L	15	EPA 300.0	0.40	0.10		06/27/13 14:59	10
Nitrite (as N)	mg/L	0.34 I	EPA 300.0	0.40	0.10		06/27/13 14:59	10
Nitrate+Nitrite (N)	mg/L	16	EPA 300.0	0.80	0.20		06/27/13 14:59	10

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Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA4-PZ-11-EF2						
Matrix		Groundwater						
SAL Sample Number		1305571-07						
Date/Time Collected		06/10/13 12:40						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						

Client Provided Field Data

pH	4.06
Temperature	26.3 °C
Conductivity	411 umhos
Dissolved Oxygen	2.21 mg/L

Inorganics

Ammonia as N	mg/L	0.19	EPA 350.1	0.040	0.009	06/25/13 15:06	1
Ammonium as NH4	mg/L	0.24	EPA 350.1	0.05	0.01	07/02/13 11:30	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/12/13 13:22	06/12/13 17:00
Chloride	mg/L	49	EPA 300.0	2.0	0.50	06/19/13 18:46	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Nitrate (as N)	mg/L	11	EPA 300.0	0.04	0.01	06/11/13 19:31	1
Nitrite (as N)	mg/L	0.20	EPA 300.0	0.04	0.01	06/11/13 19:31	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Phosphorous - Total as P	mg/L	0.11	SM 4500P-E	0.040	0.010	06/19/13 16:54	06/22/13 13:46
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	06/22/13 09:14	06/28/13 12:05
Nitrate+Nitrite (N)	mg/L	11	EPA 300.0	0.08	0.02	06/11/13 19:31	1

Sample Description	TA4-PZ-10-H5
Matrix	Groundwater
SAL Sample Number	1305571-08
Date/Time Collected	06/10/13 10:49
Collected by	Sean Schmidt
Date/Time Received	06/10/13 16:00

Client Provided Field Data

pH	4.20
Temperature	25.7 °C
Conductivity	536 umhos
Dissolved Oxygen	1.53 mg/L

Inorganics

Ammonia as N	mg/L	0.22	EPA 350.1	0.040	0.009	06/25/13 15:09	1
Ammonium as NH4	mg/L	0.28	EPA 350.1	0.05	0.01	07/02/13 11:30	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1

Florida Certification Number: E84129

NELAP Accredited

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SOUTHERN ANALYTICAL LABORATORIES, INC.

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10002 Princess Palm Ave, Suite 200
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July 23, 2013

Work Order: 1305571

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA4-PZ-10-H5						
Matrix		Groundwater						
SAL Sample Number		1305571-08						
Date/Time Collected		06/10/13 10:49						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						

Client Provided Field Data

pH		4.20						
Temperature		25.7 °C						
Conductivity		536 umhos						
Dissolved Oxygen		1.53 mg/L						
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/12/13 13:22	06/12/13 17:00	1
Chloride	mg/L	55	EPA 300.0	2.0	0.50		06/19/13 18:55	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	17	EPA 300.0	0.04	0.01		06/11/13 19:49	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/11/13 19:49	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Phosphorous - Total as P	mg/L	0.090	SM 4500P-E	0.040	0.010	06/19/13 16:54	06/22/13 13:47	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	1.2	EPA 351.2	0.20	0.05	06/22/13 09:14	06/28/13 12:07	1
Nitrate+Nitrite (N)	mg/L	17	EPA 300.0	0.08	0.02		06/11/13 19:49	1

Sample Description	TA4-PZ-10-J5
Matrix	Groundwater
SAL Sample Number	1305571-09
Date/Time Collected	06/10/13 11:05
Collected by	Sean Schmidt
Date/Time Received	06/10/13 16:00

Client Provided Field Data

pH		4.39						
Temperature		25.6 °C						
Conductivity		653 umhos						
Dissolved Oxygen		2.32 mg/L						

Inorganics

Ammonia as N	mg/L	0.086	EPA 350.1	0.040	0.009		06/25/13 15:11	1
Ammonium as NH4	mg/L	0.11	EPA 350.1	0.05	0.01		07/02/13 11:30	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/12/13 13:22	06/12/13 17:00	1
Chloride	mg/L	75	EPA 300.0	2.0	0.50		06/19/13 19:04	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	15	EPA 300.0	0.04	0.01		06/11/13 19:58	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/11/13 19:58	1

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July 23, 2013

Work Order: 1305571

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA4-PZ-10-J5						
Matrix		Groundwater						
SAL Sample Number		1305571-09						
Date/Time Collected		06/10/13 11:05						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						

Client Provided Field Data

pH		4.39						
Temperature		25.6 °C						
Conductivity		653 umhos						
Dissolved Oxygen		2.32 mg/L						
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Phosphorous - Total as P	mg/L	0.035 I	SM 4500P-E	0.040	0.010	06/19/13 16:54	06/22/13 13:49	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	06/22/13 09:14	06/28/13 12:08	1
Nitrate+Nitrite (N)	mg/L	15	EPA 300.0	0.08	0.02		06/11/13 19:58	1

Sample Description	TA4-PZ-10-K5
Matrix	Groundwater
SAL Sample Number	1305571-10
Date/Time Collected	06/10/13 11:19
Collected by	Sean Schmidt
Date/Time Received	06/10/13 16:00

Client Provided Field Data

pH		4.27						
Temperature		26.0 °C						
Conductivity		565 umhos						
Dissolved Oxygen		1.76 mg/L						

Inorganics

Ammonia as N	mg/L	0.068	EPA 350.1	0.040	0.009		06/25/13 15:13	1
Ammonium as NH4	mg/L	0.09	EPA 350.1	0.05	0.01		07/02/13 11:30	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/12/13 13:22	06/12/13 17:00	1
Chloride	mg/L	60	EPA 300.0	2.0	0.50		06/19/13 19:14	10
Fluoride	mg/L	0.15	EPA 300.0	0.040	0.010		06/11/13 21:12	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	14	EPA 300.0	0.04	0.01		06/11/13 21:12	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/11/13 21:12	1
Orthophosphate as P	mg/L	0.010 U	EPA 300.0	0.040	0.010		06/11/13 21:12	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Phosphorous - Total as P	mg/L	0.053	SM 4500P-E	0.040	0.010	06/19/13 16:54	06/22/13 13:55	1
Sulfate	mg/L	54	EPA 300.0	0.60	0.20		06/11/13 21:12	1

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July 23, 2013

Work Order: 1305571

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA4-PZ-10-K5							
Matrix	Groundwater							
SAL Sample Number	1305571-10							
Date/Time Collected	06/10/13 11:19							
Collected by	Sean Schmidt							
Date/Time Received	06/10/13 16:00							
<u>Client Provided Field Data</u>								
pH		4.27						
Temperature		26.0 °C						
Conductivity		565 umhos						
Dissolved Oxygen		1.76 mg/L						
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	4.6	EPA 351.2	0.20	0.05	06/19/13 08:02	06/22/13 13:47	1.98
Total Organic Carbon	mg/L	3.1	SM 5310B	1.0	0.50		06/18/13 23:15	1
Nitrate+Nitrite (N)	mg/L	14	EPA 300.0	0.08	0.02		06/11/13 21:12	1
<u>Inorganic, Dissolved</u>								
Dissolved Organic Carbon	mg/L	3.1	SM 5310B	1.0	0.50		06/17/13 23:29	1
<u>Metals</u>								
Boron	mg/L	0.080 I	EPA 200.7	0.10	0.050	06/11/13 08:58	06/13/13 10:30	1
Calcium	mg/L	24	EPA 200.7	0.50	0.042	06/11/13 08:58	06/13/13 10:30	1
Iron	mg/L	0.046 I	EPA 200.7	0.10	0.020	06/11/13 08:58	06/13/13 10:30	1
Magnesium	mg/L	9.3	EPA 200.7	0.50	0.020	06/11/13 08:58	06/13/13 10:30	1
Manganese	mg/L	0.028	EPA 200.7	0.010	0.0010	06/11/13 08:58	06/13/13 10:30	1
Potassium	mg/L	12	EPA 200.7	0.050	0.010	06/11/13 08:58	06/13/13 10:30	1
Sodium	mg/L	52	EPA 200.7	0.50	0.13	06/11/13 08:58	06/13/13 10:30	1

Sample Description	TA4-PZ-11-L2
Matrix	Groundwater
SAL Sample Number	1305571-11
Date/Time Collected	06/10/13 12:26
Collected by	Sean Schmidt
Date/Time Received	06/10/13 16:00

<u>Client Provided Field Data</u>								
pH		4.41						
Temperature		26.5 °C						
Conductivity		438.8 umhos						
Dissolved Oxygen		2.21 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.056	EPA 350.1	0.040	0.009		06/25/13 15:15	1
Ammonium as NH4	mg/L	0.07	EPA 350.1	0.05	0.01		07/02/13 11:30	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/12/13 13:22	06/12/13 17:00	1

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July 23, 2013

Work Order: 1305571

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA4-PZ-11-L2						
Matrix		Groundwater						
SAL Sample Number		1305571-11						
Date/Time Collected		06/10/13 12:26						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						

Client Provided Field Data

pH		4.41						
Temperature		26.5 °C						
Conductivity		438.8 umhos						
Dissolved Oxygen		2.21 mg/L						
Chloride	mg/L	45	EPA 300.0	2.0	0.50		06/19/13 19:23	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	12	EPA 300.0	0.04	0.01		06/11/13 21:21	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/11/13 21:21	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Phosphorous - Total as P	mg/L	0.20	SM 4500P-E	0.040	0.010	06/19/13 16:54	06/22/13 13:56	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	06/19/13 08:00	06/25/13 12:59	1
Nitrate+Nitrite (N)	mg/L	12	EPA 300.0	0.08	0.02		06/11/13 21:21	1

Sample Description	TA4-PZ-11-L3
Matrix	Groundwater
SAL Sample Number	1305571-12
Date/Time Collected	06/10/13 12:10
Collected by	Sean Schmidt
Date/Time Received	06/10/13 16:00

Client Provided Field Data

pH		4.24						
Temperature		26.5 °C						
Conductivity		596 umhos						
Dissolved Oxygen		2.25 mg/L						

Inorganics

Ammonia as N	mg/L	0.30	EPA 350.1	0.040	0.009		06/25/13 15:17	1
Ammonium as NH4	mg/L	0.39	EPA 350.1	0.05	0.01		07/02/13 11:30	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/12/13 13:22	06/12/13 17:00	1
Chloride	mg/L	65	EPA 300.0	2.0	0.50		06/19/13 19:32	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	19	EPA 300.0	0.04	0.01		06/11/13 21:39	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/11/13 21:39	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1

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July 23, 2013

Work Order: 1305571

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA4-PZ-11-L3						
Matrix		Groundwater						
SAL Sample Number		1305571-12						
Date/Time Collected		06/10/13 12:10						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						
<u>Client Provided Field Data</u>								
pH		4.24						
Temperature		26.5 °C						
Conductivity		596 umhos						
Dissolved Oxygen		2.25 mg/L						
Phosphorous - Total as P	mg/L	0.16	SM 4500P-E	0.040	0.010	06/19/13 16:54	06/22/13 13:57	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	1.9	EPA 351.2	0.20	0.05	06/19/13 08:00	06/25/13 13:00	1
Nitrate+Nitrite (N)	mg/L	19	EPA 300.0	0.08	0.02		06/11/13 21:39	1
Sample Description		TA4-PZ-11-L4						
Matrix		Groundwater						
SAL Sample Number		1305571-13						
Date/Time Collected		06/10/13 11:57						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						
<u>Client Provided Field Data</u>								
pH		4.34						
Temperature		26.6 °C						
Conductivity		616 umhos						
Dissolved Oxygen		2.89 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.28	EPA 350.1	0.040	0.009		06/25/13 15:27	1
Ammonium as NH4	mg/L	0.35	EPA 350.1	0.05	0.01		07/02/13 11:30	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/12/13 08:44	06/12/13 13:24	1
Chloride	mg/L	77	EPA 300.0	2.0	0.50		06/19/13 19:42	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	19	EPA 300.0	0.04	0.01		06/11/13 21:48	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/11/13 21:48	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Phosphorous - Total as P	mg/L	0.026 I	SM 4500P-E	0.040	0.010	06/19/13 16:54	06/22/13 13:58	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	1.7	EPA 351.2	0.20	0.05	06/19/13 08:00	06/25/13 13:02	1
Nitrate+Nitrite (N)	mg/L	19	EPA 300.0	0.08	0.02		06/11/13 21:48	1

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July 23, 2013

Work Order: 1305571

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA4-PZ-11-L5						
Matrix		Groundwater						
SAL Sample Number		1305571-14						
Date/Time Collected		06/10/13 11:45						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						

Client Provided Field Data

pH	4.21
Temperature	25.5 °C
Conductivity	505 umhos
Dissolved Oxygen	1.81 mg/L

Inorganics

Ammonia as N	mg/L	0.022 I	EPA 350.1	0.040	0.009	06/25/13 15:29	1
Ammonium as NH4	mg/L	0.03 I	EPA 350.1	0.05	0.01	07/02/13 11:30	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Chemical Oxygen Demand	mg/L	22 I	EPA 410.4	25	10	06/12/13 13:22	06/12/13 17:00
Chloride	mg/L	55	EPA 300.0	2.0	0.50	06/19/13 19:51	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Nitrate (as N)	mg/L	14	EPA 300.0	0.04	0.01	06/11/13 21:58	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01	06/11/13 21:58	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Phosphorous - Total as P	mg/L	0.13	SM 4500P-E	0.040	0.010	06/19/13 16:54	06/22/13 13:59
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	0.52	EPA 351.2	0.20	0.05	06/19/13 08:00	06/25/13 13:03
Nitrate+Nitrite (N)	mg/L	14	EPA 300.0	0.08	0.02	06/11/13 21:58	1

Sample Description	TA4-PZ-11-L6
Matrix	Groundwater
SAL Sample Number	1305571-15
Date/Time Collected	06/10/13 11:31
Collected by	Sean Schmidt
Date/Time Received	06/10/13 16:00

Client Provided Field Data

pH	4.35
Temperature	25.6 °C
Conductivity	579 umhos
Dissolved Oxygen	2.43 mg/L

Inorganics

Ammonia as N	mg/L	0.023 I	EPA 350.1	0.040	0.009	06/25/13 15:31	1
Ammonium as NH4	mg/L	0.03 I	EPA 350.1	0.05	0.01	07/02/13 11:30	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1

Florida Certification Number: E84129

NELAP Accredited

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

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

July 23, 2013

Work Order: 1305571

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA4-PZ-11-L6						
Matrix		Groundwater						
SAL Sample Number		1305571-15						
Date/Time Collected		06/10/13 11:31						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						

Client Provided Field Data

pH		4.35						
Temperature		25.6 °C						
Conductivity		579 umhos						
Dissolved Oxygen		2.43 mg/L						
Chemical Oxygen Demand	mg/L	14 I	EPA 410.4	25	10	06/12/13 08:44	06/12/13 13:24	1
Chloride	mg/L	67	EPA 300.0	2.0	0.50		06/19/13 20:01	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	17	EPA 300.0	0.04	0.01		06/11/13 22:07	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/11/13 22:07	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Phosphorous - Total as P	mg/L	0.33	SM 4500P-E	0.040	0.010	06/19/13 16:54	06/22/13 14:00	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	1.4	EPA 351.2	0.20	0.05	06/19/13 08:00	06/25/13 13:04	1
Nitrate+Nitrite (N)	mg/L	17	EPA 300.0	0.08	0.02		06/11/13 22:07	1

Sample Description	TA4-PZ-09-M4
Matrix	Groundwater
SAL Sample Number	1305571-16
Date/Time Collected	06/10/13 09:02
Collected by	Sean Schmidt
Date/Time Received	06/10/13 16:00

Client Provided Field Data

pH		6.11						
Temperature		25.3 °C						
Conductivity		423.3 umhos						
Dissolved Oxygen		1.35 mg/L						

Inorganics

Ammonia as N	mg/L	0.038 I	EPA 350.1	0.040	0.009		06/25/13 15:33	1
Ammonium as NH4	mg/L	0.05	EPA 350.1	0.05	0.01		07/02/13 11:30	1
Bicarbonate Alkalinity	mg/L	65	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chemical Oxygen Demand	mg/L	12 I	EPA 410.4	25	10	06/12/13 13:22	06/12/13 17:00	1
Chloride	mg/L	43	EPA 300.0	2.0	0.50		06/24/13 20:37	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	6.4	EPA 300.0	0.04	0.01		06/11/13 22:16	1
Nitrite (as N)	mg/L	0.39	EPA 300.0	0.04	0.01		06/11/13 22:16	1

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July 23, 2013

Work Order: 1305571

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA4-PZ-09-M4						
Matrix		Groundwater						
SAL Sample Number		1305571-16						
Date/Time Collected		06/10/13 09:02						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						
<u>Client Provided Field Data</u>								
pH		6.11						
Temperature		25.3 °C						
Conductivity		423.3 umhos						
Dissolved Oxygen		1.35 mg/L						
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Phosphorous - Total as P	mg/L	0.71	SM 4500P-E	0.040	0.010	06/19/13 16:54	06/22/13 14:01	1
Total Alkalinity	mg/L	65	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	1.2	EPA 351.2	0.20	0.05	06/19/13 08:00	06/25/13 13:06	1
Nitrate+Nitrite (N)	mg/L	6.8	EPA 300.0	0.08	0.02		06/11/13 22:16	1
Sample Description		TA4-PZ-16-M4						
Matrix		Groundwater						
SAL Sample Number		1305571-17						
Date/Time Collected		06/10/13 09:14						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.012 I	EPA 350.1	0.040	0.009		06/25/13 15:35	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01		07/02/13 11:30	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chloride	mg/L	7.6	EPA 300.0	0.20	0.050		06/11/13 22:34	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	2.8	EPA 300.0	0.04	0.01		06/11/13 22:34	1
Nitrite (as N)	mg/L	0.07	EPA 300.0	0.04	0.01		06/11/13 22:34	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	0.88	EPA 351.2	0.20	0.05	06/19/13 08:00	06/25/13 13:07	1
Nitrate+Nitrite (N)	mg/L	2.9	EPA 300.0	0.08	0.02		06/11/13 22:34	1

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Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA4-PZ-09-N7						
Matrix		Groundwater						
SAL Sample Number		1305571-18						
Date/Time Collected		06/10/13 09:26						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						
<u>Client Provided Field Data</u>								
pH		5.41						
Temperature		25.4 °C						
Conductivity		110.9 umhos						
Dissolved Oxygen		4.01 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.022 I	EPA 350.1	0.040	0.009		06/25/13 15:37	1
Ammonium as NH4	mg/L	0.03 I	EPA 350.1	0.05	0.01		07/02/13 11:30	1
Bicarbonate Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/12/13 08:44	06/12/13 13:24	1
Chloride	mg/L	7.4	EPA 300.0	0.20	0.050		06/11/13 22:43	1
Fluoride	mg/L	0.031 I	EPA 300.0	0.040	0.010		06/11/13 22:43	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	1.4	EPA 300.0	0.04	0.01		06/11/13 22:43	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		06/11/13 22:43	1
Orthophosphate as P	mg/L	0.063	EPA 300.0	0.040	0.010		06/11/13 22:43	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Phosphorous - Total as P	mg/L	0.20	SM 4500P-E	0.040	0.010	06/19/13 16:54	06/22/13 14:02	1
Sulfate	mg/L	18	EPA 300.0	0.60	0.20		06/11/13 22:43	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	0.41	EPA 351.2	0.20	0.05	06/19/13 08:00	06/25/13 13:08	1
Total Organic Carbon	mg/L	14	SM 5310B	1.0	0.50		06/18/13 23:15	1
Nitrate+Nitrite (N)	mg/L	1.4	EPA 300.0	0.08	0.02		06/11/13 22:43	1
<u>Inorganic, Dissolved</u>								
Dissolved Organic Carbon	mg/L	13	SM 5310B	1.0	0.50		06/17/13 23:29	1
<u>Metals</u>								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	06/11/13 08:58	06/13/13 10:34	1
Calcium	mg/L	12	EPA 200.7	0.50	0.042	06/11/13 08:58	06/13/13 10:34	1
Iron	mg/L	0.039 I	EPA 200.7	0.10	0.020	06/11/13 08:58	06/13/13 10:34	1
Magnesium	mg/L	2.1	EPA 200.7	0.50	0.020	06/11/13 08:58	06/13/13 10:34	1
Manganese	mg/L	0.014	EPA 200.7	0.010	0.0010	06/11/13 08:58	06/13/13 10:34	1
Potassium	mg/L	3.9	EPA 200.7	0.050	0.010	06/11/13 08:58	06/13/13 10:34	1
Sodium	mg/L	9.1	EPA 200.7	0.50	0.13	06/11/13 08:58	06/13/13 10:34	1

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July 23, 2013

Work Order: 1305571

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA4-PZ-16-N7						
Matrix		Groundwater						
SAL Sample Number		1305571-19						
Date/Time Collected		06/10/13 09:41						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						

Client Provided Field Data

pH	4.93
Temperature	24.5 °C
Conductivity	200.2 umhos
Dissolved Oxygen	1.13 mg/L

Inorganics

Ammonia as N	mg/L	0.019 I	EPA 350.1	0.040	0.009	06/25/13 15:38	1	
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01	07/02/13 11:30	1	
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/22/13 09:00	1	
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1	
Chloride	mg/L	6.4	EPA 300.0	0.20	0.050	06/11/13 22:53	1	
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1	
Nitrate (as N)	mg/L	2.1	EPA 300.0	0.04	0.01	06/11/13 22:53	1	
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01	06/11/13 22:53	1	
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1	
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/22/13 09:00	1	
Total Kjeldahl Nitrogen	mg/L	0.66	EPA 351.2	0.20	0.05	06/19/13 08:00	06/25/13 13:10	1
Nitrate+Nitrite (N)	mg/L	2.1	EPA 300.0	0.08	0.02	06/11/13 22:53	1	

Sample Description	TA4-PZ-09-I7
Matrix	Groundwater
SAL Sample Number	1305571-20
Date/Time Collected	06/10/13 10:22
Collected by	Sean Schmidt
Date/Time Received	06/10/13 16:00

Client Provided Field Data

pH	4.96
Temperature	25.1 °C
Conductivity	306.2 umhos
Dissolved Oxygen	2.16 mg/L

Inorganics

Ammonia as N	mg/L	0.16	EPA 350.1	0.040	0.009	06/25/13 15:40	1
Ammonium as NH4	mg/L	0.21	EPA 350.1	0.05	0.01	07/02/13 11:30	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Chloride	mg/L	34	EPA 300.0	0.20	0.050	06/11/13 23:38	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1

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Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA4-PZ-09-I7							
Matrix		Groundwater						
SAL Sample Number		1305571-20						
Date/Time Collected		06/10/13 10:22						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						
<u>Client Provided Field Data</u>								
pH		4.96						
Temperature		25.1 °C						
Conductivity		306.2 umhos						
Dissolved Oxygen		2.16 mg/L						
Nitrate (as N)	mg/L	5.1	EPA 300.0	0.04	0.01		06/11/13 23:38	1
Nitrite (as N)	mg/L	0.15	EPA 300.0	0.04	0.01		06/11/13 23:38	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	2.5	EPA 351.2	0.20	0.05	06/19/13 08:00	06/25/13 13:11	1
Nitrate+Nitrite (N)	mg/L	5.2	EPA 300.0	0.08	0.02		06/11/13 23:38	1
Sample Description	TA4-PZ-16-I7							
Matrix		Groundwater						
SAL Sample Number		1305571-21						
Date/Time Collected		06/10/13 10:34						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						
<u>Client Provided Field Data</u>								
pH		4.93						
Temperature		24.4 °C						
Conductivity		197.7 umhos						
Dissolved Oxygen		1.29 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.016 I	EPA 350.1	0.040	0.009		06/25/13 15:42	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01		07/02/13 11:30	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chloride	mg/L	4.7	EPA 300.0	0.20	0.050		06/11/13 23:47	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	1.3	EPA 300.0	0.04	0.01		06/11/13 23:47	1
Nitrite (as N)	mg/L	0.06	EPA 300.0	0.04	0.01		06/11/13 23:47	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	0.39	EPA 351.2	0.20	0.05	06/19/13 08:00	06/25/13 13:18	1
Nitrate+Nitrite (N)	mg/L	1.4	EPA 300.0	0.08	0.02		06/11/13 23:47	1

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July 23, 2013

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Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA4-PZ-09-L8						
Matrix		Groundwater						
SAL Sample Number		1305571-22						
Date/Time Collected		06/10/13 09:55						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						

Client Provided Field Data

pH	5.97
Temperature	25.3 °C
Conductivity	232.7 umhos
Dissolved Oxygen	1.31 mg/L

Inorganics

Ammonia as N	mg/L	0.025 I	EPA 350.1	0.040	0.009	06/25/13 15:43	1	
Ammonium as NH4	mg/L	0.03 I	EPA 350.1	0.05	0.01	07/02/13 11:30	1	
Bicarbonate Alkalinity	mg/L	44	SM 2320B	8.0	2.0	06/22/13 09:00	1	
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1	
Chloride	mg/L	9.0	EPA 300.0	0.20	0.050	06/11/13 23:57	1	
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1	
Nitrate (as N)	mg/L	5.1	EPA 300.0	0.04	0.01	06/11/13 23:57	1	
Nitrite (as N)	mg/L	0.23	EPA 300.0	0.04	0.01	06/11/13 23:57	1	
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1	
Total Alkalinity	mg/L	44	SM 2320B	8.0	2.0	06/22/13 09:00	1	
Total Kjeldahl Nitrogen	mg/L	0.89	EPA 351.2	0.20	0.05	06/19/13 08:00	06/25/13 13:19	1
Nitrate+Nitrite (N)	mg/L	5.4	EPA 300.0	0.08	0.02	06/11/13 23:57	1	

Sample Description	TA4-PZ-16-L8
Matrix	Groundwater
SAL Sample Number	1305571-23
Date/Time Collected	06/10/13 10:08
Collected by	Sean Schmidt
Date/Time Received	06/10/13 16:00

Client Provided Field Data

pH	5.09
Temperature	24.9 °C
Conductivity	209.2 umhos
Dissolved Oxygen	1.04 mg/L

Inorganics

Ammonia as N	mg/L	0.018 I	EPA 350.1	0.040	0.009	06/25/13 10:04	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01	06/25/13 14:56	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Chloride	mg/L	6.0	EPA 300.0	0.20	0.050	06/12/13 00:06	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1

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Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA4-PZ-16-L8							
Matrix		Groundwater						
SAL Sample Number		1305571-23						
Date/Time Collected		06/10/13 10:08						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						
<u>Client Provided Field Data</u>								
pH		5.09						
Temperature		24.9 °C						
Conductivity		209.2 umhos						
Dissolved Oxygen		1.04 mg/L						
Nitrate (as N)	mg/L	1.8	EPA 300.0	0.04	0.01		06/12/13 00:06	1
Nitrite (as N)	mg/L	0.06	EPA 300.0	0.04	0.01		06/12/13 00:06	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	0.70	EPA 351.2	0.20	0.05	06/19/13 08:00	06/25/13 13:21	1
Nitrate+Nitrite (N)	mg/L	1.9	EPA 300.0	0.08	0.02		06/12/13 00:06	1
Sample Description	TA4-PZ-09-TU14							
Matrix		Groundwater						
SAL Sample Number		1305571-24						
Date/Time Collected		06/10/13 08:35						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						
<u>Client Provided Field Data</u>								
pH		4.49						
Temperature		25.2 °C						
Conductivity		155.4 umhos						
Dissolved Oxygen		0.88 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.039 I	EPA 350.1	0.040	0.009		06/25/13 10:06	1
Ammonium as NH4	mg/L	0.05	EPA 350.1	0.05	0.01	06/25/13 14:17	06/25/13 14:56	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chloride	mg/L	3.0	EPA 300.0	0.20	0.050		06/12/13 00:24	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	2.8	EPA 300.0	0.04	0.01		06/12/13 00:24	1
Nitrite (as N)	mg/L	0.06	EPA 300.0	0.04	0.01		06/12/13 00:24	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	1.4	EPA 351.2	0.20	0.05	06/19/13 08:00	06/25/13 13:22	1
Nitrate+Nitrite (N)	mg/L	2.9	EPA 300.0	0.08	0.02		06/12/13 00:24	1

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

July 23, 2013

Work Order: 1305571

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		TA4-PZ-16-TU14						
Matrix		Groundwater						
SAL Sample Number		1305571-25						
Date/Time Collected		06/10/13 08:48						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						
<u>Client Provided Field Data</u>								
pH		4.85						
Temperature		24.8 °C						
Conductivity		217.4 umhos						
Dissolved Oxygen		0.92 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.019 I	EPA 350.1	0.040	0.009		06/25/13 10:08	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01	06/25/13 14:17	06/25/13 14:56	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chloride	mg/L	5.7	EPA 300.0	0.20	0.050		06/12/13 00:33	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	1.3	EPA 300.0	0.04	0.01		06/12/13 00:33	1
Nitrite (as N)	mg/L	0.06	EPA 300.0	0.04	0.01		06/12/13 00:33	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	0.32	EPA 351.2	0.20	0.05	06/19/13 08:00	06/25/13 13:23	1
Nitrate+Nitrite (N)	mg/L	1.4	EPA 300.0	0.08	0.02		06/12/13 00:33	1
Sample Description		TA4-PZ-09-TU16						
Matrix		Groundwater						
SAL Sample Number		1305571-26						
Date/Time Collected		06/10/13 08:07						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						
<u>Client Provided Field Data</u>								
pH		5.59						
Temperature		25.0 °C						
Conductivity		118.1 umhos						
Dissolved Oxygen		2.53 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.024 I	EPA 350.1	0.040	0.009		06/25/13 10:10	1
Ammonium as NH4	mg/L	0.03 I	EPA 350.1	0.05	0.01	06/25/13 14:17	06/25/13 14:56	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chloride	mg/L	2.4	EPA 300.0	0.20	0.050		06/12/13 00:42	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1

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July 23, 2013

Work Order: 1305571

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA4-PZ-09-TU16							
Matrix		Groundwater						
SAL Sample Number		1305571-26						
Date/Time Collected		06/10/13 08:07						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						
<u>Client Provided Field Data</u>								
pH		5.59						
Temperature		25.0 °C						
Conductivity		118.1 umhos						
Dissolved Oxygen		2.53 mg/L						
Nitrate (as N)	mg/L	1.3	EPA 300.0	0.04	0.01		06/12/13 00:42	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01		06/12/13 00:42	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	0.66	EPA 351.2	0.20	0.05	06/19/13 08:00	06/25/13 13:25	1
Nitrate+Nitrite (N)	mg/L	1.4	EPA 300.0	0.08	0.02		06/12/13 00:42	1
Sample Description	TA4-PZ-16-TU16							
Matrix		Groundwater						
SAL Sample Number		1305571-27						
Date/Time Collected		06/10/13 08:22						
Collected by		Sean Schmidt						
Date/Time Received		06/10/13 16:00						
<u>Client Provided Field Data</u>								
pH		5.07						
Temperature		24.4 °C						
Conductivity		225.6 umhos						
Dissolved Oxygen		0.82 mg/L						
<u>Inorganics</u>								
Ammonia N	mg/L	0.046	EPA 350.1	0.040	0.009		06/25/13 10:12	1
Ammonium as NH4	mg/L	0.06	EPA 350.1	0.05	0.01	06/25/13 14:17	06/25/13 14:56	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chloride	mg/L	4.8	EPA 300.0	0.20	0.050		06/12/13 00:52	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	1.0	EPA 300.0	0.04	0.01		06/12/13 00:52	1
Nitrite (as N)	mg/L	0.06	EPA 300.0	0.04	0.01		06/12/13 00:52	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	0.37	EPA 351.2	0.20	0.05	06/19/13 08:00	06/25/13 13:26	1
Nitrate+Nitrite (N)	mg/L	1.1	EPA 300.0	0.08	0.02		06/12/13 00:52	1

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July 23, 2013

Work Order: 1305571

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31126 - Ion Chromatography 300.0 Prep										
Blank (BF31126-BLK1) Prepared & Analyzed: 06/11/13										
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
LCS (BF31126-BS1) Prepared & Analyzed: 06/11/13										
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4		93	85-115		
Nitrate (as N)	1.57	0.04	0.01	mg/L	1.7		92	85-115		
LCS Dup (BF31126-BSD1) Prepared & Analyzed: 06/11/13										
Nitrite (as N)	1.46	0.04	0.01	mg/L	1.4		104	85-115	12	200
Nitrate (as N)	1.69	0.04	0.01	mg/L	1.7		99	85-115	7	200
Matrix Spike (BF31126-MS1) Source: 1305556-02 Prepared: 06/10/13 Analyzed: 06/11/13										
Nitrite (as N)	1.34	0.04	0.01	mg/L	1.4	0.0320	93	85-115		
Nitrate (as N)	112	0.04	0.01	mg/L	1.7	111	99	85-115		
Matrix Spike (BF31126-MS2) Source: 1305571-09 Prepared & Analyzed: 06/11/13										
Nitrate (as N)	17.2	0.04	0.01	mg/L	1.7	15.5	100	85-115		
Nitrite (as N)	1.54	0.04	0.01	mg/L	1.4	ND	110	85-115		
Chloride	30.0 L	0.20	0.050	mg/L	3.0	ND	1000	80-120		

Batch BF31127 - Ion Chromatography 300.0 Prep

Blank (BF31127-BLK1) Prepared & Analyzed: 06/11/13										
Sulfate	0.20 U	0.60	0.20	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Fluoride	0.010 U	0.040	0.010	mg/L						
Chloride	0.050 U	0.20	0.050	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 BF31127 - Ion Chromatography 300.0 Prep										
LCS (BF31127-BS1)										
Prepared & Analyzed: 06/11/13										
Fluoride	0.831	0.040	0.010	mg/L	0.90		92	85-115		
Sulfate	8.45	0.60	0.20	mg/L	9.0		94	85-115		
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4		93	85-115		
Orthophosphate as P	0.845	0.040	0.010	mg/L	0.90		94	85-115		
Chloride	2.78	0.20	0.050	mg/L	3.0		93	85-115		
Nitrate (as N)	1.57	0.04	0.01	mg/L	1.7		92	85-115		
LCS Dup (BF31127-BSD1)										
Prepared & Analyzed: 06/11/13										
Chloride	2.77	0.20	0.050	mg/L	3.0		92	85-115	0.4	200
Nitrate (as N)	1.57	0.04	0.01	mg/L	1.7		92	85-115	0.06	200
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4		93	85-115	0	200
Orthophosphate as P	0.846	0.040	0.010	mg/L	0.90		94	85-115	0.1	200
Sulfate	8.43	0.60	0.20	mg/L	9.0		94	85-115	0.2	200
Fluoride	0.826	0.040	0.010	mg/L	0.90		92	85-115	0.6	200
Matrix Spike (BF31127-MS1)										
Source: 1305571-19										
Prepared & Analyzed: 06/11/13										
Orthophosphate as P	0.830	0.040	0.010	mg/L	0.90	ND	92	85-115		
Chloride	9.38	0.20	0.050	mg/L	3.0	6.43	98	80-120		
Fluoride	0.814	0.040	0.010	mg/L	0.90	ND	90	85-115		
Sulfate	58.7	0.60	0.20	mg/L	9.0	49.6	101	85-115		
Nitrate (as N)	3.82	0.04	0.01	mg/L	1.7	2.07	103	85-115		
Nitrite (as N)	1.29	0.04	0.01	mg/L	1.4	ND	92	85-115		
Matrix Spike (BF31127-MS2)										
Source: 1305590-11										
Prepared & Analyzed: 06/12/13										
Nitrate (as N)	15.6	0.04	0.01	mg/L	1.7	13.7	108	85-115		
Sulfate	56.1	0.60	0.20	mg/L	9.0	46.6	106	85-115		
Fluoride	0.960	0.040	0.010	mg/L	0.90	0.115	94	85-115		
Nitrite (as N)	1.41	0.04	0.01	mg/L	1.4	ND	101	85-115		
Chloride	30.0 L	0.20	0.050	mg/L	3.0	91.4	NR	80-120		
Orthophosphate as P	0.811	0.040	0.010	mg/L	0.90	ND	90	85-115		

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July 23, 2013

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31206 - COD prep										
Blank (BF31206-BLK1) Prepared & Analyzed: 06/12/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31206-BS1) Prepared & Analyzed: 06/12/13										
Chemical Oxygen Demand	51	25	10	mg/L	50	102	90-110			
Matrix Spike (BF31206-MS1) Source: 1305937-01 Prepared & Analyzed: 06/12/13										
Chemical Oxygen Demand	83	25	10	mg/L	50	26	114	85-115		
Matrix Spike Dup (BF31206-MSD1) Source: 1305937-01 Prepared & Analyzed: 06/12/13										
Chemical Oxygen Demand	83	25	10	mg/L	50	26	114	85-115	0	32
Batch BF31227 - COD prep										
Blank (BF31227-BLK1) Prepared & Analyzed: 06/12/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31227-BS1) Prepared & Analyzed: 06/12/13										
Chemical Oxygen Demand	46	25	10	mg/L	50	92	90-110			
Matrix Spike (BF31227-MS1) Source: 1305571-07 Prepared & Analyzed: 06/12/13										
Chemical Oxygen Demand	53	25	10	mg/L	50	ND	106	85-115		
Matrix Spike Dup (BF31227-MSD1) Source: 1305571-07 Prepared & Analyzed: 06/12/13										
Chemical Oxygen Demand	53	25	10	mg/L	50	ND	106	85-115	0	32
Batch BF31414 - Ion Chromatography 300.0 Prep										
Blank (BF31414-BLK1) Prepared & Analyzed: 06/14/13										
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						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
Sulfate	0.20 U	0.60	0.20	mg/L						

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31414 - Ion Chromatography 300.0 Prep										
LCS (BF31414-BS1)										
Prepared & Analyzed: 06/14/13										
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4	93	85-115			
Orthophosphate as P	0.846	0.040	0.010	mg/L	0.90	94	85-115			
Fluoride	0.859	0.040	0.010	mg/L	0.90	95	85-115			
Chloride	2.80	0.20	0.050	mg/L	3.0	93	85-115			
Nitrate (as N)	1.57	0.04	0.01	mg/L	1.7	92	85-115			
Sulfate	8.44	0.60	0.20	mg/L	9.0	94	85-115			
LCS Dup (BF31414-BSD1)										
Prepared & Analyzed: 06/14/13										
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4	93	85-115	0.4	200	
Fluoride	0.860	0.040	0.010	mg/L	0.90	96	85-115	0.1	200	
Nitrate (as N)	1.58	0.04	0.01	mg/L	1.7	93	85-115	0.6	200	
Sulfate	8.48	0.60	0.20	mg/L	9.0	94	85-115	0.6	200	
Orthophosphate as P	0.852	0.040	0.010	mg/L	0.90	95	85-115	0.7	200	
Chloride	2.80	0.20	0.050	mg/L	3.0	94	85-115	0.3	200	
Matrix Spike (BF31414-MS1)										
Source: 1305594-01										
Prepared & Analyzed: 06/14/13										
Nitrate (as N)	13.6	0.04	0.01	mg/L	1.7	11.8	104	85-115		
Fluoride	0.881	0.040	0.010	mg/L	0.90	ND	98	85-115		
Orthophosphate as P	0.846	0.040	0.010	mg/L	0.90	ND	94	85-115		
Sulfate	42.0	0.60	0.20	mg/L	9.0	33.5	94	85-115		
Chloride	30.0 L	0.20	0.050	mg/L	3.0	54.6	NR	80-120		
Nitrite (as N)	1.49	0.04	0.01	mg/L	1.4	ND	106	85-115		
Matrix Spike (BF31414-MS2)										
Source: 1305867-02										
Prepared & Analyzed: 06/14/13										
Sulfate	89.7	0.60	0.20	mg/L	9.0	80.2	105	85-115		
Orthophosphate as P	2.52	0.040	0.010	mg/L	0.90	1.59	102	85-115		
Nitrite (as N)	1.53	0.04	0.01	mg/L	1.4	ND	110	85-115		
Chloride	30.0 L	0.20	0.050	mg/L	3.0	46.1	NR	80-120		
Nitrate (as N)	1.91	0.04	0.01	mg/L	1.7	0.351	92	85-115		
Fluoride	2.40	0.040	0.010	mg/L	0.90	1.54	96	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 BF31808 - TOC prep										
Blank (BF31808-BLK1) Prepared & Analyzed: 06/18/13										
Total Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BF31808-BS1) Prepared & Analyzed: 06/18/13										
Total Organic Carbon	9.73	1.0	0.50	mg/L	10	97	90-110			
Matrix Spike (BF31808-MS1) Source: 1305997-01 Prepared & Analyzed: 06/18/13										
Total Organic Carbon	15.3	1.0	0.50	mg/L	10	5.08	102	85-115		
Matrix Spike Dup (BF31808-MSD1) Source: 1305997-01 Prepared & Analyzed: 06/18/13										
Total Organic Carbon	15.2	1.0	0.50	mg/L	10	5.08	102	85-115	0.4	10
Batch BF31904 - Digestion for TKN by EPA 351.2										
Blank (BF31904-BLK1) Prepared: 06/19/13 Analyzed: 06/25/13										
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF31904-BS1) Prepared: 06/19/13 Analyzed: 06/25/13										
Total Kjeldahl Nitrogen	2.56	0.20	0.05	mg/L	2.5	101	90-110			
Matrix Spike (BF31904-MS1) Source: 1305571-11 Prepared: 06/19/13 Analyzed: 06/25/13										
Total Kjeldahl Nitrogen	4.24	0.20	0.05	mg/L	2.5	1.47	109	90-110		
Matrix Spike (BF31904-MS2) Source: 1305571-23 Prepared: 06/19/13 Analyzed: 06/25/13										
Total Kjeldahl Nitrogen	3.27	0.20	0.05	mg/L	2.5	0.696	102	90-110		
Matrix Spike Dup (BF31904-MSD1) Source: 1305571-11 Prepared: 06/19/13 Analyzed: 06/25/13										
Total Kjeldahl Nitrogen	4.12	0.20	0.05	mg/L	2.5	1.47	105	90-110	3	20

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July 23, 2013

Work Order: 1305571

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31904 - Digestion for TKN by EPA 351.2										
Matrix Spike Dup (BF31904-MSD2) Source: 1305571-23 Prepared: 06/19/13 Analyzed: 06/25/13										
Total Kjeldahl Nitrogen	3.24	0.20	0.05	mg/L	2.5	0.696	100	90-110	1	20
Batch BF31905 - Digestion for TKN by EPA 351.2										
Blank (BF31905-BLK1) Prepared: 06/19/13 Analyzed: 06/24/13										
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF31905-BS1) Prepared: 06/19/13 Analyzed: 06/22/13										
Total Kjeldahl Nitrogen	2.68	0.20	0.05	mg/L	2.5		106	90-110		
Matrix Spike (BF31905-MS1) Source: 1305571-10 Prepared: 06/19/13 Analyzed: 06/24/13										
Total Kjeldahl Nitrogen	7.25	0.20	0.05	mg/L	2.5	4.55	107	90-110		
Matrix Spike Dup (BF31905-MSD1) Source: 1305571-10 Prepared: 06/19/13 Analyzed: 06/24/13										
Total Kjeldahl Nitrogen	6.92	0.20	0.05	mg/L	2.5	4.55	93	90-110	5	20
Batch BF31914 - Ion Chromatography 300.0 Prep										
Blank (BF31914-BLK1) Prepared & Analyzed: 06/19/13										
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BF31914-BS1) Prepared & Analyzed: 06/19/13										
Chloride	2.77	0.20	0.050	mg/L	3.0		92	85-115		
LCS Dup (BF31914-BSD1) Prepared & Analyzed: 06/19/13										
Chloride	2.78	0.20	0.050	mg/L	3.0		93	85-115	0.5	200

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31914 - Ion Chromatography 300.0 Prep										
Matrix Spike (BF31914-MS1) Source: 1305560-16 Prepared & Analyzed: 06/19/13										
Chloride	82.2	2.0	0.50	mg/L	30	52.1	100	80-120		
Matrix Spike (BF31914-MS2) Source: 1305571-15 Prepared & Analyzed: 06/19/13										
Chloride	94.9	2.0	0.50	mg/L	30	67.3	92	80-120		
Batch BF31916 - COD prep										
Blank (BF31916-BLK1) Prepared & Analyzed: 06/19/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31916-BS1) Prepared & Analyzed: 06/19/13										
Chemical Oxygen Demand	49	25	10	mg/L	50		98	90-110		
Matrix Spike (BF31916-MS1) Source: 1305562-14 Prepared & Analyzed: 06/19/13										
Chemical Oxygen Demand	59	25	10	mg/L	50	12	94	85-115		
Matrix Spike Dup (BF31916-MSD1) Source: 1305562-14 Prepared & Analyzed: 06/19/13										
Chemical Oxygen Demand	59	25	10	mg/L	50	12	94	85-115	0	32
Batch BF31934 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF31934-BLK1) Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						
LCS (BF31934-BS1) Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	0.770	0.040	0.010	mg/L	0.80		96	90-110		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31934 - Digestion for TP by EPA 365.2/SM4500PE										
Matrix Spike (BF31934-MS1) Source: 1305560-14 Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	1.02	0.040	0.010	mg/L	1.0	0.0694	96	90-110		
Matrix Spike (BF31934-MS2) Source: 1305571-10 Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	0.990	0.040	0.010	mg/L	1.0	0.0531	94	90-110		
Matrix Spike Dup (BF31934-MSD1) Source: 1305560-14 Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	1.03	0.040	0.010	mg/L	1.0	0.0694	96	90-110	0.8	25
Matrix Spike Dup (BF31934-MSD2) Source: 1305571-10 Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	1.03	0.040	0.010	mg/L	1.0	0.0531	98	90-110	4	25
Batch BF32004 - COD prep										
Blank (BF32004-BLK1) Prepared: 06/20/13 Analyzed: 06/21/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF32004-BS1) Prepared: 06/20/13 Analyzed: 06/21/13										
Chemical Oxygen Demand	51	25	10	mg/L	50		102	90-110		
Matrix Spike (BF32004-MS1) Source: 1305570-03 Prepared: 06/20/13 Analyzed: 06/21/13										
Chemical Oxygen Demand	130	25	10	mg/L	50	85	94	85-115		
Matrix Spike Dup (BF32004-MSD1) Source: 1305570-03 Prepared: 06/20/13 Analyzed: 06/21/13										
Chemical Oxygen Demand	130	25	10	mg/L	50	85	90	85-115	2	32
Batch BF32205 - Digestion for TKN by EPA 351.2										
Blank (BF32205-BLK1) Prepared: 06/22/13 Analyzed: 06/28/13										
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 BF32205 - Digestion for TKN by EPA 351.2										
LCS (BF32205-BS1) Prepared: 06/22/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	2.34	0.20	0.05	mg/L	2.5		92	90-110		
Matrix Spike (BF32205-MS1) Source: 1305593-08 Prepared: 06/22/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	3.47	0.20	0.05	mg/L	2.5	0.776	107	90-110		
Matrix Spike (BF32205-MS2) Source: 1306010-07 Prepared: 06/22/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	3.13	0.20	0.05	mg/L	2.5	0.778	93	90-110		
Matrix Spike Dup (BF32205-MSD1) Source: 1305593-08 Prepared: 06/22/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	3.14	0.20	0.05	mg/L	2.5	0.776	93	90-110	10	20
Matrix Spike Dup (BF32205-MSD2) Source: 1306010-07 Prepared: 06/22/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	3.17	0.20	0.05	mg/L	2.5	0.778	94	90-110	1	20

Batch BF32208 - alkalinity

Blank (BF32208-BLK1) Prepared & Analyzed: 06/22/13										
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Blank (BF32208-BLK2) Prepared & Analyzed: 06/22/13										
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate 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 BF32208 - alkalinity										
Blank (BF32208-BLK3) Prepared & Analyzed: 06/22/13										
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BF32208-BS1) Prepared & Analyzed: 06/22/13										
Total Alkalinity	130	8.0	2.0	mg/L	120		105	90-110		
LCS (BF32208-BS2) Prepared & Analyzed: 06/22/13										
Total Alkalinity	130	8.0	2.0	mg/L	120		105	90-110		
LCS (BF32208-BS3) Prepared & Analyzed: 06/22/13										
Total Alkalinity	130	8.0	2.0	mg/L	120		105	90-110		
Matrix Spike (BF32208-MS1) Source: 1305562-22 Prepared & Analyzed: 06/22/13										
Total Alkalinity	170	8.0	2.0	mg/L	120	55	96	80-120		
Matrix Spike (BF32208-MS2) Source: 1305590-04 Prepared & Analyzed: 06/22/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120		
Matrix Spike (BF32208-MS3) Source: 1305590-15 Prepared & Analyzed: 06/22/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120		
Matrix Spike Dup (BF32208-MSD1) Source: 1305562-22 Prepared & Analyzed: 06/22/13										
Total Alkalinity	170	8.0	2.0	mg/L	120	55	96	80-120	0	26
Matrix Spike Dup (BF32208-MSD2) Source: 1305590-04 Prepared & Analyzed: 06/22/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120	0	26

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32208 - alkalinity										
Matrix Spike Dup (BF32208-MSD3) Source: 1305590-15 Prepared & Analyzed: 06/22/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120	0	26
Batch BF32417 - Ion Chromatography 300.0 Prep										
Blank (BF32417-BLK1) Prepared & Analyzed: 06/24/13										
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
LCS (BF32417-BS1) Prepared & Analyzed: 06/24/13										
Nitrate (as N)	1.66	0.04	0.01	mg/L	1.7		98	85-115		
Nitrite (as N)	1.49	0.04	0.01	mg/L	1.4		106	85-115		
Chloride	3.02	0.20	0.050	mg/L	3.0		101	85-115		
LCS Dup (BF32417-BSD1) Prepared & Analyzed: 06/24/13										
Nitrate (as N)	1.57	0.04	0.01	mg/L	1.7		93	85-115	6	200
Chloride	2.95	0.20	0.050	mg/L	3.0		98	85-115	3	200
Nitrite (as N)	1.43	0.04	0.01	mg/L	1.4		102	85-115	4	200
Matrix Spike (BF32417-MS1) Source: 1305571-06 Prepared & Analyzed: 06/24/13										
Nitrate (as N)	31.4	0.40	0.10	mg/L	17	15.2	95	85-115		
Nitrite (as N)	13.8	0.40	0.10	mg/L	14	0.344	96	85-115		
Chloride	101	2.0	0.50	mg/L	30	72.0	97	80-120		
Matrix Spike (BF32417-MS2) Source: 1305987-03 Prepared & Analyzed: 06/24/13										
Nitrate (as N)	162	4.0	1.0	mg/L	170	0.123	95	85-115		
Nitrite (as N)	158	4.0	1.0	mg/L	140		113	85-115		
Chloride	1,150	20	5.0	mg/L	300	833	104	80-120		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch BF32501 - Ammonia by SEAL

Blank (BF32501-BLK1)	Prepared & Analyzed: 06/25/13								
Ammonia as N	0.009 U	0.040	0.009	mg/L					
LCS (BF32501-BS1)	Prepared & Analyzed: 06/25/13								
Ammonia as N	0.49	0.040	0.009	mg/L	0.50	98	90-110		
Matrix Spike (BF32501-MS1)	Source: 1305571-23				Prepared & Analyzed: 06/25/13				
Ammonia as N	0.56	0.040	0.009	mg/L	0.50	0.018	108	90-110	
Matrix Spike (BF32501-MS2)	Source: 1306476-01				Prepared & Analyzed: 06/25/13				
Ammonia as N	0.54	0.040	0.009	mg/L	0.50	0.049	99	90-110	
Matrix Spike Dup (BF32501-MSD1)	Source: 1305571-23				Prepared & Analyzed: 06/25/13				
Ammonia as N	0.56	0.040	0.009	mg/L	0.50	0.018	108	90-110	0.3
Matrix Spike Dup (BF32501-MSD2)	Source: 1306476-01				Prepared & Analyzed: 06/25/13				
Ammonia as N	0.55	0.040	0.009	mg/L	0.50	0.049	101	90-110	2
Batch BF32503 - Ammonia by SEAL									

Blank (BF32503-BLK1)	Prepared & Analyzed: 06/26/13							
Ammonia as N	0.009 U	0.040	0.009	mg/L				
LCS (BF32503-BS1)	Prepared & Analyzed: 06/25/13							
Ammonia as N	0.49	0.040	0.009	mg/L	0.50	99	90-110	
Matrix Spike (BF32503-MS1)	Source: 1305562-24				Prepared & Analyzed: 06/25/13			
Ammonia as N	0.57	0.040	0.009	mg/L	0.50	0.050	105	90-110

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32503 - Ammonia by SEAL										
Matrix Spike (BF32503-MS2) Source: 1305571-22 Prepared & Analyzed: 06/25/13										
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	0.025	97	90-110		
Matrix Spike Dup (BF32503-MSD1) Source: 1305562-24 Prepared & Analyzed: 06/25/13										
Ammonia as N	0.57	0.040	0.009	mg/L	0.50	0.050	104	90-110	1	10
Matrix Spike Dup (BF32503-MSD2) Source: 1305571-22 Prepared & Analyzed: 06/25/13										
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	0.025	100	90-110	3	10
Batch BF32510 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF32510-BLK1) Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						
LCS (BF32510-BS1) Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	0.809	0.040	0.010	mg/L	0.80		101	90-110		
Matrix Spike (BF32510-MS1) Source: 1305570-01 Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	1.05	0.040	0.010	mg/L	1.0	0.0183	103	90-110		
Matrix Spike (BF32510-MS2) Source: 1305593-13 Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	1.04	0.040	0.010	mg/L	1.0	0.0595	98	90-110		
Matrix Spike Dup (BF32510-MSD1) Source: 1305570-01 Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	1.02	0.040	0.010	mg/L	1.0	0.0183	100	90-110	3	25
Matrix Spike Dup (BF32510-MSD2) Source: 1305593-13 Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	0.979	0.040	0.010	mg/L	1.0	0.0595	92	90-110	6	25

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32810 - alkalinity										
Blank (BF32810-BLK1) Prepared & Analyzed: 06/27/13										
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Blank (BF32810-BLK2) Prepared & Analyzed: 06/27/13										
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BF32810-BS1) Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	96	90-110			
LCS (BF32810-BS2) Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	96	90-110			
Matrix Spike (BF32810-MS1) Source: 1305593-13 Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	11	87	80-120		
Matrix Spike (BF32810-MS2) Source: 1305558-05 Prepared & Analyzed: 06/27/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120		
Matrix Spike Dup (BF32810-MSD1) Source: 1305593-13 Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	11	87	80-120	0	26

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Work Order: 13055571

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32810 - alkalinity										
Matrix Spike Dup (BF32810-MSD2) Source: 1305558-05 Prepared & Analyzed: 06/27/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120	0	26
Batch BF32814 - Digestion for TKN by EPA 351.2										
Blank (BF32814-BLK1) Prepared: 06/28/13 Analyzed: 07/05/13										
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF32814-BS1) Prepared: 06/28/13 Analyzed: 07/05/13										
Total Kjeldahl Nitrogen	2.44	0.20	0.05	mg/L	2.5		96	90-110		
Matrix Spike (BF32814-MS1) Source: 1306400-02 Prepared: 06/28/13 Analyzed: 07/05/13										
Total Kjeldahl Nitrogen	2.96	0.20	0.05	mg/L	2.5	0.486	98	90-110		
Matrix Spike (BF32814-MS2) Source: 1306596-02 Prepared: 06/28/13 Analyzed: 07/06/13										
Total Kjeldahl Nitrogen	3.21	0.20	0.05	mg/L	2.5	0.463	109	90-110		
Matrix Spike Dup (BF32814-MSD1) Source: 1306400-02 Prepared: 06/28/13 Analyzed: 07/05/13										
Total Kjeldahl Nitrogen	2.95	0.20	0.05	mg/L	2.5	0.486	97	90-110	0.3	20
Matrix Spike Dup (BF32814-MSD2) Source: 1306596-02 Prepared: 06/28/13 Analyzed: 07/05/13										
Total Kjeldahl Nitrogen	2.87	0.20	0.05	mg/L	2.5	0.463	95	90-110	11	20
Batch BF32816 - Digestion for TKN by EPA 351.2										
Blank (BF32816-BLK1) Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						

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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

July 23, 2013

Work Order: 1305571

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32816 - Digestion for TKN by EPA 351.2										
LCS (BF32816-BS1) Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	2.64	0.20	0.05	mg/L	2.5		104	90-110		
Matrix Spike (BF32816-MS1) Source: 1305562-02 Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	5.60	0.20	0.05	mg/L	2.5	3.01	102	90-110		
Matrix Spike (BF32816-MS2) Source: 1305571-02 Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	5.21	0.20	0.05	mg/L	2.5	2.61	103	90-110		
Matrix Spike Dup (BF32816-MSD1) Source: 1305562-02 Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	5.88	0.20	0.05	mg/L	2.5	3.01	113	90-110	5	20
Matrix Spike Dup (BF32816-MSD2) Source: 1305571-02 Prepared: 06/28/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	5.29	0.20	0.05	mg/L	2.5	2.61	106	90-110	2	20
Batch BG30315 - Ammonia by SEAL										
Blank (BG30315-BLK1) Prepared & Analyzed: 07/03/13										
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BG30315-BS1) Prepared & Analyzed: 07/03/13										
Ammonia as N	0.50	0.040	0.009	mg/L	0.50		101	90-110		
Matrix Spike (BG30315-MS1) Source: 1306374-07 Prepared & Analyzed: 07/03/13										
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	103	90-110		
Matrix Spike Dup (BG30315-MSD1) Source: 1306374-07 Prepared & Analyzed: 07/03/13										
Ammonia as N	0.52	0.040	0.009	mg/L	0.50	ND	104	90-110	1	10

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July 23, 2013

Work Order: 1305571

Inorganic, Dissolved - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31809 - DOC prep										
Blank (BF31809-BLK1) Prepared & Analyzed: 06/17/13										
Dissolved Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BF31809-BS1) Prepared & Analyzed: 06/17/13										
Dissolved Organic Carbon	10.3	1.0	0.50	mg/L	10	103	90-110			
Matrix Spike (BF31809-MS1) Source: 1305997-01 Prepared & Analyzed: 06/17/13										
Dissolved Organic Carbon	13.8	1.0	0.50	mg/L	10	4.20	96	85-125		
Matrix Spike Dup (BF31809-MSD1) Source: 1305997-01 Prepared & Analyzed: 06/17/13										
Dissolved Organic Carbon	14.4	1.0	0.50	mg/L	10	4.20	102	85-125	4	25
Batch BF32719 - DOC prep										
Blank (BF32719-BLK1) Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BF32719-BS1) Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	9.65	1.0	0.50	mg/L	10	96	90-110			
Matrix Spike (BF32719-MS1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	9.33	1.0	0.50	mg/L	10	ND	93	85-125		
Matrix Spike Dup (BF32719-MSD1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	8.90	1.0	0.50	mg/L	10	ND	89	85-125	5	25

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Work Order: 1305571

Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31106 - Metals Preparation for EPA Method 200.7										
Blank (BF31106-BLK1)										
Calcium	0.042 U	0.50	0.042	mg/L						
Potassium	0.026 I	0.050	0.010	mg/L						
Iron	0.020 U	0.10	0.020	mg/L						
Boron	0.050 U	0.10	0.050	mg/L						
Sodium	0.13 U	0.50	0.13	mg/L						
Magnesium	0.022 I	0.50	0.020	mg/L						
Manganese	0.0010 U	0.010	0.0010	mg/L						
LCS (BF31106-BS1)										
Boron	0.43	0.10	0.050	mg/L	0.40		106	85-115		
Calcium	19	0.50	0.042	mg/L	20		97	85-115		
Manganese	0.39	0.010	0.0010	mg/L	0.40		98	85-115		
Potassium	20	0.050	0.010	mg/L	20		99	85-115		
Iron	8.1	0.10	0.020	mg/L	8.0		101	85-115		
Magnesium	19	0.50	0.020	mg/L	20		97	85-115		
Sodium	21	0.50	0.13	mg/L	20		106	85-115		
Matrix Spike (BF31106-MS1)										
		Source: 1305904-01								
Sodium	26	0.50	0.13	mg/L	20	5.2	103	70-130		
Manganese	0.39	0.010	0.0010	mg/L	0.40	ND	98	70-130		
Magnesium	28	0.50	0.020	mg/L	20	8.8	94	70-130		
Calcium	76	0.50	0.042	mg/L	20	59	87	70-130		
Potassium	21	0.050	0.010	mg/L	20	0.75	102	70-130		
Iron	8.1	0.10	0.020	mg/L	8.0	ND	102	70-130		
Boron	0.44	0.10	0.050	mg/L	0.40	ND	111	70-130		
Matrix Spike (BF31106-MS2)										
		Source: 1305906-01								
Sodium	23	0.50	0.13	mg/L	20	1.8	104	70-130		
Potassium	21	0.050	0.010	mg/L	20	1.3	96	70-130		
Magnesium	20	0.50	0.020	mg/L	20	0.32	98	70-130		
Manganese	0.41	0.010	0.0010	mg/L	0.40	0.014	99	70-130		
Boron	0.47	0.10	0.050	mg/L	0.40	ND	117	70-130		
Iron	8.3	0.10	0.020	mg/L	8.0	0.18	102	70-130		
Calcium	28	0.50	0.042	mg/L	20	8.6	97	70-130		

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July 23, 2013

Work Order: 1305571

Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31106 - Metals Preparation for EPA Method 200.7										
Matrix Spike Dup (BF31106-MSD1) Source: 1305904-01 Prepared: 06/11/13 Analyzed: 06/13/13										
Iron	8.2	0.10	0.020	mg/L	8.0	ND	103	70-130	0.7	20
Magnesium	28	0.50	0.020	mg/L	20	8.8	97	70-130	2	20
Boron	0.45	0.10	0.050	mg/L	0.40	ND	113	70-130	1	20
Potassium	21	0.050	0.010	mg/L	20	0.75	103	70-130	0.7	20
Calcium	76	0.50	0.042	mg/L	20	59	88	70-130	0.3	20
Sodium	26	0.50	0.13	mg/L	20	5.2	104	70-130	0.7	20
Manganese	0.39	0.010	0.0010	mg/L	0.40	ND	98	70-130	1	20
Matrix Spike Dup (BF31106-MSD2) Source: 1305906-01 Prepared: 06/11/13 Analyzed: 06/13/13										
Calcium	27	0.50	0.042	mg/L	20	8.6	95	70-130	2	20
Sodium	22	0.50	0.13	mg/L	20	1.8	101	70-130	3	20
Potassium	21	0.050	0.010	mg/L	20	1.3	97	70-130	0.8	20
Boron	0.47	0.10	0.050	mg/L	0.40	ND	117	70-130	0.3	20
Iron	8.4	0.10	0.020	mg/L	8.0	0.18	103	70-130	0.7	20
Magnesium	20	0.50	0.020	mg/L	20	0.32	98	70-130	0.5	20
Manganese	0.41	0.010	0.0010	mg/L	0.40	0.014	99	70-130	0.2	20
Batch BF31334 - Metals Preparation for EPA Method 200.7										
Blank (BF31334-BLK1)					Prepared & Analyzed: 06/19/13					
Manganese	0.0010 U	0.010	0.0010	mg/L						
Iron	0.020 U	0.10	0.020	mg/L						
Boron	0.050 U	0.10	0.050	mg/L						
Sodium	0.13 U	0.50	0.13	mg/L						
Magnesium	0.020 U	0.50	0.020	mg/L						
Calcium	0.042 U	0.50	0.042	mg/L						
Potassium	0.014 I	0.050	0.010	mg/L						

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Work Order: 1305571

Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31334 - Metals Preparation for EPA Method 200.7										
LCS (BF31334-BS1)										
Prepared & Analyzed: 06/19/13										
Iron	8.2	0.10	0.020	mg/L	8.0		102	85-115		
Magnesium	20	0.50	0.020	mg/L	20		101	85-115		
Manganese	0.40	0.010	0.0010	mg/L	0.40		101	85-115		
Potassium	20	0.050	0.010	mg/L	20		102	85-115		
Calcium	20	0.50	0.042	mg/L	20		101	85-115		
Sodium	22	0.50	0.13	mg/L	20		109	85-115		
Boron	0.43	0.10	0.050	mg/L	0.40		106	85-115		
Matrix Spike (BF31334-MS1)										
Source: 1306057-02										
Prepared & Analyzed: 06/19/13										
Magnesium	32	0.50	0.020	mg/L	20	11	106	70-130		
Sodium	25	0.50	0.13	mg/L	20	4.9	102	70-130		
Potassium	22	0.050	0.010	mg/L	20	0.80	104	70-130		
Manganese	0.40	0.010	0.0010	mg/L	0.40	0.0014	101	70-130		
Calcium	72	0.50	0.042	mg/L	20	50	111	70-130		
Iron	8.2	0.10	0.020	mg/L	8.0	ND	102	70-130		
Boron	0.44	0.10	0.050	mg/L	0.40	ND	109	70-130		
Matrix Spike (BF31334-MS2)										
Source: 1306070-01										
Prepared & Analyzed: 06/19/13										
Iron	9.2	0.10	0.020	mg/L	8.0	1.3	100	70-130		
Boron	1.6	0.10	0.050	mg/L	0.40	1.1	122	70-130		
Magnesium	120 L	0.50	0.020	mg/L	20	380	NR	70-130		
Sodium	120 L	0.50	0.13	mg/L	20	ND	625	70-130		
Calcium	230	0.50	0.042	mg/L	20	210	107	70-130		
Manganese	0.43	0.010	0.0010	mg/L	0.40	0.024	100	70-130		
Potassium	120 L	0.050	0.010	mg/L	20	120	2	70-130		
Matrix Spike Dup (BF31334-MSD1)										
Source: 1306057-02										
Prepared & Analyzed: 06/19/13										
Boron	0.44	0.10	0.050	mg/L	0.40	ND	110	70-130	1	20
Sodium	26	0.50	0.13	mg/L	20	4.9	108	70-130	5	20
Calcium	73	0.50	0.042	mg/L	20	50	116	70-130	1	20
Manganese	0.41	0.010	0.0010	mg/L	0.40	0.0014	101	70-130	0.6	20
Iron	8.2	0.10	0.020	mg/L	8.0	ND	103	70-130	0.7	20
Magnesium	32	0.50	0.020	mg/L	20	11	105	70-130	0.4	20
Potassium	22	0.050	0.010	mg/L	20	0.80	108	70-130	3	20

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Tampa, FL 33619

July 23, 2013

Work Order: 1305571

Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch BF31334 - Metals Preparation for EPA Method 200.7

Matrix Spike Dup (BF31334-MSD2)	Source: 1306070-01			Prepared & Analyzed: 06/19/13						
Calcium	220	0.50	0.042	mg/L	20	210	43	70-130	6	20
Potassium	120 L	0.050	0.010	mg/L	20	120	2	70-130	0	20
Sodium	120 L	0.50	0.13	mg/L	20	ND	625	70-130	0	20
Magnesium	120 L	0.50	0.020	mg/L	20	380	NR	70-130	0	20
Iron	9.2	0.10	0.020	mg/L	8.0	1.3	99	70-130	0.4	20
Boron	1.5	0.10	0.050	mg/L	0.40	1.1	118	70-130	0.9	20
Manganese	0.42	0.010	0.0010	mg/L	0.40	0.024	100	70-130	0.7	20

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Work Order: 1305571

*** 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 limits and the laboratory practical quantitation limit.

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

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

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

L Off-scale high. Result exceeded highest calibration standard.

Questions regarding this report should be directed to :

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

Kathryn@southernanalyticallabs.com

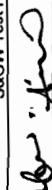


SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, DODSMAR, FL 34677 813-655-1844 Fax 813-655-2218

Client Name Hazen and Sawyer

Project Name / Location S&GW Test Facility SE #6 (TA4)

Samplers: (Signature) 

Sample ID:	Matrix	Sample Description	Date	Time	Matrix	Parameter / Container Description	Field DO		
							Field PH	Field Temperature	Field Conductivity
01	TAA-PAN-12-N	DW-Drinking Water WW-Wastewater SW-Surface Water SL-Sludge SO-Soil GW-Groundwater SA-Saline Water O-Other R-Reagent Water	6/10/13	10:39	GW	X	-	6.73	26.4 580
02	TAA-LY-24-C				GW	X	1		
03	TAA-LY-12-S				GW	X	1		
04	TAA-LY-12-S-DUP				GW	X	1		
05	TAA-LY-24-S				GW	X	1	1	
06	TAA-LY-42-S				GW	X	1	1	
07	TAA-PZ-11-EF2				GW	X	1		
08	TAA-PZ-10-H5				GW	X	1		
09	TAA-PZ-10-J5				GW	X	1		
10	TAA-PZ-10-K5				GW	X	1	1	2
11	TAA-PZ-11-L2				GW	X	1		
12	TAA-PZ-11-L3				GW	X	1		
Containers Prepared/		Received:		Date/Time:	Received:		Instructions / Remarks:		
Relinquished:		Received:		Date/Time:	Received:		Seal intact?	N	N/A
Relinquished:		Received:		Date/Time:	Received:		Samples intact upon arrival?	N	N/A
Relinquished:		Received:		Date/Time:	Received:		Received on ice? Temp	N	N/A
Relinquished:		Received:		Date/Time:	Received:		Proper preservatives indicated?	N	N/A
Relinquished:		Received:		Date/Time:	Received:		Rec'd w/in holding time?	Q	N/A
Relinquished:		Received:		Date/Time:	Received:		Volatile's rec'd w/out headspace?	N	Q
Relinquished:		Received:		Date/Time:	Received:		Proper containers used?	N	N/A

Chain of Custody
Rev Date 11/15/01

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, OLMSTED, FL 34877 813-885-1844 fax 813-885-2218

Client Name	Hazen and Sawyer	Contact / Phone:
Project Name / location	S&GW Test Facility SE #6 (TA4)	
Samplers: (Signature)		

Sample #	Use Only Sample No.	Matrix Codes:	Sample Description	Date	Time	Matrix	PARAMETER / CONTAINER DESCRIPTION			Field pH	Field Conductivity	Field DO
							TOC	40MLAV, HCl	TKN, NH ₃ , COD, TP, B, Ca, Fe, Mg, Mn, K, Na, 250MLP, HNO ₃			
01	TAA-FAN-12-N	DW-Drinking Water WW-Wastewater SW-Surface Water GW-Groundwater SA-Saline Water O-Other R-Reagent Water		1/13	8:30	GW	X	1	1	6.71	27.1	6.05 3.74
02	TAA-LY-24-C			1/13	8:33	GW	X	1	1	6.81	27.0	6.04 3.94
03	TAA-LY-12-S			1/13	8:33	GW	X	1	1	6.87	27.0	6.04 4.94
04	TAA-LY-12-S-DUP			1/13	8:33	GW	X	1	1	6.91	26.7	6.73 4.40
05	TAA-LY-24-S			1/13	8:37	GW	X	1	1	6.91	26.7	6.73 4.40
06	TAA-LY-42-S			1/13	8:35	GW	X	1	1	6.56	26.6	6.44 3.93
07	TAA-FZ-11-EF2					Grab						
08	TAA-FZ-10-H5					Matrix						
09	TAA-FZ-10-J5					Composite						
10	TAA-FZ-10-K5					500MLP, Cool						
11	TAA-FZ-11-L2					500MLP, Cool						
12	TAA-FZ-11-L3					TKN, NH ₃ , COD, TP, B, Ca, Fe, Mg, Mn, K, Na, 250MLP, HNO ₃						
Containers Prepared/			Received:			Date/Time:						
Reinforced:			Received:			Date/Time:						
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SOUTHERN ANALYTICAL LABORATORIES, INC.

SOUTHERN ANALYTICAL LABORATORIES, INC.
1110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677 813-865-1844 fax 813-865-2218
Client Name _____
Contact / Phone: _____

130557

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

Client Name	Hazen and Sawyer	Contact / Phone:
Project Name / Location	S&GW Test Facility SE #6 (TA4)	
Samplers: (Signature)	<i>Jeanette</i>	

Sample Description	Matrix Codes:	Parameter / Container Description									
		Date	Time	Matrix	TOC 40MLAV, HCl	Field DO	Field PH	Field Temperature	Field Conductivity	Field DO	
13 TA4-PZ-11-L4	DW-Drinking Water WW-Wastewater SW-Surface Water SL-Sludge SO-Soil GW-Groundwater Sa-Saline Water O-Other R-Reagent Water	1/1/03	11:57	GW	X	1	1	4.34	26.0	10/12 2.89	
14 TA4-PZ-11-L5		1/1/03	11:45	GW	X	1	1	4.21	25.5	10/12 1.91	
15 TA4-PZ-11-L6		1/1/03	11:31	GW	X	1	1	4.35	25.4	10/12 0.43	
16 TA4-PZ-09-M4		1/1/03	09:02	GW	X	1	1	6.11	25.3	10/12 1.35	
17 TA4-PZ-16-M4		1/1/03	09:14	GW	X	1	1	5.15	24.5	10/12 0.80	
18 TA4-PZ-09-N7		1/1/03	09:26	GW	X	1	1	5.34	25.7	10/12 4.01	
19 TA4-PZ-16-N7		1/1/03	09:41	GW	X	1	1	4.83	24.5	10/12 1.33	
20 TA4-PZ-09-17		1/1/03	10:22	GW	X	1	1	4.94	25.1	10/12 2.16	
21 TA4-PZ-16-17		1/1/03	10:34	GW	X	1	1	4.93	24.4	10/12 1.23	
22 TA4-PZ-09-L8		1/1/03	10:55	GW	X	1	1	5.97	25.3	10/12 1.31	
23 TA4-PZ-16-L8		1/1/03	11:05	GW	X	1	1	5.09	24.9	10/12 1.07	
24 TA4-PZ-09-TU14		1/1/03	08:35	GW	X	1	1	3.49	25.2	10/12 0.88	
Containers Prepared:		Date/Time:	Received:			Date/Time:	Received:			Instructions / Remarks:	
Relinquished:	<i>J. Hargrave</i>	01-05-13	<i>J. Hargrave</i>			01-05-13	<i>J. Hargrave</i>			Seal intact? <input checked="" type="checkbox"/> N NA	
Relinquished:		Date/Time:	Received:			Date/Time:	Received:			Samples intact upon arrival? <input checked="" type="checkbox"/> N NA	
Relinquished:			<i>J. Hargrave</i>			01-05-13 1600	<i>J. Hargrave</i>			Received on ice? Temp. <input checked="" type="checkbox"/> N NA	
Relinquished:		Date/Time:	Received:			Date/Time:	Received:			Proper preservatives indicated? <input checked="" type="checkbox"/> N NA	
Relinquished:										Rec'd within holding time? <input checked="" type="checkbox"/> N NA	
Relinquished:		Date/Time:	Received:			Date/Time:	Received:			Volatile's rec'd w/out headspace? <input checked="" type="checkbox"/> N NA	
Relinquished:										Proper containers used? <input checked="" type="checkbox"/> N NA	

Chain of Custody

Rev Date 11/18/01

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

July 23, 2013

Work Order: 1305589

Laboratory Report

Project Name	S&GW Test Facility SE#6							
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		FB-Tap						
Matrix		Drinking Water						
SAL Sample Number		1305589-01						
Date/Time Collected		06/12/13 13:00						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
Client Provided Field Data								
pH		6.23						
Temperature		26.6 °C						
Conductivity		458.7 umhos						
Dissolved Oxygen		3.67 mg/L						
Inorganics								
Hydrogen Sulfide (Unionized)	mg/L	0.87	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		07/01/13 13:30	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/03/13 11:28	07/03/13 11:42	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	06/13/13 08:30	06/18/13 17:16	1
Chemical Oxygen Demand	mg/L	14 I	EPA 410.4	25	10	06/18/13 12:51	06/18/13 16:20	1
Chloride	mg/L	23	EPA 300.0	0.20	0.050		06/14/13 02:32	1
Nitrate (as N)	mg/L	0.17	EPA 300.0	0.04	0.01		06/14/13 02:32	1
Nitrite (as N)	mg/L	0.18	EPA 300.0	0.04	0.01		06/14/13 02:32	1
Phosphorous - Total as P	mg/L	0.018 I	SM 4500P-E	0.040	0.010	06/24/13 14:08	06/28/13 11:09	1
Sulfate	mg/L	42	EPA 300.0	0.60	0.20		06/14/13 02:32	1
Sulfide	mg/L	1.0	SM 4500SF	0.40	0.10		06/17/13 12:40	1
Total Kjeldahl Nitrogen	mg/L	0.09 I	EPA 351.2	0.20	0.05	06/24/13 09:43	06/28/13 14:31	1
Total Suspended Solids	mg/L	1 U	SM 2540D	1	1	06/12/13 16:29	06/13/13 13:45	1
Nitrate+Nitrite (N)	mg/L	0.35	EPA 300.0	0.08	0.02		06/14/13 02:32	1
Microbiology								
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	06/12/13 16:01	06/13/13 14:14	1

Sample Description	FB-DI
Matrix	Reagent Water
SAL Sample Number	1305589-02
Date/Time Collected	06/12/13 13:05
Collected by	Sean Schmidt
Date/Time Received	06/12/13 15:44
Client Provided Field Data	
pH	7.85
Temperature	24.0 °C
Conductivity	1.67 umhos
Dissolved Oxygen	7.48 mg/L
Inorganics	
Hydrogen Sulfide (Unionized)	mg/L
Ammonia as N	mg/L

Florida Certification Number: E84129

NELAP Accredited

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

SOUTHERN ANALYTICAL LABORATORIES, INC.

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July 23, 2013

Work Order: 1305589

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		FB-DI						
Matrix		Reagent Water						
SAL Sample Number		1305589-02						
Date/Time Collected		06/12/13 13:05						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		7.85						
Temperature		24.0 °C						
Conductivity		1.67 umhos						
Dissolved Oxygen		7.48 mg/L						
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01	07/03/13 11:28	07/03/13 11:42	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	06/13/13 08:30	06/18/13 17:16	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Chemical Oxygen Demand	mg/L	20 I	EPA 410.4	25	10	06/18/13 08:45	06/18/13 13:10	1
Chloride	mg/L	0.050 U	EPA 300.0	0.20	0.050		06/14/13 02:41	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Nitrate (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 02:41	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 02:41	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Phosphorous - Total as P	mg/L	0.010 U	SM 4500P-E	0.040	0.010	06/24/13 14:08	06/28/13 11:10	1
Sulfate	mg/L	0.20 U	EPA 300.0	0.60	0.20		06/14/13 02:41	1
Sulfide	mg/L	0.10 U	SM 4500SF	0.40	0.10		06/17/13 12:40	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Total Kjeldahl Nitrogen	mg/L	0.05 U	EPA 351.2	0.20	0.05	06/24/13 09:43	06/28/13 14:32	1
Total Suspended Solids	mg/L	1 U	SM 2540D	1	1	06/12/13 16:29	06/13/13 13:45	1
Nitrate+Nitrite (N)	mg/L	0.02 U	EPA 300.0	0.08	0.02		06/14/13 02:41	1
<u>Microbiology</u>								
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	06/12/13 16:01	06/13/13 14:14	1

Sample Description	EB
Matrix	Reagent Water
SAL Sample Number	1305589-03
Date/Time Collected	06/12/13 13:10
Collected by	Sean Schmidt
Date/Time Received	06/12/13 15:44

Client Provided Field Data

pH	7.85
Temperature	24.0 °C
Conductivity	1.67 umhos
Dissolved Oxygen	7.88 mg/L

Inorganics

Florida Certification Number: E84129
NELAP Accredited

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

SOUTHERN ANALYTICAL LABORATORIES, INC.

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Hazen and Sawyer
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July 23, 2013

Work Order: 1305589

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		EB						
Matrix		Reagent Water						
SAL Sample Number		1305589-03						
Date/Time Collected		06/12/13 13:10						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		7.85						
Temperature		24.0 °C						
Conductivity		1.67 umhos						
Dissolved Oxygen		7.88 mg/L						
Hydrogen Sulfide (Unionized)	mg/L	0.01 U	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		07/01/13 13:34	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/03/13 11:28	07/03/13 11:42	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	06/13/13 08:30	06/18/13 17:16	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/18/13 08:45	06/18/13 13:10	1
Chloride	mg/L	0.050 U	EPA 300.0	0.20	0.050		06/14/13 02:51	1
Fluoride	mg/L	0.010 U	EPA 300.0	0.040	0.010		06/14/13 02:51	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Nitrate (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 02:51	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 02:51	1
Orthophosphate as P	mg/L	0.010 U	EPA 300.0	0.040	0.010		06/14/13 02:51	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Phosphorous - Total as P	mg/L	0.010 U	SM 4500P-E	0.040	0.010	06/24/13 14:08	06/28/13 11:11	1
Sulfate	mg/L	0.20 U	EPA 300.0	0.60	0.20		06/14/13 02:51	1
Sulfide	mg/L	0.10 U	SM 4500SF	0.40	0.10		06/17/13 12:40	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Total Kjeldahl Nitrogen	mg/L	0.05 U	EPA 351.2	0.20	0.05	06/24/13 09:43	06/28/13 14:34	1
Total Organic Carbon	mg/L	0.50 U	SM 5310B	1.0	0.50		06/27/13 09:48	1
Total Suspended Solids	mg/L	1 U	SM 2540D	1	1	06/12/13 16:29	06/13/13 13:45	1
Nitrate+Nitrite (N)	mg/L	0.02 U	EPA 300.0	0.08	0.02		06/14/13 02:51	1
<u>Inorganic, Dissolved</u>								
Dissolved Organic Carbon	mg/L	0.50 U	SM 5310B	1.0	0.50		06/27/13 09:48	1
<u>Metals</u>								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	06/14/13 10:16	06/14/13 12:04	1
Calcium	mg/L	0.042 U	EPA 200.7	0.50	0.042	06/14/13 10:16	06/14/13 12:04	1
Iron	mg/L	0.020 U	EPA 200.7	0.10	0.020	06/14/13 10:16	06/14/13 12:04	1
Magnesium	mg/L	0.020 U	EPA 200.7	0.50	0.020	06/14/13 10:16	06/14/13 12:04	1
Manganese	mg/L	0.0010 U	EPA 200.7	0.010	0.0010	06/14/13 10:16	06/14/13 12:04	1
Potassium	mg/L	0.20	EPA 200.7	0.050	0.010	06/14/13 10:16	06/14/13 15:32	1
Sodium	mg/L	0.13 U	EPA 200.7	0.50	0.13	06/14/13 10:16	06/14/13 12:04	1
<u>Microbiology</u>								

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

July 23, 2013

Work Order: 1305589

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		EB						
Matrix		Reagent Water						
SAL Sample Number		1305589-03						
Date/Time Collected		06/12/13 13:10						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		7.85						
Temperature		24.0 °C						
Conductivity		1.67 umhos						
Dissolved Oxygen		7.88 mg/L						
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	06/12/13 16:01	06/13/13 14:14	1

SOUTHERN ANALYTICAL LABORATORIES, INC.

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Hazen and Sawyer
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Tampa, FL 33619

July 23, 2013

Work Order: 1305589

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31239 - TSS prep										
Blank (BF31239-BLK1)										
Total Suspended Solids	1 U	1	1	mg/L				Prepared: 06/12/13 Analyzed: 06/13/13		
LCS (BF31239-BS1)										
Total Suspended Solids	49.5	1	1	mg/L	50		99	85-115		
Duplicate (BF31239-DUP1)										
Total Suspended Solids	1 U	1	1	mg/L		ND			30	
Batch BF31328 - Ion Chromatography 300.0 Prep										
Blank (BF31328-BLK1)										
Nitrite (as N)	0.01 U	0.04	0.01	mg/L				Prepared & Analyzed: 06/14/13		
Fluoride	0.010 U	0.040	0.010	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						
Sulfate	0.20 U	0.60	0.20	mg/L						
LCS (BF31328-BS1)										
Nitrite (as N)	1.42	0.04	0.01	mg/L	1.4		101	85-115		
Orthophosphate as P	0.869	0.040	0.010	mg/L	0.90		97	85-115		
Nitrate (as N)	1.58	0.04	0.01	mg/L	1.7		93	85-115		
Sulfate	8.79	0.60	0.20	mg/L	9.0		98	85-115		
Chloride	2.93	0.20	0.050	mg/L	3.0		98	85-115		
Fluoride	0.918	0.040	0.010	mg/L	0.90		102	85-115		
LCS Dup (BF31328-BSD1)										
Chloride	3.02	0.20	0.050	mg/L	3.0		101	85-115	3	200
Nitrate (as N)	1.67	0.04	0.01	mg/L	1.7		98	85-115	6	200
Orthophosphate as P	0.890	0.040	0.010	mg/L	0.90		99	85-115	2	200
Fluoride	0.948	0.040	0.010	mg/L	0.90		105	85-115	3	200
Nitrite (as N)	1.46	0.04	0.01	mg/L	1.4		105	85-115	3	200
Sulfate	9.03	0.60	0.20	mg/L	9.0		100	85-115	3	200

SOUTHERN ANALYTICAL LABORATORIES, INC.

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Tampa, FL 33619

July 23, 2013

Work Order: 1305589

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch BF31328 - Ion Chromatography 300.0 Prep

Matrix Spike (BF31328-MS1)	Source: 1305593-15			Prepared & Analyzed: 06/14/13						
Chloride	8.87	0.20	0.050	mg/L	3.0	5.84	101	80-120		
Fluoride	0.941	0.040	0.010	mg/L	0.90	0.0290	101	85-115		
Nitrate (as N)	4.24	0.04	0.01	mg/L	1.7	2.44	106	85-115		
Nitrite (as N)	1.48	0.04	0.01	mg/L	1.4	0.118	97	85-115		
Orthophosphate as P	0.937	0.040	0.010	mg/L	0.90	0.0750	96	85-115		
Sulfate	41.7	0.60	0.20	mg/L	9.0	33.3	93	85-115		
Matrix Spike (BF31328-MS2)	Source: 1306132-01			Prepared & Analyzed: 06/14/13						
Fluoride	1.44	0.040	0.010	mg/L	0.90	0.485	106	85-115		
Chloride	49.0	0.20	0.050	mg/L	3.0	46.3	90	80-120		
Sulfate	138	0.60	0.20	mg/L	9.0	129	109	85-115		
Nitrate (as N)	1.75	0.04	0.01	mg/L	1.7	0.0760	98	85-115		
Nitrite (as N)	1.54	0.04	0.01	mg/L	1.4	ND	110	85-115		
Orthophosphate as P	0.859	0.040	0.010	mg/L	0.90	ND	95	85-115		

Batch BF31330 - BOD

Blank (BF31330-BLK1)	Prepared: 06/13/13 Analyzed: 06/18/13					
Carbonaceous BOD	2 U	2	2	mg/L		
Blank (BF31330-BLK2)	Prepared: 06/13/13 Analyzed: 06/18/13					
Carbonaceous BOD	2 U	2	2	mg/L		
LCS (BF31330-BS1)	Prepared: 06/13/13 Analyzed: 06/18/13					
Carbonaceous BOD	199	2	2	mg/L	200	99 85-115
LCS (BF31330-BS2)	Prepared: 06/13/13 Analyzed: 06/18/13					
Carbonaceous BOD	203	2	2	mg/L	200	102 85-115

SOUTHERN ANALYTICAL LABORATORIES, INC.

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Hazen and Sawyer
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July 23, 2013

Work Order: 1305589

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31330 - BOD										
LCS Dup (BF31330-BSD1)										
Carbonaceous BOD	200	2	2	mg/L	200	100	85-115	0.5	200	
LCS Dup (BF31330-BSD2)										
Carbonaceous BOD	205	2	2	mg/L	200	102	85-115	0.7	200	
Duplicate (BF31330-DUP1)										
Carbonaceous BOD	45	2	2	mg/L		48		6	25	
Duplicate (BF31330-DUP2)										
Carbonaceous BOD	150	2	2	mg/L		120		15	25	
Batch BF31807 - COD prep										
Blank (BF31807-BLK1)										
Chemical Oxygen Demand	10 U	25	10	mg/L			Prepared & Analyzed: 06/18/13			
LCS (BF31807-BS1)										
Chemical Oxygen Demand	49	25	10	mg/L	50	98	90-110			
Matrix Spike (BF31807-MS1)										
Chemical Oxygen Demand	57	25	10	mg/L	50	ND	114	85-115		
Matrix Spike Dup (BF31807-MSD1)										
Chemical Oxygen Demand	55	25	10	mg/L	50	ND	110	85-115	4	32
Batch BF31832 - COD prep										
Blank (BF31832-BLK1)										
Chemical Oxygen Demand	10 U	25	10	mg/L			Prepared & Analyzed: 06/18/13			

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Tampa, FL 33619

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Work Order: 1305589

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31832 - COD prep										
LCS (BF31832-BS1) Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	53	25	10	mg/L	50		105	90-110		
Matrix Spike (BF31832-MS1) Source: 1305562-08 Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	51	25	10	mg/L	50	ND	102	85-115		
Matrix Spike Dup (BF31832-MSD1) Source: 1305562-08 Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	49	25	10	mg/L	50	ND	98	85-115	4	32
Batch BF31841 - Sulfide prep										
Blank (BF31841-BLK1) Prepared & Analyzed: 06/17/13										
Sulfide	0.10 U	0.40	0.10	mg/L						
LCS (BF31841-BS1) Prepared & Analyzed: 06/17/13										
Sulfide	4.65	0.40	0.10	mg/L	5.0		93	85-115		
Matrix Spike (BF31841-MS1) Source: 1306134-01 Prepared & Analyzed: 06/17/13										
Sulfide	4.86	0.40	0.10	mg/L	5.0	ND	97	85-115		
Matrix Spike Dup (BF31841-MSD1) Source: 1306134-01 Prepared & Analyzed: 06/17/13										
Sulfide	4.65	0.40	0.10	mg/L	5.0	ND	93	85-115	4	14
Batch BF32411 - Digestion for TKN by EPA 351.2										
Blank (BF32411-BLK1) Prepared: 06/24/13 Analyzed: 06/28/13										
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 BF32411 - Digestion for TKN by EPA 351.2										
LCS (BF32411-BS1) Prepared: 06/24/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	2.49	0.20	0.05	mg/L	2.5	98	90-110			
Matrix Spike (BF32411-MS1) Source: 1305593-18 Prepared: 06/24/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	2.89	0.20	0.05	mg/L	2.5	0.289	103	90-110		
Matrix Spike (BF32411-MS2) Source: 1305930-01 Prepared: 06/24/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	3.97	0.20	0.05	mg/L	2.5	1.74	88	90-110		
Matrix Spike Dup (BF32411-MSD1) Source: 1305593-18 Prepared: 06/24/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	2.85	0.20	0.05	mg/L	2.5	0.289	101	90-110	1	20
Matrix Spike Dup (BF32411-MSD2) Source: 1305930-01 Prepared: 06/24/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	4.51	0.20	0.05	mg/L	2.5	1.74	109	90-110	13	20
Batch BF32426 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF32426-BLK1) Prepared: 06/24/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						
LCS (BF32426-BS1) Prepared: 06/24/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.801	0.040	0.010	mg/L	0.80	100	90-110			
Matrix Spike (BF32426-MS1) Source: 1305589-01 Prepared: 06/24/13 Analyzed: 06/28/13										
Phosphorous - Total as P	1.00	0.040	0.010	mg/L	1.0	0.0180	98	90-110		
Matrix Spike (BF32426-MS2) Source: 1306010-07 Prepared: 06/24/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.982	0.040	0.010	mg/L	1.0	0.0430	94	90-110		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32426 - Digestion for TP by EPA 365.2/SM4500PE										
Matrix Spike Dup (BF32426-MSD1) Source: 1305589-01 Prepared: 06/24/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.986	0.040	0.010	mg/L	1.0	0.0180	97	90-110	2	25
Matrix Spike Dup (BF32426-MSD2) Source: 1306010-07 Prepared: 06/24/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.990	0.040	0.010	mg/L	1.0	0.0430	95	90-110	0.8	25

Batch BF32718 - TOC prep

Blank (BF32718-BLK1) Prepared & Analyzed: 06/27/13										
Total Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BF32718-BS1) Prepared & Analyzed: 06/27/13										
Total Organic Carbon	9.56	1.0	0.50	mg/L	10		96	90-110		
Matrix Spike (BF32718-MS1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Total Organic Carbon	9.52	1.0	0.50	mg/L	10	ND	95	85-115		
Matrix Spike Dup (BF32718-MSD1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Total Organic Carbon	9.51	1.0	0.50	mg/L	10	ND	95	85-115	0.07	10

Batch BF32733 - alkalinity

Blank (BF32733-BLK1) Prepared & Analyzed: 06/26/13										
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate 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 BF32733 - alkalinity										
LCS (BF32733-BS1) Prepared & Analyzed: 06/26/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	96	90-110			
Matrix Spike (BF32733-MS1) Source: 1305589-03 Prepared & Analyzed: 06/26/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	ND	96	80-120		
Matrix Spike Dup (BF32733-MSD1) Source: 1305589-03 Prepared & Analyzed: 06/26/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	ND	96	80-120	0	26
Batch BG30106 - Ammonia by SEAL										
Blank (BG30106-BLK1) Prepared & Analyzed: 07/01/13										
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BG30106-BS1) Prepared & Analyzed: 07/01/13										
Ammonia as N	0.52	0.040	0.009	mg/L	0.50	104	90-110			
Matrix Spike (BG30106-MS1) Source: 1305562-07 Prepared & Analyzed: 07/01/13										
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	0.045	92	90-110		
Matrix Spike (BG30106-MS2) Source: 1305589-02 Prepared & Analyzed: 07/01/13										
Ammonia as N	0.52 J5	0.040	0.009	mg/L	0.50	ND	104	90-110		
Matrix Spike Dup (BG30106-MSD1) Source: 1305562-07 Prepared & Analyzed: 07/01/13										
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	0.045	91	90-110	1	10
Matrix Spike Dup (BG30106-MSD2) Source: 1305589-02 Prepared & Analyzed: 07/01/13										
Ammonia as N	0.47	0.040	0.009	mg/L	0.50	ND	94	90-110	10	10

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Inorganic, Dissolved - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32719 - DOC prep										
Blank (BF32719-BLK1) Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BF32719-BS1) Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	9.65	1.0	0.50	mg/L	10		96	90-110		
Matrix Spike (BF32719-MS1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	9.33	1.0	0.50	mg/L	10	ND	93	85-125		
Matrix Spike Dup (BF32719-MSD1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	8.90	1.0	0.50	mg/L	10	ND	89	85-125	5	25

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Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31410 - Metals Preparation for EPA Method 200.7										
Blank (BF31410-BLK1)										
Prepared & Analyzed: 06/14/13										
Iron	0.020 U	0.10	0.020	mg/L						
Sodium	0.13 U	0.50	0.13	mg/L						
Magnesium	0.020 U	0.50	0.020	mg/L						
Manganese	0.0010 U	0.010	0.0010	mg/L						
Boron	0.050 U	0.10	0.050	mg/L						
Calcium	0.042 U	0.50	0.042	mg/L						
Potassium	0.010 U	0.050	0.010	mg/L						
LCS (BF31410-BS1)										
Prepared & Analyzed: 06/14/13										
Boron	0.35	0.10	0.050	mg/L	0.40		87	85-115		
Calcium	19	0.50	0.042	mg/L	20		93	85-115		
Magnesium	19	0.50	0.020	mg/L	20		94	85-115		
Manganese	0.36	0.010	0.0010	mg/L	0.40		89	85-115		
Iron	7.4	0.10	0.020	mg/L	8.0		93	85-115		
Potassium	19	0.050	0.010	mg/L	20		93	85-115		
Sodium	19	0.50	0.13	mg/L	20		94	85-115		
Matrix Spike (BF31410-MS1)										
Source: 1305589-03										
Prepared & Analyzed: 06/14/13										
Calcium	20	0.50	0.042	mg/L	20	ND	101	70-130		
Manganese	0.38	0.010	0.0010	mg/L	0.40	ND	96	70-130		
Magnesium	20	0.50	0.020	mg/L	20	ND	101	70-130		
Boron	0.36	0.10	0.050	mg/L	0.40	ND	91	70-130		
Potassium	20	0.050	0.010	mg/L	20	0.20	98	70-130		
Iron	7.9	0.10	0.020	mg/L	8.0	ND	99	70-130		
Sodium	22	0.50	0.13	mg/L	20	ND	108	70-130		
Matrix Spike (BF31410-MS2)										
Source: 1306108-01										
Prepared & Analyzed: 06/14/13										
Potassium	22	0.050	0.010	mg/L	20	1.1	103	70-130		
Calcium	47	0.50	0.042	mg/L	20	28	96	70-130		
Boron	0.42	0.10	0.050	mg/L	0.40	ND	104	70-130		
Sodium	29	0.50	0.13	mg/L	20	7.4	108	70-130		
Iron	8.5	0.10	0.020	mg/L	8.0	ND	106	70-130		
Manganese	0.41	0.010	0.0010	mg/L	0.40	ND	104	70-130		
Magnesium	27	0.50	0.020	mg/L	20	5.6	107	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 BF31410 - Metals Preparation for EPA Method 200.7										
Matrix Spike Dup (BF31410-MSD1) Source: 1305589-03 Prepared & Analyzed: 06/14/13										
Iron	9.1	0.10	0.020	mg/L	8.0	ND	113	70-130	14	20
Boron	0.42	0.10	0.050	mg/L	0.40	ND	105	70-130	15	20
Calcium	22	0.50	0.042	mg/L	20	ND	111	70-130	9	20
Manganese	0.44	0.010	0.0010	mg/L	0.40	ND	111	70-130	14	20
Sodium	24	0.50	0.13	mg/L	20	ND	120	70-130	10	20
Potassium	21	0.050	0.010	mg/L	20	0.20	106	70-130	8	20
Magnesium	22	0.50	0.020	mg/L	20	ND	111	70-130	9	20
Matrix Spike Dup (BF31410-MSD2) Source: 1306108-01 Prepared & Analyzed: 06/14/13										
Sodium	29	0.50	0.13	mg/L	20	7.4	109	70-130	0.4	20
Manganese	0.42	0.010	0.0010	mg/L	0.40	ND	105	70-130	2	20
Boron	0.42	0.10	0.050	mg/L	0.40	ND	106	70-130	2	20
Calcium	46	0.50	0.042	mg/L	20	28	92	70-130	1	20
Potassium	22	0.050	0.010	mg/L	20	1.1	106	70-130	3	20
Iron	8.6	0.10	0.020	mg/L	8.0	ND	107	70-130	1	20
Magnesium	27	0.50	0.020	mg/L	20	5.6	106	70-130	0.8	20

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Microbiology - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31237 - FC-MF										
Blank (BF31237-BLK1) Prepared: 06/12/13 Analyzed: 06/13/13										
Fecal Coliforms	1 U	1	1	CFU/100 ml						
Duplicate (BF31237-DUP1) Source: 1305589-01 Prepared: 06/12/13 Analyzed: 06/13/13										
Fecal Coliforms	1 U	1	1	CFU/100 ml		ND				200

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* 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 limits and the laboratory practical quantitation limit.

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

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

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

J5 Matrix spike of this sample was outside typical range. All other QC criteria were acceptable.

Questions regarding this report should be directed to :

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

Kathryn@southernanalyticallabs.com

A handwritten signature in black ink that appears to read "Francis I. Daniels".

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Work Order: 1305590

Laboratory Report

Project Name	S&GW Test Facility SE#6							
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ-41						
Matrix		Groundwater						
SAL Sample Number		1305590-01						
Date/Time Collected		06/11/13 10:15						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						

Client Provided Field Data

pH	5.40
Temperature	26.1 °C
Conductivity	706 umhos
Dissolved Oxygen	6.81 mg/L

Inorganics

Ammonia as N	mg/L	0.026 I	EPA 350.1	0.040	0.009		06/25/13 10:14	1
Ammonium as NH4	mg/L	0.03 I	EPA 350.1	0.05	0.01	06/25/13 14:17	06/25/13 14:56	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chemical Oxygen Demand	mg/L	28	EPA 410.4	25	10	06/13/13 10:00	06/13/13 14:10	1
Chloride	mg/L	82	EPA 300.0	0.20	0.050		06/11/13 18:26	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	29	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Phosphorous - Total as P	mg/L	0.058	SM 4500P-E	0.040	0.010	06/19/13 16:54	06/22/13 14:03	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	2.4	EPA 351.2	0.20	0.05	06/19/13 08:02	06/22/13 13:48	1
Nitrate+Nitrite (N)	mg/L	29	EPA 300.0	0.08	0.02		06/11/13 18:26	1

Sample Description	PZ-42
Matrix	Groundwater
SAL Sample Number	1305590-02
Date/Time Collected	06/11/13 09:52
Collected by	Sean Schmidt
Date/Time Received	06/11/13 15:15

Client Provided Field Data

pH	5.13
Temperature	26.9 °C
Conductivity	245 umhos
Dissolved Oxygen	5.48 mg/L

Inorganics

Ammonia as N	mg/L	0.033 I	EPA 350.1	0.040	0.009		06/25/13 10:16	1
Ammonium as NH4	mg/L	0.04 I	EPA 350.1	0.05	0.01	06/25/13 14:17	06/25/13 14:56	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1

Florida Certification Number: E84129

NELAP Accredited

Francis I. Daniels, Laboratory Director

Leslie C. Boardman, Q.A. Manager

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Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ-42						
Matrix		Groundwater						
SAL Sample Number		1305590-02						
Date/Time Collected		06/11/13 09:52						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
pH		5.13						
Temperature		26.9 °C						
Conductivity		245 umhos						
Dissolved Oxygen		5.48 mg/L						
Chemical Oxygen Demand	mg/L	19 I	EPA 410.4	25	10	06/14/13 09:54	06/14/13 13:28	1
Chloride	mg/L	16	EPA 300.0	0.20	0.050		06/11/13 18:26	1
Fluoride	mg/L	0.16	EPA 300.0	0.040	0.010		06/11/13 18:26	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	7.3	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/11/13 18:26	1
Orthophosphate as P	mg/L	0.010 U	EPA 300.0	0.040	0.010		06/11/13 18:26	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Phosphorous - Total as P	mg/L	0.12	SM 4500P-E	0.040	0.010	06/19/13 16:54	06/22/13 14:04	1
Sulfate	mg/L	34	EPA 300.0	0.60	0.20		06/11/13 18:26	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	1.6	EPA 351.2	0.20	0.05	06/19/13 08:02	06/24/13 08:44	1.98
Total Organic Carbon	mg/L	11	SM 5310B	1.0	0.50		06/18/13 23:15	1
Nitrate+Nitrite (N)	mg/L	7.3	EPA 300.0	0.08	0.02		06/11/13 18:26	1
<u>Inorganic, Dissolved</u>								
Dissolved Organic Carbon	mg/L	8.9	SM 5310B	1.0	0.50		06/17/13 23:29	1
<u>Metals</u>								
Boron	mg/L	0.061 I	EPA 200.7	0.10	0.050	06/12/13 12:21	06/13/13 16:34	1
Calcium	mg/L	16	EPA 200.7	0.50	0.042	06/12/13 12:21	06/13/13 16:34	1
Iron	mg/L	0.093 I	EPA 200.7	0.10	0.020	06/12/13 12:21	06/13/13 16:34	1
Magnesium	mg/L	6.0	EPA 200.7	0.50	0.020	06/12/13 12:21	06/13/13 16:34	1
Manganese	mg/L	0.014	EPA 200.7	0.010	0.0010	06/12/13 12:21	06/13/13 16:34	1
Potassium	mg/L	3.5	EPA 200.7	0.050	0.010	06/12/13 12:21	06/13/13 16:34	1
Sodium	mg/L	16	EPA 200.7	0.50	0.13	06/12/13 12:21	06/13/13 16:34	1

Sample Description	PZ-42-DUP
Matrix	Groundwater
SAL Sample Number	1305590-03
Date/Time Collected	06/11/13 10:00
Collected by	Sean Schmidt
Date/Time Received	06/11/13 15:15

SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677

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

July 23, 2013

Work Order: 1305590

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ-42-DUP						
Matrix		Groundwater						
SAL Sample Number		1305590-03						
Date/Time Collected		06/11/13 10:00						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
pH		5.13						
Temperature		26.9 °C						
Conductivity		245 umhos						
Dissolved Oxygen		5.48 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.024 I	EPA 350.1	0.040	0.009		06/25/13 10:18	1
Ammonium as NH4	mg/L	0.03 I	EPA 350.1	0.05	0.01	06/25/13 14:17	06/25/13 14:56	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chemical Oxygen Demand	mg/L	18 I	EPA 410.4	25	10	06/14/13 09:54	06/14/13 13:28	1
Chloride	mg/L	16	EPA 300.0	0.20	0.050		06/11/13 22:59	1
Fluoride	mg/L	0.16	EPA 300.0	0.040	0.010		06/11/13 22:59	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	7.3	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Orthophosphate as P	mg/L	0.010 U	EPA 300.0	0.040	0.010		06/11/13 22:59	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Phosphorous - Total as P	mg/L	0.11	SM 4500P-E	0.040	0.010	06/19/13 16:49	06/21/13 11:46	1
Sulfate	mg/L	34	EPA 300.0	0.60	0.20		06/11/13 22:59	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	1.7	EPA 351.2	0.20	0.05	06/19/13 08:02	06/24/13 08:45	1.98
Total Organic Carbon	mg/L	11	SM 5310B	1.0	0.50		06/18/13 23:15	1
Nitrate+Nitrite (N)	mg/L	7.3	EPA 300.0	0.08	0.02		06/11/13 22:59	1
<u>Inorganic, Dissolved</u>								
Dissolved Organic Carbon	mg/L	9.0	SM 5310B	1.0	0.50		06/17/13 23:29	1
<u>Metals</u>								
Boron	mg/L	0.060 I	EPA 200.7	0.10	0.050	06/12/13 12:21	06/13/13 16:37	1
Calcium	mg/L	16	EPA 200.7	0.50	0.042	06/12/13 12:21	06/13/13 16:37	1
Iron	mg/L	0.095 I	EPA 200.7	0.10	0.020	06/12/13 12:21	06/13/13 16:37	1
Magnesium	mg/L	6.3	EPA 200.7	0.50	0.020	06/12/13 12:21	06/13/13 16:37	1
Manganese	mg/L	0.013	EPA 200.7	0.010	0.0010	06/12/13 12:21	06/13/13 16:37	1
Potassium	mg/L	3.7	EPA 200.7	0.050	0.010	06/12/13 12:21	06/13/13 16:37	1
Sodium	mg/L	17	EPA 200.7	0.50	0.13	06/12/13 12:21	06/13/13 16:37	1

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July 23, 2013

Work Order: 1305590

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ-43						
Matrix		Groundwater						
SAL Sample Number		1305590-04						
Date/Time Collected		06/11/13 10:33						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						

Client Provided Field Data

pH 5.72
Temperature 26.8 °C
Conductivity 54.9 umhos
Dissolved Oxygen 6.11 mg/L

Inorganics

Ammonia as N	mg/L	0.032 I	EPA 350.1	0.040	0.009		06/25/13 10:20	1
Ammonium as NH4	mg/L	0.04 I	EPA 350.1	0.05	0.01	06/25/13 14:17	06/25/13 14:56	1
Bicarbonate Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chemical Oxygen Demand	mg/L	32	EPA 410.4	25	10	06/13/13 10:00	06/13/13 14:10	1
Chloride	mg/L	0.41	EPA 300.0	0.20	0.050		06/11/13 22:59	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	0.19	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Phosphorous - Total as P	mg/L	0.16	SM 4500P-E	0.040	0.010	06/19/13 16:49	06/21/13 11:47	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	0.89	EPA 351.2	0.20	0.05	06/19/13 08:02	06/24/13 08:47	1.98
Nitrate+Nitrite (N)	mg/L	0.23	EPA 300.0	0.08	0.02		06/11/13 22:59	1

Sample Description PZ-44
Matrix Groundwater
SAL Sample Number 1305590-05
Date/Time Collected 06/11/13 07:52
Collected by Sean Schmidt
Date/Time Received 06/11/13 15:15

Client Provided Field Data

pH 5.10
Temperature 25.6 °C
Conductivity 168 umhos
Dissolved Oxygen 4.30 mg/L

Inorganics

Ammonia as N	mg/L	0.023 I	EPA 350.1	0.040	0.009		06/25/13 10:22	1
Ammonium as NH4	mg/L	0.03 I	EPA 350.1	0.05	0.01	06/25/13 14:17	06/25/13 14:56	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1

Florida Certification Number: E84129

NELAP Accredited

Francis I. Daniels, Laboratory Director

Leslie C. Boardman, Q.A. Manager

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July 23, 2013

Work Order: 1305590

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ-44						
Matrix		Groundwater						
SAL Sample Number		1305590-05						
Date/Time Collected		06/11/13 07:52						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
pH		5.10						
Temperature		25.6 °C						
Conductivity		168 umhos						
Dissolved Oxygen		4.30 mg/L						
Chemical Oxygen Demand	mg/L	38	EPA 410.4	25	10	06/14/13 11:58	06/14/13 16:10	1
Chloride	mg/L	8.3	EPA 300.0	0.20	0.050		06/11/13 22:59	1
Fluoride	mg/L	0.074	EPA 300.0	0.040	0.010		06/11/13 22:59	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	4.3	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Orthophosphate as P	mg/L	0.073	EPA 300.0	0.040	0.010		06/11/13 22:59	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Phosphorous - Total as P	mg/L	0.075	SM 4500P-E	0.040	0.010	06/19/13 16:49	06/21/13 11:48	1
Sulfate	mg/L	24	EPA 300.0	0.60	0.20		06/11/13 22:59	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	1.8	EPA 351.2	0.20	0.05	06/19/13 08:02	06/24/13 08:48	1.98
Total Organic Carbon	mg/L	19	SM 5310B	1.0	0.50		06/18/13 23:15	1
Nitrate+Nitrite (N)	mg/L	4.3	EPA 300.0	0.08	0.02		06/11/13 22:59	1
<u>Inorganic, Dissolved</u>								
Dissolved Organic Carbon	mg/L	18	SM 5310B	1.0	0.50		06/17/13 23:29	1
<u>Metals</u>								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	06/12/13 12:21	06/13/13 16:41	1
Calcium	mg/L	11	EPA 200.7	0.50	0.042	06/12/13 12:21	06/13/13 16:41	1
Iron	mg/L	0.075 I	EPA 200.7	0.10	0.020	06/12/13 12:21	06/13/13 16:41	1
Magnesium	mg/L	4.0	EPA 200.7	0.50	0.020	06/12/13 12:21	06/13/13 16:41	1
Manganese	mg/L	0.0079 I	EPA 200.7	0.010	0.0010	06/12/13 12:21	06/13/13 16:41	1
Potassium	mg/L	2.3	EPA 200.7	0.050	0.010	06/12/13 12:21	06/13/13 16:41	1
Sodium	mg/L	13	EPA 200.7	0.50	0.13	06/12/13 12:21	06/13/13 16:41	1

Sample Description	PZ-45
Matrix	Groundwater
SAL Sample Number	1305590-06
Date/Time Collected	06/11/13 08:35
Collected by	Sean Schmidt
Date/Time Received	06/11/13 15:15

SOUTHERN ANALYTICAL LABORATORIES, INC.

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July 23, 2013

Work Order: 1305590

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ-45						
Matrix		Groundwater						
SAL Sample Number		1305590-06						
Date/Time Collected		06/11/13 08:35						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						

Client Provided Field Data

pH	4.94
Temperature	25.8 °C
Conductivity	741 umhos
Dissolved Oxygen	6.49 mg/L

Inorganics

Ammonia as N	mg/L	0.034 I	EPA 350.1	0.040	0.009		06/25/13 10:32	1
Ammonium as NH4	mg/L	0.04 I	EPA 350.1	0.05	0.01	06/25/13 14:17	06/25/13 14:56	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chloride	mg/L	60	EPA 300.0	2.0	0.50		06/11/13 10:44	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	40	EPA 300.0	0.40	0.10		06/11/13 10:44	10
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	3.5	EPA 351.2	0.20	0.05	06/19/13 08:02	06/24/13 08:49	1.98
Nitrate+Nitrite (N)	mg/L	40	EPA 300.0	0.44	0.11		06/11/13 22:59	10

Sample Description	PZ-46
Matrix	Groundwater
SAL Sample Number	1305590-07
Date/Time Collected	06/11/13 09:41
Collected by	Sean Schmidt
Date/Time Received	06/11/13 15:15

Client Provided Field Data

pH	5.45
Temperature	26.5 °C
Conductivity	174 umhos
Dissolved Oxygen	5.32 mg/L

Inorganics

Ammonia as N	mg/L	0.033 I	EPA 350.1	0.040	0.009		06/25/13 10:34	1
Ammonium as NH4	mg/L	0.04 I	EPA 350.1	0.05	0.01	06/25/13 14:17	06/25/13 14:56	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chemical Oxygen Demand	mg/L	49	EPA 410.4	25	10	06/14/13 09:54	06/14/13 13:28	1
Chloride	mg/L	10	EPA 300.0	0.20	0.050		06/11/13 22:59	1

Florida Certification Number: E84129

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July 23, 2013

Work Order: 1305590

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ-46						
Matrix		Groundwater						
SAL Sample Number		1305590-07						
Date/Time Collected		06/11/13 09:41						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						

Client Provided Field Data

pH		5.45						
Temperature		26.5 °C						
Conductivity		174 umhos						
Dissolved Oxygen		5.32 mg/L						
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	4.6	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Nitrite (as N)	mg/L	0.09	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Phosphorous - Total as P	mg/L	0.17	SM 4500P-E	0.040	0.010	06/19/13 16:49	06/21/13 11:49	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	2.6	EPA 351.2	0.20	0.05	06/19/13 08:02	06/24/13 08:50	1.98
Nitrate+Nitrite (N)	mg/L	4.7	EPA 300.0	0.08	0.02		06/11/13 22:59	1

Sample Description	PZ-47
Matrix	Groundwater
SAL Sample Number	1305590-08
Date/Time Collected	06/11/13 09:25
Collected by	Sean Schmidt
Date/Time Received	06/11/13 15:15

Client Provided Field Data

pH		6.02						
Temperature		26.3 °C						
Conductivity		264 umhos						
Dissolved Oxygen		5.59 mg/L						

Inorganics

Ammonia as N	mg/L	0.052	EPA 350.1	0.040	0.009		06/25/13 10:36	1
Ammonium as NH4	mg/L	0.07	EPA 350.1	0.05	0.01	06/25/13 14:17	06/25/13 14:56	1
Bicarbonate Alkalinity	mg/L	44	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chloride	mg/L	25	EPA 300.0	0.20	0.050		06/11/13 22:59	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	1.1	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Nitrite (as N)	mg/L	0.09	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	44	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	1.0	EPA 351.2	0.20	0.05	06/19/13 08:02	06/22/13 13:57	5

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July 23, 2013

Work Order: 1305590

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ-47						
Matrix		Groundwater						
SAL Sample Number		1305590-08						
Date/Time Collected		06/11/13 09:25						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
pH		6.02						
Temperature		26.3 °C						
Conductivity		264 umhos						
Dissolved Oxygen		5.59 mg/L						
Nitrate+Nitrite (N)	mg/L	1.2	EPA 300.0	0.08	0.02		06/11/13 22:59	1
Sample Description		PZ-48						
Matrix		Groundwater						
SAL Sample Number		1305590-09						
Date/Time Collected		06/11/13 09:00						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
pH		4.67						
Temperature		26.2 °C						
Conductivity		168 umhos						
Dissolved Oxygen		4.20 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.012 I	EPA 350.1	0.040	0.009		06/25/13 10:38	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01	06/25/13 14:17	06/25/13 14:56	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chloride	mg/L	13	EPA 300.0	0.20	0.050		06/11/13 22:59	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	1.4	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Nitrite (as N)	mg/L	0.09	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	0.88	EPA 351.2	0.20	0.05	06/19/13 08:02	06/24/13 08:52	1.98
Nitrate+Nitrite (N)	mg/L	1.5	EPA 300.0	0.08	0.02		06/11/13 22:59	1

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Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ-49						
Matrix		Groundwater						
SAL Sample Number		1305590-10						
Date/Time Collected		06/10/13 13:50						
Collected by		Josephine Edeback-Hirst						
Date/Time Received		06/10/13 16:00						
<u>Client Provided Field Data</u>								
pH		5.32						
Temperature		27.5 °C						
Conductivity		277 umhos						
Dissolved Oxygen		5.20 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.041	EPA 350.1	0.040	0.009		06/25/13 10:40	1
Ammonium as NH4	mg/L	0.05	EPA 350.1	0.05	0.01	06/25/13 14:17	06/25/13 14:56	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chemical Oxygen Demand	mg/L	38	EPA 410.4	25	10	06/12/13 08:44	06/12/13 13:24	1
Chloride	mg/L	24	EPA 300.0	0.20	0.050		06/12/13 01:01	1
Fluoride	mg/L	0.55	EPA 300.0	0.040	0.010		06/12/13 01:01	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	11	EPA 300.0	0.04	0.01		06/12/13 01:01	1
Nitrite (as N)	mg/L	0.16	EPA 300.0	0.04	0.01		06/12/13 01:01	1
Orthophosphate as P	mg/L	0.065	EPA 300.0	0.040	0.010		06/12/13 01:01	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Phosphorous - Total as P	mg/L	0.26	SM 4500P-E	0.040	0.010	06/19/13 16:49	06/21/13 11:50	1
Sulfate	mg/L	27	EPA 300.0	0.60	0.20		06/12/13 01:01	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	2.5	EPA 351.2	0.20	0.05	06/19/13 08:00	06/25/13 13:27	1
Total Organic Carbon	mg/L	24	SM 5310B	1.0	0.50		06/18/13 23:15	1
Nitrate+Nitrite (N)	mg/L	11	EPA 300.0	0.08	0.02		06/12/13 01:01	1
<u>Inorganic, Dissolved</u>								
Dissolved Organic Carbon	mg/L	22	SM 5310B	1.0	0.50		06/17/13 23:29	1
<u>Metals</u>								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	06/11/13 08:58	06/13/13 10:38	1
Calcium	mg/L	22	EPA 200.7	0.50	0.042	06/11/13 08:58	06/13/13 10:38	1
Iron	mg/L	0.083 I	EPA 200.7	0.10	0.020	06/11/13 08:58	06/13/13 10:38	1
Magnesium	mg/L	5.5	EPA 200.7	0.50	0.020	06/11/13 08:58	06/13/13 10:38	1
Manganese	mg/L	0.0071 I	EPA 200.7	0.010	0.0010	06/11/13 08:58	06/13/13 10:38	1
Potassium	mg/L	3.5	EPA 200.7	0.050	0.010	06/11/13 08:58	06/13/13 10:38	1
Sodium	mg/L	22	EPA 200.7	0.50	0.13	06/11/13 08:58	06/13/13 10:38	1

SOUTHERN ANALYTICAL LABORATORIES, INC.

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Tampa, FL 33619

July 23, 2013

Work Order: 1305590

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ-50						
Matrix		Groundwater						
SAL Sample Number		1305590-11						
Date/Time Collected		06/10/13 14:36						
Collected by		Josephine Edeback-Hirst						
Date/Time Received		06/10/13 16:00						

Client Provided Field Data

pH		5.16
Temperature		26.9 °C
Conductivity		614 umhos
Dissolved Oxygen		5.95 mg/L

Inorganics

Ammonia as N	mg/L	0.035 I	EPA 350.1	0.040	0.009		06/25/13 10:42	1
Ammonium as NH4	mg/L	0.04 I	EPA 350.1	0.05	0.01	06/25/13 14:17	06/25/13 14:56	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chloride	mg/L	91	EPA 300.0	2.0	0.50		06/21/13 18:26	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	14	EPA 300.0	0.04	0.01		06/12/13 01:19	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/12/13 01:19	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	2.3	EPA 351.2	0.20	0.05	06/19/13 08:00	06/25/13 13:28	1
Nitrate+Nitrite (N)	mg/L	14	EPA 300.0	0.08	0.02		06/12/13 01:19	1

Sample Description		PZ-51
Matrix		Groundwater
SAL Sample Number		1305590-12
Date/Time Collected		06/10/13 10:46
Collected by		Josephine Edeback-Hirst
Date/Time Received		06/10/13 16:00

Client Provided Field Data

pH		6.28
Temperature		27.7 °C
Conductivity		186 umhos
Dissolved Oxygen		3.11 mg/L

Inorganics

Ammonia as N	mg/L	0.041	EPA 350.1	0.040	0.009		06/25/13 10:43	1
Ammonium as NH4	mg/L	0.05	EPA 350.1	0.05	0.01	06/25/13 14:17	06/25/13 14:56	1
Bicarbonate Alkalinity	mg/L	44	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chloride	mg/L	4.5	EPA 300.0	0.20	0.050		06/11/13 22:59	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1

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July 23, 2013

Work Order: 1305590

Laboratory Report

Project Name	S&GW Test Facility SE#6							
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution

Sample Description **PZ-51**
 Matrix **Groundwater**
 SAL Sample Number **1305590-12**
 Date/Time Collected **06/10/13 10:46**
 Collected by **Josephine Edeback-Hirst**
 Date/Time Received **06/10/13 16:00**

Client Provided Field Data

pH		6.28						
Temperature		27.7 °C						
Conductivity		186 umhos						
Dissolved Oxygen		3.11 mg/L						
Nitrate (as N)	mg/L	0.18	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	44	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	1.7	EPA 351.2	0.20	0.05	06/19/13 08:00	06/25/13 13:30	1
Nitrate+Nitrite (N)	mg/L	0.23	EPA 300.0	0.08	0.02		06/11/13 22:59	1

Sample Description **PZ-52**
 Matrix **Groundwater**
 SAL Sample Number **1305590-13**
 Date/Time Collected **06/10/13 12:47**
 Collected by **Josephine Edeback-Hirst**
 Date/Time Received **06/10/13 16:00**

Client Provided Field Data

pH		5.78						
Temperature		26.5 °C						
Conductivity		188.8 umhos						
Dissolved Oxygen		4.25 mg/L						

Inorganics

Ammonia as N	mg/L	0.054	EPA 350.1	0.040	0.009		06/25/13 10:45	1
Ammonium as NH4	mg/L	0.07	EPA 350.1	0.05	0.01	06/25/13 14:17	06/25/13 14:56	1
Bicarbonate Alkalinity	mg/L	33	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chemical Oxygen Demand	mg/L	40	EPA 410.4	25	10	06/12/13 13:22	06/12/13 17:00	1
Chloride	mg/L	7.5	EPA 300.0	0.20	0.050		06/11/13 22:59	1
Fluoride	mg/L	0.077	EPA 300.0	0.040	0.010		06/11/13 22:59	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	2.8	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Nitrite (as N)	mg/L	0.08	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Orthophosphate as P	mg/L	0.088	EPA 300.0	0.040	0.010		06/11/13 22:59	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Phosphorous - Total as P	mg/L	0.10	SM 4500P-E	0.040	0.010	06/19/13 16:49	06/21/13 11:52	1

Florida Certification Number: E84129

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July 23, 2013

Work Order: 1305590

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ-52						
Matrix		Groundwater						
SAL Sample Number		1305590-13						
Date/Time Collected		06/10/13 12:47						
Collected by		Josephine Edeback-Hirst						
Date/Time Received		06/10/13 16:00						
<u>Client Provided Field Data</u>								
pH		5.78						
Temperature		26.5 °C						
Conductivity		188.8 umhos						
Dissolved Oxygen		4.25 mg/L						
Sulfate	mg/L	29	EPA 300.0	0.60	0.20		06/11/13 22:59	1
Total Alkalinity	mg/L	33	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	2.2	EPA 351.2	0.20	0.05	06/19/13 07:56	06/21/13 09:49	1
Total Organic Carbon	mg/L	28	SM 5310B	1.0	0.50		06/18/13 23:15	1
Nitrate+Nitrite (N)	mg/L	2.9	EPA 300.0	0.08	0.02		06/11/13 22:59	1
<u>Inorganic, Dissolved</u>								
Dissolved Organic Carbon	mg/L	27	SM 5310B	1.0	0.50		06/17/13 23:29	1
<u>Metals</u>								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	06/11/13 08:58	06/13/13 10:41	1
Calcium	mg/L	15	EPA 200.7	0.50	0.042	06/11/13 08:58	06/13/13 10:41	1
Iron	mg/L	0.096 I	EPA 200.7	0.10	0.020	06/11/13 08:58	06/13/13 10:41	1
Magnesium	mg/L	3.3	EPA 200.7	0.50	0.020	06/11/13 08:58	06/13/13 10:41	1
Manganese	mg/L	0.012	EPA 200.7	0.010	0.0010	06/11/13 08:58	06/13/13 10:41	1
Potassium	mg/L	5.4	EPA 200.7	0.050	0.010	06/11/13 08:58	06/13/13 10:41	1
Sodium	mg/L	14	EPA 200.7	0.50	0.13	06/11/13 08:58	06/13/13 10:41	1

Sample Description	PZ-53
Matrix	Groundwater
SAL Sample Number	1305590-14
Date/Time Collected	06/10/13 13:00
Collected by	Josephine Edeback-Hirst
Date/Time Received	06/10/13 16:00

Client Provided Field Data

pH	5.49
Temperature	27.1 °C
Conductivity	712 umhos
Dissolved Oxygen	6.42 mg/L

Inorganics

Ammonia as N	mg/L	0.049	EPA 350.1	0.040	0.009		06/20/13 11:07	1
Ammonium as NH4	mg/L	0.06	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1

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July 23, 2013

Work Order: 1305590

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ-53						
Matrix		Groundwater						
SAL Sample Number		1305590-14						
Date/Time Collected		06/10/13 13:00						
Collected by		Josephine Edeback-Hirst						
Date/Time Received		06/10/13 16:00						

Client Provided Field Data

pH		5.49						
Temperature		27.1 °C						
Conductivity		712 umhos						
Dissolved Oxygen		6.42 mg/L						
Chloride	mg/L	43	EPA 300.0	2.0	0.50		06/11/13 10:44	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	41	EPA 300.0	0.40	0.10		06/11/13 10:44	10
Nitrite (as N)	mg/L	0.10	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	2.5	EPA 351.2	0.20	0.05	06/19/13 07:56	06/21/13 09:51	1
Nitrate+Nitrite (N)	mg/L	41	EPA 300.0	0.44	0.11		06/11/13 22:59	10

Sample Description	PZ-54
Matrix	Groundwater
SAL Sample Number	1305590-15
Date/Time Collected	06/10/13 12:35
Collected by	Josephine Edeback-Hirst
Date/Time Received	06/10/13 16:00

Client Provided Field Data

pH		5.91						
Temperature		27.0 °C						
Conductivity		177.1 umhos						
Dissolved Oxygen		3.96 mg/L						

Inorganics

Ammonia as N	mg/L	0.27	EPA 350.1	0.040	0.009		06/20/13 11:09	1
Ammonium as NH4	mg/L	0.34	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chloride	mg/L	15	EPA 300.0	0.20	0.050		06/11/13 22:59	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	5.2	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Nitrite (as N)	mg/L	0.06	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	06/19/13 07:56	06/21/13 09:52	1

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July 23, 2013

Work Order: 1305590

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ-54						
Matrix		Groundwater						
SAL Sample Number		1305590-15						
Date/Time Collected		06/10/13 12:35						
Collected by		Josephine Edeback-Hirst						
Date/Time Received		06/10/13 16:00						
<u>Client Provided Field Data</u>								
pH		5.91						
Temperature		27.0 °C						
Conductivity		177.1 umhos						
Dissolved Oxygen		3.96 mg/L						
Nitrate+Nitrite (N)	mg/L	5.2	EPA 300.0	0.08	0.02		06/11/13 22:59	1
Sample Description		PZ-55						
Matrix		Groundwater						
SAL Sample Number		1305590-16						
Date/Time Collected		06/10/13 14:14						
Collected by		Josephine Edeback-Hirst						
Date/Time Received		06/10/13 16:00						
<u>Client Provided Field Data</u>								
pH		5.48						
Temperature		26.8 °C						
Conductivity		284 umhos						
Dissolved Oxygen		4.90 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.065	EPA 350.1	0.040	0.009		06/20/13 11:11	1
Ammonium as NH4	mg/L	0.08	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Chloride	mg/L	31	EPA 300.0	0.20	0.050		06/11/13 22:59	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Nitrate (as N)	mg/L	6.1	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Nitrite (as N)	mg/L	0.17	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	06/19/13 07:56	06/21/13 09:53	1
Nitrate+Nitrite (N)	mg/L	6.3	EPA 300.0	0.08	0.02		06/11/13 22:59	1

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July 23, 2013

Work Order: 1305590

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ-56						
Matrix		Groundwater						
SAL Sample Number		1305590-17						
Date/Time Collected		06/11/13 08:16						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						

Client Provided Field Data

pH	5.29
Temperature	25.6 °C
Conductivity	171.3 umhos
Dissolved Oxygen	2.32 mg/L

Inorganics

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009	06/20/13 11:13	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Chloride	mg/L	8.6	EPA 300.0	0.20	0.050	06/11/13 22:59	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Nitrate (as N)	mg/L	4.1	EPA 300.0	0.04	0.01	06/11/13 22:59	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01	06/11/13 22:59	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	06/19/13 07:56	06/21/13 09:55
Nitrate+Nitrite (N)	mg/L	4.1	EPA 300.0	0.08	0.02	06/11/13 22:59	1

Sample Description	PZ-57
Matrix	Groundwater
SAL Sample Number	1305590-18
Date/Time Collected	06/10/13 12:13
Collected by	Josephine Edeback-Hirst
Date/Time Received	06/10/13 16:00

Client Provided Field Data

pH	5.10
Temperature	27.1 °C
Conductivity	83.0 umhos
Dissolved Oxygen	4.09 mg/L

Inorganics

Ammonia as N	mg/L	0.086	EPA 350.1	0.040	0.009	06/20/13 11:15	1
Ammonium as NH4	mg/L	0.11	EPA 350.1	0.05	0.01	07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/22/13 09:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1
Chloride	mg/L	2.4	EPA 300.0	0.20	0.050	06/11/13 22:59	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/22/13 09:00	1

Florida Certification Number: E84129

NELAP Accredited

Francis I. Daniels, Laboratory Director

Leslie C. Boardman, Q.A. Manager

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

July 23, 2013

Work Order: 1305590

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ-57						
Matrix		Groundwater						
SAL Sample Number		1305590-18						
Date/Time Collected		06/10/13 12:13						
Collected by		Josephine Edeback-Hirst						
Date/Time Received		06/10/13 16:00						
<u>Client Provided Field Data</u>								
pH		5.10						
Temperature		27.1 °C						
Conductivity		83.0 umhos						
Dissolved Oxygen		4.09 mg/L						
Nitrate (as N)	mg/L	0.61	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/22/13 09:00	1
Total Kjeldahl Nitrogen	mg/L	0.78	EPA 351.2	0.20	0.05	06/19/13 07:56	06/21/13 09:56	1
Nitrate+Nitrite (N)	mg/L	0.65	EPA 300.0	0.08	0.02		06/11/13 22:59	1

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Work Order: 1305590

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31127 - Ion Chromatography 300.0 Prep										
Blank (BF31127-BLK1)										
Prepared & Analyzed: 06/11/13										
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						
Sulfate	0.20 U	0.60	0.20	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Fluoride	0.010 U	0.040	0.010	mg/L						
LCS (BF31127-BS1)										
Prepared & Analyzed: 06/11/13										
Orthophosphate as P	0.845	0.040	0.010	mg/L	0.90		94	85-115		
Chloride	2.78	0.20	0.050	mg/L	3.0		93	85-115		
Nitrate (as N)	1.57	0.04	0.01	mg/L	1.7		92	85-115		
Sulfate	8.45	0.60	0.20	mg/L	9.0		94	85-115		
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4		93	85-115		
Fluoride	0.831	0.040	0.010	mg/L	0.90		92	85-115		
LCS Dup (BF31127-BSD1)										
Prepared & Analyzed: 06/11/13										
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4		93	85-115	0	200
Sulfate	8.43	0.60	0.20	mg/L	9.0		94	85-115	0.2	200
Chloride	2.77	0.20	0.050	mg/L	3.0		92	85-115	0.4	200
Orthophosphate as P	0.846	0.040	0.010	mg/L	0.90		94	85-115	0.1	200
Nitrate (as N)	1.57	0.04	0.01	mg/L	1.7		92	85-115	0.06	200
Fluoride	0.826	0.040	0.010	mg/L	0.90		92	85-115	0.6	200
Matrix Spike (BF31127-MS1)										
Source: 1305571-19 Prepared & Analyzed: 06/11/13										
Orthophosphate as P	0.830	0.040	0.010	mg/L	0.90	ND	92	85-115		
Nitrate (as N)	3.82	0.04	0.01	mg/L	1.7	2.07	103	85-115		
Fluoride	0.814	0.040	0.010	mg/L	0.90	ND	90	85-115		
Sulfate	58.7	0.60	0.20	mg/L	9.0	49.6	101	85-115		
Nitrite (as N)	1.29	0.04	0.01	mg/L	1.4	ND	92	85-115		
Chloride	9.38	0.20	0.050	mg/L	3.0	6.43	98	80-120		

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July 23, 2013

Work Order: 1305590

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch BF31127 - Ion Chromatography 300.0 Prep

Matrix Spike (BF31127-MS2)	Source: 1305590-11				Prepared & Analyzed: 06/12/13					
Sulfate	56.1	0.60	0.20	mg/L	9.0	46.6	106	85-115		
Orthophosphate as P	0.811	0.040	0.010	mg/L	0.90	ND	90	85-115		
Nitrate (as N)	15.6	0.04	0.01	mg/L	1.7	13.7	108	85-115		
Chloride	30.0 L	0.20	0.050	mg/L	3.0	91.4	NR	80-120		
Fluoride	0.960	0.040	0.010	mg/L	0.90	0.115	94	85-115		
Nitrite (as N)	1.41	0.04	0.01	mg/L	1.4	ND	101	85-115		

Batch BF31206 - COD prep

Blank (BF31206-BLK1)						Prepared & Analyzed: 06/12/13			
Chemical Oxygen Demand	10 U	25	10	mg/L					
LCS (BF31206-BS1)									
Chemical Oxygen Demand	51	25	10	mg/L	50		102	90-110	
Matrix Spike (BF31206-MS1)									
Chemical Oxygen Demand	83	25	10	mg/L	50	26	114	85-115	
Matrix Spike Dup (BF31206-MSD1)									
Chemical Oxygen Demand	83	25	10	mg/L	50	26	114	85-115	0
Batch BF31209 - Ion Chromatography 300.0 Prep									

Blank (BF31209-BLK1)						Prepared & Analyzed: 06/11/13			
Sulfate	0.20 U	0.60	0.20	mg/L					
Nitrate (as N)	0.01 U	0.04	0.01	mg/L					
Fluoride	0.010 U	0.040	0.010	mg/L					
Nitrite (as N)	0.01 U	0.04	0.01	mg/L					
Chloride	0.050 U	0.20	0.050	mg/L					
Orthophosphate as P	0.010 U	0.040	0.010	mg/L					

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31209 - Ion Chromatography 300.0 Prep										
LCS (BF31209-BS1)										
Prepared & Analyzed: 06/11/13										
Orthophosphate as P	0.829	0.040	0.010	mg/L	0.90	92	85-115			
Nitrate (as N)	1.58	0.04	0.01	mg/L	1.7	93	85-115			
Nitrite (as N)	1.28	0.04	0.01	mg/L	1.4	92	85-115			
Chloride	2.75	0.20	0.050	mg/L	3.0	92	85-115			
Fluoride	0.816	0.040	0.010	mg/L	0.90	91	85-115			
Sulfate	8.11	0.60	0.20	mg/L	9.0	90	85-115			
LCS Dup (BF31209-BSD1)										
Prepared & Analyzed: 06/11/13										
Sulfate	8.36	0.60	0.20	mg/L	9.0	93	85-115	3	200	
Nitrite (as N)	1.28	0.04	0.01	mg/L	1.4	92	85-115	0.08	200	
Fluoride	0.822	0.040	0.010	mg/L	0.90	91	85-115	0.7	200	
Nitrate (as N)	1.59	0.04	0.01	mg/L	1.7	93	85-115	0.7	200	
Orthophosphate as P	0.832	0.040	0.010	mg/L	0.90	92	85-115	0.4	200	
Chloride	2.76	0.20	0.050	mg/L	3.0	92	85-115	0.04	200	
Matrix Spike (BF31209-MS1)										
Source: 1305562-18										
Prepared & Analyzed: 06/11/13										
Nitrite (as N)	1.31	0.04	0.01	mg/L	1.4	ND	94	85-115		
Fluoride	1.04	0.040	0.010	mg/L	0.90	0.0800	106	85-115		
Sulfate	74.5	0.60	0.20	mg/L	9.0	66.2	92	85-115		
Nitrate (as N)	11.9	0.04	0.01	mg/L	1.7	10.2	104	85-115		
Chloride	16.2	0.20	0.050	mg/L	3.0	12.9	112	80-120		
Orthophosphate as P	0.813	0.040	0.010	mg/L	0.90	ND	90	85-115		
Matrix Spike (BF31209-MS2)										
Source: 1305590-02										
Prepared & Analyzed: 06/11/13										
Nitrate (as N)	9.02	0.04	0.01	mg/L	1.7	7.31	101	85-115		
Chloride	19.8	0.20	0.050	mg/L	3.0	16.4	112	80-120		
Nitrite (as N)	1.35	0.04	0.01	mg/L	1.4	ND	96	85-115		
Fluoride	1.12	0.040	0.010	mg/L	0.90	0.165	106	85-115		
Orthophosphate as P	0.837	0.040	0.010	mg/L	0.90	ND	93	85-115		
Sulfate	43.9	0.60	0.20	mg/L	9.0	34.3	107	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 BF31210 - Ion Chromatography 300.0 Prep										
Blank (BF31210-BLK1) Prepared & Analyzed: 06/11/13										
Chloride	0.050 U	0.20	0.050	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Fluoride	0.010 U	0.040	0.010	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						
Sulfate	0.20 U	0.60	0.20	mg/L						
LCS (BF31210-BS1) Prepared & Analyzed: 06/11/13										
Chloride	2.76	0.20	0.050	mg/L	3.0		92	85-115		
Fluoride	0.819	0.040	0.010	mg/L	0.90		91	85-115		
Sulfate	8.12	0.60	0.20	mg/L	9.0		90	85-115		
Nitrate (as N)	1.56	0.04	0.01	mg/L	1.7		92	85-115		
Orthophosphate as P	0.838	0.040	0.010	mg/L	0.90		93	85-115		
Nitrite (as N)	1.29	0.04	0.01	mg/L	1.4		92	85-115		
LCS Dup (BF31210-BSD1) Prepared & Analyzed: 06/11/13										
Fluoride	0.814	0.040	0.010	mg/L	0.90		90	85-115	0.6	200
Nitrate (as N)	1.56	0.04	0.01	mg/L	1.7		92	85-115	0.1	200
Chloride	2.75	0.20	0.050	mg/L	3.0		92	85-115	0.4	200
Sulfate	8.36	0.60	0.20	mg/L	9.0		93	85-115	3	200
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4		92	85-115	0.08	200
Orthophosphate as P	0.835	0.040	0.010	mg/L	0.90		93	85-115	0.4	200
Matrix Spike (BF31210-MS1) Source: 1305590-14 Prepared & Analyzed: 06/11/13										
Fluoride	0.917	0.040	0.010	mg/L	0.90	0.0890	92	85-115		
Chloride	30.0 L	0.20	0.050	mg/L	3.0	43.4	NR	80-120		
Sulfate	41.5	0.60	0.20	mg/L	9.0	33.3	92	85-115		
Nitrate (as N)	17.0 L	0.04	0.01	mg/L	1.7	41.2	NR	85-115		
Orthophosphate as P	0.856	0.040	0.010	mg/L	0.90	ND	95	85-115		
Nitrite (as N)	1.47	0.04	0.01	mg/L	1.4	0.0990	98	85-115		

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July 23, 2013

Work Order: 1305590

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch BF31210 - Ion Chromatography 300.0 Prep

Matrix Spike (BF31210-MS2)	Source: 1305593-12			Prepared & Analyzed: 06/11/13					
Orthophosphate as P	0.847	0.040	0.010	mg/L	0.90	ND	94	85-115	
Nitrate (as N)	9.44	0.04	0.01	mg/L	1.7	7.63	107	85-115	
Sulfate	45.4	0.60	0.20	mg/L	9.0	36.3	101	85-115	
Fluoride	1.05	0.040	0.010	mg/L	0.90	0.152	100	85-115	
Nitrite (as N)	1.42	0.04	0.01	mg/L	1.4	0.0370	99	85-115	
Chloride	7.07	0.20	0.050	mg/L	3.0	3.71	112	80-120	

Batch BF31227 - COD prep

Blank (BF31227-BLK1)						Prepared & Analyzed: 06/12/13			
Chemical Oxygen Demand	10 U	25	10	mg/L					
LCS (BF31227-BS1)						Prepared & Analyzed: 06/12/13			
Chemical Oxygen Demand	46	25	10	mg/L	50		92	90-110	
Matrix Spike (BF31227-MS1)	Source: 1305571-07			Prepared & Analyzed: 06/12/13					
Chemical Oxygen Demand	53	25	10	mg/L	50	ND	106	85-115	
Matrix Spike Dup (BF31227-MSD1)	Source: 1305571-07			Prepared & Analyzed: 06/12/13					
Chemical Oxygen Demand	53	25	10	mg/L	50	ND	106	85-115	0
									32

Batch BF31313 - COD prep

Blank (BF31313-BLK1)						Prepared & Analyzed: 06/13/13			
Chemical Oxygen Demand	10 U	25	10	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 BF31313 - COD prep										
LCS (BF31313-BS1)										
Chemical Oxygen Demand	49	25	10	mg/L	50	98	90-110			
LCS (BF31313-BS2)										
Chemical Oxygen Demand	51	25	10	mg/L	50	102	90-110			
LCS (BF31313-BS3)										
Chemical Oxygen Demand	53	25	10	mg/L	50	106	90-110			
LCS (BF31313-BS4)										
Chemical Oxygen Demand	51	25	10	mg/L	50	102	90-110			
LCS (BF31313-BS5)										
Chemical Oxygen Demand	49	25	10	mg/L	50	98	90-110			
Matrix Spike (BF31313-MS1)										
Chemical Oxygen Demand	51	25	10	mg/L	50	ND	102	85-115		
Matrix Spike Dup (BF31313-MSD1)										
Chemical Oxygen Demand	51	25	10	mg/L	50	ND	102	85-115	0	32
Batch BF31409 - COD prep										
Blank (BF31409-BLK1)										
Chemical Oxygen Demand	10 U	25	10	mg/L				Prepared & Analyzed: 06/14/13		
LCS (BF31409-BS1)										
Chemical Oxygen Demand	51	25	10	mg/L	50	102	90-110			

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31409 - COD prep										
Matrix Spike (BF31409-MS1) Source: 1305590-07 Prepared & Analyzed: 06/14/13										
Chemical Oxygen Demand	95	25	10	mg/L	50	49	92	85-115		
Matrix Spike Dup (BF31409-MSD1) Source: 1305590-07 Prepared & Analyzed: 06/14/13										
Chemical Oxygen Demand	95	25	10	mg/L	50	49	92	85-115	0	32
Batch BF31419 - COD prep										
Blank (BF31419-BLK1) Prepared & Analyzed: 06/14/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31419-BS1) Prepared & Analyzed: 06/14/13										
Chemical Oxygen Demand	55	25	10	mg/L	50		110	90-110		
Matrix Spike (BF31419-MS1) Source: 1305560-07 Prepared & Analyzed: 06/14/13										
Chemical Oxygen Demand	53	25	10	mg/L	50	ND	106	85-115		
Matrix Spike Dup (BF31419-MSD1) Source: 1305560-07 Prepared & Analyzed: 06/14/13										
Chemical Oxygen Demand	53	25	10	mg/L	50	ND	106	85-115	0	32
Batch BF31733 - Ion Chromatography 300.0 Prep										
Blank (BF31733-BLK1) Prepared & Analyzed: 06/17/13										
Chloride	0.050 U	0.20	0.050	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
LCS (BF31733-BS1) Prepared & Analyzed: 06/17/13										
Nitrate (as N)	1.59	0.04	0.01	mg/L	1.7		93	85-115		
Chloride	2.72	0.20	0.050	mg/L	3.0		91	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 BF31733 - Ion Chromatography 300.0 Prep										
LCS Dup (BF31733-BSD1) Prepared & Analyzed: 06/17/13										
Chloride	2.96	0.20	0.050	mg/L	3.0	98	85-115	8	200	
Nitrate (as N)	1.70	0.04	0.01	mg/L	1.7	100	85-115	7	200	
Matrix Spike (BF31733-MS1) Source: 1305558-12 Prepared & Analyzed: 06/17/13										
Nitrate (as N)	53.8	0.40	0.10	mg/L	17	36.4	103	85-115		
Chloride	89.1	2.0	0.50	mg/L	30	57.7	105	80-120		
Matrix Spike (BF31733-MS2) Source: 1305558-04 Prepared & Analyzed: 06/17/13										
Nitrate (as N)	41.1	0.40	0.10	mg/L	17	25.2	94	85-115		
Chloride	79.6	2.0	0.50	mg/L	30	49.8	99	80-120		
Batch BF31808 - TOC prep										
Blank (BF31808-BLK1) Prepared & Analyzed: 06/18/13										
Total Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BF31808-BS1) Prepared & Analyzed: 06/18/13										
Total Organic Carbon	9.73	1.0	0.50	mg/L	10	97	90-110			
Matrix Spike (BF31808-MS1) Source: 1305997-01 Prepared & Analyzed: 06/18/13										
Total Organic Carbon	15.3	1.0	0.50	mg/L	10	5.08	102	85-115		
Matrix Spike Dup (BF31808-MSD1) Source: 1305997-01 Prepared & Analyzed: 06/18/13										
Total Organic Carbon	15.2	1.0	0.50	mg/L	10	5.08	102	85-115	0.4	10
Batch BF31901 - Digestion for TKN by EPA 351.2										
Blank (BF31901-BLK1) Prepared: 06/19/13 Analyzed: 06/21/13										
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 BF31901 - Digestion for TKN by EPA 351.2										
LCS (BF31901-BS1) Prepared: 06/19/13 Analyzed: 06/21/13										
Total Kjeldahl Nitrogen	2.54	0.20	0.05	mg/L	2.5		100	90-110		
Matrix Spike (BF31901-MS1) Source: 1306212-02 Prepared: 06/19/13 Analyzed: 06/21/13										
Total Kjeldahl Nitrogen	3.50	0.20	0.05	mg/L	2.5	1.13	93	90-110		
Matrix Spike (BF31901-MS2) Source: 1306245-07 Prepared: 06/19/13 Analyzed: 06/21/13										
Total Kjeldahl Nitrogen	3.24	0.20	0.05	mg/L	2.5	0.628	103	90-110		
Matrix Spike Dup (BF31901-MSD1) Source: 1306212-02 Prepared: 06/19/13 Analyzed: 06/21/13										
Total Kjeldahl Nitrogen	3.69	0.20	0.05	mg/L	2.5	1.13	101	90-110	5	20
Matrix Spike Dup (BF31901-MSD2) Source: 1306245-07 Prepared: 06/19/13 Analyzed: 06/21/13										
Total Kjeldahl Nitrogen	3.34	0.20	0.05	mg/L	2.5	0.628	107	90-110	3	20
Batch BF31904 - Digestion for TKN by EPA 351.2										
Blank (BF31904-BLK1) Prepared: 06/19/13 Analyzed: 06/25/13										
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF31904-BS1) Prepared: 06/19/13 Analyzed: 06/25/13										
Total Kjeldahl Nitrogen	2.56	0.20	0.05	mg/L	2.5		101	90-110		
Matrix Spike (BF31904-MS1) Source: 1305571-11 Prepared: 06/19/13 Analyzed: 06/25/13										
Total Kjeldahl Nitrogen	4.24	0.20	0.05	mg/L	2.5	1.47	109	90-110		
Matrix Spike (BF31904-MS2) Source: 1305571-23 Prepared: 06/19/13 Analyzed: 06/25/13										
Total Kjeldahl Nitrogen	3.27	0.20	0.05	mg/L	2.5	0.696	102	90-110		

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July 23, 2013

Work Order: 1305590

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31904 - Digestion for TKN by EPA 351.2										
Matrix Spike Dup (BF31904-MSD1) Source: 1305571-11 Prepared: 06/19/13 Analyzed: 06/25/13										
Total Kjeldahl Nitrogen	4.12	0.20	0.05	mg/L	2.5	1.47	105	90-110	3	20
Matrix Spike Dup (BF31904-MSD2) Source: 1305571-23 Prepared: 06/19/13 Analyzed: 06/25/13										
Total Kjeldahl Nitrogen	3.24	0.20	0.05	mg/L	2.5	0.696	100	90-110	1	20
Batch BF31905 - Digestion for TKN by EPA 351.2										
Blank (BF31905-BLK1) Prepared: 06/19/13 Analyzed: 06/24/13										
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF31905-BS1) Prepared: 06/19/13 Analyzed: 06/22/13										
Total Kjeldahl Nitrogen	2.68	0.20	0.05	mg/L	2.5		106	90-110		
Matrix Spike (BF31905-MS1) Source: 1305571-10 Prepared: 06/19/13 Analyzed: 06/24/13										
Total Kjeldahl Nitrogen	7.25	0.20	0.05	mg/L	2.5	4.55	107	90-110		
Matrix Spike Dup (BF31905-MSD1) Source: 1305571-10 Prepared: 06/19/13 Analyzed: 06/24/13										
Total Kjeldahl Nitrogen	6.92	0.20	0.05	mg/L	2.5	4.55	93	90-110	5	20
Batch BF31933 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF31933-BLK1) Prepared: 06/19/13 Analyzed: 06/21/13										
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						
LCS (BF31933-BS1) Prepared: 06/19/13 Analyzed: 06/21/13										
Phosphorous - Total as P	0.752	0.040	0.010	mg/L	0.80		94	90-110		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31933 - Digestion for TP by EPA 365.2/SM4500PE										
Matrix Spike (BF31933-MS1) Source: 1306212-02 Prepared: 06/19/13 Analyzed: 06/21/13										
Phosphorous - Total as P	0.929	0.040	0.010	mg/L	1.0	0.0100	92	90-110		
Matrix Spike (BF31933-MS2) Source: 1306213-02 Prepared: 06/19/13 Analyzed: 06/21/13										
Phosphorous - Total as P	0.930	0.040	0.010	mg/L	1.0	ND	93	90-110		
Matrix Spike Dup (BF31933-MSD1) Source: 1306212-02 Prepared: 06/19/13 Analyzed: 06/21/13										
Phosphorous - Total as P	0.976	0.040	0.010	mg/L	1.0	0.0100	97	90-110	5	25
Matrix Spike Dup (BF31933-MSD2) Source: 1306213-02 Prepared: 06/19/13 Analyzed: 06/21/13										
Phosphorous - Total as P	0.944	0.040	0.010	mg/L	1.0	ND	94	90-110	2	25
Batch BF31934 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF31934-BLK1) Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						
LCS (BF31934-BS1) Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	0.770	0.040	0.010	mg/L	0.80		96	90-110		
Matrix Spike (BF31934-MS1) Source: 1305560-14 Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	1.02	0.040	0.010	mg/L	1.0	0.0694	96	90-110		
Matrix Spike (BF31934-MS2) Source: 1305571-10 Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	0.990	0.040	0.010	mg/L	1.0	0.0531	94	90-110		
Matrix Spike Dup (BF31934-MSD1) Source: 1305560-14 Prepared: 06/19/13 Analyzed: 06/22/13										
Phosphorous - Total as P	1.03	0.040	0.010	mg/L	1.0	0.0694	96	90-110	0.8	25

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Work Order: 1305590

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch BF31934 - Digestion for TP by EPA 365.2/SM4500PE

Matrix Spike Dup (BF31934-MSD2)	Source: 1305571-10			Prepared: 06/19/13 Analyzed: 06/22/13						
Phosphorous - Total as P	1.03	0.040	0.010	mg/L	1.0	0.0531	98	90-110	4	25

Batch BF32001 - Ammonia by SEAL

Blank (BF32001-BLK1)	Prepared & Analyzed: 06/20/13									
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BF32001-BS1)	Prepared & Analyzed: 06/20/13									
Ammonia as N	0.49	0.040	0.009	mg/L	0.50	97				
Matrix Spike (BF32001-MS1)	Prepared & Analyzed: 06/20/13									
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	ND	101	90-110		
Matrix Spike (BF32001-MS2)	Prepared & Analyzed: 06/20/13									
Ammonia as N	0.56	0.040	0.009	mg/L	0.50	0.043	104	90-110		
Matrix Spike Dup (BF32001-MSD1)	Prepared & Analyzed: 06/20/13									
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	101	90-110	0.3	10
Matrix Spike Dup (BF32001-MSD2)	Prepared & Analyzed: 06/20/13									
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	0.043	97	90-110	7	10

Batch BF32112 - Ion Chromatography 300.0 Prep

Blank (BF32112-BLK1)	Prepared & Analyzed: 06/21/13					
Chloride	0.050 U	0.20	0.050	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 BF32112 - Ion Chromatography 300.0 Prep										
LCS (BF32112-BS1) Prepared & Analyzed: 06/21/13										
Chloride	3.03	0.20	0.050	mg/L	3.0		101	85-115		
LCS Dup (BF32112-BSD1) Prepared & Analyzed: 06/21/13										
Chloride	3.03	0.20	0.050	mg/L	3.0		101	85-115	0.07	200
Matrix Spike (BF32112-MS1) Source: 1306391-01 Prepared & Analyzed: 06/21/13										
Chloride	10.5	0.20	0.050	mg/L	3.0	7.29	106	80-120		
Matrix Spike (BF32112-MS2) Source: 1305590-11 Prepared & Analyzed: 06/21/13										
Chloride	121	2.0	0.50	mg/L	30	91.4	98	80-120		
Batch BF32208 - alkalinity										
Blank (BF32208-BLK1) Prepared & Analyzed: 06/22/13										
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Blank (BF32208-BLK2) Prepared & Analyzed: 06/22/13										
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide 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 BF32208 - alkalinity										
Blank (BF32208-BLK3) Prepared & Analyzed: 06/22/13										
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BF32208-BS1) Prepared & Analyzed: 06/22/13										
Total Alkalinity	130	8.0	2.0	mg/L	120		105	90-110		
LCS (BF32208-BS2) Prepared & Analyzed: 06/22/13										
Total Alkalinity	130	8.0	2.0	mg/L	120		105	90-110		
LCS (BF32208-BS3) Prepared & Analyzed: 06/22/13										
Total Alkalinity	130	8.0	2.0	mg/L	120		105	90-110		
Matrix Spike (BF32208-MS1) Source: 1305562-22 Prepared & Analyzed: 06/22/13										
Total Alkalinity	170	8.0	2.0	mg/L	120	55	96	80-120		
Matrix Spike (BF32208-MS2) Source: 1305590-04 Prepared & Analyzed: 06/22/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120		
Matrix Spike (BF32208-MS3) Source: 1305590-15 Prepared & Analyzed: 06/22/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120		
Matrix Spike Dup (BF32208-MSD1) Source: 1305562-22 Prepared & Analyzed: 06/22/13										
Total Alkalinity	170	8.0	2.0	mg/L	120	55	96	80-120	0	26
Matrix Spike Dup (BF32208-MSD2) Source: 1305590-04 Prepared & Analyzed: 06/22/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120	0	26

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32208 - alkalinity										
Matrix Spike Dup (BF32208-MSD3) Source: 1305590-15 Prepared & Analyzed: 06/22/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120	0	26
Batch BF32501 - Ammonia by SEAL										
Blank (BF32501-BLK1) Prepared & Analyzed: 06/25/13										
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BF32501-BS1) Prepared & Analyzed: 06/25/13										
Ammonia as N	0.49	0.040	0.009	mg/L	0.50		98	90-110		
Matrix Spike (BF32501-MS1) Source: 1305571-23 Prepared & Analyzed: 06/25/13										
Ammonia as N	0.56	0.040	0.009	mg/L	0.50	0.018	108	90-110		
Matrix Spike (BF32501-MS2) Source: 1306476-01 Prepared & Analyzed: 06/25/13										
Ammonia as N	0.54	0.040	0.009	mg/L	0.50	0.049	99	90-110		
Matrix Spike Dup (BF32501-MSD1) Source: 1305571-23 Prepared & Analyzed: 06/25/13										
Ammonia as N	0.56	0.040	0.009	mg/L	0.50	0.018	108	90-110	0.3	10
Matrix Spike Dup (BF32501-MSD2) Source: 1306476-01 Prepared & Analyzed: 06/25/13										
Ammonia as N	0.55	0.040	0.009	mg/L	0.50	0.049	101	90-110	2	10

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Work Order: 1305590

Inorganic, Dissolved - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31809 - DOC prep										
Blank (BF31809-BLK1) Prepared & Analyzed: 06/17/13										
Dissolved Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BF31809-BS1) Prepared & Analyzed: 06/17/13										
Dissolved Organic Carbon	10.3	1.0	0.50	mg/L	10	103	90-110			
Matrix Spike (BF31809-MS1) Source: 1305997-01 Prepared & Analyzed: 06/17/13										
Dissolved Organic Carbon	13.8	1.0	0.50	mg/L	10	4.20	96	85-125		
Matrix Spike Dup (BF31809-MSD1) Source: 1305997-01 Prepared & Analyzed: 06/17/13										
Dissolved Organic Carbon	14.4	1.0	0.50	mg/L	10	4.20	102	85-125	4	25

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Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31106 - Metals Preparation for EPA Method 200.7										
Blank (BF31106-BLK1)										
Sodium	0.13 U	0.50	0.13	mg/L				Prepared: 06/11/13 Analyzed: 06/13/13		
Manganese	0.0010 U	0.010	0.0010	mg/L						
Iron	0.020 U	0.10	0.020	mg/L						
Magnesium	0.022 I	0.50	0.020	mg/L						
Potassium	0.026 I	0.050	0.010	mg/L						
Boron	0.050 U	0.10	0.050	mg/L						
Calcium	0.042 U	0.50	0.042	mg/L						
LCS (BF31106-BS1)										
Sodium	21	0.50	0.13	mg/L	20		106	85-115		
Calcium	19	0.50	0.042	mg/L	20		97	85-115		
Manganese	0.39	0.010	0.0010	mg/L	0.40		98	85-115		
Boron	0.43	0.10	0.050	mg/L	0.40		106	85-115		
Magnesium	19	0.50	0.020	mg/L	20		97	85-115		
Potassium	20	0.050	0.010	mg/L	20		99	85-115		
Iron	8.1	0.10	0.020	mg/L	8.0		101	85-115		
Matrix Spike (BF31106-MS1)										
		Source: 1305904-01					Prepared: 06/11/13 Analyzed: 06/13/13			
Iron	8.1	0.10	0.020	mg/L	8.0	ND	102	70-130		
Calcium	76	0.50	0.042	mg/L	20	59	87	70-130		
Boron	0.44	0.10	0.050	mg/L	0.40	ND	111	70-130		
Sodium	26	0.50	0.13	mg/L	20	5.2	103	70-130		
Magnesium	28	0.50	0.020	mg/L	20	8.8	94	70-130		
Manganese	0.39	0.010	0.0010	mg/L	0.40	ND	98	70-130		
Potassium	21	0.050	0.010	mg/L	20	0.75	102	70-130		
Matrix Spike (BF31106-MS2)										
		Source: 1305906-01					Prepared: 06/11/13 Analyzed: 06/13/13			
Magnesium	20	0.50	0.020	mg/L	20	0.32	98	70-130		
Potassium	21	0.050	0.010	mg/L	20	1.3	96	70-130		
Iron	8.3	0.10	0.020	mg/L	8.0	0.18	102	70-130		
Calcium	28	0.50	0.042	mg/L	20	8.6	97	70-130		
Boron	0.47	0.10	0.050	mg/L	0.40	ND	117	70-130		
Manganese	0.41	0.010	0.0010	mg/L	0.40	0.014	99	70-130		
Sodium	23	0.50	0.13	mg/L	20	1.8	104	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 BF31106 - Metals Preparation for EPA Method 200.7										
Matrix Spike Dup (BF31106-MSD1) Source: 1305904-01 Prepared: 06/11/13 Analyzed: 06/13/13										
Boron	0.45	0.10	0.050	mg/L	0.40	ND	113	70-130	1	20
Magnesium	28	0.50	0.020	mg/L	20	8.8	97	70-130	2	20
Iron	8.2	0.10	0.020	mg/L	8.0	ND	103	70-130	0.7	20
Calcium	76	0.50	0.042	mg/L	20	59	88	70-130	0.3	20
Sodium	26	0.50	0.13	mg/L	20	5.2	104	70-130	0.7	20
Manganese	0.39	0.010	0.0010	mg/L	0.40	ND	98	70-130	1	20
Potassium	21	0.050	0.010	mg/L	20	0.75	103	70-130	0.7	20
Matrix Spike Dup (BF31106-MSD2) Source: 1305906-01 Prepared: 06/11/13 Analyzed: 06/13/13										
Potassium	21	0.050	0.010	mg/L	20	1.3	97	70-130	0.8	20
Boron	0.47	0.10	0.050	mg/L	0.40	ND	117	70-130	0.3	20
Iron	8.4	0.10	0.020	mg/L	8.0	0.18	103	70-130	0.7	20
Magnesium	20	0.50	0.020	mg/L	20	0.32	98	70-130	0.5	20
Calcium	27	0.50	0.042	mg/L	20	8.6	95	70-130	2	20
Manganese	0.41	0.010	0.0010	mg/L	0.40	0.014	99	70-130	0.2	20
Sodium	22	0.50	0.13	mg/L	20	1.8	101	70-130	3	20
Batch BF31222 - Metals Preparation for EPA Method 200.7										
Blank (BF31222-BLK1)					Prepared: 06/12/13 Analyzed: 06/13/13					
Potassium	0.15	0.050	0.010	mg/L						
Manganese	0.0010 U	0.010	0.0010	mg/L						
Boron	0.050 U	0.10	0.050	mg/L						
Iron	0.020 U	0.10	0.020	mg/L						
Sodium	0.13 U	0.50	0.13	mg/L						
Calcium	0.042 U	0.50	0.042	mg/L						
Magnesium	0.020 U	0.50	0.020	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 BF31222 - Metals Preparation for EPA Method 200.7										
LCS (BF31222-BS1)										
Manganese	0.41	0.010	0.0010	mg/L	0.40		102	85-115		
Sodium	21	0.50	0.13	mg/L	20		107	85-115		
Magnesium	20	0.50	0.020	mg/L	20		101	85-115		
Potassium	20	0.050	0.010	mg/L	20		100	85-115		
Calcium	20	0.50	0.042	mg/L	20		101	85-115		
Iron	8.3	0.10	0.020	mg/L	8.0		104	85-115		
Boron	0.44	0.10	0.050	mg/L	0.40		111	85-115		
Matrix Spike (BF31222-MS1)										
Source: 1305984-01										
Manganese	0.44	0.010	0.0010	mg/L	0.40	0.031	103	70-130		
Potassium	28	0.050	0.010	mg/L	20	9.2	95	70-130		
Boron	0.57	0.10	0.050	mg/L	0.40	0.11	116	70-130		
Iron	8.7	0.10	0.020	mg/L	8.0	0.34	104	70-130		
Magnesium	28	0.50	0.020	mg/L	20	8.1	99	70-130		
Calcium	87	0.50	0.042	mg/L	20	70	84	70-130		
Sodium	270	0.50	0.13	mg/L	20	250	98	70-130		
Matrix Spike (BF31222-MS2)										
Source: 1306031-01										
Calcium	28	0.50	0.042	mg/L	20	7.5	100	70-130		
Magnesium	21	0.50	0.020	mg/L	20	0.20	102	70-130		
Potassium	21	0.050	0.010	mg/L	20	0.40	101	70-130		
Sodium	22	0.50	0.13	mg/L	20	1.2	103	70-130		
Iron	8.3	0.10	0.020	mg/L	8.0	0.065	103	70-130		
Manganese	0.40	0.010	0.0010	mg/L	0.40	0.0037	100	70-130		
Boron	0.46	0.10	0.050	mg/L	0.40	ND	114	70-130		
Matrix Spike Dup (BF31222-MSD1)										
Source: 1305984-01										
Sodium	260	0.50	0.13	mg/L	20	250	92	70-130	0.4	20
Boron	0.56	0.10	0.050	mg/L	0.40	0.11	114	70-130	1	20
Calcium	87	0.50	0.042	mg/L	20	70	87	70-130	0.5	20
Manganese	0.43	0.010	0.0010	mg/L	0.40	0.031	100	70-130	2	20
Iron	8.6	0.10	0.020	mg/L	8.0	0.34	103	70-130	1	20
Magnesium	28	0.50	0.020	mg/L	20	8.1	102	70-130	2	20
Potassium	28	0.050	0.010	mg/L	20	9.2	95	70-130	0.3	20

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July 23, 2013

Work Order: 1305590

Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31222 - Metals Preparation for EPA Method 200.7										
Matrix Spike Dup (BF31222-MSD2) Source: 1306031-01 Prepared: 06/12/13 Analyzed: 06/13/13										
Boron	0.46	0.10	0.050	mg/L	0.40	ND	114	70-130	0.1	20
Magnesium	19	0.50	0.020	mg/L	20	0.20	94	70-130	8	20
Calcium	25	0.50	0.042	mg/L	20	7.5	87	70-130	10	20
Iron	8.2	0.10	0.020	mg/L	8.0	0.065	101	70-130	2	20
Potassium	19	0.050	0.010	mg/L	20	0.40	93	70-130	8	20
Sodium	20	0.50	0.13	mg/L	20	1.2	96	70-130	6	20
Manganese	0.40	0.010	0.0010	mg/L	0.40	0.0037	98	70-130	1	20

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*** 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 limits and the laboratory practical quantitation limit.

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

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

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

L Off-scale high. Result exceeded highest calibration standard.

Questions regarding this report should be directed to :

Kathryn Nordmark
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Kathryn@southernanalyticallabs.com

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15005640

Chain of Custody:

Chain of Custody

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July 23, 2013

Work Order: 1305593

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ01-BKG-09						
Matrix		Groundwater						
SAL Sample Number		1305593-01						
Date/Time Collected		06/11/13 12:00						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
pH		4.94						
Temperature		26.9 °C						
Conductivity		56.4 umhos						
Dissolved Oxygen		6.03 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/27/13 11:14	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/24/13 12:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Chloride	mg/L	4.3	EPA 300.0	0.20	0.050		06/11/13 22:59	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Nitrate (as N)	mg/L	0.09	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Nitrite (as N)	mg/L	0.03 I	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/24/13 12:00	1
Total Kjeldahl Nitrogen	mg/L	0.31	EPA 351.2	0.20	0.05	06/22/13 09:14	06/28/13 12:10	1
Nitrate+Nitrite (N)	mg/L	0.12	EPA 300.0	0.08	0.02		06/11/13 22:59	1
 <u>LY02-BKG-42</u>								
Sample Description		LY02-BKG-42						
Matrix		Groundwater						
SAL Sample Number		1305593-03						
Date/Time Collected		06/13/13 11:01						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						
<u>Client Provided Field Data</u>								
pH		6.81						
Temperature		30.8 °C						
Conductivity		281 umhos						
Dissolved Oxygen		3.45 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	1.1	EPA 350.1	0.040	0.009		07/03/13 13:29	1
Ammonium as NH4	mg/L	1.4	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	110	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chloride	mg/L	3.1	EPA 300.0	0.20	0.050		06/14/13 01:09	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1

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July 23, 2013

Work Order: 1305593

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		LY02-BKG-42						
Matrix		Groundwater						
SAL Sample Number		1305593-03						
Date/Time Collected		06/13/13 11:01						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						
<u>Client Provided Field Data</u>								
pH		6.81						
Temperature		30.8 °C						
Conductivity		281 umhos						
Dissolved Oxygen		3.45 mg/L						
Nitrate (as N)	mg/L	0.10	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Nitrite (as N)	mg/L	0.13	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Alkalinity	mg/L	110	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	2.6	EPA 351.2	0.20	0.05	06/28/13 11:10	07/05/13 15:24	1
Nitrate+Nitrite (N)	mg/L	0.23	EPA 300.0	0.08	0.02		06/14/13 01:09	1
Sample Description		PZ04-BKG-09						
Matrix		Groundwater						
SAL Sample Number		1305593-04						
Date/Time Collected		06/12/13 14:05						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		5.67						
Temperature		27.6 °C						
Conductivity		72.2 umhos						
Dissolved Oxygen		4.10 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		07/01/13 13:36	1
Ammonium as NH4	mg/L	1.8	EPA 350.1	0.05	0.01		07/02/13 12:11	1
Bicarbonate Alkalinity	mg/L	10	SM 2320B	8.0	2.0		06/26/13 12:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Chloride	mg/L	2.3	EPA 300.0	0.20	0.050		06/14/13 03:00	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Nitrate (as N)	mg/L	0.42	EPA 300.0	0.04	0.01		06/14/13 03:00	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01		06/14/13 03:00	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Total Alkalinity	mg/L	10	SM 2320B	8.0	2.0		06/26/13 12:15	1
Total Kjeldahl Nitrogen	mg/L	0.86	EPA 351.2	0.20	0.05	06/24/13 09:43	06/28/13 14:35	1
Nitrate+Nitrite (N)	mg/L	0.47	EPA 300.0	0.08	0.02		06/14/13 03:00	1

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July 23, 2013

Work Order: 1305593

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ05-BKG-09						
Matrix		Groundwater						
SAL Sample Number		1305593-05						
Date/Time Collected		06/12/13 09:45						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						

Client Provided Field Data

pH	5.14
Temperature	26.9 °C
Conductivity	71.4 umhos
Dissolved Oxygen	3.21 mg/L

Inorganics

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009	07/01/13 13:38	1	
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/02/13 12:11	1	
Bicarbonate Alkalinity	mg/L	3.1 I	SM 2320B	8.0	2.0	06/26/13 12:15	1	
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1	
Chloride	mg/L	5.6	EPA 300.0	0.20	0.050	06/14/13 03:09	1	
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1	
Nitrate (as N)	mg/L	0.98	EPA 300.0	0.04	0.01	06/14/13 03:09	1	
Nitrite (as N)	mg/L	0.03 I	EPA 300.0	0.04	0.01	06/14/13 03:09	1	
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1	
Total Alkalinity	mg/L	3.1 I	SM 2320B	8.0	2.0	06/26/13 12:15	1	
Total Kjeldahl Nitrogen	mg/L	0.80	EPA 351.2	0.20	0.05	06/24/13 09:43	06/28/13 14:36	1
Nitrate+Nitrite (N)	mg/L	1.0	EPA 300.0	0.08	0.02	06/14/13 03:09	1	

Sample Description	PZ24-BKG-26
Matrix	Groundwater
SAL Sample Number	1305593-06
Date/Time Collected	06/12/13 13:45
Collected by	Sean Schmidt
Date/Time Received	06/12/13 15:44

Client Provided Field Data

pH	5.29
Temperature	25.7 °C
Conductivity	303 umhos
Dissolved Oxygen	0.98 mg/L

Inorganics

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009	07/01/13 13:40	1	
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/02/13 12:11	1	
Bicarbonate Alkalinity	mg/L	4.1 I	SM 2320B	8.0	2.0	06/26/13 12:15	1	
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1	
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/18/13 08:45	06/18/13 13:10	1
Chloride	mg/L	17	EPA 300.0	0.20	0.050	06/14/13 03:19	1	

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Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ24-BKG-26						
Matrix		Groundwater						
SAL Sample Number		1305593-06						
Date/Time Collected		06/12/13 13:45						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						

Client Provided Field Data

pH		5.29						
Temperature		25.7 °C						
Conductivity		303 umhos						
Dissolved Oxygen		0.98 mg/L						
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Nitrate (as N)	mg/L	10	EPA 300.0	0.04	0.01		06/14/13 03:19	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 03:19	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Phosphorous - Total as P	mg/L	0.033 I	SM 4500P-E	0.040	0.010	06/24/13 14:05	06/26/13 12:22	1
Total Alkalinity	mg/L	4.1 I	SM 2320B	8.0	2.0		06/26/13 12:15	1
Total Kjeldahl Nitrogen	mg/L	1.2	EPA 351.2	0.20	0.05	06/24/13 09:43	06/28/13 14:38	1
Nitrate+Nitrite (N)	mg/L	10	EPA 300.0	0.08	0.02		06/14/13 03:19	1

Sample Description	PZ24-BKG-26-DUP
Matrix	Groundwater
SAL Sample Number	1305593-07
Date/Time Collected	06/12/13 13:46
Collected by	Sean Schmidt
Date/Time Received	06/12/13 15:44

Client Provided Field Data

pH		5.29						
Temperature		25.7 °C						
Conductivity		303 umhos						
Dissolved Oxygen		0.98 mg/L						

Inorganics

Ammonia as N	mg/L	0.010 I	EPA 350.1	0.040	0.009		07/01/13 13:42	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01		07/02/13 12:11	1
Bicarbonate Alkalinity	mg/L	4.1 I	SM 2320B	8.0	2.0		06/26/13 12:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/18/13 08:45	06/18/13 13:10	1
Chloride	mg/L	17	EPA 300.0	0.20	0.050		06/14/13 03:28	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Nitrate (as N)	mg/L	11	EPA 300.0	0.04	0.01		06/14/13 03:28	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 03:28	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Phosphorous - Total as P	mg/L	0.029 I	SM 4500P-E	0.040	0.010	06/24/13 14:05	06/26/13 12:24	1

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Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	PZ24-BKG-26-DUP							
Matrix	Groundwater							
SAL Sample Number	1305593-07							
Date/Time Collected	06/12/13 13:46							
Collected by	Sean Schmidt							
Date/Time Received	06/12/13 15:44							
<u>Client Provided Field Data</u>								
pH		5.29						
Temperature		25.7 °C						
Conductivity		303 umhos						
Dissolved Oxygen		0.98 mg/L						
Total Alkalinity	mg/L	4.1 I	SM 2320B	8.0	2.0		06/26/13 12:15	1
Total Kjeldahl Nitrogen	mg/L	1.3	EPA 351.2	0.20	0.05	06/24/13 09:43	06/28/13 14:39	1
Nitrate+Nitrite (N)	mg/L	11	EPA 300.0	0.08	0.02		06/14/13 03:28	1
Sample Description	PZ29-BKG-09							
Matrix	Groundwater							
SAL Sample Number	1305593-08							
Date/Time Collected	06/11/13 13:05							
Collected by	Sean Schmidt							
Date/Time Received	06/11/13 15:15							
<u>Client Provided Field Data</u>								
pH		4.65						
Temperature		25.9 °C						
Conductivity		238 umhos						
Dissolved Oxygen		0.61 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/27/13 11:16	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/24/13 12:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Chemical Oxygen Demand	mg/L	18 I	EPA 410.4	25	10	06/14/13 11:58	06/14/13 16:10	1
Chloride	mg/L	6.9	EPA 300.0	0.20	0.050		06/11/13 22:59	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Nitrate (as N)	mg/L	6.7	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Nitrite (as N)	mg/L	0.06	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Phosphorous - Total as P	mg/L	0.12	SM 4500P-E	0.040	0.010	06/24/13 14:05	06/26/13 12:25	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/24/13 12:00	1
Total Kjeldahl Nitrogen	mg/L	0.78	EPA 351.2	0.20	0.05	06/22/13 09:14	06/28/13 12:11	1
Nitrate+Nitrite (N)	mg/L	6.8	EPA 300.0	0.08	0.02		06/11/13 22:59	1

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Laboratory Report

Project Name	S&GW Test Facility SE#6							
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution

Sample Description **PZ30-BKG-16**
 Matrix **Groundwater**
 SAL Sample Number **1305593-09**
 Date/Time Collected **06/11/13 13:30**
 Collected by **Sean Schmidt**
 Date/Time Received **06/11/13 15:15**

Client Provided Field Data

pH **5.42**
 Temperature **25.5 °C**
 Conductivity **371 umhos**
 Dissolved Oxygen **0.83 mg/L**

Inorganics

Ammonia as N	mg/L	0.027 I	EPA 350.1	0.040	0.009	06/27/13 11:18	1
Ammonium as NH4	mg/L	0.04 I	EPA 350.1	0.05	0.01	07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/24/13 12:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/24/13 12:00	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/14/13 11:58	06/14/13 16:10
Chloride	mg/L	16	EPA 300.0	0.20	0.050	06/11/13 22:59	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/24/13 12:00	1
Nitrate (as N)	mg/L	18	EPA 300.0	0.04	0.01	06/11/13 22:59	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01	06/11/13 22:59	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/24/13 12:00	1
Phosphorous - Total as P	mg/L	0.053	SM 4500P-E	0.040	0.010	06/24/13 14:05	06/26/13 12:26
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/24/13 12:00	1
Total Kjeldahl Nitrogen	mg/L	1.2	EPA 351.2	0.20	0.05	06/22/13 09:14	06/28/13 12:12
Nitrate+Nitrite (N)	mg/L	18	EPA 300.0	0.08	0.02	06/11/13 22:59	1

Sample Description **PZ31-BKG-26**
 Matrix **Groundwater**
 SAL Sample Number **1305593-10**
 Date/Time Collected **06/11/13 14:00**
 Collected by **Sean Schmidt**
 Date/Time Received **06/11/13 15:15**

Client Provided Field Data

pH **5.11**
 Temperature **24.9 °C**
 Conductivity **429 umhos**
 Dissolved Oxygen **0.91 mg/L**

Inorganics

Ammonia as N	mg/L	0.24	EPA 350.1	0.040	0.009	06/27/13 11:21	1
Ammonium as NH4	mg/L	0.31	EPA 350.1	0.05	0.01	07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0	06/24/13 12:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/24/13 12:00	1

Florida Certification Number: E84129

NELAP Accredited

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Leslie C. Boardman, Q.A. Manager

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July 23, 2013
Work Order: 1305593

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ31-BKG-26						
Matrix		Groundwater						
SAL Sample Number		1305593-10						
Date/Time Collected		06/11/13 14:00						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						

Client Provided Field Data

pH		5.11						
Temperature		24.9 °C						
Conductivity		429 umhos						
Dissolved Oxygen		0.91 mg/L						
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/14/13 11:58	06/14/13 16:10	1
Chloride	mg/L	25	EPA 300.0	0.20	0.050		06/11/13 22:59	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Nitrate (as N)	mg/L	22	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Nitrite (as N)	mg/L	0.08	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Phosphorous - Total as P	mg/L	0.046	SM 4500P-E	0.040	0.010	06/24/13 14:05	06/26/13 12:27	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/24/13 12:00	1
Total Kjeldahl Nitrogen	mg/L	1.6	EPA 351.2	0.20	0.05	06/22/13 09:14	06/28/13 12:14	1
Nitrate+Nitrite (N)	mg/L	22	EPA 300.0	0.08	0.02		06/11/13 22:59	1

Sample Description	PZ31-BKG-26-DUP
Matrix	Groundwater
SAL Sample Number	1305593-11
Date/Time Collected	06/11/13 14:02
Collected by	Sean Schmidt
Date/Time Received	06/11/13 15:15

Client Provided Field Data

pH		5.11						
Temperature		24.9 °C						
Conductivity		429 umhos						
Dissolved Oxygen		0.91 mg/L						

Inorganics

Ammonia as N	mg/L	0.23	EPA 350.1	0.040	0.009		06/27/13 11:23	1
Ammonium as NH4	mg/L	0.30	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/24/13 12:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/14/13 11:58	06/14/13 16:10	1
Chloride	mg/L	25	EPA 300.0	0.20	0.050		06/11/13 22:59	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Nitrate (as N)	mg/L	22	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Nitrite (as N)	mg/L	0.08	EPA 300.0	0.04	0.01		06/11/13 22:59	1

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July 23, 2013

Work Order: 1305593

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	PZ31-BKG-26-DUP							
Matrix	Groundwater							
SAL Sample Number	1305593-11							
Date/Time Collected	06/11/13 14:02							
Collected by	Sean Schmidt							
Date/Time Received	06/11/13 15:15							

Client Provided Field Data

pH		5.11						
Temperature		24.9 °C						
Conductivity		429 umhos						
Dissolved Oxygen		0.91 mg/L						
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Phosphorous - Total as P	mg/L	0.040	SM 4500P-E	0.040	0.010	06/24/13 14:05	06/26/13 15:01	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/24/13 12:00	1
Total Kjeldahl Nitrogen	mg/L	1.9	EPA 351.2	0.20	0.05	06/22/13 09:14	06/28/13 12:15	1
Nitrate+Nitrite (N)	mg/L	22	EPA 300.0	0.08	0.02		06/11/13 22:59	1

Sample Description	PZ32-BKG-09
Matrix	Groundwater
SAL Sample Number	1305593-12
Date/Time Collected	06/11/13 11:05
Collected by	Sean Schmidt
Date/Time Received	06/11/13 15:15

Client Provided Field Data

pH		4.47						
Temperature		27.3 °C						
Conductivity		212.3 umhos						
Dissolved Oxygen		1.2 mg/L						

Inorganics

Ammonia as N	mg/L	0.018 I	EPA 350.1	0.040	0.009		06/27/13 11:25	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Chemical Oxygen Demand	mg/L	16 I	EPA 410.4	25	10	06/14/13 11:58	06/14/13 16:10	1
Chloride	mg/L	3.7	EPA 300.0	0.20	0.050		06/26/13 17:11	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Nitrate (as N)	mg/L	7.6	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		06/11/13 22:59	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Phosphorous - Total as P	mg/L	0.17	SM 4500P-E	0.040	0.010	06/24/13 14:05	06/26/13 12:30	1
Total Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Total Kjeldahl Nitrogen	mg/L	0.99	EPA 351.2	0.20	0.05	06/24/13 09:39	06/27/13 12:12	1
Nitrate+Nitrite (N)	mg/L	7.7	EPA 300.0	0.08	0.02		06/11/13 22:59	1

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July 23, 2013

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Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ32-BKG-09						
Matrix		Groundwater						
SAL Sample Number		1305593-12RE1						
Date/Time Collected		06/11/13 11:05						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
pH		4.47						
Temperature		27.3 °C						
Conductivity		212.3 umhos						
Dissolved Oxygen		1.2 mg/L						
<u>Inorganics</u>								
Chloride	mg/L	4.0	EPA 300.0	0.20	0.050	06/17/13 11:00	06/11/13 22:59	1
Sample Description		PZ33-BKG-16						
Matrix		Groundwater						
SAL Sample Number		1305593-13						
Date/Time Collected		06/13/13 08:41						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						
<u>Client Provided Field Data</u>								
pH		4.77						
Temperature		25.2 °C						
Conductivity		324 umhos						
Dissolved Oxygen		1.24 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.019 I	EPA 350.1	0.040	0.009		07/03/13 13:31	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01	07/08/13 11:51	07/08/13 11:55	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/20/13 08:33	06/21/13 12:50	1
Chloride	mg/L	16	EPA 300.0	0.20	0.050		06/14/13 01:09	1
Fluoride	mg/L	0.010 U	EPA 300.0	0.040	0.010		06/14/13 01:09	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	16	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Nitrite (as N)	mg/L	0.07	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Orthophosphate as P	mg/L	0.010 U	EPA 300.0	0.040	0.010		06/14/13 01:09	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	0.060	SM 4500P-E	0.040	0.010	06/25/13 09:26	07/03/13 10:54	1
Sulfate	mg/L	30	EPA 300.0	0.60	0.20		06/14/13 01:09	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	0.53	EPA 351.2	0.20	0.05	06/28/13 11:10	07/05/13 15:26	1
Total Organic Carbon	mg/L	5.9	SM 5310B	1.0	0.50		06/27/13 09:48	1

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July 23, 2013

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Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ33-BKG-16						
Matrix		Groundwater						
SAL Sample Number		1305593-13						
Date/Time Collected		06/13/13 08:41						
Collected by		Sean Schmidt						
Date/Time Received		06/13/13 14:30						
<u>Client Provided Field Data</u>								
pH		4.77						
Temperature		25.2 °C						
Conductivity		324 umhos						
Dissolved Oxygen		1.24 mg/L						
Nitrate+Nitrite (N)	mg/L	16	EPA 300.0	0.08	0.02		06/14/13 01:09	1
<u>Inorganic, Dissolved</u>								
Dissolved Organic Carbon	mg/L	3.4	SM 5310B	1.0	0.50		06/27/13 09:48	1
<u>Metals</u>								
Boron	mg/L	0.050 U	EPA 200.7	0.10	0.050	06/19/13 10:01	06/19/13 17:42	1
Calcium	mg/L	30	EPA 200.7	0.50	0.042	06/19/13 10:01	06/19/13 17:42	1
Iron	mg/L	0.020 U	EPA 200.7	0.10	0.020	06/19/13 10:01	06/19/13 17:42	1
Magnesium	mg/L	8.8	EPA 200.7	0.50	0.020	06/19/13 10:01	06/19/13 17:42	1
Manganese	mg/L	0.33	EPA 200.7	0.010	0.0010	06/19/13 10:01	06/19/13 17:42	1
Potassium	mg/L	13	EPA 200.7	0.050	0.010	06/19/13 10:01	06/19/13 17:42	1
Sodium	mg/L	7.1	EPA 200.7	0.50	0.13	06/19/13 10:01	06/19/13 17:42	1

Sample Description	PZ34-BKG-26
Matrix	Groundwater
SAL Sample Number	1305593-14
Date/Time Collected	06/11/13 11:42
Collected by	Sean Schmidt
Date/Time Received	06/11/13 15:15

<u>Client Provided Field Data</u>								
pH		5.27						
Temperature		26.6 °C						
Conductivity		370 umhos						
Dissolved Oxygen		1.74 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.041	EPA 350.1	0.040	0.009		06/27/13 11:27	1
Ammonium as NH4	mg/L	0.05	EPA 350.1	0.05	0.01		07/02/13 11:50	1
Bicarbonate Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/24/13 12:00	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/14/13 11:58	06/14/13 16:10	1
Chloride	mg/L	21	EPA 300.0	0.20	0.050		06/13/13 00:21	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Nitrate (as N)	mg/L	15	EPA 300.0	0.04	0.01		06/13/13 00:21	1

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July 23, 2013

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Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ34-BKG-26						
Matrix		Groundwater						
SAL Sample Number		1305593-14						
Date/Time Collected		06/11/13 11:42						
Collected by		Sean Schmidt						
Date/Time Received		06/11/13 15:15						
<u>Client Provided Field Data</u>								
pH		5.27						
Temperature		26.6 °C						
Conductivity		370 umhos						
Dissolved Oxygen		1.74 mg/L						
Nitrite (as N)	mg/L	0.10	EPA 300.0	0.04	0.01		06/13/13 00:21	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/24/13 12:00	1
Phosphorous - Total as P	mg/L	0.24	SM 4500P-E	0.040	0.010	06/24/13 14:05	06/26/13 12:31	1
Total Alkalinity	mg/L	11	SM 2320B	8.0	2.0		06/24/13 12:00	1
Total Kjeldahl Nitrogen	mg/L	1.2	EPA 351.2	0.20	0.05	06/24/13 09:39	06/27/13 12:13	1
Nitrate+Nitrite (N)	mg/L	16	EPA 300.0	0.08	0.02		06/13/13 00:21	1
Sample Description		PZ35-BKG-09						
Matrix		Groundwater						
SAL Sample Number		1305593-15						
Date/Time Collected		06/12/13 10:31						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		6.35						
Temperature		26.4 °C						
Conductivity		304 umhos						
Dissolved Oxygen		0.94 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.015 I	EPA 350.1	0.040	0.009		07/01/13 13:44	1
Ammonium as NH4	mg/L	0.02 I	EPA 350.1	0.05	0.01		07/02/13 12:11	1
Bicarbonate Alkalinity	mg/L	65	SM 2320B	8.0	2.0		06/26/13 12:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Chloride	mg/L	5.8	EPA 300.0	0.20	0.050		06/14/13 03:38	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Nitrate (as N)	mg/L	2.4	EPA 300.0	0.04	0.01		06/14/13 03:38	1
Nitrite (as N)	mg/L	0.12	EPA 300.0	0.04	0.01		06/14/13 03:38	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Total Alkalinity	mg/L	65	SM 2320B	8.0	2.0		06/26/13 12:15	1
Total Kjeldahl Nitrogen	mg/L	1.1	EPA 351.2	0.20	0.05	06/24/13 09:43	06/28/13 14:46	1
Nitrate+Nitrite (N)	mg/L	2.6	EPA 300.0	0.08	0.02		06/14/13 03:38	1

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July 23, 2013

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Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ36-BKG-16						
Matrix		Groundwater						
SAL Sample Number		1305593-16						
Date/Time Collected		06/12/13 11:00						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						

Client Provided Field Data

pH	5.02
Temperature	25.8 °C
Conductivity	316 umhos
Dissolved Oxygen	0.57 mg/L

Inorganics

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009	07/01/13 13:46	1	
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/02/13 12:11	1	
Bicarbonate Alkalinity	mg/L	4.1 I	SM 2320B	8.0	2.0	06/26/13 12:15	1	
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1	
Chloride	mg/L	9.9	EPA 300.0	0.20	0.050	06/14/13 04:15	1	
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1	
Nitrate (as N)	mg/L	13	EPA 300.0	0.04	0.01	06/14/13 04:15	1	
Nitrite (as N)	mg/L	0.02 I	EPA 300.0	0.04	0.01	06/14/13 04:15	1	
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1	
Total Alkalinity	mg/L	4.1 I	SM 2320B	8.0	2.0	06/26/13 12:15	1	
Total Kjeldahl Nitrogen	mg/L	1.2	EPA 351.2	0.20	0.05	06/24/13 09:43	06/28/13 14:47	1
Nitrate+Nitrite (N)	mg/L	13	EPA 300.0	0.08	0.02	06/14/13 04:15	1	

Sample Description	PZ37-BKG-26
Matrix	Groundwater
SAL Sample Number	1305593-17
Date/Time Collected	06/12/13 11:35
Collected by	Sean Schmidt
Date/Time Received	06/12/13 15:44

Client Provided Field Data

pH	5.10
Temperature	25.5 °C
Conductivity	472 umhos
Dissolved Oxygen	0.74 mg/L

Inorganics

Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009	06/27/13 11:29	1	
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/02/13 12:11	1	
Bicarbonate Alkalinity	mg/L	4.1 I	SM 2320B	8.0	2.0	06/26/13 12:15	1	
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0	06/26/13 12:15	1	
Chemical Oxygen Demand	mg/L	10 U	EPA 410.4	25	10	06/18/13 08:45	06/18/13 13:10	1
Chloride	mg/L	27	EPA 300.0	0.20	0.050	06/14/13 04:24	1	

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Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ37-BKG-26						
Matrix		Groundwater						
SAL Sample Number		1305593-17						
Date/Time Collected		06/12/13 11:35						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						

Client Provided Field Data

pH		5.10						
Temperature		25.5 °C						
Conductivity		472 umhos						
Dissolved Oxygen		0.74 mg/L						
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Nitrate (as N)	mg/L	27	EPA 300.0	0.04	0.01		06/14/13 04:24	1
Nitrite (as N)	mg/L	0.09	EPA 300.0	0.04	0.01		06/14/13 04:24	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Phosphorous - Total as P	mg/L	0.29	SM 4500P-E	0.040	0.010	06/24/13 14:05	06/26/13 12:32	1
Total Alkalinity	mg/L	4.1 I	SM 2320B	8.0	2.0		06/26/13 12:15	1
Total Kjeldahl Nitrogen	mg/L	1.8	EPA 351.2	0.20	0.05	06/24/13 09:43	06/28/13 14:49	1
Nitrate+Nitrite (N)	mg/L	27	EPA 300.0	0.08	0.02		06/14/13 04:24	1

Sample Description	PZ38-BKG-09
Matrix	Groundwater
SAL Sample Number	1305593-18
Date/Time Collected	06/12/13 08:07
Collected by	Sean Schmidt
Date/Time Received	06/12/13 15:44

Client Provided Field Data

pH		6.12						
Temperature		25.1 °C						
Conductivity		174.7 umhos						
Dissolved Oxygen		0.72 mg/L						

Inorganics

Ammonia as N	mg/L	0.011 I	EPA 350.1	0.040	0.009		06/27/13 11:31	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01		07/02/13 12:11	1
Bicarbonate Alkalinity	mg/L	18	SM 2320B	8.0	2.0		06/26/13 12:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Chloride	mg/L	5.7	EPA 300.0	0.20	0.050		06/13/13 00:21	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Nitrate (as N)	mg/L	0.23	EPA 300.0	0.04	0.01		06/13/13 00:21	1
Nitrite (as N)	mg/L	0.06	EPA 300.0	0.04	0.01		06/13/13 00:21	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Total Alkalinity	mg/L	18	SM 2320B	8.0	2.0		06/26/13 12:15	1
Total Kjeldahl Nitrogen	mg/L	0.29	EPA 351.2	0.20	0.05	06/24/13 09:43	06/28/13 14:50	1

Florida Certification Number: E84129

NELAP Accredited

Francis I. Daniels, Laboratory Director

Leslie C. Boardman, Q.A. Manager

SOUTHERN ANALYTICAL LABORATORIES, INC.

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



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10002 Princess Palm Ave, Suite 200
Tampa, FL 33619

July 23, 2013

Work Order: 1305593

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ38-BKG-09						
Matrix		Groundwater						
SAL Sample Number		1305593-18						
Date/Time Collected		06/12/13 08:07						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		6.12						
Temperature		25.1 °C						
Conductivity		174.7 umhos						
Dissolved Oxygen		0.72 mg/L						
Nitrate+Nitrite (N)	mg/L	0.29	EPA 300.0	0.08	0.02		06/13/13 00:21	1
Sample Description		PZ39-BKG-26						
Matrix		Groundwater						
SAL Sample Number		1305593-19						
Date/Time Collected		06/12/13 08:41						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		5.76						
Temperature		24.6 °C						
Conductivity		217 umhos						
Dissolved Oxygen		0.94 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/27/13 11:33	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01		07/02/13 12:11	1
Bicarbonate Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/26/13 12:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Chloride	mg/L	5.7	EPA 300.0	0.20	0.050		06/14/13 04:34	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Nitrate (as N)	mg/L	1.2	EPA 300.0	0.04	0.01		06/14/13 04:34	1
Nitrite (as N)	mg/L	0.04	EPA 300.0	0.04	0.01		06/14/13 04:34	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/26/13 12:15	1
Total Kjeldahl Nitrogen	mg/L	0.57	EPA 351.2	0.20	0.05	06/24/13 09:43	06/28/13 14:51	1
Nitrate+Nitrite (N)	mg/L	1.2	EPA 300.0	0.08	0.02		06/14/13 04:34	1

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July 23, 2013

Work Order: 1305593

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description		PZ40-BKG-26						
Matrix		Groundwater						
SAL Sample Number		1305593-20						
Date/Time Collected		06/12/13 09:15						
Collected by		Sean Schmidt						
Date/Time Received		06/12/13 15:44						
<u>Client Provided Field Data</u>								
pH		5.17						
Temperature		24.2 °C						
Conductivity		297 umhos						
Dissolved Oxygen		0.54 mg/L						
<u>Inorganics</u>								
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		06/27/13 11:43	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01		07/02/13 12:11	1
Bicarbonate Alkalinity	mg/L	7.2 I	SM 2320B	8.0	2.0		06/26/13 12:15	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Chloride	mg/L	13	EPA 300.0	0.20	0.050		06/14/13 04:43	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Nitrate (as N)	mg/L	8.3	EPA 300.0	0.04	0.01		06/14/13 04:43	1
Nitrite (as N)	mg/L	0.07	EPA 300.0	0.04	0.01		06/14/13 04:43	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/26/13 12:15	1
Total Alkalinity	mg/L	7.2 I	SM 2320B	8.0	2.0		06/26/13 12:15	1
Total Kjeldahl Nitrogen	mg/L	0.87	EPA 351.2	0.20	0.05	06/24/13 09:43	06/28/13 14:52	1
Nitrate+Nitrite (N)	mg/L	8.4	EPA 300.0	0.08	0.02		06/14/13 04:43	1

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July 23, 2013

Work Order: 1305593

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31210 - Ion Chromatography 300.0 Prep										
Blank (BF31210-BLK1) Prepared & Analyzed: 06/11/13										
Chloride	0.050 U	0.20	0.050	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
LCS (BF31210-BS1) Prepared & Analyzed: 06/11/13										
Nitrite (as N)	1.29	0.04	0.01	mg/L	1.4		92	85-115		
Chloride	2.76	0.20	0.050	mg/L	3.0		92	85-115		
Nitrate (as N)	1.56	0.04	0.01	mg/L	1.7		92	85-115		
LCS Dup (BF31210-BSD1) Prepared & Analyzed: 06/11/13										
Chloride	2.75	0.20	0.050	mg/L	3.0		92	85-115	0.4	200
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4		92	85-115	0.08	200
Nitrate (as N)	1.56	0.04	0.01	mg/L	1.7		92	85-115	0.1	200
Matrix Spike (BF31210-MS1) Source: 1305590-14 Prepared & Analyzed: 06/11/13										
Chloride	30.0 L	0.20	0.050	mg/L	3.0	43.4	NR	80-120		
Nitrate (as N)	17.0 L	0.04	0.01	mg/L	1.7	41.2	NR	85-115		
Nitrite (as N)	1.47	0.04	0.01	mg/L	1.4	0.0990	98	85-115		
Matrix Spike (BF31210-MS2) Source: 1305593-12 Prepared & Analyzed: 06/11/13										
Nitrite (as N)	1.42	0.04	0.01	mg/L	1.4	0.0370	99	85-115		
Nitrate (as N)	9.44	0.04	0.01	mg/L	1.7	7.63	107	85-115		
Chloride	7.07	0.20	0.050	mg/L	3.0	3.98	103	80-120		
Batch BF31303 - Ion Chromatography 300.0 Prep										
Blank (BF31303-BLK1) Prepared & Analyzed: 06/13/13										
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						

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July 23, 2013

Work Order: 1305593

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31303 - Ion Chromatography 300.0 Prep										
LCS (BF31303-BS1)										
Nitrite (as N)	1.40	0.04	0.01	mg/L	1.4	100	85-115			
Nitrate (as N)	1.58	0.04	0.01	mg/L	1.7	93	85-115			
Chloride	2.88	0.20	0.050	mg/L	3.0	96	85-115			
LCS Dup (BF31303-BSD1)										
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4	93	85-115	8	200	
Chloride	2.75	0.20	0.050	mg/L	3.0	92	85-115	5	200	
Nitrate (as N)	1.57	0.04	0.01	mg/L	1.7	92	85-115	0.6	200	
Matrix Spike (BF31303-MS1)										
Source: 1305562-08					Prepared & Analyzed: 06/13/13					
Nitrate (as N)	17.0 L	0.04	0.01	mg/L	1.7	29.1	NR	85-115		
Nitrite (as N)	1.50	0.04	0.01	mg/L	1.4	ND	107	85-115		
Chloride	30.0 L	0.20	0.050	mg/L	3.0	48.9	NR	80-120		
Matrix Spike (BF31303-MS2)										
Source: 1306062-02					Prepared & Analyzed: 06/14/13					
Nitrite (as N)	1.50	0.04	0.01	mg/L	1.4	ND	108	85-115		
Nitrate (as N)	1.96	0.04	0.01	mg/L	1.7	0.150	106	85-115		
Chloride	30.0 L	0.20	0.050	mg/L	3.0	152	NR	80-120		
Batch BF31328 - Ion Chromatography 300.0 Prep										
Blank (BF31328-BLK1)					Prepared & Analyzed: 06/14/13					
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BF31328-BS1)										
					Prepared & Analyzed: 06/14/13					
Nitrate (as N)	1.58	0.04	0.01	mg/L	1.7	93	85-115			
Nitrite (as N)	1.42	0.04	0.01	mg/L	1.4	101	85-115			
Chloride	2.93	0.20	0.050	mg/L	3.0	98	85-115			

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July 23, 2013

Work Order: 1305593

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31328 - Ion Chromatography 300.0 Prep										
LCS Dup (BF31328-BSD1)										
Nitrate (as N)	1.67	0.04	0.01	mg/L	1.7	98	85-115	6	200	
Chloride	3.02	0.20	0.050	mg/L	3.0	101	85-115	3	200	
Nitrite (as N)	1.46	0.04	0.01	mg/L	1.4	105	85-115	3	200	
Matrix Spike (BF31328-MS1)										
	Source: 1305593-15				Prepared & Analyzed: 06/14/13					
Chloride	8.87	0.20	0.050	mg/L	3.0	5.84	101	80-120		
Nitrate (as N)	4.24	0.04	0.01	mg/L	1.7	2.44	106	85-115		
Nitrite (as N)	1.48	0.04	0.01	mg/L	1.4	0.118	97	85-115		
Matrix Spike (BF31328-MS2)										
	Source: 1306132-01				Prepared & Analyzed: 06/14/13					
Nitrite (as N)	1.54	0.04	0.01	mg/L	1.4	ND	110	85-115		
Chloride	49.0	0.20	0.050	mg/L	3.0	46.3	90	80-120		
Nitrate (as N)	1.75	0.04	0.01	mg/L	1.7	0.0760	98	85-115		
Batch BF31414 - Ion Chromatography 300.0 Prep										
Blank (BF31414-BLK1)										
					Prepared & Analyzed: 06/14/13					
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
Fluoride	0.010 U	0.040	0.010	mg/L						
Sulfate	0.20 U	0.60	0.20	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
Orthophosphate as P	0.010 U	0.040	0.010	mg/L						
LCS (BF31414-BS1)										
					Prepared & Analyzed: 06/14/13					
Fluoride	0.859	0.040	0.010	mg/L	0.90	95	85-115			
Sulfate	8.44	0.60	0.20	mg/L	9.0	94	85-115			
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4	93	85-115			
Chloride	2.80	0.20	0.050	mg/L	3.0	93	85-115			
Orthophosphate as P	0.846	0.040	0.010	mg/L	0.90	94	85-115			
Nitrate (as N)	1.57	0.04	0.01	mg/L	1.7	92	85-115			

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July 23, 2013

Work Order: 1305593

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31414 - Ion Chromatography 300.0 Prep										
LCS Dup (BF31414-BSD1)										
Prepared & Analyzed: 06/14/13										
Nitrate (as N)	1.58	0.04	0.01	mg/L	1.7	93	85-115	0.6	200	
Chloride	2.80	0.20	0.050	mg/L	3.0	94	85-115	0.3	200	
Fluoride	0.860	0.040	0.010	mg/L	0.90	96	85-115	0.1	200	
Orthophosphate as P	0.852	0.040	0.010	mg/L	0.90	95	85-115	0.7	200	
Sulfate	8.48	0.60	0.20	mg/L	9.0	94	85-115	0.6	200	
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4	93	85-115	0.4	200	
Matrix Spike (BF31414-MS1)										
Source: 1305594-01										
Prepared & Analyzed: 06/14/13										
Chloride	30.0 L	0.20	0.050	mg/L	3.0	54.6	NR	80-120		
Nitrate (as N)	13.6	0.04	0.01	mg/L	1.7	11.8	104	85-115		
Fluoride	0.881	0.040	0.010	mg/L	0.90	ND	98	85-115		
Nitrite (as N)	1.49	0.04	0.01	mg/L	1.4	ND	106	85-115		
Orthophosphate as P	0.846	0.040	0.010	mg/L	0.90	ND	94	85-115		
Sulfate	42.0	0.60	0.20	mg/L	9.0	33.5	94	85-115		
Matrix Spike (BF31414-MS2)										
Source: 1305867-02										
Prepared & Analyzed: 06/14/13										
Orthophosphate as P	2.52	0.040	0.010	mg/L	0.90	1.59	102	85-115		
Chloride	30.0 L	0.20	0.050	mg/L	3.0	46.1	NR	80-120		
Sulfate	89.7	0.60	0.20	mg/L	9.0	80.2	105	85-115		
Nitrate (as N)	1.91	0.04	0.01	mg/L	1.7	0.351	92	85-115		
Fluoride	2.40	0.040	0.010	mg/L	0.90	1.54	96	85-115		
Nitrite (as N)	1.53	0.04	0.01	mg/L	1.4	ND	110	85-115		
Batch BF31419 - COD prep										
Blank (BF31419-BLK1)										
Prepared & Analyzed: 06/14/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						

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July 23, 2013

Work Order: 1305593

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31419 - COD prep										
LCS (BF31419-BS1) Prepared & Analyzed: 06/14/13										
Chemical Oxygen Demand	55	25	10	mg/L	50	110	90-110			
Matrix Spike (BF31419-MS1) Source: 1305560-07 Prepared & Analyzed: 06/14/13										
Chemical Oxygen Demand	53	25	10	mg/L	50	ND	106	85-115		
Matrix Spike Dup (BF31419-MSD1) Source: 1305560-07 Prepared & Analyzed: 06/14/13										
Chemical Oxygen Demand	53	25	10	mg/L	50	ND	106	85-115	0	32
Batch BF31807 - COD prep										
Blank (BF31807-BLK1) Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31807-BS1) Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	49	25	10	mg/L	50	98	90-110			
Matrix Spike (BF31807-MS1) Source: 1305558-06 Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	57	25	10	mg/L	50	ND	114	85-115		
Matrix Spike Dup (BF31807-MSD1) Source: 1305558-06 Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	55	25	10	mg/L	50	ND	110	85-115	4	32
Batch BF32004 - COD prep										
Blank (BF32004-BLK1) Prepared: 06/20/13 Analyzed: 06/21/13										
Chemical Oxygen Demand	10 U	25	10	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 BF32004 - COD prep										
LCS (BF32004-BS1) Prepared: 06/20/13 Analyzed: 06/21/13										
Chemical Oxygen Demand	51	25	10	mg/L	50		102	90-110		
Matrix Spike (BF32004-MS1) Source: 1305570-03 Prepared: 06/20/13 Analyzed: 06/21/13										
Chemical Oxygen Demand	130	25	10	mg/L	50	85	94	85-115		
Matrix Spike Dup (BF32004-MSD1) Source: 1305570-03 Prepared: 06/20/13 Analyzed: 06/21/13										
Chemical Oxygen Demand	130	25	10	mg/L	50	85	90	85-115	2	32
Batch BF32205 - Digestion for TKN by EPA 351.2										
Blank (BF32205-BLK1) Prepared: 06/22/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF32205-BS1) Prepared: 06/22/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	2.34	0.20	0.05	mg/L	2.5		92	90-110		
Matrix Spike (BF32205-MS1) Source: 1305593-08 Prepared: 06/22/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	3.47	0.20	0.05	mg/L	2.5	0.776	107	90-110		
Matrix Spike (BF32205-MS2) Source: 1306010-07 Prepared: 06/22/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	3.13	0.20	0.05	mg/L	2.5	0.778	93	90-110		
Matrix Spike Dup (BF32205-MSD1) Source: 1305593-08 Prepared: 06/22/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	3.14	0.20	0.05	mg/L	2.5	0.776	93	90-110	10	20
Matrix Spike Dup (BF32205-MSD2) Source: 1306010-07 Prepared: 06/22/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	3.17	0.20	0.05	mg/L	2.5	0.778	94	90-110	1	20

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July 23, 2013

Work Order: 1305593

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32410 - Digestion for TKN by EPA 351.2										
Blank (BF32410-BLK1) Prepared: 06/24/13 Analyzed: 06/27/13										
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF32410-BS1) Prepared: 06/24/13 Analyzed: 06/27/13										
Total Kjeldahl Nitrogen	2.56	0.20	0.05	mg/L	2.5		101	90-110		
Matrix Spike (BF32410-MS1) Source: 1306249-02 Prepared: 06/24/13 Analyzed: 06/27/13										
Total Kjeldahl Nitrogen	3.74	0.20	0.05	mg/L	2.5	0.988	108	90-110		
Matrix Spike (BF32410-MS2) Source: 1306287-07 Prepared: 06/24/13 Analyzed: 06/27/13										
Total Kjeldahl Nitrogen	3.46	0.20	0.05	mg/L	2.5	0.724	108	90-110		
Matrix Spike Dup (BF32410-MSD1) Source: 1306249-02 Prepared: 06/24/13 Analyzed: 06/27/13										
Total Kjeldahl Nitrogen	3.43	0.20	0.05	mg/L	2.5	0.988	96	90-110	9	20
Matrix Spike Dup (BF32410-MSD2) Source: 1306287-07 Prepared: 06/24/13 Analyzed: 06/27/13										
Total Kjeldahl Nitrogen	3.22	0.20	0.05	mg/L	2.5	0.724	98	90-110	7	20
Batch BF32411 - Digestion for TKN by EPA 351.2										
Blank (BF32411-BLK1) Prepared: 06/24/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF32411-BS1) Prepared: 06/24/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	2.49	0.20	0.05	mg/L	2.5		98	90-110		
Matrix Spike (BF32411-MS1) Source: 1305593-18 Prepared: 06/24/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	2.89	0.20	0.05	mg/L	2.5	0.289	103	90-110		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32411 - Digestion for TKN by EPA 351.2										
Matrix Spike (BF32411-MS2) Source: 1305930-01 Prepared: 06/24/13 Analyzed: 07/01/13										
Total Kjeldahl Nitrogen	3.97	0.20	0.05	mg/L	2.5	1.74	88	90-110		
Matrix Spike Dup (BF32411-MSD1) Source: 1305593-18 Prepared: 06/24/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	2.85	0.20	0.05	mg/L	2.5	0.289	101	90-110	1	20
Matrix Spike Dup (BF32411-MSD2) Source: 1305930-01 Prepared: 06/24/13 Analyzed: 06/28/13										
Total Kjeldahl Nitrogen	4.51	0.20	0.05	mg/L	2.5	1.74	109	90-110	13	20
Batch BF32425 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF32425-BLK1) Prepared: 06/24/13 Analyzed: 06/26/13										
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						
LCS (BF32425-BS1) Prepared: 06/24/13 Analyzed: 06/26/13										
Phosphorous - Total as P	0.799	0.040	0.010	mg/L	0.80		100	90-110		
Matrix Spike (BF32425-MS1) Source: 1305593-06 Prepared: 06/24/13 Analyzed: 06/26/13										
Phosphorous - Total as P	1.00	0.040	0.010	mg/L	1.0	0.0332	97	90-110		
Matrix Spike (BF32425-MS2) Source: 1306330-07 Prepared: 06/24/13 Analyzed: 06/26/13										
Phosphorous - Total as P	1.04	0.040	0.010	mg/L	1.0	0.0399	100	90-110		
Matrix Spike Dup (BF32425-MSD1) Source: 1305593-06 Prepared: 06/24/13 Analyzed: 06/26/13										
Phosphorous - Total as P	0.940	0.040	0.010	mg/L	1.0	0.0332	91	90-110	6	25
Matrix Spike Dup (BF32425-MSD2) Source: 1306330-07 Prepared: 06/24/13 Analyzed: 06/26/13										
Phosphorous - Total as P	1.02	0.040	0.010	mg/L	1.0	0.0399	98	90-110	2	25

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32510 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF32510-BLK1) Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						
LCS (BF32510-BS1) Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	0.809	0.040	0.010	mg/L	0.80		101	90-110		
Matrix Spike (BF32510-MS1) Source: 1305570-01 Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	1.05	0.040	0.010	mg/L	1.0	0.0183	103	90-110		
Matrix Spike (BF32510-MS2) Source: 1305593-13 Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	1.04	0.040	0.010	mg/L	1.0	0.0595	98	90-110		
Matrix Spike Dup (BF32510-MSD1) Source: 1305570-01 Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	1.02	0.040	0.010	mg/L	1.0	0.0183	100	90-110	3	25
Matrix Spike Dup (BF32510-MSD2) Source: 1305593-13 Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	0.979	0.040	0.010	mg/L	1.0	0.0595	92	90-110	6	25
Batch BF32515 - alkalinity										
Blank (BF32515-BLK1) Prepared & Analyzed: 06/24/13										
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BF32515-BS1) Prepared & Analyzed: 06/24/13										
Total Alkalinity	130	8.0	2.0	mg/L	120		105	90-110		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32515 - alkalinity										
Matrix Spike (BF32515-MS1) Source: 1305593-11 Prepared & Analyzed: 06/24/13										
Total Alkalinity	130	8.0	2.0	mg/L	120	11	96	80-120		
Matrix Spike Dup (BF32515-MSD1) Source: 1305593-11 Prepared & Analyzed: 06/24/13										
Total Alkalinity	130	8.0	2.0	mg/L	120	11	96	80-120	0	26
Batch BF32613 - Ion Chromatography 300.0 Prep										
Blank (BF32613-BLK1) Prepared & Analyzed: 06/26/13										
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BF32613-BS1) Prepared & Analyzed: 06/26/13										
Chloride	2.99	0.20	0.050	mg/L	3.0		100	85-115		
LCS Dup (BF32613-BSD1) Prepared & Analyzed: 06/26/13										
Chloride	2.93	0.20	0.050	mg/L	3.0		98	85-115	2	200
Matrix Spike (BF32613-MS1) Source: 1305594-02 Prepared & Analyzed: 06/26/13										
Chloride	82.1	2.0	0.50	mg/L	30	52.9	97	80-120		
Matrix Spike (BF32613-MS2) Source: 1306546-01 Prepared & Analyzed: 06/26/13										
Chloride	300 L	2.0	0.50	mg/L	30	1230	NR	80-120		
Batch BF32701 - Ammonia by SEAL										
Blank (BF32701-BLK1) Prepared & Analyzed: 06/27/13										
Ammonia as N	0.009 U	0.040	0.009	mg/L						

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32701 - Ammonia by SEAL										
LCS (BF32701-BS1) Prepared & Analyzed: 06/27/13										
Ammonia as N	0.49	0.040	0.009	mg/L	0.50	98	90-110			
Matrix Spike (BF32701-MS1) Source: 1305593-01 Prepared & Analyzed: 06/27/13										
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	ND	106	90-110		
Matrix Spike (BF32701-MS2) Source: 1306330-07 Prepared & Analyzed: 06/27/13										
Ammonia as N	0.56	0.040	0.009	mg/L	0.50	0.017	109	90-110		
Matrix Spike Dup (BF32701-MSD1) Source: 1305593-01 Prepared & Analyzed: 06/27/13										
Ammonia as N	0.54	0.040	0.009	mg/L	0.50	ND	108	90-110	2	10
Matrix Spike Dup (BF32701-MSD2) Source: 1306330-07 Prepared & Analyzed: 06/27/13										
Ammonia as N	0.56	0.040	0.009	mg/L	0.50	0.017	109	90-110	0.2	10
Batch BF32718 - TOC prep										
Blank (BF32718-BLK1) Prepared & Analyzed: 06/27/13										
Total Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BF32718-BS1) Prepared & Analyzed: 06/27/13										
Total Organic Carbon	9.56	1.0	0.50	mg/L	10	96	90-110			
Matrix Spike (BF32718-MS1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Total Organic Carbon	9.52	1.0	0.50	mg/L	10	ND	95	85-115		
Matrix Spike Dup (BF32718-MSD1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Total Organic Carbon	9.51	1.0	0.50	mg/L	10	ND	95	85-115	0.07	10

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32733 - alkalinity										
Blank (BF32733-BLK1) Prepared & Analyzed: 06/26/13										
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BF32733-BS1) Prepared & Analyzed: 06/26/13										
Total Alkalinity	120	8.0	2.0	mg/L	120		96	90-110		
Matrix Spike (BF32733-MS1) Source: 1305589-03 Prepared & Analyzed: 06/26/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	ND	96	80-120		
Matrix Spike Dup (BF32733-MSD1) Source: 1305589-03 Prepared & Analyzed: 06/26/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	ND	96	80-120	0	26
Batch BF32810 - alkalinity										
Blank (BF32810-BLK1) Prepared & Analyzed: 06/27/13										
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Blank (BF32810-BLK2) Prepared & Analyzed: 06/27/13										
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein 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 BF32810 - alkalinity										
LCS (BF32810-BS1) Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	96	90-110			
LCS (BF32810-BS2) Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	96	90-110			
Matrix Spike (BF32810-MS1) Source: 1305593-13 Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	11	87	80-120		
Matrix Spike (BF32810-MS2) Source: 1305558-05 Prepared & Analyzed: 06/27/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120		
Matrix Spike Dup (BF32810-MSD1) Source: 1305593-13 Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	11	87	80-120	0	26
Matrix Spike Dup (BF32810-MSD2) Source: 1305558-05 Prepared & Analyzed: 06/27/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120	0	26
Batch BF32814 - Digestion for TKN by EPA 351.2										
Blank (BF32814-BLK1) Prepared: 06/28/13 Analyzed: 07/05/13										
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF32814-BS1) Prepared: 06/28/13 Analyzed: 07/05/13										
Total Kjeldahl Nitrogen	2.44	0.20	0.05	mg/L	2.5	96	90-110			
Matrix Spike (BF32814-MS1) Source: 1306400-02 Prepared: 06/28/13 Analyzed: 07/05/13										
Total Kjeldahl Nitrogen	2.96	0.20	0.05	mg/L	2.5	0.486	98	90-110		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32814 - Digestion for TKN by EPA 351.2										
Matrix Spike (BF32814-MS2)		Source: 1306596-02				Prepared: 06/28/13 Analyzed: 07/06/13				
Total Kjeldahl Nitrogen	3.21	0.20	0.05	mg/L	2.5	0.463	109	90-110		
Matrix Spike Dup (BF32814-MSD1)		Source: 1306400-02				Prepared: 06/28/13 Analyzed: 07/05/13				
Total Kjeldahl Nitrogen	2.95	0.20	0.05	mg/L	2.5	0.486	97	90-110	0.3	20
Matrix Spike Dup (BF32814-MSD2)		Source: 1306596-02				Prepared: 06/28/13 Analyzed: 07/05/13				
Total Kjeldahl Nitrogen	2.87	0.20	0.05	mg/L	2.5	0.463	95	90-110	11	20
Batch BG30106 - Ammonia by SEAL										
Blank (BG30106-BLK1)		Prepared & Analyzed: 07/01/13								
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BG30106-BS1)		Prepared & Analyzed: 07/01/13								
Ammonia as N	0.52	0.040	0.009	mg/L	0.50		104	90-110		
Matrix Spike (BG30106-MS1)		Source: 1305562-07				Prepared & Analyzed: 07/01/13				
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	0.045	92	90-110		
Matrix Spike (BG30106-MS2)		Source: 1305589-02				Prepared & Analyzed: 07/01/13				
Ammonia as N	0.52 J5	0.040	0.009	mg/L	0.50	ND	104	90-110		
Matrix Spike Dup (BG30106-MSD1)		Source: 1305562-07				Prepared & Analyzed: 07/01/13				
Ammonia as N	0.50	0.040	0.009	mg/L	0.50	0.045	91	90-110	1	10
Matrix Spike Dup (BG30106-MSD2)		Source: 1305589-02				Prepared & Analyzed: 07/01/13				
Ammonia as N	0.47	0.040	0.009	mg/L	0.50	ND	94	90-110	10	10

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BG30315 - Ammonia by SEAL										
Blank (BG30315-BLK1) Prepared & Analyzed: 07/03/13										
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BG30315-BS1) Prepared & Analyzed: 07/03/13										
Ammonia as N	0.50	0.040	0.009	mg/L	0.50		101	90-110		
Matrix Spike (BG30315-MS1) Source: 1306374-07 Prepared & Analyzed: 07/03/13										
Ammonia as N	0.51	0.040	0.009	mg/L	0.50	ND	103	90-110		
Matrix Spike Dup (BG30315-MSD1) Source: 1306374-07 Prepared & Analyzed: 07/03/13										
Ammonia as N	0.52	0.040	0.009	mg/L	0.50	ND	104	90-110	1	10

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Work Order: 1305593

Inorganic, Dissolved - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32719 - DOC prep										
Blank (BF32719-BLK1) Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BF32719-BS1) Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	9.65	1.0	0.50	mg/L	10		96	90-110		
Matrix Spike (BF32719-MS1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	9.33	1.0	0.50	mg/L	10	ND	93	85-125		
Matrix Spike Dup (BF32719-MSD1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	8.90	1.0	0.50	mg/L	10	ND	89	85-125	5	25

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Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31334 - Metals Preparation for EPA Method 200.7										
Blank (BF31334-BLK1)										
Calcium	0.042 U	0.50	0.042	mg/L				Prepared & Analyzed: 06/19/13		
Sodium	0.13 U	0.50	0.13	mg/L						
Manganese	0.0010 U	0.010	0.0010	mg/L						
Iron	0.020 U	0.10	0.020	mg/L						
Magnesium	0.020 U	0.50	0.020	mg/L						
Potassium	0.014 I	0.050	0.010	mg/L						
Boron	0.050 U	0.10	0.050	mg/L						
LCS (BF31334-BS1)										
Calcium	20	0.50	0.042	mg/L	20		101	85-115		
Sodium	22	0.50	0.13	mg/L	20		109	85-115		
Potassium	20	0.050	0.010	mg/L	20		102	85-115		
Iron	8.2	0.10	0.020	mg/L	8.0		102	85-115		
Boron	0.43	0.10	0.050	mg/L	0.40		106	85-115		
Manganese	0.40	0.010	0.0010	mg/L	0.40		101	85-115		
Magnesium	20	0.50	0.020	mg/L	20		101	85-115		
Matrix Spike (BF31334-MS1)										
		Source: 1306057-02					Prepared & Analyzed: 06/19/13			
Magnesium	32	0.50	0.020	mg/L	20	11	106	70-130		
Iron	8.2	0.10	0.020	mg/L	8.0	ND	102	70-130		
Boron	0.44	0.10	0.050	mg/L	0.40	ND	109	70-130		
Calcium	72	0.50	0.042	mg/L	20	50	111	70-130		
Potassium	22	0.050	0.010	mg/L	20	0.80	104	70-130		
Manganese	0.40	0.010	0.0010	mg/L	0.40	0.0014	101	70-130		
Sodium	25	0.50	0.13	mg/L	20	4.9	102	70-130		
Matrix Spike (BF31334-MS2)										
		Source: 1306070-01					Prepared & Analyzed: 06/19/13			
Magnesium	120 L	0.50	0.020	mg/L	20	380	NR	70-130		
Sodium	120 L	0.50	0.13	mg/L	20	ND	625	70-130		
Manganese	0.43	0.010	0.0010	mg/L	0.40	0.024	100	70-130		
Boron	1.6	0.10	0.050	mg/L	0.40	1.1	122	70-130		
Iron	9.2	0.10	0.020	mg/L	8.0	1.3	100	70-130		
Potassium	120 L	0.050	0.010	mg/L	20	120	2	70-130		
Calcium	230	0.50	0.042	mg/L	20	210	107	70-130		

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

July 23, 2013

Work Order: 1305593

Metals - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31334 - Metals Preparation for EPA Method 200.7										
Matrix Spike Dup (BF31334-MSD1)										
Source: 1306057-02 Prepared & Analyzed: 06/19/13										
Calcium	73	0.50	0.042	mg/L	20	50	116	70-130	1	20
Boron	0.44	0.10	0.050	mg/L	0.40	ND	110	70-130	1	20
Sodium	26	0.50	0.13	mg/L	20	4.9	108	70-130	5	20
Manganese	0.41	0.010	0.0010	mg/L	0.40	0.0014	101	70-130	0.6	20
Iron	8.2	0.10	0.020	mg/L	8.0	ND	103	70-130	0.7	20
Magnesium	32	0.50	0.020	mg/L	20	11	105	70-130	0.4	20
Potassium	22	0.050	0.010	mg/L	20	0.80	108	70-130	3	20
Matrix Spike Dup (BF31334-MSD2)										
Source: 1306070-01 Prepared & Analyzed: 06/19/13										
Magnesium	120 L	0.50	0.020	mg/L	20	380	NR	70-130	0	20
Potassium	120 L	0.050	0.010	mg/L	20	120	2	70-130	0	20
Manganese	0.42	0.010	0.0010	mg/L	0.40	0.024	100	70-130	0.7	20
Boron	1.5	0.10	0.050	mg/L	0.40	1.1	118	70-130	0.9	20
Iron	9.2	0.10	0.020	mg/L	8.0	1.3	99	70-130	0.4	20
Sodium	120 L	0.50	0.13	mg/L	20	ND	625	70-130	0	20
Calcium	220	0.50	0.042	mg/L	20	210	43	70-130	6	20

SOUTHERN ANALYTICAL LABORATORIES, INC.

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Tampa, FL 33619

July 23, 2013

Work Order: 1305593

* 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 limits and the laboratory practical quantitation limit.

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

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

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

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

Questions regarding this report should be directed to :

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

Kathryn@southernanalyticallabs.com

A handwritten signature in black ink that appears to read "Francis I. Daniels".

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

Client Name _____

Contact / Phone:

Chain of Custody

11

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

 Client Name
Hazen and Sawyer

1305595

Project Name / Location		S&GW Test Facility SE #6 (BKG)		Contact / Phone:	
Samplers: (Signature)					
PARAMETER / CONTAINER DESCRIPTION					
Sample Description	Date	Time	Matrix	Instructions / Remarks:	
DW-Drinking Water WW-Wastewater SW-Surface Water Sl.-Sludge SO-Soil GW-Groundwater SA-Saline Water O-Other R-Reagent Water				Samples intact? <input checked="" type="checkbox"/> N/A	
01 P201-BKG-09	9/11	13:00	GW	Samples intact upon arrival? <input checked="" type="checkbox"/> N/A	
02 LY01-BKG-24			GW	Received on ice? Temp _____ <input checked="" type="checkbox"/> N/A	
03 LY02-BKG-42			GW	Proper preservatives indicated? <input checked="" type="checkbox"/> N/A	
04 P204-BKG-09			GW	Rec'd within holding time? <input checked="" type="checkbox"/> N/A	
05 P205-BKG-09			GW	Volatiles rec'd w/out headspace? <input checked="" type="checkbox"/> N/A	
06 P224-BKG-26			GW	Proper containers used? <input checked="" type="checkbox"/> N/A	
07 P224-BKG-26-DUP			GW		
08 P229-BKG-09	9/11	13:00	GW		
09 P230-BKG-16	9/11	13:30	GW		
10 P231-BKG-26	9/11	14:00	GW		
11 P231-BKG-26-DUP	9/11	14:00	GW		
12 P232-BKG-09	9/11	14:00	GW		
Containers Prepared <i>J. Hanisko</i>	Date/Time: <i>09/11/13</i> Received: <i>09/11/13</i>	Date/Time: <i>09/11/13</i> Received: <i>09/11/13</i>	Date/Time: <i>09/11/13</i> Received: <i>09/11/13</i>	Seal intact? <input checked="" type="checkbox"/> N/A	
Relinquished: <i>J. Hanisko</i>	Date/Time: <i>1515</i> Received: <i>09/11/13</i>	Date/Time: <i>1515</i> Received: <i>09/11/13</i>	Date/Time: <i>1515</i> Received: <i>09/11/13</i>	Samples intact upon arrival? <input checked="" type="checkbox"/> N/A	
Relinquished:				Received on ice? Temp _____ <input checked="" type="checkbox"/> N/A	
Relinquished:				Proper preservatives indicated? <input checked="" type="checkbox"/> N/A	
Relinquished:				Rec'd within holding time? <input checked="" type="checkbox"/> N/A	
Relinquished:				Volatiles rec'd w/out headspace? <input checked="" type="checkbox"/> N/A	
Relinquished:				Proper containers used? <input checked="" type="checkbox"/> N/A	

 Chain of Custody
Rev. Date 1/1/2011

Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

11110 BAYVIEW DR #100, BURNABY, BC V5C 5H2

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

Contact / Phone

Chain of Custody 15

1

SOUTHERN ANALYTICAL LABORATORIES, INC.

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Contact / Phone:

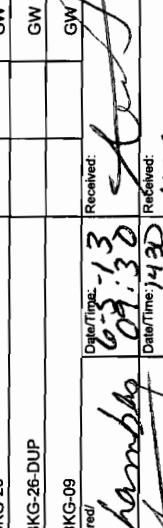
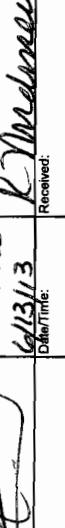
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Chain of Custody

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

1305593

Client Name	Project Name / Location	Contact / Phone:			
	S&GW Test Facility SE #6 (BK/S)				
Samplers: (Signature)					
Sample No.	Matrix Codes:	Parameter / Container Description			Instructions / Remarks:
		Date	Time	Matrix	
01	PZ01-BKG-09	10/13	11:00	GW	<input checked="" type="checkbox"/> Seal intact? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Samples intact upon arrival? <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Received on ice? Temp. _____ <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A
02	LY01-BKG-24			GW	<input checked="" type="checkbox"/> Received on ice? Temp. _____ <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A
03	LY02-BKG-42			GW	<input checked="" type="checkbox"/> Proper preservatives indicated? <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A
04	PZ04-BKG-09			GW	<input checked="" type="checkbox"/> Rec'd within holding time? <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A
05	PZ05-BKG-09			GW	<input checked="" type="checkbox"/> Vials/tiles rec'd w/out headspace? <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A
06	PZ24-BKG-26			GW	<input checked="" type="checkbox"/> Proper containers used? <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A
07	PZ24-BKG-26-DUP			GW	
08	PZ29-BKG-09			GW	
09	PZ30-BKG-16			GW	
10	PZ31-BKG-26			GW	
11	PZ31-BKG-26-DUP			GW	
12	PZ32-BKG-09			GW	
Containers Prepared/Retainee/Initials		Date/Time: 10/13/13	Received: 	Date/Time: 10/13/13	<input checked="" type="checkbox"/> Seal intact? <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Samples intact upon arrival? <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Received on ice? Temp. _____ <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Proper preservatives indicated? <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Rec'd within holding time? <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Vials/tiles rec'd w/out headspace? <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Proper containers used? <input checked="" type="checkbox"/> N <input type="checkbox"/> N/A
Relinquished/Initials		Date/Time: 10/13/13	Received: 	Date/Time: 10/13/13	
Relinquished/Initials		Date/Time: _____	Received: _____	Date/Time: _____	
Relinquished/Initials		Date/Time: _____	Received: _____	Date/Time: _____	
Relinquished/Initials		Date/Time: _____	Received: _____	Date/Time: _____	

Chain of Custody

Chain of Custody
Rev Date 11/19/91

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

July 23, 2013

Work Order: 1305594

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA6-PZ-I							
Matrix	Groundwater							
SAL Sample Number	1305594-01							
Date/Time Collected	06/13/13 10:13							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Inorganics								
Hydrogen Sulfide (Unionized)	mg/L	0.09	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	0.009 U	EPA 350.1	0.040	0.009		07/03/13 10:11	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/03/13 11:28	07/03/13 11:42	1
Bicarbonate Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	40	EPA 410.4	25	10	06/19/13 11:34	06/19/13 16:40	1
Chloride	mg/L	55	EPA 300.0	2.0	0.50		06/21/13 17:48	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	12	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	0.041	SM 4500P-E	0.040	0.010	06/25/13 09:26	07/03/13 10:55	1
Sulfate	mg/L	33	EPA 300.0	0.60	0.20		06/14/13 01:09	1
Sulfide	mg/L	0.10 I	SM 4500SF	0.40	0.10		06/18/13 10:20	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	1.8	EPA 351.2	0.20	0.05	06/28/13 11:10	07/05/13 15:27	1
Total Suspended Solids	mg/L	10	SM 2540D	1	1	06/19/13 16:49	06/20/13 13:37	1
Nitrate+Nitrite (N)	mg/L	12	EPA 300.0	0.08	0.02		06/14/13 01:09	1
Microbiology								
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	06/13/13 15:41	06/14/13 14:21	1

Sample Description	TA6-PZ-I-DUP							
Matrix	Groundwater							
SAL Sample Number	1305594-02							
Date/Time Collected	06/13/13 10:18							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							

Inorganics								
Hydrogen Sulfide (Unionized)	mg/L	0.28	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	0.010 I	EPA 350.1	0.040	0.009		07/03/13 10:13	1
Ammonium as NH4	mg/L	0.01 U	EPA 350.1	0.05	0.01	07/03/13 11:28	07/03/13 11:42	1
Bicarbonate Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	40	EPA 410.4	25	10	06/19/13 10:14	06/20/13 13:45	1

SOUTHERN ANALYTICAL LABORATORIES, INC.

110 BAYVIEW BOULEVARD, OLDSMAR, FL 34677

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

July 23, 2013

Work Order: 1305594

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA6-PZ-I-DUP							
Matrix	Groundwater							
SAL Sample Number	1305594-02							
Date/Time Collected	06/13/13 10:18							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Chloride	mg/L	53	EPA 300.0	2.0	0.50		06/26/13 18:36	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	12	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	0.037 I	SM 4500P-E	0.040	0.010	06/25/13 09:26	07/03/13 10:56	1
Sulfate	mg/L	35	EPA 300.0	0.60	0.20		06/14/13 01:09	1
Sulfide	mg/L	0.10 I	SM 4500SF	0.40	0.10		06/18/13 10:20	1
Total Alkalinity	mg/L	22	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	2.2	EPA 351.2	0.20	0.05	06/28/13 11:10	07/05/13 15:29	1
Total Suspended Solids	mg/L	9	SM 2540D	1	1	06/19/13 16:49	06/20/13 13:37	1
Nitrate+Nitrite (N)	mg/L	12	EPA 300.0	0.08	0.02		06/14/13 01:09	1
Microbiology								
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	06/13/13 15:41	06/14/13 14:21	1
Sample Description	TA6-LY-C							
Matrix	Groundwater							
SAL Sample Number	1305594-03							
Date/Time Collected	06/13/13 08:03							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Inorganics								
Hydrogen Sulfide (Unionized)	mg/L	4.5	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	0.023 I	EPA 350.1	0.040	0.009		07/03/13 10:15	1
Ammonium as NH4	mg/L	0.03 I	EPA 350.1	0.05	0.01	07/03/13 11:28	07/03/13 11:42	1
Bicarbonate Alkalinity	mg/L	110	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	65	EPA 410.4	25	10	06/19/13 11:34	06/19/13 16:40	1
Chloride	mg/L	12	EPA 300.0	0.20	0.050		06/14/13 01:09	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	1.0	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Nitrite (as N)	mg/L	0.05	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	5.1	SM 4500P-E	0.20	0.050	06/25/13 09:26	07/03/13 11:32	5
Sulfate	mg/L	8.5	EPA 300.0	0.60	0.20		06/14/13 01:09	1
Sulfide	mg/L	5.1	SM 4500SF	0.40	0.10		06/18/13 10:20	1

Florida Certification Number: E84129

NELAP Accredited

Francis I. Daniels, Laboratory Director

Leslie C. Boardman, Q.A. Manager

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

July 23, 2013

Work Order: 1305594

Laboratory Report

S&GW Test Facility SE#6								
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA6-LY-C							
Matrix	Groundwater							
SAL Sample Number	1305594-03							
Date/Time Collected	06/13/13 08:03							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Total Alkalinity	mg/L	110	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	1.5	EPA 351.2	0.20	0.05	06/28/13 11:10	07/05/13 15:30	1
Total Suspended Solids	mg/L	3	SM 2540D	1	1	06/19/13 16:49	06/20/13 13:37	1
Nitrate+Nitrite (N)	mg/L	1.1	EPA 300.0	0.08	0.02		06/14/13 01:09	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	33	SM 5310B	1.0	0.50		06/27/13 09:48	1
Sample Description	TA6-LINER-SP							
Matrix	Groundwater							
SAL Sample Number	1305594-04							
Date/Time Collected	06/13/13 10:20							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Inorganics								
Hydrogen Sulfide (Unionized)	mg/L	8.7	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	0.84	EPA 350.1	0.040	0.009		07/03/13 10:17	1
Ammonium as NH4	mg/L	1.1	EPA 350.1	0.05	0.01	07/03/13 11:28	07/03/13 11:42	1
Bicarbonate Alkalinity	mg/L	290	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	120	EPA 410.4	25	10	06/26/13 12:00	06/26/13 15:15	1
Chloride	mg/L	41	EPA 300.0	2.0	0.50		06/24/13 20:28	10
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	0.08	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	7.6	SM 4500P-E	0.20	0.050	06/25/13 09:32	06/28/13 14:09	5
Sulfate	mg/L	39	EPA 300.0	0.60	0.20		06/14/13 01:09	1
Sulfide	mg/L	11	SM 4500SF	0.40	0.10		06/18/13 10:20	1
Total Alkalinity	mg/L	290	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	3.3	EPA 351.2	0.20	0.05	06/28/13 11:10	07/05/13 15:31	1
Total Suspended Solids	mg/L	1 U	SM 2540D	1	1	06/19/13 16:49	06/20/13 13:37	1
Nitrate+Nitrite (N)	mg/L	0.08	EPA 300.0	0.08	0.02		06/14/13 01:09	1

SOUTHERN ANALYTICAL LABORATORIES, INC.

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

July 23, 2013

Work Order: 1305594

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA6-Denite Tank							
Matrix	Groundwater							
SAL Sample Number	1305594-05							
Date/Time Collected	06/13/13 11:20							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Inorganics								
Hydrogen Sulfide (Unionized)	mg/L	8.3	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	0.21	EPA 350.1	0.040	0.009		07/03/13 10:19	1
Ammonium as NH4	mg/L	0.28	EPA 350.1	0.05	0.01	07/03/13 11:28	07/03/13 11:42	1
Bicarbonate Alkalinity	mg/L	210	SM 2320B	8.0	2.0		06/25/13 16:00	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 16:00	1
Chemical Oxygen Demand	mg/L	160	EPA 410.4	25	10	06/19/13 11:34	06/19/13 16:40	1
Chloride	mg/L	40	EPA 300.0	0.20	0.050		06/14/13 01:09	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 16:00	1
Nitrate (as N)	mg/L	0.17	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 16:00	1
Phosphorous - Total as P	mg/L	7.2	SM 4500P-E	0.20	0.050	06/25/13 09:32	06/28/13 14:10	5
Sulfate	mg/L	88	EPA 300.0	0.60	0.20		06/14/13 01:09	1
Sulfide	mg/L	11	SM 4500SF	0.40	0.10		06/18/13 10:20	1
Total Alkalinity	mg/L	210	SM 2320B	8.0	2.0		06/25/13 16:00	1
Total Kjeldahl Nitrogen	mg/L	1.6	EPA 351.2	0.20	0.05	06/28/13 11:10	07/05/13 15:33	9.62
Total Organic Carbon	mg/L	66	SM 5310B	1.0	0.50		06/27/13 09:48	1
Total Suspended Solids	mg/L	56	SM 2540D	1	1	06/20/13 10:16	06/20/13 17:05	1
Nitrate+Nitrite (N)	mg/L	0.17	EPA 300.0	0.08	0.02		06/14/13 01:09	1
Inorganic, Dissolved								
Dissolved Organic Carbon	mg/L	66	SM 5310B	1.0	0.50		06/27/13 09:48	1
Microbiology								
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	06/13/13 15:41	06/14/13 14:21	1

Sample Description	TA6-SULFUR-3 inch							
Matrix	Groundwater							
SAL Sample Number	1305594-06							
Date/Time Collected	06/13/13 11:55							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							

Inorganics								
Hydrogen Sulfide (Unionized)	mg/L	19	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	0.54	EPA 350.1	0.040	0.009		07/03/13 10:21	1
Ammonium as NH4	mg/L	0.69	EPA 350.1	0.05	0.01	07/03/13 11:28	07/03/13 11:42	1
Bicarbonate Alkalinity	mg/L	210	SM 2320B	8.0	2.0		06/27/13 09:15	1

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July 23, 2013

Work Order: 1305594

Laboratory Report

S&GW Test Facility SE#6								
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA6-SULFUR-3 inch							
Matrix	Groundwater							
SAL Sample Number	1305594-06							
Date/Time Collected	06/13/13 11:55							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	87	EPA 410.4	25	10	06/18/13 12:51	06/18/13 16:20	1
Chloride	mg/L	37	EPA 300.0	0.20	0.050		06/14/13 01:09	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	0.08	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	7.8	SM 4500P-E	0.20	0.050	06/25/13 09:32	06/28/13 14:11	5
Sulfate	mg/L	36	EPA 300.0	0.60	0.20		06/14/13 01:09	1
Sulfide	mg/L	25	SM 4500SF	0.40	0.10		06/18/13 10:20	1
Total Alkalinity	mg/L	210	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	1.7	EPA 351.2	0.20	0.05	06/28/13 11:10	07/05/13 15:34	9.62
Total Suspended Solids	mg/L	1	SM 2540D	1	1	06/20/13 10:16	06/20/13 17:05	1
Nitrate+Nitrite (N)	mg/L	0.08	EPA 300.0	0.08	0.02		06/14/13 01:09	1
<u>Microbiology</u>								
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	06/13/13 15:41	06/14/13 14:21	1
Sample Description	TA6-SULFUR-7 inch							
Matrix	Groundwater							
SAL Sample Number	1305594-07							
Date/Time Collected	06/13/13 11:46							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
<u>Inorganics</u>								
Hydrogen Sulfide (Unionized)	mg/L	15	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	0.37	EPA 350.1	0.040	0.009		07/03/13 10:23	1
Ammonium as NH4	mg/L	0.48	EPA 350.1	0.05	0.01	07/03/13 11:28	07/03/13 11:42	1
Bicarbonate Alkalinity	mg/L	190	SM 2320B	8.0	2.0		06/25/13 16:00	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 16:00	1
Chemical Oxygen Demand	mg/L	160	EPA 410.4	25	10	06/19/13 11:34	06/19/13 16:40	1
Chloride	mg/L	39	EPA 300.0	0.20	0.050		06/14/13 01:09	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 16:00	1
Nitrate (as N)	mg/L	0.08	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/25/13 16:00	1

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July 23, 2013

Work Order: 1305594

Laboratory Report

S&GW Test Facility SE#6								
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA6-SULFUR-7 inch							
Matrix	Groundwater							
SAL Sample Number	1305594-07							
Date/Time Collected	06/13/13 11:46							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Phosphorous - Total as P	mg/L	7.7	SM 4500P-E	0.20	0.050	06/25/13 09:32	06/28/13 14:12	5
Sulfate	mg/L	36	EPA 300.0	0.60	0.20		06/14/13 01:09	1
Sulfide	mg/L	19	SM 4500SF	0.40	0.10		06/18/13 10:20	1
Total Alkalinity	mg/L	190	SM 2320B	8.0	2.0		06/25/13 16:00	1
Total Kjeldahl Nitrogen	mg/L	1.7	EPA 351.2	0.20	0.05	06/28/13 11:10	07/05/13 15:35	9.62
Total Suspended Solids	mg/L	1	SM 2540D	1	1	06/20/13 10:16	06/20/13 17:05	1
Nitrate+Nitrite (N)	mg/L	0.08	EPA 300.0	0.08	0.02		06/14/13 01:09	1
<u>Microbiology</u>								
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	06/13/13 15:41	06/14/13 14:21	1
Sample Description	TA6-SULFUR-12 inch							
Matrix	Groundwater							
SAL Sample Number	1305594-08							
Date/Time Collected	06/13/13 11:40							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
<u>Inorganics</u>								
Hydrogen Sulfide (Unionized)	mg/L	14	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	0.31	EPA 350.1	0.040	0.009		07/03/13 10:25	1
Ammonium as NH4	mg/L	0.40	EPA 350.1	0.05	0.01	07/03/13 11:28	07/03/13 11:42	1
Bicarbonate Alkalinity	mg/L	190	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonaceous BOD	mg/L	2 U	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	170	EPA 410.4	25	10	06/19/13 11:34	06/19/13 16:40	1
Chloride	mg/L	35	EPA 300.0	0.20	0.050		06/14/13 01:09	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	7.8	SM 4500P-E	0.20	0.050	06/25/13 09:32	06/28/13 14:13	5
Sulfate	mg/L	36	EPA 300.0	0.60	0.20		06/14/13 01:09	1
Sulfide	mg/L	17	SM 4500SF	0.40	0.10		06/18/13 10:20	1
Total Alkalinity	mg/L	190	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	1.9	EPA 351.2	0.20	0.05	06/28/13 11:10	07/05/13 15:42	9.62
Total Suspended Solids	mg/L	1 U	SM 2540D	1	1	06/20/13 10:16	06/20/13 17:05	1
Nitrate+Nitrite (N)	mg/L	0.02 U	EPA 300.0	0.08	0.02		06/14/13 01:09	1
<u>Microbiology</u>								

Florida Certification Number: E84129

NELAP Accredited

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

SOUTHERN ANALYTICAL LABORATORIES, INC.

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July 23, 2013

Work Order: 1305594

Laboratory Report

Project Name		S&GW Test Facility SE#6						
Parameters	Units	Results *	Method	PQL	MDL	Prepared	Analyzed	Dilution
Sample Description	TA6-SULFUR-12 inch							
Matrix	Groundwater							
SAL Sample Number	1305594-08							
Date/Time Collected	06/13/13 11:40							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	06/13/13 15:41	06/14/13 14:21	1
Sample Description	TA6-SULFUR-18 inch							
Matrix	Groundwater							
SAL Sample Number	1305594-09							
Date/Time Collected	06/13/13 11:31							
Collected by	Sean Schmidt							
Date/Time Received	06/13/13 14:30							
Inorganics								
Hydrogen Sulfide (Unionized)	mg/L	14	SM 4550SF	0.04	0.01		06/18/13 10:20	1
Ammonia as N	mg/L	0.23	EPA 350.1	0.040	0.009		07/03/13 10:27	1
Ammonium as NH4	mg/L	0.30	EPA 350.1	0.05	0.01	07/03/13 11:28	07/03/13 11:42	1
Bicarbonate Alkalinity	mg/L	190	SM 2320B	8.0	2.0		06/27/13 09:15	1
Carbonaceous BOD	mg/L	12	SM 5210B	2	2	06/14/13 15:51	06/19/13 17:14	1
Carbonate Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Chemical Oxygen Demand	mg/L	160	EPA 410.4	25	10	06/19/13 10:14	06/20/13 13:45	1
Chloride	mg/L	39	EPA 300.0	0.20	0.050		06/14/13 01:09	1
Hydroxide Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Nitrate (as N)	mg/L	0.08	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Nitrite (as N)	mg/L	0.01 U	EPA 300.0	0.04	0.01		06/14/13 01:09	1
Phenolphthalein Alkalinity	mg/L	2.0 U	SM 2320B	8.0	2.0		06/27/13 09:15	1
Phosphorous - Total as P	mg/L	6.4	SM 4500P-E	0.80	0.20	06/26/13 14:55	07/05/13 12:18	20
Sulfate	mg/L	61	EPA 300.0	0.60	0.20		06/14/13 01:09	1
Sulfide	mg/L	17	SM 4500SF	0.40	0.10		06/18/13 10:20	1
Total Alkalinity	mg/L	190	SM 2320B	8.0	2.0		06/27/13 09:15	1
Total Kjeldahl Nitrogen	mg/L	1.6	EPA 351.2	0.20	0.05	06/28/13 11:10	07/05/13 15:44	9.62
Total Suspended Solids	mg/L	8	SM 2540D	1	1	06/20/13 10:16	06/20/13 17:05	1
Nitrate+Nitrite (N)	mg/L	0.08	EPA 300.0	0.08	0.02		06/14/13 01:09	1
Microbiology								
Fecal Coliforms	CFU/100 ml	1 U	SM 9222D	1	1	06/13/13 15:41	06/14/13 14:21	1

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July 23, 2013

Work Order: 1305594

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31414 - Ion Chromatography 300.0 Prep										
Blank (BF31414-BLK1)										
Sulfate	0.20 U	0.60	0.20	mg/L						
Chloride	0.050 U	0.20	0.050	mg/L						
Nitrite (as N)	0.01 U	0.04	0.01	mg/L						
Nitrate (as N)	0.01 U	0.04	0.01	mg/L						
LCS (BF31414-BS1)										
Sulfate	8.44	0.60	0.20	mg/L	9.0		94	85-115		
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4		93	85-115		
Nitrate (as N)	1.57	0.04	0.01	mg/L	1.7		92	85-115		
Chloride	2.80	0.20	0.050	mg/L	3.0		93	85-115		
LCS Dup (BF31414-BSD1)										
Nitrate (as N)	1.58	0.04	0.01	mg/L	1.7		93	85-115	0.6	200
Sulfate	8.48	0.60	0.20	mg/L	9.0		94	85-115	0.6	200
Chloride	2.80	0.20	0.050	mg/L	3.0		94	85-115	0.3	200
Nitrite (as N)	1.30	0.04	0.01	mg/L	1.4		93	85-115	0.4	200
Matrix Spike (BF31414-MS1)										
Source: 1305594-01					Prepared & Analyzed: 06/14/13					
Sulfate	42.0	0.60	0.20	mg/L	9.0	33.5	94	85-115		
Chloride	30.0 L	0.20	0.050	mg/L	3.0	ND	1000	80-120		
Nitrate (as N)	13.6	0.04	0.01	mg/L	1.7	11.8	104	85-115		
Nitrite (as N)	1.49	0.04	0.01	mg/L	1.4	ND	106	85-115		
Matrix Spike (BF31414-MS2)										
Source: 1305867-02					Prepared & Analyzed: 06/14/13					
Sulfate	89.7	0.60	0.20	mg/L	9.0	80.2	105	85-115		
Chloride	30.0 L	0.20	0.050	mg/L	3.0	46.1	NR	80-120		
Nitrite (as N)	1.53	0.04	0.01	mg/L	1.4	ND	110	85-115		
Nitrate (as N)	1.91	0.04	0.01	mg/L	1.7	0.351	92	85-115		

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July 23, 2013

Work Order: 1305594

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31432 - BOD										
Blank (BF31432-BLK1) Prepared: 06/14/13 Analyzed: 06/19/13										
Carbonaceous BOD	2 U	2	2	mg/L						
Blank (BF31432-BLK2) Prepared: 06/14/13 Analyzed: 06/19/13										
Carbonaceous BOD	2 U	2	2	mg/L						
LCS (BF31432-BS1) Prepared: 06/14/13 Analyzed: 06/19/13										
Carbonaceous BOD	200	2	2	mg/L	200		100	85-115		
LCS (BF31432-BS2) Prepared: 06/14/13 Analyzed: 06/19/13										
Carbonaceous BOD	195	2	2	mg/L	200		97	85-115		
LCS Dup (BF31432-BSD1) Prepared: 06/14/13 Analyzed: 06/19/13										
Carbonaceous BOD	192	2	2	mg/L	200		96	85-115	4	200
LCS Dup (BF31432-BSD2) Prepared: 06/14/13 Analyzed: 06/19/13										
Carbonaceous BOD	194	2	2	mg/L	200		97	85-115	0.3	200
Duplicate (BF31432-DUP1) Source: 1305570-04 Prepared: 06/14/13 Analyzed: 06/19/13										
Carbonaceous BOD	2 U	2	2	mg/L		ND				25
Duplicate (BF31432-DUP2) Source: 1305594-09 Prepared: 06/14/13 Analyzed: 06/19/13										
Carbonaceous BOD	13	2	2	mg/L		12			2	25
Batch BF31832 - COD prep										
Blank (BF31832-BLK1) Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						

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July 23, 2013

Work Order: 1305594

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31832 - COD prep										
LCS (BF31832-BS1) Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	53	25	10	mg/L	50		105	90-110		
Matrix Spike (BF31832-MS1) Source: 1305562-08 Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	51	25	10	mg/L	50	ND	102	85-115		
Matrix Spike Dup (BF31832-MSD1) Source: 1305562-08 Prepared & Analyzed: 06/18/13										
Chemical Oxygen Demand	49	25	10	mg/L	50	ND	98	85-115	4	32
Batch BF31842 - Sulfide prep										
Blank (BF31842-BLK1) Prepared & Analyzed: 06/18/13										
Sulfide	0.10 U	0.40	0.10	mg/L						
Blank (BF31842-BLK2) Prepared & Analyzed: 06/18/13										
Sulfide	0.10 U	0.40	0.10	mg/L						
LCS (BF31842-BS1) Prepared & Analyzed: 06/18/13										
Sulfide	4.86	0.40	0.10	mg/L	5.0		97	85-115		
LCS (BF31842-BS2) Prepared & Analyzed: 06/18/13										
Sulfide	4.65	0.40	0.10	mg/L	5.0		93	85-115		
Matrix Spike (BF31842-MS1) Source: 1305570-02 Prepared & Analyzed: 06/18/13										
Sulfide	4.86	0.40	0.10	mg/L	5.0	ND	97	85-115		
Matrix Spike (BF31842-MS2) Source: 1306228-01 Prepared & Analyzed: 06/18/13										
Sulfide	5.26	0.40	0.10	mg/L	5.0	0.710	91	85-115		

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July 23, 2013

Work Order: 1305594

Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31842 - Sulfide prep										
Matrix Spike Dup (BF31842-MSD1) Source: 1305570-02 Prepared & Analyzed: 06/18/13										
Sulfide	4.86	0.40	0.10	mg/L	5.0	ND	97	85-115	0	14
Matrix Spike Dup (BF31842-MSD2) Source: 1306228-01 Prepared & Analyzed: 06/18/13										
Sulfide	5.26	0.40	0.10	mg/L	5.0	0.710	91	85-115	0	14
Batch BF31915 - COD prep										
Blank (BF31915-BLK1) Prepared: 06/19/13 Analyzed: 06/20/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31915-BS1) Prepared: 06/19/13 Analyzed: 06/20/13										
Chemical Oxygen Demand	55	25	10	mg/L	50		110	90-110		
Matrix Spike (BF31915-MS1) Source: 1305562-05 Prepared: 06/19/13 Analyzed: 06/20/13										
Chemical Oxygen Demand	67	25	10	mg/L	50	16	102	85-115		
Matrix Spike Dup (BF31915-MSD1) Source: 1305562-05 Prepared: 06/19/13 Analyzed: 06/20/13										
Chemical Oxygen Demand	67	25	10	mg/L	50	16	102	85-115	0	32
Batch BF31916 - COD prep										
Blank (BF31916-BLK1) Prepared & Analyzed: 06/19/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF31916-BS1) Prepared & Analyzed: 06/19/13										
Chemical Oxygen Demand	49	25	10	mg/L	50		98	90-110		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31916 - COD prep										
Matrix Spike (BF31916-MS1) Source: 1305562-14 Prepared & Analyzed: 06/19/13										
Chemical Oxygen Demand	59	25	10	mg/L	50	12	94	85-115		
Matrix Spike Dup (BF31916-MSD1) Source: 1305562-14 Prepared & Analyzed: 06/19/13										
Chemical Oxygen Demand	59	25	10	mg/L	50	12	94	85-115	0	32
Batch BF31932 - TSS prep										
Blank (BF31932-BLK1) Prepared: 06/19/13 Analyzed: 06/20/13										
Total Suspended Solids	1 U	1	1	mg/L						
LCS (BF31932-BS1) Prepared: 06/19/13 Analyzed: 06/20/13										
Total Suspended Solids	44.0	1	1	mg/L	50		88	85-115		
Duplicate (BF31932-DUP1) Source: 1305557-05 Prepared: 06/19/13 Analyzed: 06/20/13										
Total Suspended Solids	2.00	1	1	mg/L		2.00			0	30
Batch BF32014 - TSS prep										
Blank (BF32014-BLK1) Prepared & Analyzed: 06/20/13										
Total Suspended Solids	1 U	1	1	mg/L						
LCS (BF32014-BS1) Prepared & Analyzed: 06/20/13										
Total Suspended Solids	53.2	1	1	mg/L	50		106	85-115		
Duplicate (BF32014-DUP1) Source: 1305594-05 Prepared & Analyzed: 06/20/13										
Total Suspended Solids	54.5	1	1	mg/L		56.0			3	30

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32112 - Ion Chromatography 300.0 Prep										
Blank (BF32112-BLK1) Prepared & Analyzed: 06/21/13										
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BF32112-BS1) Prepared & Analyzed: 06/21/13										
Chloride	3.03	0.20	0.050	mg/L	3.0	101	85-115			
LCS Dup (BF32112-BSD1) Prepared & Analyzed: 06/21/13										
Chloride	3.03	0.20	0.050	mg/L	3.0	101	85-115	0.07	200	
Matrix Spike (BF32112-MS1) Source: 1306391-01 Prepared & Analyzed: 06/21/13										
Chloride	10.5	0.20	0.050	mg/L	3.0	7.29	106	80-120		
Matrix Spike (BF32112-MS2) Source: 1305590-11 Prepared & Analyzed: 06/21/13										
Chloride	121	2.0	0.50	mg/L	30	91.4	98	80-120		
Batch BF32417 - Ion Chromatography 300.0 Prep										
Blank (BF32417-BLK1) Prepared & Analyzed: 06/24/13										
Chloride	0.050 U	0.20	0.050	mg/L						
LCS (BF32417-BS1) Prepared & Analyzed: 06/24/13										
Chloride	3.02	0.20	0.050	mg/L	3.0	101	85-115			
LCS Dup (BF32417-BSD1) Prepared & Analyzed: 06/24/13										
Chloride	2.95	0.20	0.050	mg/L	3.0	98	85-115	3	200	
Matrix Spike (BF32417-MS1) Source: 1305571-06 Prepared & Analyzed: 06/24/13										
Chloride	101	2.0	0.50	mg/L	30	72.0	97	80-120		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32417 - Ion Chromatography 300.0 Prep										
Matrix Spike (BF32417-MS2) Source: 1305987-03 Prepared & Analyzed: 06/24/13										
Chloride	1,150	20	5.0	mg/L	300	833	104	80-120		
Batch BF32510 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF32510-BLK1) Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						
LCS (BF32510-BS1) Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	0.809	0.040	0.010	mg/L	0.80		101	90-110		
Matrix Spike (BF32510-MS1) Source: 1305570-01 Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	1.05	0.040	0.010	mg/L	1.0	0.0183	103	90-110		
Matrix Spike (BF32510-MS2) Source: 1305593-13 Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	1.04	0.040	0.010	mg/L	1.0	0.0595	98	90-110		
Matrix Spike Dup (BF32510-MSD1) Source: 1305570-01 Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	1.02	0.040	0.010	mg/L	1.0	0.0183	100	90-110	3	25
Matrix Spike Dup (BF32510-MSD2) Source: 1305593-13 Prepared: 06/25/13 Analyzed: 07/03/13										
Phosphorous - Total as P	0.979	0.040	0.010	mg/L	1.0	0.0595	92	90-110	6	25
Batch BF32512 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF32512-BLK1) Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32512 - Digestion for TP by EPA 365.2/SM4500PE										
LCS (BF32512-BS1) Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.744	0.040	0.010	mg/L	0.80	93	90-110			
Matrix Spike (BF32512-MS1) Source: 1306152-02 Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.929	0.040	0.010	mg/L	1.0	ND	93	90-110		
Matrix Spike Dup (BF32512-MSD1) Source: 1306152-02 Prepared: 06/25/13 Analyzed: 06/28/13										
Phosphorous - Total as P	0.937	0.040	0.010	mg/L	1.0	ND	94	90-110	0.9	25
Batch BF32609 - COD prep										
Blank (BF32609-BLK1) Prepared & Analyzed: 06/26/13										
Chemical Oxygen Demand	10 U	25	10	mg/L						
LCS (BF32609-BS1) Prepared & Analyzed: 06/26/13										
Chemical Oxygen Demand	51	25	10	mg/L	50	102	90-110			
Matrix Spike (BF32609-MS1) Source: 1305594-04 Prepared & Analyzed: 06/26/13										
Chemical Oxygen Demand	210	25	10	mg/L	100	120	86	85-115		
Matrix Spike Dup (BF32609-MSD1) Source: 1305594-04 Prepared & Analyzed: 06/26/13										
Chemical Oxygen Demand	210	25	10	mg/L	100	120	86	85-115	0	32
Batch BF32613 - Ion Chromatography 300.0 Prep										
Blank (BF32613-BLK1) Prepared & Analyzed: 06/26/13										
Chloride	0.050 U	0.20	0.050	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 BF32613 - Ion Chromatography 300.0 Prep										
LCS (BF32613-BS1) Prepared & Analyzed: 06/26/13										
Chloride	2.99	0.20	0.050	mg/L	3.0		100	85-115		
LCS Dup (BF32613-BSD1) Prepared & Analyzed: 06/26/13										
Chloride	2.93	0.20	0.050	mg/L	3.0		98	85-115	2	200
Matrix Spike (BF32613-MS1) Source: 1305594-02 Prepared & Analyzed: 06/26/13										
Nitrate (as N)	28.6	0.40	0.10	mg/L	17	11.9	98	85-115		
Chloride	82.1	2.0	0.50	mg/L	30	52.9	97	80-120		
Nitrite (as N)	14.3	0.40	0.10	mg/L	14	ND	102	85-115		
Sulfate	121	6.0	2.0	mg/L	90	33.9	96	85-115		
Matrix Spike (BF32613-MS2) Source: 1306546-01 Prepared & Analyzed: 06/26/13										
Chloride	300 L	2.0	0.50	mg/L	30	1230	NR	80-120		
Batch BF32620 - Digestion for TP by EPA 365.2/SM4500PE										
Blank (BF32620-BLK1) Prepared: 06/26/13 Analyzed: 07/05/13										
Phosphorous - Total as P	0.010 U	0.040	0.010	mg/L						
LCS (BF32620-BS1) Prepared: 06/26/13 Analyzed: 07/05/13										
Phosphorous - Total as P	0.745	0.040	0.010	mg/L	0.80		93	90-110		
Matrix Spike (BF32620-MS1) Source: 1306448-07 Prepared: 06/26/13 Analyzed: 07/05/13										
Phosphorous - Total as P	1.03	0.040	0.010	mg/L	1.0	0.0459	98	90-110		
Matrix Spike (BF32620-MS2) Source: 1306491-07 Prepared: 06/26/13 Analyzed: 07/05/13										
Phosphorous - Total as P	0.973	0.040	0.010	mg/L	1.0	0.0388	93	90-110		

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32620 - Digestion for TP by EPA 365.2/SM4500PE										
Matrix Spike Dup (BF32620-MSD1)		Source: 1306448-07				Prepared: 06/26/13 Analyzed: 07/05/13				
Phosphorous - Total as P	1.04	0.040	0.010	mg/L	1.0	0.0459	99	90-110	1	25

Matrix Spike Dup (BF32620-MSD2)		Source: 1306491-07				Prepared: 06/26/13 Analyzed: 07/05/13				
Phosphorous - Total as P	0.996	0.040	0.010	mg/L	1.0	0.0388	96	90-110	2	25

Batch BF32718 - TOC prep

Blank (BF32718-BLK1)		Prepared & Analyzed: 06/27/13								
Total Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BF32718-BS1)		Prepared & Analyzed: 06/27/13								
Total Organic Carbon	9.56	1.0	0.50	mg/L	10		96	90-110		
Matrix Spike (BF32718-MS1)		Source: 1305589-03				Prepared & Analyzed: 06/27/13				
Total Organic Carbon	9.52	1.0	0.50	mg/L	10	ND	95	85-115		
Matrix Spike Dup (BF32718-MSD1)		Source: 1305589-03				Prepared & Analyzed: 06/27/13				
Total Organic Carbon	9.51	1.0	0.50	mg/L	10	ND	95	85-115	0.07	10

Batch BF32810 - alkalinity

Blank (BF32810-BLK1)		Prepared & Analyzed: 06/27/13								
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein 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 BF32810 - alkalinity										
Blank (BF32810-BLK2) Prepared & Analyzed: 06/27/13										
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Total Alkalinity	2.0 U	8.0	2.0	mg/L						
LCS (BF32810-BS1) Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120		96	90-110		
LCS (BF32810-BS2) Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120		96	90-110		
Matrix Spike (BF32810-MS1) Source: 1305593-13 Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	11	87	80-120		
Matrix Spike (BF32810-MS2) Source: 1305558-05 Prepared & Analyzed: 06/27/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120		
Matrix Spike Dup (BF32810-MSD1) Source: 1305593-13 Prepared & Analyzed: 06/27/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	11	87	80-120	0	26
Matrix Spike Dup (BF32810-MSD2) Source: 1305558-05 Prepared & Analyzed: 06/27/13										
Total Alkalinity	140	8.0	2.0	mg/L	120	22	96	80-120	0	26
Batch BF32811 - alkalinity										
Blank (BF32811-BLK1) Prepared & Analyzed: 06/25/13										
Bicarbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Carbonate Alkalinity	2.0 U	8.0	2.0	mg/L						
Hydroxide Alkalinity	2.0 U	8.0	2.0	mg/L						
Phenolphthalein Alkalinity	2.0 U	8.0	2.0	mg/L						
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 BF32811 - alkalinity										
LCS (BF32811-BS1) Prepared & Analyzed: 06/25/13										
Total Alkalinity	120	8.0	2.0	mg/L	120	96	90-110			
Matrix Spike (BF32811-MS1) Source: 1306198-02 Prepared & Analyzed: 06/25/13										
Total Alkalinity	190	8.0	2.0	mg/L	120	65	96	80-120		
Matrix Spike Dup (BF32811-MSD1) Source: 1306198-02 Prepared & Analyzed: 06/25/13										
Total Alkalinity	190	8.0	2.0	mg/L	120	65	96	80-120	0	26
Batch BF32814 - Digestion for TKN by EPA 351.2										
Blank (BF32814-BLK1) Prepared: 06/28/13 Analyzed: 07/05/13										
Total Kjeldahl Nitrogen	0.05 U	0.20	0.05	mg/L						
LCS (BF32814-BS1) Prepared: 06/28/13 Analyzed: 07/05/13										
Total Kjeldahl Nitrogen	2.44	0.20	0.05	mg/L	2.5	96	90-110			
Matrix Spike (BF32814-MS1) Source: 1306400-02 Prepared: 06/28/13 Analyzed: 07/05/13										
Total Kjeldahl Nitrogen	2.96	0.20	0.05	mg/L	2.5	0.486	98	90-110		
Matrix Spike (BF32814-MS2) Source: 1306596-02 Prepared: 06/28/13 Analyzed: 07/06/13										
Total Kjeldahl Nitrogen	3.21	0.20	0.05	mg/L	2.5	0.463	109	90-110		
Matrix Spike Dup (BF32814-MSD1) Source: 1306400-02 Prepared: 06/28/13 Analyzed: 07/05/13										
Total Kjeldahl Nitrogen	2.95	0.20	0.05	mg/L	2.5	0.486	97	90-110	0.3	20
Matrix Spike Dup (BF32814-MSD2) Source: 1306596-02 Prepared: 06/28/13 Analyzed: 07/05/13										
Total Kjeldahl Nitrogen	2.87	0.20	0.05	mg/L	2.5	0.463	95	90-110	11	20

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Inorganics - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BG30235 - Ammonia by SEAL										
Blank (BG30235-BLK1) Prepared & Analyzed: 07/03/13										
Ammonia as N	0.009 U	0.040	0.009	mg/L						
LCS (BG30235-BS1) Prepared & Analyzed: 07/03/13										
Ammonia as N	0.51	0.040	0.009	mg/L	0.50		102	90-110		
Matrix Spike (BG30235-MS1) Source: 1306152-02 Prepared & Analyzed: 07/03/13										
Ammonia as N	0.52	0.040	0.009	mg/L	0.50	0.033	98	90-110		
Matrix Spike (BG30235-MS2) Source: 1306152-01 Prepared & Analyzed: 07/03/13										
Ammonia as N	0.53	0.040	0.009	mg/L	0.50	0.043	96	90-110		
Matrix Spike Dup (BG30235-MSD1) Source: 1306152-02 Prepared & Analyzed: 07/03/13										
Ammonia as N	0.54	0.040	0.009	mg/L	0.50	0.033	100	90-110	3	10
Matrix Spike Dup (BG30235-MSD2) Source: 1306152-01 Prepared & Analyzed: 07/03/13										
Ammonia as N	0.54	0.040	0.009	mg/L	0.50	0.043	99	90-110	2	10

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Inorganic, Dissolved - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF32719 - DOC prep										
Blank (BF32719-BLK1) Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	0.50 U	1.0	0.50	mg/L						
LCS (BF32719-BS1) Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	9.65	1.0	0.50	mg/L	10		96	90-110		
Matrix Spike (BF32719-MS1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	9.33	1.0	0.50	mg/L	10	ND	93	85-125		
Matrix Spike Dup (BF32719-MSD1) Source: 1305589-03 Prepared & Analyzed: 06/27/13										
Dissolved Organic Carbon	8.90	1.0	0.50	mg/L	10	ND	89	85-125	5	25

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Microbiology - Quality Control

Analyte	Result	PQL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch BF31331 - FC-MF										
Blank (BF31331-BLK1) Prepared: 06/13/13 Analyzed: 06/14/13										
Fecal Coliforms	1 U	1	1	CFU/100 ml						
Duplicate (BF31331-DUP1) Source: 1305594-01 Prepared: 06/13/13 Analyzed: 06/14/13										
Fecal Coliforms	1 U	1	1	CFU/100 ml		ND				200
Duplicate (BF31331-DUP2) Source: 1305570-01 Prepared: 06/13/13 Analyzed: 06/14/13										
Fecal Coliforms	1 U	1	1	CFU/100 ml		ND				200
Duplicate (BF31331-DUP3) Source: 1305557-06 Prepared: 06/13/13 Analyzed: 06/14/13										
Fecal Coliforms	1 U	1	1	CFU/100 ml		ND				200

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*** 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 limits and the laboratory practical quantitation limit.

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

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

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

L Off-scale high. Result exceeded highest calibration standard.

Questions regarding this report should be directed to :

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Appendix F: Water Quality Analytical Results

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Table F.1
Water Quality Analytical Results
June 10 through June 13, 2013)

Sample ID	Sample Date/Time	Temp	pH	Total Alkalinity	DO	Specific Conductance (μS)	TSS (mg/L)	CBOD ₅ (mg/L)	COD (mg/L)	TN (mg/L N) ¹	TKN (mg/L N)	Organic N (mg/L N) ²	NH ₃ -N (mg/L N)	NOx (mg/L N)	TIN (mg/L N) ³	TP (mg/L)	Fecal Coliform (Ct/100 mL)	E. coli (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								
Effluent Samples																																									
PNRS II STE-Tank 1	6/13/13 12:00	27.6	6.90	350	0.09	1145	77	110		72.02	72	15	57	0.02	57.02	13	1	2400			77	0.01	0.01									620									
STE Pump Tank	6/13/13 11:40	29.0	7.31	350	0.08	1087	23	35		67.08	67	12	55	0.08	55.08	8.3	1	2400			0.85	61	0.08	0.01	5.3	33	0.2	48	0.2	15	0.043	23	57	4.1	11	510					
STE Pump Tank DUP	6/13/13 11:45	29.0	7.31	360	0.08	1087	21	34		72.08	72	13	59	0.08	59.08	8.3	1	2400			0.86	61	0.08	0.01	5.3	33	0.2	51	0.2	16	0.042	23	55	2.2	11	540					
ATU Clarifier	6/13/13 12:30	28.7	6.53	44	1.57	806	1	3		39.9	4.9	3.5	1.4	35	36.4						66	35	0.55										720								
ATU Pump Tank	6/13/13 12:00	30.4	6.42	22	1.36	847	2	2		34	2.0	1.902	0.098	32	32.098	7.9	1	1000			0.35	62	32	0.01	6.2	60	0.22	59	0.066	17	0.034	24	57	0.23	0.3	610					
ATU Pump Tank DUP	6/13/13 12:05	30.4	6.42	22	1.36	847	2	2		33.9	1.9	1.805	0.095	32	32.095	8.1	1	1200			0.35	63	32	0.01	6.2	59	0.22	59	0.065	17	0.034	23	58	0.23	0.3	620					
Soil Moisture Samples																																									
TA1-LY-24-C	6/13/13 10:33	29.0	6.06	44	3.43	514				21.8	2.8	2.791	0.009	19	19.009					24	0.26	43	19	0.11	0.13	27	0.19	14	0.039	3.7	0.003	11	75								
TA1-LY-12-S	6/13/13 9:45	27.6	6.69	230	4.09	915				33.6	1.6	1.581	0.019	32	32.019							57	32	0.01																	
TA1-LY-24-S	6/13/13 10:00	27.8	6.40	55	3.89	684			10	26.7	1.7	1.691	0.009	25	25.009	0.2						50	25	0.1																	
TA1-LY-42-S	6/13/13 10:46	29.0	5.74	22	3.29	962			10	49.6	3.6	3.59	0.01	46	46.01	0.034						80	46	0.01																	
TA2-LY-24-C	6/13/2013 9:05	27.0	6.52		4.21	571																																			
TA2-LY-12-S	6/13/13 8:47	26.7	6.79	87	4.70	873				25.1	2.1	2.088	0.012	23	23.012							73	23	0.01																	
TA2-LY-24-S	6/13/13 8:51	26.8	6.62	55	2.74	714			53	21.5	2.5	2.468	0.032	19	19.032						25	0.2	64	19	0.45	0.16	43	0.25	17	0.057	6.5	0.001	15	100							
TA2-LY-42-S	6/13/13 9:00	26.9	6.30	22	1.77	648			10	17.9	1.9	1.889	0.011	16	16.011	0.24						75	16	0.01																	
TA3-LY-24-C	6/13/13 9:40	27.5	6.54	65	3.78	532				25	3	2.86	0.14	22	22.14						25	0.26	37	22	0.24	0.38	25	0.18	19	0.053	6.2	0.0093	7.4	74							
TA3-LY-12-S	6/13/13 9:20	27.7	6.55	76	4.38	680			16	25.4	2.4	2.352	0.048	23	23.048	8.3						41	23	0.01																	
TA3-LY-12-S DUP	6/13/13 9:22	27.7	6.55	87	4.38	680			16	25.2	2.2	2.153	0.047	23	23.047	8.1						41	23	0.01																	
TA3-LY-24-S	6/13/13 9:26	28.2	6.65	76	3.63	644			16	20.5	2.5	2.485	0.015	18	18.015	0.21						39	18	0.21																	
TA3-LY-42-S	6/13/13 9:32	27.5	6.20	44	3.51	815				34.4	3.4	3.386	0.014	31	31.014							54	31	0.01																	
TA4-LY-24-C	6/13/13 8:39	27.1	6.71	110	3.74	605				26	13.6	2.6	2.583	0.017	11	11.017	0.2						45	11	0.01																
TA4-LY-12-S	6/13/13 8:23	27.0	6.87	98	4.90	666				36	16.9	2.9	2.883	0.017	14	14.017	9						38	14	0.01																
TA4-LY-12-S DUP	6/13/13 8:25	27.0	6.87	87	4.90	666				42	16.9	2.9	2.891	0.009	14	14.009	9.2						38	14	0.01																
TA4-LY-24-S	6/13/13 8:27	26.7	6.91	87	4.40	473				77	13.8	2.8	2.742	0.058	11	11.058	0.5						40	0.36	34	11	0.11	0.49	22	0.16	8.9	0.1	2.9	0.0036	9	84					
TA4-LY-42-S	6/13/13 8:35	26.6	6.56	33	2.93	646				18.1	2.1	2.04	0.06	16	16.06								72	16	0.01																
LY01-BKG-24	6/13/13 11:05																																								
LY02-BKG-42	6/13/13 11:01	30.8	6.81	110	3.45	281				2.83	2.6	1.5	1.1	0.23	1.33								3.1	0.1	0.13																
Groundwater Samples																																									
TA1-PZ-11-EF2	6/12/13 12:13	25.8	4.64	2	4.22	934			10	53.9	2.9	2.55	0.35	51	51.35	0.024						4.5	3.8	0.072	83	51	0.01	0.01	56	0.16	69	0.044	17	0.017	22	54					
TA1-PZ-11-J4	6/12/13 12:22	26.4	4.66	2	3.88	706			10	36.3	2.3	2.282	0.018	34	34.018	0.03									54	34	0.01														
TA1-PZ-11-K4	6/12/13 12:35	26.1	4.51	11	2.51	495			10	27.5	1.5	1.474	0.026	26	26.026	0.023									36	26	0.12														
TA1-PZ-11-L2	6/12/13 13:21	26.7	4.84	2	3.32	913			14	51	2	1.976	0.024	49	49.024	0.014								75	49	0.01															
TA1-PZ-11-L2 DUP	6/12/13 13:26	26.7	4.84	2	3.32	913			12	52.9	1.9	1.879	0.021	51	51.021	0.025								77	51	0.01															
TA1-PZ-11-L3	6/12/13 13:08	26.5	4.92	11	2.91	811			10	37.9	1.9	1.891	0.009	36	36.009	0.068								58	36	0.1															
TA1-PZ-11-L3 DUP	6/12/13 13:13	26.5	4.92	11	2.91	811																																			

Table F.1 (continued)
Water Quality Analytical Results
(June 10 through June 13, 2013)

Sample ID	Sample Date/Time	Temp	pH	Total Alkalinity	DO	Specific Conductance (μS)	TSS (mg/L)	CBOD ₅ (mg/L)	COD (mg/L)	TN (mg/L N) ¹	TKN (mg/L N)	Organic N (mg/L N) ²	NH ₃ -N (mg/L N)	NOx (mg/L N)	TIN (mg/L N) ³	TP (mg/L)	Fecal Coli (CFU/100 mL)	E. coli (CFU/100 mL)	TOC (mg/L)	DOC (mg/L)	Anions					Cations					Hydrogen Sulfide (Unionized)	Sulfide	TS	Sucrals e (ug/L)
TA2-PZ-10-EF2	6/11/13 10:57	25.5	4.72	11	5.29	608				1.62	1.6	1.591	0.009	0.02	0.029																			
TA2-PZ-10-H5	6/11/13 9:05	25.1	4.30	2	2.56	470.6				10	1.72	1.7	1.691	0.009	0.02	0.029	0.016																	
TA2-PZ-10-J5	6/11/13 9:19	25.3	4.83	11	2.91	562				51	14.7	1.7	1.683	0.017	13	13.017					0.14	80	13	0.01	0.01	48								
TA2-PZ-10-K5	6/11/13 9:32	25.2	5.00	11	1.78	488.9				18	12.4	1.4	1.388	0.012	11	11.012	0.01						69	11	0.01									
TA2-PZ-10-K5 DUP	6/11/13 9:37	25.2	5.00	11	1.78	488.9				16	13.4	1.4	1.383	0.017	12	12.017	0.01						71	12	0.01									
TA2-PZ-10-L2	6/11/13 10:44	25.9	4.19	2	2.05	315.4				12	8.3	1.1	1.082	0.018	7.2	7.218	0.025						28	7	0.14									
TA2-PZ-10-L3	6/11/13 10:30	25.8	4.30	2	2.84	449.3				10	11.2	1.2	1.191	0.009	10	10.009	0.013						49	10	0.01									
TA2-PZ-10-L4	6/11/13 10:16	25.8	4.42	2	4.24	738				24	21.7	1.7	1.691	0.009	20	20.009	0.038						92	20	0.01									
TA2-PZ-10-L5	6/11/13 10:01	25.3	4.26	2	2.92	588				12	16.6	1.6	1.591	0.009	15	15.009	0.069						72	15	0.01									
TA2-PZ-10-L5 DUP	6/11/13 10:06	25.3	4.26	2	2.92	588				12	16.3	1.3	1.291	0.009	15	15.009	0.056						71	15	0.01									
TA2-PZ-10-L6	6/11/13 9:46	25.6	4.71	11	1.53	414.6				16	12.5	1.5	1.484	0.016	11	11.016			7.4	6.1	0.12	52	11	0.01	0.01	41	0.067	27	0.035	7.6	0.041	7.2	32	
TA2-PZ-09-M4	6/11/13 7:36	24.7	5.14	11	2.09	300.1				34	7.1	1.8	1.756	0.044	5.3	5.344	1.7						27	5.2	0.15									
TA2-PZ-16-M4	6/11/13 7:50	24.2	5.09	11	1.64	217.7				3.59	0.69	0.672	0.018	2.9	2.918								6.1	2.9	0.01									
TA2-PZ-09-N7	6/11/13 8:06	25.3	4.99	11	1.90	367				10	8.9	1	0.991	0.009	7.9	7.909	0.22						32	7.9	0.01									
TA2-PZ-09-N7 DUP	6/11/13 8:11	25.3	4.99	11	1.90	367				10	8.72	0.82	0.794	0.026	7.9	7.926	0.22						32	7.9	0.01									
TA2-PZ-16-N7	6/11/13 8:20	24.5	5.02	11	1.16	236.1				5.81	0.81	0.801	0.009	5	5.009								8.4	5	0.05									
TA2-PZ-09-I7	6/10/13 14:01	26.7	4.57	11	1.57	217.4				4.7	1.3	1.266	0.034	3.4	3.434								14	3.3	0.04									
TA2-PZ-16-I7	6/10/13 14:16	25.4	5.00	11	1.20	234.2				6.2	1.4	1.386	0.014	4.8	4.814								7.7	4.7	0.05									
TA2-PZ-09-L8	6/11/13 8:35	25.7	6.31	76	3.13	295.5				3.7	2.2	1.96	0.24	1.5	1.74								22	1.3	0.16									
TA2-PZ-16-L8	6/11/13 8:47	24.7	5.20	11	1.45	231.1				5.7	1	0.991	0.009	4.7	4.709								7.4	4.6	0.05									
TA2-PZ-09-TU19	6/10/13 13:29	26.8	4.30	2	1.88	166.9				4.9	1.4	1.386	0.014	3.5	3.514								2.8	3.4	0.05									
TA2-PZ-16-TU19	6/10/13 13:44	25.7	5.03	11	1.31	196.2				2.26	0.46	0.451	0.009	1.8	1.809								5.9	1.8	0.05									
TA2-PZ-09-TU21	6/10/13 13:04	26.9	4.07	2	1.27	166.7				4.82	0.82	0.811	0.009	4	4.009								3.6	3.9	0.17									
TA2-PZ-16-TU21	6/10/13 13:20	25.7	4.91	11	1.36	198.4				2.79	0.49	0.481	0.009	2.3	2.309								6.4	2.3	0.05									
TA3-PZ-11-EF2	6/12/13 9:10	25.0	4.66	11	2.77	451.7				22	19.1	1.1	1.055	0.045	18	18.045	0.023						31	18	0.12									
TA3-PZ-11-I2	6/12/13 9:22	25.0	4.51	2	3.21	673				10	30.5	1.5	1.478	0.022	29	29.022	0.028			5.1	3.9	0.1	49	29	0.0									

Table F.1 (continued)
Water Quality Analytical Results
(June 10 through June 13, 2013)

Sample ID	Sample Date/Time	Temp	pH	Total Alkalinity	DO	Specific Conductance (μS)	TSS (mg/L)	CBOD ₅ (mg/L)	COD (mg/L)	TN (mg/L N) ¹	TKN (mg/L N)	Organic N (mg/L N) ²	NH ₃ -N (mg/L N)	NOx (mg/L N)	TIN (mg/L N) ³	TP (mg/L)	Fecal E. coli (Ct/100 mL)	E. coli (Ct/100 mL)	TOC (mg/L)	DOC (mg/L)	Anions						Cations										
																				F ⁻	Cl ⁻	NO ₃ -N ⁻	NO ₂ -N ⁻	PO ₄ -P ⁻	SO ₄ ²⁻	B	Ca	Fe	Mg	Mn	K	Na					
TA4-PZ-11-L6	6/10/13 11:31	25.6	4.35	2	2.43	579			14	18.4	1.4	1.377	0.023	17	17.023	0.33				67	17	0.01															
TA4-PZ-09-M4	6/10/13 9:02	25.3	6.11	65	1.35	423.3			12	8	1.2	1.162	0.038	6.8	6.838	0.71				43	64	0.39															
TA4-PZ-16-M4	6/10/13 9:14	24.5	5.15	11	0.80	202.2				3.78	0.88	0.868	0.012	2.9	2.912					7.6	2.8	0.07															
TA4-PZ-09-N7	6/10/13 9:26	25.4	5.41	22	4.01	110.9			10	1.81	0.41	0.388	0.022	1.4	1.422	0.2			14	13	0.031	7.4	1.4	0.04	0.063	18	0.05	12	0.039	2.1	0.014	3.9	9.1				
TA4-PZ-16-N7	6/10/13 9:41	24.5	4.93	11	1.13	200.2				2.76	0.66	0.641	0.019	2.1	2.119					6.4	2.1	0.01															
TA4-PZ-09-I7	6/10/13 10:22	25.1	4.96	11	2.16	306.2				7.7	2.5	2.34	0.16	5.2	5.36					34	5.1	0.15															
TA4-PZ-16-I7	6/10/13 10:34	24.4	4.93	11	1.29	197.7				1.79	0.39	0.374	0.016	1.4	1.416					4.7	1.3	0.06															
TA4-PZ-09-L8	6/10/13 9:55	25.3	5.97	44	1.31	232.7				6.29	0.89	0.865	0.025	5.4	5.425					9	5.1	0.23															
TA4-PZ-16-L8	6/10/13 10:08	24.9	5.09	11	1.04	209.2				2.6	0.7	0.682	0.018	1.9	1.918					6	1.8	0.06															
TA4-PZ-09-TU14	6/10/13 8:35	25.2	4.49	11	0.88	155.4				4.3	1.4	1.361	0.039	2.9	2.939					3	2.8	0.06															
TA4-PZ-16-TU14	6/10/13 8:48	24.8	4.85	11	0.92	217.4				1.72	0.32	0.301	0.019	1.4	1.419					5.7	1.3	0.06															
TA4-PZ-09-TU16	6/10/13 8:07	25.0	5.59	11	2.53	118.1				2.06	0.66	0.636	0.024	1.4	1.424					2.4	1.3	0.05															
TA4-PZ-16-TU16	6/10/13 8:22	24.4	5.07	11	0.82	225.6				1.47	0.37	0.324	0.046	1.1	1.146					4.8	1	0.06															
PZ01-BKG-09	6/11/13 12:00	26.9	4.94	11	6.03	56.4				0.43	0.31	0.301	0.009	0.12	0.129					4.3	0.09	0.03															
PZ04-BKG-09	6/12/13 14:05	27.6	5.67	10	4.10	72.2				1.33	0.86	0.851	0.009	0.47	0.479					2.3	0.42	0.05															
PZ05-BKG-09	6/12/13 9:45	26.9	5.14	3.1	3.21	71.4				1.8	0.8	0.791	0.009	1	1.009					5.6	0.98	0.03															
PZ24-BKG-26	6/12/13 13:45	25.7	5.29	4.1	0.98	303			10	11.2	1.2	1.191	0.009	10	10.009	0.033				17	10	0.01															
PZ24-BKG-26 DUP	6/12/13 13:46	25.7	5.29	4.1	0.98	303			10	12.3	1.3	1.29	0.01	11	11.01	0.029				17	11	0.01															
PZ29-BKG09	6/11/13 13:05	25.9	4.65	11	0.61	238			18	7.58	0.78	0.771	0.009	6.8	6.809	0.12				6.9	6.7	0.06															
PZ30-BKG-16	6/11/13 13:30	25.5	5.42	11	0.83	371			10	19.2	1.2	1.173	0.027	18	18.027	0.053				16	18	0.05															
PZ31-BKG-26	6/11/13 14:00	24.9	5.11	11	0.91	429			10	23.6	1.6	1.36	0.24	22	22.24	0.046				25	22	0.08															
PZ31-BKG-26 DUP	6/11/13 14:02	24.9	5.11	11	0.91	429			10	23.9	1.9	1.67	0.23	22	22.23	0.04				25	22	0.08															
PZ32-BKG-09	6/11/13 11:05	27.3	4.47	2	1.20	212.3			16	8.69	0.99	0.972	0.018	7.7	7.718	0.17				3.7	7.6	0.04															
PZ33-BKG-16	6/13/13 8:41	25.2	4.77	11	1.24	324			10	16.53	0.53	0.511	0.019	16	16.019	0.06				5.9	3.4	0.01	16	16	0.07	0.01	30	0.05	30	0.02	8.8	0.33	13	7.1	0.01		
PZ34-BKG-26	6/11/13 11:42	26.6	5.27	11	1.74	370			10	17.2	1.2	1.159	0.041	16	16.041	0.24				21	15	0.1					</										

Table F.1 (continued)
Water Quality Analytical Results
(June 10 through June 13, 2013)

Sample ID	Sample Date/Time	Temp	pH	Total Alkalinity	DO	Specific Conductance (μS)	TSS (mg/L)	CBOD ₅ (mg/L)	COD (mg/L)	TN (mg/L N) ¹	TKN (mg/L N)	Organic N (mg/L N) ²	NH ₃ -N (mg/L N)	NO _x (mg/L N)	TIN (mg/L N) ³	TP (mg/L)	Fecal Coli (CFU/100 mL)	TOC (mg/L)	DOC (mg/L)	Anions						Cations								
																				F ⁻	Cl ⁻	NO ₃ -N ⁻	NO ₂ -N ⁻	PO ₄ -P ⁻	SO ₄ ²⁻	B	Ca	Fe	Mg	Mn	K	Na		
PNRS II Samples																																		
TA5-PZ-1	6/13/13 9:44	25.7	4.25	11	2.59	275.2	4	2	10	5.37	0.67	0.661	0.009	4.7	4.709	0.018	1					12	4.7	0.01						0.01	0.1	0.071		
TA5-PZ-1 DUP	6/13/13 9:49	25.7	4.25	11	2.59	275.2	4	2	10	5.43	0.73	0.721	0.009	4.7	4.709	0.013	1					11	4.7	0.01						0.01	0.1			
TA5-LY-C	6/13/13 9:12	27.2	6.31	22	4.00	357	1	2	85	16.2	4.2	4.1	0.1	12	12.1	5.9						26	12	0.08						4	5.1			
TA5-Denite Tank	6/13/13 10:35	29.0	6.65	160	1.73	788	1	2	110	4.55	4.4	3.3	1.1	0.15	1.25	8.2	1		57	52	43	0.15	0.01		140							0.88	1.3	5.8
TA5-Denite Tank DUP	6/13/13 10:40	29.0	6.65	160	1.73	788	1	2	100	4.45	4.3	3	1.3	0.15	1.45	7.3	1		57	55	43	0.15	0.01		150							0.88	1.3	
TA5-SULFUR-3 inch	6/13/13 11:30	27.5	6.81	240	0.08	850	2	40	170	6.28	6.2	3.1	3.1	0.08	3.18	9.2	1				39	0.08	0.01	50					21	36				
TA5-SULFUR-7 inch	6/13/13 11:25	28.2	6.82	310	0.06	843	2	28	49	5.72	5.7	3.2	2.5	0.02	2.52	10	1				41	0.01	0.01	50					7.6	13				
TA5-SULFUR-12 inch	6/13/13 11:15	28.5	6.86	320	0.08	849	1	19	200	5.58	5.5	3.3	2.2	0.08	2.28	9.6	1				40	0.08	0.01	47					15	28				
TA5-SULFUR-18 inch	6/13/13 11:05	29.0	6.73	200	0.94	801	223	2	130	4.58	4.4	4.382	0.018	0.18	0.198	9	1				41	0.18	0.01	150					2.6	4.2				
TA5-LINER-SP	6/13/13 12:25	29.8	6.49	220	0.84	748	54	2	170	7.4	4.5	3.2	1.3	2.9	4.2	11					53	2.9	0.01	25										
TA6-PZ-1	6/13/13 10:13	26.0	5.55	22	4.09	431.9	10	2	40	13.8	1.8	1.791	0.009	12	12.009	0.041	1					55	12	0.01	33					0.09	0.1			
TA6-PZ-1 DUP	6/13/13 10:18	26.0	5.55	22	4.09	431.9	9	2	40	14.2	2.2	2.19	0.01	12	12.01	0.037	1				53	12	0.01	35					0.28	0.1				
TA6-LY-C	6/13/13 8:03	26.5	6.30	110	3.29	353	3	2	65	2.6	1.5	1.477	0.023	1.1	1.123	5.1			33	12	1	0.05	8.5				4.5	5.1						
TA6-Denite Tank	6/13/13 11:20	31.2	6.50	210	0.08	771	56	2	160	1.77	1.6	1.39	0.21	0.17	0.38	7.2	1		66	66	40	0.17	0.01	88							8.3	11		
TA6-SULFUR-3 inch	6/13/13 11:55	28.1	6.48	210	0.06	735	1	2	87	1.78	1.7	1.16	0.54	0.08	0.62	7.8	1				37	0.08	0.01	36					19	25				
TA6-SULFUR-7 inch	6/13/13 11:46	28.7	6.39	190	0.13	703	1	2	160	1.78	1.7	1.33	0.37	0.08	0.45	7.7	1				39	0.08	0.01	36					15	19				
TA6-SULFUR-12 inch	6/13/13 11:40	29.2	6.38	190	0.13	688	1	2	170	1.92	1.9	1.59	0.31	0.02	0.33	7.8	1				35	0.01	0.01	36					14	17				
TA6-SULFUR-18 inch	6/13/13 11:31	29.3	6.40	190	0.10	710	8	12	160	1.68	1.6	1.37	0.23	0.08	0.31	6.4	1				39	0.08	0.01	61					14	17				
TA6-LINER-SP	6/13/13 10:20	28.0	6.42	290	0.59	965	1	2	120	3.38	3.3	2.46	0.84	0.08	0.92	7.6					41	0.08	0.01	39					8.7	11				
Blanks																																		
FB - Tap	6/12/2013 13:00	26.6	6.23		3.67	458.7	1	2	14	0.44	0.09	0.081	0.009	0.35	0.359	0.018	1				23	0.17	0.18	42					0.87	1				
FB - DI	6/12/2013 13:05	24.0	7.85	2	7.48	1.67	1	2	20	0.07	0.05	0.041	0.009	0.02	0.029	0.01	1				0.05	0.01	0.01	0.2					0.01	0.1				
EB	6/12/2013 13:10	24.0	7.85	2	7.88	1.67	1	2	10	0.07	0.05	0.041	0.009	0.02	0.029	0.01	1				0.5	0.5	0.01	0.05	0.01	0.01	0.01	0.2	0.13	0.01	0.1			
TA1-PAN-12N	6/10/13 10:57	26.9	6.26	65	6.20	922	</td																											



Appendix G: Statistical Water Quality Summary

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Table G.1
Statistical Water Quality Summary

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	TDS (mg/L)	CBOD ₅ (mg/L)	COD (mg/L)	TN (mg/L N) ¹	TKN (mg/L N)	Organic N (mg/L N) ²	NH ₃ -N (mg/L N)	NOx (mg/L N)	TIN (mg/L N) ³	TP (mg/L)	Fecal (CFU/100 mL)	E-coli	TOC (mg/L)	DOC (mg/L)	Anions				Cations				Hydrogen Sulfide (Unionized)	Sulfide	TS	Sucrrose (µg/L)					
																					F	Cl ⁻	NO ₃ -N	NO ₂ -N	PO ₄ -P ³⁻	SO ₄ ²⁻	B	Ca	Fe	Mg	Mn	K	Na				
Effluent samples																																					
PNRS II STE-Tank 1	n	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	1			6	4	4						4	4							
	MEAN	25.6	6.9	348	0.2	1169		170	108.7		74.2	74.2	14.0	60.2	0.04	60.2	13.0	44,834	2,400			94.5	0.04	0.01						680	7						
	STD. DEV.	2.6	0.1	27.1	0.2	126		309	88.8		13.2	13.2	8.1	16.8	0.02	16.9	6.9	36,356				34.6	0.02							91	13.5						
	MIN	22.4	6.7	300	0.1	1052		22	2.0		64.0	64.0	3.0	37.0	0.02	37.0	5.5	1	2,400			63.0	0.01	0.01						600							
	MAX	28.2	7.0	380	0.5	1414		800	260.0		100	100	27.0	87.0	0.06	87.1	24.0	92,000	2,400			160.0	0.06	0.01						800	27						
STE Pump Tank	n	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	1			4	6	5	4	4	6	4	4	4	4	4						
	MEAN	25.9	7.26	352	0.3	1159		128	40.5		67.4	67.0	9.5	57.5	0.37	57.9	11.2	76,667	2,400			1.3	84.0	0.4	0.01	4.55	42	0.2	53.0	0.3	17.25	0.04	27.3	65.3	4.1		
	STD. DEV.	3.8	0.29	19.4	0.4	197		266	27.8		11.6	10.9	3.1	11.2	0.75	12.0	6.4	64,763				1.6	39.9	0.8		0.6	20.8	0.1	3.8	0.1	1.5	0.00	5.0	17.4			
	MIN	20.7	6.9	320	0.1	983		15	17.0		57.1	57.0	6.0	50.0	0.03	50.0	4.4	1	2,400			0.2	51	0.01	0.01	4.1	12	0.1	48	0.2	15	0.04	23	53	4.1		
	MAX	29.0	7.6	370	1.0	1543		670	93.0		89.9	88.0	14.0	80.0	1.90	81.9	21.0	184,000	2,400			3.7	160	1.9	0.01	5.3	68	0.2	56	0.3	18	0.05	34	91	4.1		
ATU Clarifier	n	5	5	1	5	5	5	5	5	5	5	5	5	5	5	5	5	1				5	4	4						2	2						
	MEAN	25.2	7.38	44.0	1.3	891		146	7.2		34.5	19.4	5.0	14.3	15.1	29.4						82.2	14.03	1.833						610	377.5						
	STD. DEV.	3.3	0.49		0.8	218		316	4.7		14.2	11.5	4.4	12.0	12.6	14.9						44.23	14.88	1.857						141.4	484.4						
	MIN	20.8	6.5	44.0	0.2	643		1	2.0		15.7	4.9	1.4	3.7	10.0						50	2	0.55						510	35							
	MAX	28.7	7.7	44.0	2.3	1239		710	13.0		54.0	35.0	12.0	31.0	35.0	50.0						160	35	4.5						710	720						
ATU Pump Tank	n	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6			3	6	5	4	3	5	3	3	3	3	1	1					
	MEAN	25.9	7.3	180	1.0	948		114	9.5		37.2	25.8	4.0	21.7	11.5	33.2	10.3	2,114				0.3	81.2	11.0	1.0	4.7	56.0	0.2	55.3	0.07	17.0	0.02	21	54.0	0.23	0.3	570
	STD. DEV.	3.5	0.5	103.1	0.6	219		272	11.8		17.5	20.8	1.9	19.5	11.7	16.9	5.9	2,791				0.0	36.8	12.7	1.2	2.2	4.5	0.1	3.5	0.01	1.0	0.01	2.5	7.9		84.5	
	MIN	20.7	6.4	22	0.3	667		1.0	2.0		11.2	2.0	1.9	0.1	0.3	6.9	4.0	1				0.3	49.0	1.6	0.01	2.2	49	0.11	52	0.05	16	0.01	19	45	0.23	0.3	500
	MAX	30.4	7.7	330	1.9	1262		670	33.0		60.3	60.0	7.0	53.0	32.0	53.3	20.0	7,500				0.4	150	32.0	2.7	6.2	60	0.22	59	0.08	18	0.03	24	60	0.23	0.3	670
Soil moisture samples																																					
TA1-LY-12-S	n	6	6	2	6	6	6	1	6	6	6	6	6	6	1						12.0	74.8	46.2	0.01													
	MEAN	26.2	6.8	142.0	6.5	863			28.0	43.0	2.4	2.4	0.01	40.7	40.7	0.1						37.0	8.6														
	STD. DEV.	5.4	0.1	124.5	1.4	242				16.2	1.2	1.2	0.00	15.6	15.6							56.0	32.0	0.01													

Table G.1 (continued)
Statistical Water Quality Summary

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (μS)	TDS (mg/L)	CBOD ₅ (mg/L)	COD (mg/L)	TN (mg/L N) ¹	TKN (mg/L N)	Organic N (mg/L N) ²	NH ₃ -N (mg/L N)	NOx (mg/L N)	TIN (mg/L N) ³	TP (mg/L)	Fecal (CFU/100 mL)	E-coli	TOC (mg/L)	DOC (mg/L)	Anions					Cations					Hydrogen Sulfide (Unionized)	Sulfide	TS	Sucrалose (ug/L)
																					F	Cl ⁻	NO ₃ -N	NO ₂ -N	PO ₄ -P	SO ₄ ²⁻	B	Ca	Fe	Mg	Mn	K	Na	
TA2-LY-24-S	n	6	6	6	6	6				6	6	6	6	6	5				1	2	6	5	5	2	2	1	1	1	1	1				
	MEAN	26.1	6.4	45.3	5.1	812				43.5	36.8	2.7	2.7	0.02	34.1	34.1	0.4			25	0.2	80.8	30.8	0.3	0.09	51	0.25	17	0.057	6.5	0.001	15	100	
	STD. DEV.	5.7	0.3	17.0	1.5	204				21.6	16.8	0.9	0.9	0.01	16.1	16.1	0.2				0.1	41.6	15.6	0.1	0.11	11.31								
	MIN	17.5	6.1	23	2.7	510				15.0	19.1	1.7	1.7	0.01	17.0	17.0	0.2			25	0.1	37	17	0.08	0.01	43	0.25	17	0.057	6.5	0.001	15	100	
	MAX	32.3	6.7	65	6.9	1056				75.0	56.4	4.2	4.2	0.03	53.3	53.3	0.8			25	0.2	160	53	0.45	0.16	59	0.25	17	0.057	6.5	0.001	15	100	
TA2-LY-42-S	n	6	6	5	6	6				5	6	6	6	6	6	5			3	4	6	6	4	3	3	2	2	2	2	2				
	MEAN	25.6	5.9	12.5	5.3	719				24.2	29.1	2.4	2.4	0.01	26.7	26.7	0.2			13.7	35.0	63.0	20.4	0.16	0.04	64.0	0.2	35.5	0.05	11.7	0.0	9.7	62.5	
	STD. DEV.	5.1	0.4	9.3	2.0	183				13.3	11.7	0.4	0.4	0.00	11.5	11.5	0.1			2.1	70.0	22.5	14.1	0.16	0.05	10.4	0.0	13.4	0.01	4.7	0.0	1.8	36.1	
	MIN	18.2	5.5	2.0	1.8	433				10.0	12.5	1.9	1.9	0.01	10.0	10.0	0.1			12	0.01	37	0.21	0.01	0.01	52	0.15	26	0.04	8.3	0.01	8.4	37	
	MAX	31.3	6.4	22.0	7.3	976				38.0	39.8	3.0	3.0	0.01	37.0	37.0	0.3			16	140	86	36	0.38	0.10	70	0.18	45	0.06	15	0.012	11	88	
TA3-LY-12-S	n	6	6	6	6	6				6	6	6	6	6	6	6			1	6	5	4												
	MEAN	26.2	6.8	89	6.8	753				20.1	18.9	1.9	1.9	0.02	17.0	17.0	3.2			240	52.6	17.2	0.01											
	STD. DEV.	4.6	0.3	28.6	1.2	191				6.0	10.1	0.5	0.5	0.01	9.8	9.8	3.6			20.7	11.1													
	MIN	17.6	6.4	50	4.4	589				10.0	2.5	1.0	1.0	0.01	1.5	1.5	0.0			240	14	0.01	0.01											
	MAX	30.1	7.1	120	8.5	1146				26.0	27.1	2.6	2.6	0.05	25.0	25.0	8.3			240	75	25	0.01											
TA3-LY-24-C	n	6	6	1	6	6				6	6	6	6	6	6	6			1	2	6	5	5	2	2	1	1	1	1	1	1	1		
	MEAN	25.9	6.4	65.0	6.1	786				44.6	2.6	2.6	2.6	0.04	42.0	42.0				25.0	0.2	73.83	44	0.06	0.195	43.5	0.18	19	0.053	6.2	0.009	7.4	74	
	STD. DEV.	4.9	0.4	1.3	212				20.6	0.9	0.9	0.9	0.05	21.0	20.9				0.1	42.8	22.8	0.10	0.262	26.16										
	MIN	17.6	5.7	65.0	3.8	532				25.0	1.2	1.2	1.2	0.01	22.0	22.1				25.0	0.1	37	22	0.01	0.01	25	0.18	19	0.053	6.2	0.009	7.4	74	
	MAX	30.1	6.9	65.0	7.4	1125				75.2	3.4	3.4	3.4	0.14	74.0	74.0				25.0	0.3	150	74	0.24	0.38	62	0.18	19	0.053	6.2	0.009	7.4	74	
TA3-LY-24-S	n	6	6	6	6	6				6	6	6	6	6	6	6			4	4	6	6	5	4	5	5	5	5	5	5	4			
	MEAN	26.0	6.3	34	6.3	688				25.2	26.3	2.7	2.6	0.017	23.7	23.7	0.2			14.0	0.1	74.3	23.7	0.05	0.15	47.4	10.7	25.0	3.6	10.6	1.8	18.9	66.8	
	STD. DEV.	5.1	0.2	22.7	1.6	120				12.1	9.6	0.9	0.9	0.011	9.1	9.1	0.1			3.7	0.0	43.0	9.1	0.09	0.12	27.1	23.6	14.3	8.0	6.1	4.0	35.4	9.5	
	MIN	17.6	6.2	19	3.6	549				10.0	16.0	1.0	1.0	0.009	15.0	15.0	0.1			9	0.1	39	15	0.01	0.01	0.17	0.1	0.14	0.03	0.002	0.001	0.7	54	
	MAX	30.2	6.7	76	8.2	893				38.0	43.2	3.2	3.2	0.037	40.0	40.0	0.3			18	0.16	160	40	0.21	0.30	66	53	35</td						

Table G.1 (continued)
Statistical Water Quality Summary

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	TDS (mg/L)	TSS (mg/L)	CBOD ₅ (mg/L)	COD (mg/L)	TN (mg/L N) ¹	TKN (mg/L N)	Organic N (mg/L N) ²	NH ₃ -N (mg/L N)	NOx (mg/L N)	TIN (mg/L N) ³	TP (mg/L)	Fecal (Ct/100 mL)	E-coli	TOC (mg/L)	DOC (mg/L)	Anions					Cations					Hydrogen Sulfide (Unionized)	Sulfide	TS	Sucralose (µg/L)	
																						F ⁻	Cl ⁻	NO ₃ -N	NO ₂ -N	PO ₄ -P	SO ₄ ²⁻	B	Ca	Fe	Mg	Mn	K	Na		
LY01-BKG-24	n	3	3		3	3					3	3	3	3	3							3	1	1												
	MEAN	27.8	6.6		6.6	205					1.6	1.6	1.6	0.03	0.02	0.05							5.9	0.01	0.01											
	STD. DEV.	2.1	0.5		0.1	87					0.2	0.2	0.2	0.01	0.01	0.02							2.8													
	MIN	26.3	6.3		6.5	107					1.5	1.5	1.5	0.01	0.01	0.03							2.9	0.01	0.01											
	MAX	30.2	7.2		6.7	272					1.8	1.8	1.8	0.03	0.03	0.06							8.4	0.01	0.01											
LY02-BKG-42	n	2	2		2	2					1	1	1	1	1							1														
	MEAN	29.5	6.6		6.2	522					9.8	9.5	9.5	0.26	0.01							12														
	STD. DEV.	4.4	0.1		0.6	14																12														
	MIN	26.4	6.5		5.7	512					9.8	9.5	9.5	0.26	0.01							12														
	MAX	32.6	6.7		6.6	532					9.8	9.5	9.5	0.26	0.01							12														
TA1-PAN-12-N	n	3	3	1	1	3					3	3	3	3	3							3	1	1												
	MEAN	28.0	6.2	65.0	6.2	804					41.8	4.3	4.1	0.2	37.5	37.7						68	43.0	0.0												
	STD. DEV.	1.5	0.0			167					5.9	1.9	1.9	0.0	7.8	7.7						68	43.0	0.0												
	MIN	26.9	6.2	65.0	6.2	686					37.6	2.9	2.7	0.2	32.0	32.2						68	43.0	0.0												
	MAX	29.0	6.3	65.0	6.2	922					45.9	5.6	5.4	0.2	43.0	43.2						68	43.0	0.0												
TA2-PAN-12-N	n	2	2	1	2	2					2	2	2	2	2							2	1	1												
	MEAN	29.7	6.8	160.0	3.8	604					13.5	3.9	3.3	0.5	9.7	10.2						72	1.1	1.2												
	STD. DEV.	4.5	0.0		2.4	245					13.7	3.3	2.7	0.7	10.4	11.1						10														
	MIN	26.5	6.8	160.0	2.1	430					3.8	1.5	1.5	0.0	2.3	2.3						65	1.1	1.2												
	MAX	32.9	6.9	160.0	5.5	777					23.2	6.2	5.2	1.0	17.0	18.0						79	1.1	1.2												
TA3-PAN-12-N	n	2	2	1	2	2					2	2	2	2	2							2	1	1												
	MEAN	28.1	5.8	11.0	4.1	459					24.1	6.2	4.4	1.8	17.9	19.6						39	25.0	0.3												
	STD. DEV.	1.4	0.1		0.2	190					11.0	0.6	2.3	1.7	11.5	13.3						13														
	MIN	27.1	5.7	11.0	4.0	324					16.3	5.8	2.8	0.6	9.7	10.3						29	25.0	0.3												
	MAX	29.1	5.9	11.0	4.3	593					31.8	6.6	6.1	3.0	26.0	29.0						48	25.0	0.3												
TA4-PAN-12-N	n	2	2	1	2	2					2	2	2	2	2							2	1	1												
	MEAN	27.1	6.6	120.0	3.8	456					9.6	4.2	4.0	0.2	5.4	5.6						37	4.7	0.0												
	STD. DEV.	0.9	0.2		0.3	176					3.0	2.1	1.9	0.2	0.9	1.2						17														
	MIN	26.4	6.5	120.0	3.6	331					7.4	2.7	2.6	0.1	4.7	4.8						25	4.7	0.0												
	MAX	27.7	6.7	120.0	4.0	580					11.7	5.7	5.3	0.4	6.0	6.4						49	4.7	0.0												
Groundwater samples																																				
TA1-PZ-09-17	n	6	6	1	6	6					1	6	6	6	6	6	6	1			1	1	1	6	4	4	1	1	1	1	1					
	MEAN	25.3	5.5	11.0	2.7	249					32.0	7.7	1.5	1.5	0.04	6.1	6.2	0.6				13	11	0.01	10.0	6.2	0.02	0.01	24	0.05	8.7	0.14	2.3	0.02	14	11
	STD. DEV.	1.7	0.2		1.1	88					2.6	1.0	1.0	0.04	2.5	2.5						4.7	3.3	0.02												
	MIN	22.8	5.2	11.0	0.8	164					32.0	3.0	0.4	0.4	0.01	2.1	2.2	0.6				13	11	0.01	6	2	0.01	0.01	24	0.05	8.7	0.14	2.3	0.02	14	11
	MAX	27.0	5.8	11.0	3.5	415					32.0	10.3	3.4	3.3	0.12	9.9	9.9	0.6				13	11	0.01	18	9.9	0.04	0.01	24	0.05	8.7	0.14	2.3	0.02	14	11
TA1-PZ-09-M9	n	6	6	1	6	6					6	6	6	6	6	6	6					6	4	4												
	MEAN	25.5	5.6	33.0	2.2	233					6.4	0.8	0.8	0.02	5.6	5.6						10.6	5.0	0.015												
	STD. DEV.	1.9	0.3		1.3	42					2.4	0.3	0.3	0.01	2.3	2.3						6.1	2.7	0.01												
	MIN	22.2	5.3	33.0	0.6	192					1.6	0.5	0.4	0.01	1.1	1.1						2	1	0.01												
	MAX	27.1	6.0	33.0	4.2	309					8.5	1.1	1.1	0.04	7.7	7.7						20	7.2	0.03												
TA1-PZ-09-N3	n	6	6	2	6	6					1	6	6	6	6	6	1				1	1	2	6	4	4	1	1	1	1	1	1				
	MEAN	26.1	6.3	60	3.4	568					72.0	10.6	1.7	1.6	0.06	8.9	9.0	4.2				18	16	12.5	28.0	7.6	0.15	0.01	62	0.1	31	0.1	7.7	0.1	10	69
	STD. DEV.	2.7	0.2	7	1.3	309					6.2	0.8	0.8	0.02	6.0	6.0						17.7	8.3	5.0	0.11											
	MIN	21.3	6.0	55	1.1	232					72.0	5.5	0.8	0.7	0.03	4.2	4.3	4.2				18	16	0.01	16.0	4.1	0.04	0.01	62	0.1	31	0.1	7.7	0.1	10	69
	MAX	28.6	6.6	65	4.7	1103					72.0	20.1	3.1	3.0	0.09	17.0	17.1	4.2				18	16	25	40	15	0.30	0.01	62	0.1	31	0.1	7.7	0.1	10	69

Table G.1 (continued)
Statistical Water Quality Summary

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (μS)	TDS (mg/L)	CBOD ₅ (mg/L)	COD (mg/L)	TN (mg/L N) ¹	TKN (mg/L N)	Organic N (mg/L N) ²	NH ₃ -N (mg/L N)	NOx (mg/L N)	TIN (mg/L N) ³	TP (mg/L)	Fecal (CFU/100 mL)	E-coli	TOC (mg/L)	DOC (mg/L)	Anions					Cations					Hydrogen Sulfide (Unionized)	Sulfide	TS	Sucrалose (ug/L)	
																					F	Cl ⁻	NO ₃ -N ⁻	NO ₂ -N ⁻	PO ₄ -P ³⁻	SO ₄ ²⁻	B	Ca	Fe	Mg	Mn	K	Na		
TA1-PZ-09-RS16	n	6	6	1	6	6				6	6	6	6	6	6						6	4	4												
	MEAN	24.6	5.7	11.0	2.0	245				6.6	1.9	1.9	0.04	4.7	4.7						7.7	4.5	0.02												
	STD. DEV.	2.4	0.4		1.6	52				2.3	1.4	1.3	0.05	1.2	1.2						1.1	1.4	0.02												
	MIN	20.4	5.2	11.0	0.5	189				4.3	0.8	0.8	0.01	3.3	3.3						6.7	3.3	0.01												
	MAX	26.6	6.2	11.0	4.9	314				10.0	4.4	4.3	0.13	6.1	6.1						9.6	6.1	0.05												
TA1-PZ-09-RS18	n	6	6	1	6	6				6	6	6	6	6	6						6	4	4												
	MEAN	24.2	5.7	11.0	3.7	248				7.5	1.5	1.5	0.02	5.9	5.9						9.8	5.0	0.02												
	STD. DEV.	3.6	0.4		2.9	94				4.0	0.7	0.7	0.01	3.5	3.5						5.5	3.1	0.02												
	MIN	17.6	5.3	11.0	0.3	111				1.0	0.7	0.6	0.01	0.4	0.4						3.6	0.32	0.01												
	MAX	26.6	6.3	11.0	7.7	363				13.1	2.5	2.5	0.04	11.0	11.0						20	6.9	0.05												
TA1-PZ-11-EF2	n	6	6	2	6	6				2	6	6	6	6	2					2	2	2	6	5	4	2	2	2	2	2	2				
	MEAN	25.3	4.4	2.0	4.3	615				10.0	33.2	1.8	1.8	0.07	31.4	31.5	0.0			3.3	2.9	0.1	52.8	31.9	0.01	0.01	56.0	0.1	46.0	0.03	11.3	0.02	15.7	35.0	
	STD. DEV.	1.9	0.3		2.7	321				22.9	0.8	0.7	0.14	22.2	22.3	0.0				1.7	1.3	0.0	31.3	26.7			0.1	32.5	0.02	8.1	0.004	8.9	26.9		
	MIN	21.7	3.9	2.0	0.8	225				10.0	6.7	1.0	1.0	0.01	5.4	5.4	0.0			2.1	2	0.05	11	0.01	0.01	0.01	56	0.1	23	0.02	5.5	0.02	9.4	16	
	MAX	27.0	4.6	2.0	7.0	934				10.0	54.6	2.9	2.6	0.35	52.0	52.0	0.1			4.5	3.8	0.07	83	52	0.01	0.01	56	0.2	69	0.04	17	0.02	22	54	
TA1-PZ-11-J4	n	6	6	5	6	6				5	6	6	6	6	6	5				6	3	3													
	MEAN	25.7	4.6	2.0	2.8	361				10.2	16.0	1.3	1.3	0.01	14.8	14.8	0.1						24.33	15.73	0.01										
	STD. DEV.	3.2	0.1		1.8	182				0.4	12.0	0.6	0.6	0.00	11.6	11.6	0.07						16.3	15.9											
	MIN	19.5	4.4	2.0	0.4	233				10.0	5.5	0.8	0.8	0.01	4.7	4.7	0.03						10	4.7	0.01										
	MAX	27.9	4.8	2.0	5.3	706				11.0	36.3	2.3	2.3	0.02	34.0	34.0	0.2						54	34	0.01										
TA1-PZ-11-K4	n	6	6	5	6	6				5	6	6	6	6	6	5				6	3	3													
	MEAN	25.5	4.5	3.8	2.7	319				10.0	14.2	1.3	1.3	0.01	12.9	12.9	0.09						20.0	12.7	0.0										
	STD. DEV.	2.8	0.2	4.0	1.9	108				9.2	0.3	0.3	0.01	9.2	9.2	0.11						10.8	11.6	0.1											
	MIN	20.0	4.3	2.0	0.4	231				10.0	5.8	1.0	1.0	0.01	4.8	4.8	0.02						9.7	4.8	0.01										
	MAX	27.8	4.7	11.0	6.0	495				10.0	27.5	1.8	1.8	0.03	26.0	26.0	0.3						36	26	0.12										
TA1-PZ-11-L2	n	6	6	5	6	6				5	6	6	6	6	6	5				4	4	4	6	5	3	4	4	4	4	4	4	4	4	4	
	MEAN	25.6	4.5	2.0	4.1	833				17.2	58.2	2.0	2.0	0.01	56.2	56.2	0.09				3.7	3.0	0.1	76.0	49.6	0.01	0.01	49.5	0.11	52.5	0.03	17.8	0.01	14.6	54.8
	STD. DEV.	2.5	0.2		2.6	128				6.1	19.7	0.9	0.9	0.01	19.0	19.0	0.10				0.7	0.6	0.0	16.4	8.8</td										

Table G.1 (continued)
Statistical Water Quality Summary

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	TDS (mg/L)	CBOD ₅ (mg/L)	COD (mg/L)	TN (mg/L N) ¹	TKN (mg/L N)	Organic N (mg/L N) ²	NH ₃ -N (mg/L N)	NOx (mg/L N)	TIN (mg/L N) ³	TP (mg/L)	Fecal (CFU/100 mL)	E-coli	TOC (mg/L)	DOC (mg/L)	Anions					Cations					Hydrogen Sulfide (Unionized)	Sulfide	TS	Sucrалose (ug/L)	
																					F	Cl ⁻	NO ₃ -N ⁻	NO ₂ -N ⁻	PO ₄ -P ³⁻	SO ₄ ²⁻	B	Ca	Fe	Mg	Mn	K	Na		
TA1-PZ-16-M9	n	6	6	1	6	6				6	6	6	6	6							6	4	4												
	MEAN	25.3	5.2	11.0	1.6	324				14.8	1.3	1.2	0.03	13.5	13.5							15.7	15.8	0.03											
	STD. DEV.	1.2	0.4		1.6	45				5.4	0.4	0.4	0.04	5.2	5.2							1.9	4.6	0.03											
	MIN	23.3	4.9	11.0	0.2	275				7.9	0.6	0.6	0.01	7.0	7.0							13	11	0.01											
	MAX	26.5	5.9	11.0	4.4	406				23.5	1.6	1.6	0.10	22.0	22.0							18	22	0.07											
TA1-PZ-16-N3	n	6	6	1	6	6				6	6	6	6	6							6	4	4												
	MEAN	25.4	5.2	11.0	1.5	303				12.3	1.5	1.4	0.01	10.9	10.9							15.3	12.5	0.03											
	STD. DEV.	1.3	0.3		1.4	36				4.8	0.5	0.5	0.01	4.5	4.5							1.5	4.8	0.03											
	MIN	23.3	4.9	11.0	0.2	277				8.6	0.8	0.8	0.01	6.9	6.9							14	8.1	0.01											
	MAX	27.0	5.7	11.0	3.4	374				21.1	2.1	2.1	0.03	19.0	19.0							18	19	0.07											
TA1-PZ-16-O7	n	6	6	5	6	6				5	6	6	6	6							6	4	4												
	MEAN	25.3	5.2	11.6	1.4	309				17.2	11.8	1.2	1.1	0.01	10.6	10.6	0.8					13.7	12.2	0.03											
	STD. DEV.	1.4	0.3	10.6	1.5	29				7.5	3.6	0.5	0.5	0.01	3.4	3.4	0.7					1.5	2.7	0.03											
	MIN	22.9	4.9	5.2	0.2	268				10.0	6.9	0.2	0.2	0.01	5.5	5.5	0.1					11	9.7	0.01											
	MAX	26.7	5.8	30.0	3.7	355				29.0	17.6	1.6	1.6	0.03	16.0	16.0	1.9					15	16	0.07											
TA1-PZ-16-RS16	n	6	6	1	6	6				6	6	6	6	6							6	4	4												
	MEAN	24.9	5.5	11.0	1.8	310				9.1	1.4	1.4	0.0	7.7	7.7							12.6	8.0	0.03											
	STD. DEV.	1.5	0.4		1.9	76				3.0	0.7	0.6	0.01	2.9	2.9							3.0	3.5	0.02											
	MIN	22.3	5.1	11.0	0.1	197				3.8	0.6	0.6	0.01	3.2	3.2							6.8	3.1	0.01											
	MAX	26.4	6.2	11.0	4.9	434				11.9	2.4	2.4	0.04	11.0	11.0							15	11	0.06											
TA1-PZ-16-RS18	n	6	6	1	6	6				6	6	6	6	6							6	4	4												
	MEAN	24.8	5.6	11.0	2.2	307				9.2	1.0	1.0	0.02	8.2	8.2							11.6	9.6	0.03											
	STD. DEV.	1.8	0.4		2.0	23				2.6	0.4	0.4	0.01	2.7	2.7							1.1	1.9	0.03											
	MIN	21.8	5.0	11.0	0.1	275				6.0	0.3	0.3	0.01	4.6	4.6							9.8	7	0.01											
	MAX	26.3	6.3	11.0	4.6	338				12.3	1.4	1.4	0.03	11.0	11.0							13	11	0.07											
TA2-PZ-10-EF2	n	5	5	2	5	5				1	5	5	5	5	1						1	1	1	5	4	4	1	1	1	1	1	1			
	MEAN	24.5	4.7	6.6	3.6	370				26.0	9.9	1.5	1.5	0.01	8.4	8.4	0.1				9	8.4	0.1	36.2	5.7	0.01	0.01	37	0.1	14	0.05	3.4	0.03	4	11
	STD. DEV.	1.9	0.3	6.3	1.7	189				8.8	0.5	0.5	0.00	8.5	8.5							29.1	7.0												
	MIN	21.2	4.4	2.1	0.9	189				26.0	1.6	0.9	0.01	0.0	0.0	0.1					9	8.4	0.1	6.1	0.0	0.01	0.01	37	0.1	14	0.05	3.4	0.03	4	11
	MAX	25.8	5.2	11.0	5.3	608				26.0	21.3	2.3	2.3	0.01	19.0	19.0	0.1				9	8.4	0.1	71.											

Table G.1 (continued)
Statistical Water Quality Summary

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	TDS (mg/L)	TSS (mg/L)	CBOD ₅ (mg/L)	COD (mg/L)	TN (mg/L N) ¹	TKN (mg/L N)	Organic N (mg/L N) ²	NH ₃ -N (mg/L N)	NOx (mg/L N)	TIN (mg/L N) ³	TP (mg/L)	Fecal Coliform (CFU/100 mL)	E-coli	TOC (mg/L)	DOC (mg/L)	Anions						Cations						Hydrogen Sulfide (Unionized)	Sulfide	TS	Sucrалose (µg/L)
																						F	Cl ⁻	NO ₃ -N	NO ₂ -N	PO ₄ -P	SO ₄ ²⁻	B	Ca	Fe	Mg	Mn	K	Na			
TA2-PZ-09-TU21	n	6	6	1	6	6					6	6	6	6	6	6						6	4	4													
	MEAN	24.9	4.4	2.0	0.9	167					5.4	1.1	1.1	0.02	4.3	4.3						3.5	4.7	0.05													
	STD. DEV.	2.5	0.2		0.9	14					1.1	0.3	0.3	0.01	1.0	1.0						0.7	0.7	0.08													
	MIN	21.6	4.1	2.0	0.3	142					3.8	0.8	0.7	0.01	2.5	2.5						2.7	3.9	0.01													
	MAX	26.9	4.6	2.0	2.5	187					6.5	1.6	1.6	0.04	5.4	5.4						4.6	5.4	0.17													
TA2-PZ-10-H5	n	6	6	5	6	6					5	6	6	6	6	6	5					6	4	4													
	MEAN	24.8	4.5	2.0	2.0	326					13.8	9.6	1.7	1.7	0.01	7.9	7.9	0.08					22.2	5.6	0.01												
	STD. DEV.	2.5	0.2		1.2	101					6.1	5.0	0.4	0.4	0.00	4.9	4.9	0.09					14.4	4.2													
	MIN	20.0	4.3	2.0	0.4	186					10.0	1.7	1.2	1.2	0.01	0.0	0.0	0.02					5.2	0.01	0.01												
	MAX	27.3	4.9	2.0	3.3	471					24.0	16.2	2.2	2.2	0.02	14.0	14.0	0.24					45	10	0.01												
TA2-PZ-10-J5	n	6	6	5	6	6					5	6	6	6	6	6	4					1	6	4	4	1	1										
	MEAN	25.0	4.7	3.8	2.5	405					20.6	15.3	1.5	1.5	0.01	13.8	13.8	0.14					0.14	39.4	11.7	0.01	0.01	48									
	STD. DEV.	2.6	0.3	4.0	1.3	157					17.2	5.4	0.4	0.4	0.00	5.1	5.1	0.14					24.8	4.8													
	MIN	20.2	4.3	2.0	0.5	117					10.0	5.7	1.0	1.0	0.01	4.6	4.6	0.04					0.14	9.2	4.6	0.01	0.01	48									
	MAX	27.7	5.1	11.0	3.7	562					51.0	22.1	2.1	2.1	0.02	20.0	20.0	0.34					0.14	80	15	0.01	0.01	48									
TA2-PZ-10-K5	n	6	6	5	6	6					5	6	6	6	6	6	5						6	4	4												
	MEAN	25.4	4.6	3.8	2.2	403					14.2	13.9	1.1	1.1	0.01	12.8	12.8	0.04					35.6	10.7	0.01												
	STD. DEV.	2.5	0.3	4.0	1.4	131					4.5	5.4	0.6	0.6	0.01	4.9	4.9	0.02					21.0	4.4													
	MIN	20.9	4.3	2.0	0.4	153					10.0	4.7	0.1	0.0	0.01	4.6	4.6	0.01					6.7	4.6	0.01												
	MAX	27.8	5.0	11.0	3.5	523					20.0	20.5	1.5	1.5	0.03	19.0	19.0	0.08					69	15	0.01												
TA2-PZ-10-L2	n	6	6	5	6	6					5	6	6	6	6	6	5						6	4	4												
	MEAN	25.2	4.4	2.0	1.6	285					13.4	8.5	1.4	1.4	0.01	7.1	7.1	0.10					15.8	6.0	0.04												
	STD. DEV.	2.0	0.2		1.1	82					4.2	3.4	0.6	0.6	0.00	3.0	3.0	0.10					11.5	0.7	0.07												
	MIN	21.5	4.2	2.0	0.4	188					10.0	6.0	0.6	0.6	0.01	5.2	5.2	0.03					5.2	5.4	0.01												
	MAX	26.9	4.6	2.0	2.9	425					20.0	15.3	2.3	2.3	0.02	13.0	13.0	0.26					32	7	0.14												
TA2-PZ-10-L3	n	6	6	5	6	6					5	6	6	6	6	6	5						6	4	4												
	MEAN	25.2	4.4	2.0	1.8	313					11.0	9.1	1.2	1.2	0.01	7.9	7.9	0.11					20.6	7.7	0.01												
	STD. DEV.	2.0	0.1		1.2	102					2.2	2.5	0.4	0.4	0.00	2.4	2.4	0.10					16.4	2.1													
	MIN	21.5	4.2	2.0	0.4	186					10.0	6.3	0.6	0.6	0.01	5.5	5.5	0.01					4.4	5.5	0.01												
	MAX	26.9	4.6	2.0	3.4	449					15.0	12.1	1.7	1.7	0.01	11.0	11.0	0.23					49	10	0.01												
TA2-PZ-10-L4	n	6	6	5	6	6					5	6	6	6	6	6	5					2	2	2	6	5	4	2	2	2	2	2					
	MEAN	25.1	4.5	2.0	2.6	484					13.4	19.7	1.9	1.8	0.01	17.8	17.8	0.04					3.4	3	0.08	45.1	14	0.01	0.01	62	0.12	31	0.04	8.75	0.03	10.5	35.5
	STD. DEV.	2.5	0.1		1.4	226					6.1	12.2	0.4	0.4	0.01	11.9	11.9	0.01					0.9	1.0	0.00	30.6	6.9		2.8	0.01	5.7	0.00	1.8	0.01	0.7	0.7	
	MIN	20.7	4.3	2.0	0.2	148					10.0	6.5	1.5	1.5	0.01	5.0	5.0	0.02					2.7	2.3	0.08	7.5	5	0.01	0.01	60	0.11	27	0.04	7.5	0.02	10.0	35.0
	MAX	27.2	4.6	2.0	4.2	738					24.0	41.3	2.4	2.4	0.01	39.0	39.0	0.06					4.0	3.7	0.09	92.0	21	0.01	0.01	64	0.12	35	0.04	10	0.04	11.0	36.0
TA2-PZ-10-L5	n	6	6	5	6	6					5	6	6	6	6	6	5						6	4	4												
	MEAN	25.2	4.4	2.0	2.1	416					11.4	13.3	1.4	1.4	0.01	11.9	11.9	0.09					35.9	10.4	0.01												
	STD. DEV.	2.3	0.2		1.2	147					2.2	5.1	0.3	0.3	0.01	5.1	5.1	0.03						22.1	4.1												
	MIN	21.1	4.2	2.0	0.8	181					10.0	6.9	0.9	0.9	0.01	5.5	5.5	0.05						7.6	5.5	0.01											
	MAX	27.4	4.8	2.0	3.8	588					15.0	21.3	1.8	1.8	0.03	20.0	20.0	0.14					72	15	0.01												
TA2-PZ-10-L6	n	6	6	5	6	6					5	6	6	6	6	6	4					1	1	1	6	4	4	1	1	1	1	1	1	1	1		
	MEAN	25.2	4.6	3.8	1.9	387					20.4	14.9	1.6	1.6	0.01	13.3	13.3	0.28					7.4	6.1	0.12	34.3	11.0	0.01	0.01	41	0.067	27	0.035	7.6	0.041	7.2	32
	STD. DEV.	2.5	0.2	4.0	1.2	100					13.4	4.7	0.7	0.7	0.01	4.7	4.7	0.28						16.0	3.8												
	MIN	20.6	4.3	2.0	0.7	193					10.0	7.0	1.0	1.0	0.01	5.9	5.9	0.10					7.4	6.1	0.12	7.9	5.9	0.01	0.01	41	0.067	27	0.035	7.6	0.041	7.2	32
	MAX	27.5	4.7	11.0	3.5																																

Table G.1 (continued)
Statistical Water Quality Summary

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (μS)	TDS (mg/L)	TSS (mg/L)	CBOD ₅ (mg/L)	COD (mg/L)	TN (mg/L N) ¹	TKN (mg/L N)	Organic N (mg/L N) ²	NH ₃ -N (mg/L N)	NOx (mg/L N)	TIN (mg/L N) ³	TP (mg/L)	Fecal (Ct/100 mL)	E-coli	TOC (mg/L)	DOC (mg/L)	Anions					Cations					Hydrogen Sulfide (Unionized)	Sulfide	TS
																						F	Cl ⁻	NO ₃ -N	NO ₂ -N	PO ₄ -P	SO ₄ ²⁻	B	Ca	Fe	Mg	Mn	K	Na
TA2-PZ-16-L8	n	6	6	1	6	6					6	6	6	6	6	6	6					6	4	4										
	MEAN	25.0	5.5	11.0	0.8	214					3.6	0.9	0.8	0.01	2.8	2.8						6.8	3.0	0.02										
	STD. DEV.	1.9	0.2		1.1	22					1.6	0.3	0.3	0.01	1.3	1.3						0.5	1.2	0.02										
	MIN	22.1	5.2	11.0	0.1	171					1.7	0.5	0.5	0.01	1.1	1.1						6.0	1.8	0.01										
	MAX	27.3	5.8	11.0	2.8	231					5.7	1.3	1.3	0.03	4.7	4.7						7.4	4.6	0.05										
TA2-PZ-16-M4	n	6	6	2	6	6					6	6	6	6	6	6						6	4	4										
	MEAN	24.7	5.4	11	1.1	226					2.9	0.7	0.7	0.01	2.2	2.2						6.3	2.6	0.01										
	STD. DEV.	1.4	0.2	1	1.2	11					1.0	0.2	0.2	0.01	0.8	0.8						0.5	0.6											
	MIN	23.1	5.1	10	0.1	212					1.6	0.4	0.4	0.01	1.2	1.2						5.9	1.9	0.01										
	MAX	26.5	5.7	11	3.3	241					4.3	1.1	1.1	0.02	3.2	3.2						7.2	3.2	0.01										
TA2-PZ-16-N7	n	6	6	1	6	6					6	6	6	6	6	6						6	4	4										
	MEAN	24.9	5.5	11.0	0.9	215					4.0	1.4	1.3	0.02	2.7	2.7						7.0	3.0	0.02										
	STD. DEV.	1.4	0.4		1.1	16					2.4	1.8	1.8	0.03	1.4	1.4						1.0	1.5	0.02										
	MIN	23.0	5.0	11.0	0.1	189					1.6	0.2	0.2	0.01	1.2	1.2						5.6	1.4	0.01										
	MAX	26.7	6.1	11.0	3.0	236					7.8	5.0	5.0	0.08	5.0	5.0						8.4	5.0	0.05										
TA2-PZ-16-TU19	n	6	6	1	6	6					6	6	6	6	6	6						6	4	4										
	MEAN	24.8	5.3	11.0	1.0	189					2.6	0.5	0.5	0.02	2.2	2.2						6.1	1.6	0.02										
	STD. DEV.	1.3	0.2		0.9	21					1.7	0.2	0.2	0.02	1.5	1.5						0.4	0.4	0.02										
	MIN	23.0	5.0	11.0	0.2	149					1.4	0.1	0.0	0.01	1.0	1.0						5.8	1.0	0.01										
	MAX	25.9	5.5	11.0	2.5	206					5.9	0.7	0.7	0.06	5.2	5.3						6.6	2.0	0.05										
TA2-PZ-16-TU21	n	6	6	1	6	6					6	6	6	6	6	6						6	4	4										
	MEAN	24.8	5.2	11.0	0.9	183					2.2	0.5	0.5	0.01	1.6	1.7						5.6	1.4	0.02										
	STD. DEV.	1.5	0.2		1.0	18					1.2	0.3	0.3	0.00	1.0	1.0						0.5	0.6	0.02										
	MIN	22.5	4.9	11.0	0.2	149					1.3	0.3	0.3	0.01	1.0	1.0						5.0	1.0	0.01										
	MAX	25.9	5.4	11.0	2.7	198					4.3	1.0	0.9	0.02	3.3	3.3						6.4	2.3	0.05										
TA3-PZ-09-I7	n	6	6	1	6	6					6	6	6	6	6	6						6	4	4										
	MEAN	25.8	6.9	65.0	3.8	818					7.2	2.7	2.6	0.06	4.6	4.6						13.3	3.8	0.07										
	STD. DEV.	1.8	0.6		0.9	536					3.3	1.6	1.6	0.05	2.5	2.4						8.5	2.3	0.01										
	MIN	23.2	5.6	65.0	3.0	257					1.6	0.6	0.5	0.01	1.0	1.0						7.2	1.0	0.06										
	MAX	27.9	7.3	65.0	5.6	1832					10.1	5.3	5.2	0.14	7.9	7.9						30	6.5	0.07										
TA3-PZ-09-M9	n	6	6	1	6	6					6	6	6	6	6	6						6	4	4										
	MEAN	25.3																																

Table G.1 (continued)
Statistical Water Quality Summary

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	TDS (mg/L)	TSS (mg/L)	CBOD ₅ (mg/L)	COD (mg/L)	TN (mg/L N) ¹	TKN (mg/L N)	Organic N (mg/L N) ²	NH ₃ -N (mg/L N)	NOx (mg/L N)	TIN (mg/L N) ³	TP (mg/L)	Fecal (Ct/100 mL)	E-coli	TOC (mg/L)	DOC (mg/L)	Anions					Cations					Hydrogen Sulfide (Unionized)	Sulfide	TS	Sucrалose (ug/L)	
																						F ⁻	Cl ⁻	NO ₃ -N ⁻	NO ₂ -N ⁻	PO ₄ -P ³⁻	SO ₄ ²⁻	B	Ca	Fe	Mg	Mn	K	Na		
TA3-PZ-09-ST16	n	6	6	1	6	6					6	6	6	6	6	4.2	4.2					6	4	4							2					
	MEAN	25.0	5.4	11.0	1.3	271					5.7	1.5	1.5	0.03	4.2	4.2						6.1	3.9	0.03							0.01					
	STD. DEV.	2.7	0.2		0.6	77					0.9	0.6	0.6	0.03	0.8	0.8						1.7	0.4	0.02												
	MIN	20.8	5.1	11.0	0.5	185					4.6	1.1	1.1	0.01	3.4	3.5						4.9	3.4	0.01							0.01					
	MAX	27.1	5.7	11.0	2.3	404					7.2	2.7	2.6	0.08	5.7	5.7						9.6	4.4	0.04							0.01					
TA3-PZ-10-J5	n	6	6	2	6	6					1	6	6	6	6	6	1					6	4	4												
	MEAN	25.5	4.5	2.0	2.1	369					10.0	15.0	1.6	1.3	0.31	13.4	13.7	0.03				19.5	16	0.01												
	STD. DEV.	1.3	0.3		0.9	84					5.6	0.6	0.4	0.29	5.2	5.4						7.9	4.1													
	MIN	23.5	4.3	2.0	1.0	301					10.0	8.2	1.0	0.9	0.01	7.0	7.0	0.03				13	10	0.01												
	MAX	26.9	5.1	2.0	3.6	518					10.0	20.6	2.4	1.9	0.68	19.0	19.6	0.03				35	19	0.01												
TA3-PZ-10-K5	n	6	6	5	6	6					5	6	6	6	6	6	5					6	4	4												
	MEAN	25.4	4.5	2.0	2.0	367					13.6	14.6	2.0	1.6	0.38	12.6	13.0	0.0				16.2	14.8	0.04												
	STD. DEV.	1.2	0.3		1.1	66					3.4	4.1	0.6	0.3	0.34	3.7	4.0	0.0				9.7	2.2	0.06												
	MIN	24.2	4.3	2.0	0.5	309					10.0	9.6	1.3	1.3	0.01	8.3	8.3	0.0				0.1	12.0	0.01												
	MAX	27.0	5.0	2.0	4.0	490					18.0	18.8	2.9	2.0	0.87	17.0	17.4	0.1				30.0	17.0	0.12												
TA3-PZ-10-L5	n	6	6	5	6	6					5	6	6	6	6	6	5					6	4	4												
	MEAN	25.5	4.6	2.0	1.7	368					13.4	16.2	1.8	1.5	0.32	14.4	14.7	0.1				22.7	17.0	0.03												
	STD. DEV.	1.4	0.2		0.9	129					4.8	5.3	0.5	0.3	0.31	4.8	5.1	0.1				7.4	3.2	0.05												
	MIN	23.5	4.4	2.0	0.3	146					10.0	8.7	1.3	1.0	0.01	7.4	7.4	0.0				10	14	0.01												
	MAX	27.1	5.0	2.0	3.0	502					20.0	23.6	2.6	1.9	0.72	21.0	21.7	0.3				29	21	0.10												
TA3-PZ-11-EF2	n	6	6	5	6	6					5	6	6	6	6	6	5					1	1	1	6	5	4	1	1	1	1	1	1			
	MEAN	24.8	4.8	3.8	2.8	322					13.4	16.1	1.6	1.2	0.35	14.5	14.8	0.03				0.8	0.6	0.02	17.3	15.3	0.04	0.01	48	0.1	24	0.02	6.5	0.1	9.5	8.7
	STD. DEV.	2.8	0.3	4.0	1.5	73					5.3	4.9	0.8	0.5	0.39	4.4	4.7	0.01				8.1	4.4	0.06												
	MIN	19.5	4.4	2.0	0.4	240					10.0	11.1	1.1	0.8	0.02	9.9	9.9	0.02				0.8	0.6	0.02	10	9.3	0.01	0.01	48	0.1	24	0.02	6.5	0.1	9.5	8.7
	MAX	27.4	5.3	11.0	5.0	452					22.0	23.1	3.1	2.1	1.00	20.0	21.0	0.04				0.8	0.6	0.02	31	20.0	0.12	0.01	48	0.1	24	0.02	6.5	0.1	9.5	8.7
TA3-PZ-11-I2	n	6	6	5	6	6					5	6	6	6	6	6	5					3	4	4	6	5	4	4	4	4	4	4	4	4	1	
	MEAN	24.8	4.5	2.0	3.1	465					11.4	24.0	1.4	1.2	0.17	22.7	22.8	0.03				2.9	2.3	0.1	33.0	24.2	0.01	0.01	48.0	0.1	33.5	0.03	10.4	0.1	9.9	23.8
	STD. DEV.	2.8	0.3		1.3	119					3.1	9.3	0.4	0.2	0.24	9.0	9.1	0.03				2.0	1.													

Table G.1 (continued)
Statistical Water Quality Summary

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	TDS (mg/L)	TSS (mg/L)	CBOD ₅ (mg/L)	COD (mg/L)	TN (mg/L N) ¹	TKN (mg/L N)	Organic N (mg/L N) ²	NH ₃ -N (mg/L N)	NOx (mg/L N)	TIN (mg/L N) ³	TP (mg/L)	Fecal (Ct/100 mL)	E-coli	TOC (mg/L)	DOC (mg/L)	Anions					Cations					Hydrogen Sulfide (Unionized)	Sulfide	TS	Sucrалose (ug/L)
																						F	Cl ⁻	NO ₃ -N ⁴	NO ₂ -N ⁴	PO ₄ -P ⁴	SO ₄ ²⁻	B	Ca	Fe	Mg	Mn	K	Na	
TA3-PZ-16-M9	n	6	6	1	6	6					6	6	6	6	6	8.8	8.8					6	4	4											
	MEAN	25.0	5.5	11.0	1.1	307					10.2	1.4	1.3	0.02	8.8	8.8							11.2	10.4	0.03										
	STD. DEV.	1.1	0.2		1.1	47					4.8	0.4	0.4	0.02	4.5	4.5							2.1	4.9	0.03										
	MIN	23.5	5.2	11.0	0.2	259					5.2	0.9	0.8	0.01	4.2	4.2							8.5	4.2	0.01										
	MAX	26.4	5.8	11.0	2.9	388					18.0	2.0	2.0	0.05	16.0	16.0							14	16	0.07										
TA3-PZ-16-N3	n	6	6	3	6	6					4	6	6	6	6	6	6	4					6	4	4										
	MEAN	25.1	5.6	7.7	1.1	335					24.0	15.1	1.4	1.4	0.03	13.7	13.7	0.9					16.3	16	0.03										
	STD. DEV.	0.9	0.1	2.9	1.1	37					20.2	4.2	0.7	0.7	0.03	4.5	4.5	1.7					0.5	3.9	0.04										
	MIN	23.8	5.5	5.8	0.2	301					10.0	9.2	1.0	0.9	0.01	8.2	8.2	0.0					16	10	0.01										
	MAX	26.1	5.8	11.0	3.0	387					54.0	19.0	2.7	2.7	0.07	18.0	18.1	3.5					17	18	0.09										
TA3-PZ-16-O7	n	6	6	1	6	6					6	6	6	6	6	6	6					6	4	4											
	MEAN	25.0	5.3	11.0	1.0	317					12.4	1.6	1.5	0.03	10.8	10.9						11.4	13.2	0.03											
	STD. DEV.	0.9	0.2		0.8	36					4.4	0.4	0.4	0.05	4.5	4.5						4.7	3.1	0.04											
	MIN	23.4	5.0	11.0	0.1	275					6.3	1.0	1.0	0.01	4.3	4.3						2.6	8.6	0.01											
	MAX	25.8	5.7	11.0	1.9	369					16.5	2.0	2.0	0.13	15.0	15.1						15	15	0.08											
TA3-PZ-16-ST14	n	6	6	1	6	6					6	6	6	6	6	6	6					6	4	4											
	MEAN	24.9	5.3	11.0	0.9	270					9.1	1.0	1.0	0.01	8.1	8.1						11.8	9.6	0.03											
	STD. DEV.	1.1	0.1		0.8	76					3.7	0.2	0.2	0.01	3.7	3.7						4.5	3.5	0.04											
	MIN	23.4	5.1	11.0	0.3	127					4.8	0.7	0.7	0.01	3.6	3.6						8.2	5.6	0.01											
	MAX	25.9	5.5	11.0	2.5	346					15.0	1.2	1.2	0.03	14.0	14.0						20	14	0.08											
TA3-PZ-16-ST16	n	6	6	1	6	6					6	6	6	6	6	6	6					6	4	4								1			
	MEAN	24.8	5.3	11.0	0.9	280					8.3	1.2	1.2	0.01	7.2	7.2						9.1	8.2	0.02							0.01				
	STD. DEV.	1.5	0.1		1.1	38					2.9	0.4	0.4	0.00	3.0	3.0						1.6	3.2	0.03							0.01				
	MIN	22.4	5.2	11.0	0.2	232					5.4	0.7	0.7	0.01	4.3	4.3						7.3	4.3	0.01							0.01				
	MAX	26.3	5.5	11.0	3.0	339					13.2	1.7	1.7	0.02	12.0	12.0						12.0	12.0	0.06							0.01				
TA4-PZ-09-I7	n	6	6	1	6	6					6	6	6	6	6	6	6					6	4	4								1			
	MEAN	25.2	5.2	11.0	1.4	249					7.4	2.1	2.0	0.06	5.3	5.3						12.2	5.4	0.05							6.8				
	STD. DEV.	2.6	0.4		0.7	86					2.3	1.1	1.0	0.08	1.5	1.5						11.5	0.5	0.07											
	MIN	21.4	4.9	11.0	0.8	123					3.3	0.6	0.6	0.01	2.7	2.7						3.2	5.0	0.01							6.8				
	MAX	27.9	5.9	11.0	2.5	326					10.4	3.4	3.2	0.18	7.0	7.2						34.0													

Table G.1 (continued)
Statistical Water Quality Summary

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	TDS (mg/L)	TSS (mg/L)	CBOD ₅ (mg/L)	COD (mg/L)	TN (mg/L N) ¹	TKN (mg/L N)	Organic N (mg/L N) ²	NH ₃ -N (mg/L N)	NOx (mg/L N)	TIN (mg/L N) ³	TP (mg/L)	Fecal (CFU/100 mL)	E-coli	TOC (mg/L)	DOC (mg/L)	Anions						Cations						Hydrogen Sulfide (Unionized)	Sulfide	TS	Sucrалose (ug/L)
																						F ⁻	Cl ⁻	NO ₃ -N ⁻	NO ₂ -N ⁻	PO ₄ -P ³⁻	SO ₄ ²⁻	B	Ca	Fe	Mg	Mn	K	Na			
TA4-PZ-09-TU16	n	6	6	1	6	6					6	6	6	6	6							6	4	4							1						
	MEAN	24.6	5.1	11.0	1.1	182					6.8	2.0	2.0	0.03	4.8	4.8							4.1	4.5	0.02						0.1						
	STD. DEV.	2.8	0.4		0.8	54					3.1	1.1	1.1	0.03	2.4	2.4							1.1	3.1	0.02												
	MIN	21.0	4.7	11.0	0.5	118					2.1	0.7	0.6	0.01	1.4	1.4							2.4	1.3	0.01						0.1						
	MAX	27.5	5.6	11.0	2.5	271					10.8	4.1	4.0	0.09	8.8	8.8							5.8	8.8	0.05						0.1						
TA4-PZ-10-H5	n	6	6	5	6	6					5	6	6	6	6	6	5					6	4	4						1							
	MEAN	25.2	4.5	2.0	1.5	281					10.4	10.5	1.4	1.4	0.04	9.1	9.2	0.1					19.1	9.4	0.01						1.7						
	STD. DEV.	2.4	0.5		0.4	144					0.5	4.3	0.6	0.6	0.09	4.3	4.4	0.0					19.5	5.5													
	MIN	21.4	4.0	2.0	1.1	126					10.0	6.1	0.9	0.9	0.01	5.2	5.2	0.0					2.4	5.2	0.01						1.7						
	MAX	27.4	5.5	2.0	2.2	536					11.0	18.2	2.5	2.5	0.22	17.0	17.2	0.1					55.0	17.0	0.01						1.7						
TA4-PZ-10-J5	n	6	6	5	6	6					5	6	6	6	6	6	5					6	4	4						1							
	MEAN	25.2	4.5	2.0	2.4	347					12.4	11.5	1.6	1.5	0.03	10.0	10.0	0.08					26.6	9.2	0.01						0.9						
	STD. DEV.	2.4	0.6		0.7	176					5.4	4.0	0.7	0.7	0.03	3.6	3.6	0.06					25.2	4.3													
	MIN	21.5	4.0	2.0	1.5	112					10.0	5.6	0.9	0.9	0.01	4.7	4.7	0.03					2.5	4.7	0.01						0.9						
	MAX	27.6	5.6	2.0	3.6	653					22.0	16.3	2.8	2.7	0.09	15.0	15.1	0.17					75.0	15.0	0.01						0.9						
TA4-PZ-10-K5	n	6	6	5	6	6					5	6	6	6	6	6	5					5	5	5	4	5	5	5	5	1	1						
	MEAN	25.2	4.5	2.0	2.0	367					11.6	14.9	2.0	1.9	0.04	12.9	13.0	0.2					2.7	2.2	0.15	31.0	11.9	0.01	0.01	49	0.1	22	0.05	6.1	0.03	6.8	24.7
	STD. DEV.	2.5	0.4		0.7	139					3.6	4.0	1.3	1.3	0.05	3.8	3.8	0.1					0.7	0.8	0.02	18.6	3.4			7.0	0.0	6.0	0.01	2.3	0.00	3.5	18.2
	MIN	21.2	4.2	2.0	1.2	133					10.0	8.3	1.0	0.9	0.01	6.5	6.5	0.1					1.8	1.2	0.13	3.8	6.5	0.01	0.01	38	0.1	15	0.03	3.3	0.03	3.7	2.6
	MAX	27.4	5.3	2.0	3.0	565					18.0	18.6	4.6	4.5	0.14	17.0	17.1	0.3					3.6	3.1	0.18	60.0	15.0	0.01	0.01	56	0.1	31	0.06	9.3	0.04	12.0	52.0
TA4-PZ-11-EF2	n	6	6	5	6	6					5	6	6	6	6	6	4					6	4	4						1							
	MEAN	25.3	4.2	2.0	1.8	242					13.4	8.9	1.4	1.3	0.04	7.5	7.6	0.08					16.7	6.9	0.06						0.1						
	STD. DEV.	2.5	0.2		0.8	105					5.1	3.3	0.4	0.4	0.07	3.1	3.2	0.08					17.9	2.8	0.10						0.1						
	MIN	21.4	3.9	2.0	1.1	138					10.0	6.2	0.9	0.9	0.01	4.9	4.9	0.02					3.9	4.9	0.01						0.1						
	MAX	27.8	4.4	2.0	3.2	411					22.0	13.6	2.1	2.1	0.19	12.0	12.0	0.20					49.0	11.0	0.20						0.1						
TA4-PZ-11-L2	n	6	6	5	6	6					5	6	6	6	6	6	5					4	4	4	6	5	4	4	4	4	4	4	4	1			
	MEAN	25.6	4.6	3.8	1.8	277					10.8	12.2	1.5	1.5	0.02	10.7	10.7	0.07					2.5	1.9	0.1	17.6	8.1	0.01	0.01	44.8	0.1	21	0				

Table G.1 (continued)
Statistical Water Quality Summary

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (μS)	TDS (mg/L)	CBOD ₅ (mg/L)	COD (mg/L)	TN (mg/L N) ¹	TKN (mg/L N)	Organic N (mg/L N) ²	NH ₃ -N (mg/L N)	NOx (mg/L N)	TIN (mg/L N) ³	TP (mg/L)	Fecal (CFU/100 mL)	E-coli	TOC (mg/L)	DOC (mg/L)	Anions					Cations					Hydrogen Sulfide (Unionized)	Sulfide	TS	Sucrалose (ug/L)
																					F	Cl ⁻	NO ₃ -N ⁻	NO ₂ -N ⁻	PO ₄ -P ³⁻	SO ₄ ²⁻	B	Ca	Fe	Mg	Mn	K	Na	
TA4-PZ-11-L6	n	6	6	5	6	6				5	6	6	6	6	6	5					6	4	4											
	MEAN	25.1	4.5	2.0	1.8	369				16.0	13.5	1.5	1.5	0.01	12.0	12.0	0.2					27.6	10.7	0.01										
	STD. DEV.	2.3	0.4			0.9	170			7.4	4.1	0.4	0.4	0.01	4.0	4.0	0.1					21.8	4.5											
	MIN	21.2	4.3	2.0	0.7	142				10.0	8.2	1.1	1.1	0.01	7.0	7.0	0.1					3.7	7.0	0.01										
	MAX	27.1	5.2	2.0	3.0	579				29.0	18.4	2.3	2.3	0.03	17.0	17.0	0.3					67.0	17.0	0.01										
TA4-PZ-16-I7	n	6	6	1	6	6				6	6	6	6	6	6	6					5	3	3											
	MEAN	24.9	5.1	11.0	0.7	212				3.4	0.6	0.6	0.01	2.8	2.8						6.5	1.4	0.03											
	STD. DEV.	1.3	0.3			0.5	33			2.5	0.3	0.3	0.01	2.3	2.3						1.7	0.1	0.03											
	MIN	23.2	4.7	11.0	0.2	162				1.5	0.3	0.3	0.01	1.2	1.2						4.7	1.3	0.01											
	MAX	26.6	5.5	11.0	1.3	261				7.7	1.0	1.0	0.03	6.7	6.7						8.9	1.5	0.06											
TA4-PZ-16-L8	n	6	6	1	6	6				6	6	6	6	6	6	6					6	4	4											
	MEAN	24.9	5.4	11.0	1.6	216				4.3	1.0	0.9	0.02	3.4	3.4						7.0	1.8	0.02											
	STD. DEV.	1.5	0.3			2.2	33			2.8	0.4	0.4	0.02	2.5	2.5						1.4	0.3	0.03											
	MIN	22.8	5.1	11.0	0.2	162				2.2	0.4	0.4	0.01	1.4	1.4						5.8	1.4	0.01											
	MAX	26.6	5.9	11.0	6.0	264				8.7	1.7	1.6	0.07	7.6	7.6						9.1	2.2	0.06											
TA4-PZ-16-M4	n	6	6	1	6	6				6	6	6	6	6	6	6					6	4	4											
	MEAN	24.7	5.3	11.0	0.8	206				5.3	1.4	1.4	0.02	3.9	3.9						7.7	2.5	0.03											
	STD. DEV.	1.4	0.1			0.9	29			2.8	0.9	0.9	0.02	2.1	2.1						1.3	0.8	0.03											
	MIN	23.2	5.2	11.0	0.1	155				2.2	0.4	0.3	0.01	1.8	1.9						6.3	1.8	0.01											
	MAX	26.7	5.4	11.0	2.4	232				8.6	2.7	2.7	0.05	6.5	6.5						9.9	3.6	0.07											
TA4-PZ-16-N7	n	6	6	1	6	6				6	6	6	6	6	6	6					6	4	4											
	MEAN	24.9	5.2	11.0	0.7	212				5.1	0.9	0.9	0.01	4.3	4.3						8.0	2.2	0.01											
	STD. DEV.	1.4	0.2			0.5	32			3.4	0.5	0.5	0.01	3.3	3.3						2.2	0.5												
	MIN	23.2	4.9	11.0	0.1	162				2.0	0.4	0.3	0.01	1.6	1.6						6.4	1.6	0.01											
	MAX	26.7	5.4	11.0	1.2	252				9.6	1.7	1.7	0.03	8.5	8.5						12.0	2.8	0.01											
TA4-PZ-16-TU14	n	6	6	1	6	6				6	6	6	6	6	6	6					6	4	4											
	MEAN	24.8	5.3	11.0	0.6	227				2.0	0.6	0.6	0.01	1.4	1.4						4.9	0.9	0.02											
	STD. DEV.	1.6	0.4			0.4	40			1.1	0.3	0.3	0.01	0.9	0.9						0.8	0.3	0.03											
	MIN	22.8	4.9	11.0	0.1	173				1.1	0.3	0.3	0.01	0.7	0.7						4.1	0.7	0.01											
	MAX	26.6	6.0	11.0	1.2	297				4.0	0.9	0.9	0.02	3.1	3.1						6.2	1.3	0.06											
TA4-PZ-16-TU16	n	6	6	1	6	6				6	6	6	6	6	6	6		</td																

Table G.1 (continued)
Statistical Water Quality Summary

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (μS)	TDS (mg/L)	CBOD ₅ (mg/L)	COD (mg/L)	TN (mg/L N) ¹	TKN (mg/L N)	Organic N (mg/L N) ²	NH ₃ -N (mg/L N)	NOx (mg/L N)	TIN (mg/L N) ³	TP (mg/L)	Fecal (CFU/100 mL)	E-coli	TOC (mg/L)	DOC (mg/L)	Anions				Cations				Hydrogen Sulfide (Unionized)	Sulfide	TS	Sucrалose (ug/L)			
																					F	Cl ⁻	NO ₃ -N ⁻	NO ₂ -N ⁻	PO ₄ -P ³⁻	SO ₄ ²⁻	B	Ca	Fe	Mg	Mn	K	Na		
PZ29-BKG09	n	6	6	6	6	6				5	6	6	6	6	6	5				6	4	4							2						
	MEAN	25.4	5.0	5.3	1.1	221				12.4	6.2	1.2	1.2	0.01	5.0	5.0	0.1				6.7	5.5	0.02						0.01						
	STD. DEV.	3.3	0.3	4.1	0.5	12				3.6	1.2	0.5	0.5		1.2	1.2	0.0				0.5	1.0	0.03												
	MIN	20.5	4.7	2.1	0.6	211				10.0	4.6	0.7	0.7	0.01	3.6	3.6	0.0				6.3	4.6	0.01						0.01						
	MAX	29.8	5.5	11.0	1.7	238				18.0	7.6	1.9	1.9	0.01	6.8	6.8	0.1				7.7	6.7	0.06						0.01						
PZ30-BKG-16	n	6	6	6	6	6				5	6	6	6	6	6	5				6	3	3						1							
	MEAN	25.4	5.4	12.5	1.5	313				12.8	13.6	1.1	1.1	0.01	12.4	12.4	0.2				15.8	12.8	0.02						0.01						
	STD. DEV.	1.5	0.2	6.8	0.8	33				3.1	2.9	0.2	0.2	0.01	2.9	2.9	0.4				0.8	4.5	0.02												
	MIN	23.0	5.2	6.3	0.4	286				10.0	10.9	0.9	0.8	0.01	9.5	9.5	0.0				15.0	9.5	0.01						0.01						
	MAX	26.7	5.6	22.0	2.5	371				17.0	19.2	1.4	1.4	0.03	18.0	18.0	0.9				17.0	18.0	0.05						0.01						
PZ31-BKG-26	n	6	6	6	6	6				5	6	6	6	6	6	5				6	3	3						1							
	MEAN	25.6	5.0	9.8	2.3	353				10.4	17.9	1.5	1.4	0.12	16.3	16.5	0.13				21.5	17.3	0.03						0.01						
	STD. DEV.	1.2	0.1	10.2	1.4	43				0.9	3.8	0.2	0.3	0.08	3.7	3.7	0.15				2.8	4.5	0.04												
	MIN	23.7	4.9	4.2	0.9	316				10.0	14.2	1.2	1.1	0.04	13.0	13.1	0.03				19.0	13.0	0.01						0.01						
	MAX	26.7	5.1	30.0	4.1	429				12.0	23.6	1.8	1.7	0.24	22.0	22.2	0.39				25.0	22.0	0.08						0.01						
PZ32-BKG09	n	6	6	6	6	6				5	6	6	6	6	6	5				6	3	3						1							
	MEAN	26.4	4.4	2.0	2.6	187				13.8	4.9	0.9	0.9	0.01	4.1	4.1	0.09				4.4	4.2	0.02						0.01						
	STD. DEV.	2.9	0.2		1.4	36				5.2	2.5	0.4	0.4	0.01	2.3	2.3	0.08				1.5	3.2	0.02						0.01						
	MIN	22.7	4.0	2.0	1.2	155				10.0	1.5	0.3	0.3	0.01	1.2	1.2	0.02				3.0	1.2	0.01						0.01						
	MAX	29.2	4.6	2.0	4.9	249				22.0	8.7	1.4	1.4	0.03	7.7	7.7	0.19				6.9	7.6	0.04						0.01						
PZ33-BKG-16	n	6	6	6	6	6				5	6	6	6	6	6	5				3	3	3	6	4	4	3	3	3	3	3	2				
	MEAN	25.8	5.0	8.0	1.3	323				10.4	17.2	1.2	1.2	0.03	16.0	16.0	0.04				2.7	1.8	0.03	17	18.5	0.03	0.01	33.7	0.1	31.7	0.02	9.8	0.4	10.7	7.1
	STD. DEV.	1.7	0.2	6.5	0.6	51				0.9	4.6	0.7	0.7	0.03	4.6	4.5	0.02				2.7	1.4	0.03	2.9	3.1	0.03		3.2	0.0	4.7	1.1	0.1	2.0	0.6	
	MIN	23.0	4.7	3.2	0.4	270				10.0	12.1	0.5	0.5	0.01	11.0	11.0	0.01				1.0	0.7	0.01	14	16	0.01	0.01	30.0	0.1	28.0	0.02	8.8	0.3	9.1	6.5
	MAX	27.4	5.2	20.0	2.2	409				12.0	24.3	2.5	2.4	0.09	23.0	23.0	0.06				5.9	3.4	0.06	22	23	0.07	0.01	36.0	0.1	37.0	0.02	11.0	0.4	13.0	7.7
PZ34-BKG-26	n	6	6	6	6	6				5	6	6	6	6	6	5				6	3	3						1							
	MEAN	25.9	5.5	10	2.3	330				10.4	11.1	1.7	1.6	0.1	9.4	9.5	0.5				21.7	9.8	0.04						0.01						
	STD. DEV.	1.1	0.3	4.3	0.9	21				0.9	3.2	1.1	1.1	0.1	3.8	3.8	0.2				1.0	5.0	0.05												
	MIN	23.9	5.2	6.3	1.2	316				10.0	8.4	0.6	0.5	0.0	5.1	5.2	0.2				20	5.1	0.01												

Table G.1 (continued)
Statistical Water Quality Summary

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	TDS (mg/L)	TSS (mg/L)	CBOD ₅ (mg/L)	COD (mg/L)	TN (mg/L N) ¹	TKN (mg/L N)	Organic N (mg/L N) ²	NH ₃ -N (mg/L N)	NOx (mg/L N)	TIN (mg/L N) ³	TP (mg/L)	Fecal (Ct/100 mL)	E-coli	TOC (mg/L)	DOC (mg/L)	Anions				Cations				Hydrogen Sulfide (Unionized)	Sulfide	TS	Sucrалose (ug/L)		
																						F	Cl ⁻	NO ₂ -N ⁺	NO ₂ -N ⁻	PO ₄ -P ³⁻	SO ₄ ²⁻	B	Ca	Fe	Mg	Mn	K	Na	
PZ39-BKG-16	n	6	6	6	6	6					6	6	6	6	6	6					6	3	3												
	MEAN	24.6	5.9	28.3	1.1	239					3.2	0.9	0.9	0.01	2.3	2.3					6.4	1.7	0.02												
	STD. DEV.	1.4	0.2	15.0	1.0	52					1.1	0.5	0.5	0.00	0.8	0.8					0.5	0.5	0.02												
	MIN	21.9	5.7	10	0.2	193					1.8	0.5	0.5	0.01	1.2	1.2					5.7	1.2	0.01												
	MAX	25.9	6.2	54	2.4	340					4.4	1.7	1.7	0.02	3.3	3.3					7.0	2.0	0.04												
PZ40-BKG-26	n	6	6	6	6	6					6	6	6	6	6	6					6	3	3												
	MEAN	24.5	5.1	5.7	1.5	297					10.9	1.2	1.2	0.01	9.6	9.6					14.3	10.0	0.03												
	STD. DEV.	1.1	0.1	2.5	1.3	13					2.0	0.4	0.4	0.01	1.7	1.7					1.0	1.9	0.03												
	MIN	22.3	5.0	3.2	0.1	279					8.0	0.8	0.8	0.01	7.2	7.2					13.0	8.3	0.01												
	MAX	25.1	5.2	10	3.5	313					13.4	2.0	2.0	0.03	12.0	12.0					15.0	12.0	0.07												
PZ-41	n	2	2	1	2	2					1	2	2	2	2	1					2	2	2												
	MEAN	27.0	5.2	11.0	6.8	804					28.00	45.4	5.4	5.4	0.02	40	40.0	0.06			75	40	0.01												
	STD. DEV.	1.2	0.3	0.0	138						19.8	4.2	4.2	0.00	16	15.6					10	16													
	MIN	26.1	5.0	11.0	6.8	706					28.00	31.4	2.4	2.4	0.02	29	29.0	0.06			68	29	0.01												
	MAX	27.8	5.4	11.0	6.8	901					28.00	59.4	8.4	8.4	0.03	51	51.0	0.06			82	51	0.01												
PZ-42	n	2	2	1	2	2					1	2	2	2	2	1				1	1	1	2	2	2	1	1	1	1	1					
	MEAN	27.3	5.1	11.0	5.6	564					19.00	32.9	3.2	3.1	0.05	30	29.70	0.12			11.0	8.9	0.2	44.5	29.7	0.03	0.01	34.0	0.1	16.0	0.1	6.0	0.01	3.5	16.0
	STD. DEV.	0.5	0.1	0.2	450						33.9	2.3	2.2	0.03	32	31.64					40.3	31.6	0.03												
	MIN	26.9	5.0	11.0	5.5	245					19.00	8.9	1.6	1.6	0.03	7	7.33	0.12			11.0	8.9	0.2	16.0	7.3	0.01	0.01	34.0	0.1	16.0	0.1	6.0	0.01	3.5	16.0
	MAX	27.6	5.1	11.0	5.8	882					19.00	56.8	4.8	4.7	0.07	52	52.07	0.12			11.0	8.9	0.2	73.0	52.0	0.05	0.01	34.0	0.1	16.0	0.1	6.0	0.01	3.5	16.0
PZ-43	n	3	3	2	3	3					2	3	3	3	3	2					3	3	3												
	MEAN	26.4	5.2	12.1	5.4	104					21.0	4.5	1.2	1.2	0.02	3.3	3.3	0.09					2.0	3.3	0.02										
	STD. DEV.	1.5	0.5	14.1	0.7	52					15.6	3.6	0.3	0.3	0.01	3.4	3.4	0.09					1.8	3.4	0.02										
	MIN	24.7	4.8	2.1	4.7	55					10.0	1.1	0.9	0.9	0.01	0.2	0.3	0.03					0.4	0.2	0.01										
	MAX	27.7	5.7	22.0	6.1	159					32.0	8.3	1.4	1.4	0.03	7.0	7.0	0.16					3.9	7.0	0.05										
PZ-44	n	3	3	2	3	3					2	3	3	3	3	2				1	1	1	3	3	3	1	1	1	1	1	1	1	1		
	MEAN	26.8	4.8	6.5	4.8	579					25.5	32.8	2.7	2.7	0.01	30.1	30.1	0.06			19.0	18.0	0.1	44.4	30.1	0.02	0.1	24.0	0.1	11.0	0.1	4.0	0.01	2.3	13.0
	STD. DEV.	1.5	0.3	6.4	2.3	359					17.7	23.8	1.1	1.1	0.01	22.9	22.9	0.02					31.6	22.9	0.02										
	MIN	25.6	4.6	2.0	2.8	168					13.0	6.1	1.8</																						

Table G.1 (continued)
Statistical Water Quality Summary

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (µS)	TDS (mg/L)	TSS (mg/L)	CBOD ₅ (mg/L)	COD (mg/L)	TN (mg/L N) ¹	TKN (mg/L N)	Organic N (mg/L N) ²	NH ₃ -N (mg/L N)	NOx (mg/L N)	TIN (mg/L N) ³	TP (mg/L)	Fecal (Cu/100 mL)	E-coli	TOC (mg/L)	DOC (mg/L)	Anions						Cations							
																						F	Cl ⁻	NO ₂ -N	NO ₃ -N	PO ₄ -P	SO ₄ ²⁻	B	Ca	Fe	Mg	Mn	K	Na	
PZ-49	n	2	2	1	2	2				1	2	2	2	2	2	1				1	1	1	2	2	1	1	1	1	1	1					
	MEAN	27.0	5.0	11.0	3.9	356				38.0	15.6	2.1	2.0	0.03	14	14	0.3				24.0	22.0	0.6	28.0	13.5	0.09	0.1	27.0	0.1	22.0	0.1	5.5	0.01	3.5	22.0
	STD. DEV.	0.8	0.5		1.8	111					2.9	0.6	0.6	0.02	4	4							5.7	3.5	0.11										
	MIN	26.4	4.6	11.0	2.6	277				38.0	13.5	1.6	1.6	0.01	11	11	0.3				24.0	22.0	0.6	24.0	11.0	0.01	0.1	27.0	0.1	22.0	0.1	5.5	0.01	3.5	22.0
	MAX	27.5	5.3	11.0	5.2	434				38.0	17.6	2.5	2.5	0.04	16	16	0.3				24.0	22.0	0.6	32.0	16.0	0.16	0.1	27.0	0.1	22.0	0.1	5.5	0.01	3.5	22.0
PZ-50	n	2	2	1	2	2				2	2	2	2									2	2	2											
	MEAN	26.9	5.3	11.0	5.3	403				10.8	2.0	2.0	0.03	8.8	8.8								48.2	8.8	0.01										
	STD. DEV.				0.2	0.9	299				7.8	0.4	0.4	0.00	7.4	7.4							60.6	7.4											
	MIN	26.9	5.2	11.0	4.7	191				5.2	1.7	1.7	0.03	3.5	3.5								5.3	3.5	0.01										
	MAX	26.9	5.5	11.0	6.0	614				16.3	2.3	2.3	0.04	14.0	14.0								91.0	14.0	0.01										
PZ-51	n	2	2	1	2	2				2	2	2	2									2	2	2											
	MEAN	26.9	5.9	44.0	3.4	149				1.7	1.2	1.2	0.03	0.5	0.5								3.0	0.5	0.03										
	STD. DEV.	1.1	0.5		0.3	52				0.3	0.7	0.7	0.02	0.4	0.3								2.1	0.4	0.03										
	MIN	26.1	5.6	44.0	3.1	112				1.5	0.7	0.7	0.01	0.2	0.3								1.5	0.2	0.01										
	MAX	27.7	6.3	44.0	3.6	186				1.9	1.7	1.7	0.04	0.7	0.7								4.5	0.7	0.05										
PZ-52	n	2	2	1	2	2				1	2	2	2	2	2	1					1	1	1	2	2	2	1	1	1	1	1	1			
	MEAN	26.1	5.8	33.0	4.6	360				40.0	13.6	2.2	2.1	0.03	11	11	0.1				28.0	27.0	0.1	18.8	11.4	0.05	0.1	29.0	0.1	15.0	0.1	3.3	0.01	5.4	14.0
	STD. DEV.	0.6	0.1		0.5	242				12.0	0.1	0.0	0.03	12	12								15.9	12.2	0.05										
	MIN	25.6	5.8	33.0	4.3	189				40.0	5.1	2.1	2.1	0.01	3	3	0.1				28.0	27.0	0.1	7.5	2.8	0.01	0.1	29.0	0.1	15.0	0.1	3.3	0.01	5.4	14.0
	MAX	26.5	5.9	33.0	5.0	531				40.0	22.1	2.2	2.1	0.05	20	20	0.1				28.0	27.0	0.1	30.0	20.0	0.08	0.1	29.0	0.1	15.0	0.1	3.3	0.01	5.4	14.0
PZ-53	n	2	2	1	2	2				2	2	2	2									2	2	2											
	MEAN	26.6	5.6	22.0	4.6	424				24.6	1.8	1.8	0.03	22.8	22.8								22.6	22.8	0.06										
	STD. DEV.	0.8	0.5		2.6	408				26.7	1.0	1.0	0.03	25.7	25.8								28.9	25.7	0.06										
	MIN	26.0	5.3	22.0	2.7	135				5.7	1.1	1.1	0.01	4.6	4.6								2.1	4.6	0.01										
	MAX	27.1	6.0	22.0	6.4	712				43.5	2.5	2.5	0.05	41.0	41.0								43.0	41.0	0.10										
PZ-54	n	3	3	1	3	3				3	3	3	3									3	3	3											
	MEAN	24.7	5.4	22.0	3.2	161				6.2	1.1	1.0	0.10	5.1	5.2								6.8	5.1	0.04										
	STD. DEV.	2.2	0.5		1.9	17				1.0	0.2	0.1	0.15	0.9	0.9								7.1												

Table G.1 (continued)
Statistical Water Quality Summary

Sample ID	Statistical Parameter	Temp (°C)	pH	Total Alkalinity (mg/L)	DO (mg/L)	Specific Conductance (μS)	TDS (mg/L)	TSS (mg/L)	CBOD ₅ (mg/L)	COD (mg/L)	TN (mg/L N) ¹	TKN (mg/L N)	Organic N (mg/L N) ²	NH ₃ -N (mg/L N)	NOx (mg/L N)	TIN (mg/L N) ³	TP (mg/L)	Fecal (CFU/100 mL)	E-coli	TOC (mg/L)	DOC (mg/L)	Anions					Cations					Hydrogen Sulfide (Unionized)	Sulfide	TS	Sucrалose (ug/L)
																						F	Cl ⁻	NO ₃ -N ⁻	NO ₂ -N ⁻	PO ₄ -P ⁻	SO ₄ ²⁻	B	Ca	Fe	Mg	Mn	K	Na	
PNRS II samples																																			
TA5-Denite Tank	n	5	6	5	6	6		5	4	5	6	6	6	6	6	5	5		2	2	5	4	4	5						4	3	2			
	MEAN	24.4	6.4	192	0.7	1103		7.2	19.0	112	3.3	3.3	2.6	0.6	0.05	0.7	4.8	40.80		41.50	38.50	66.60	0.06	0.01	262.0						1.3	1.1	12.4		
	STD. DEV.	5.2	1.0	49.2	0.8	277		9.6	34.0	25.4	2.4	2.4	1.9	0.5	0.05	0.6	2.5	89.00		21.92	19.09	30.29	0.06		143.25						1.4	0.9	9.3		
	MIN	18.4	4.4	130	0.1	788		1.0	2.0	88	1.2	1.2	0.8	0.1	0.01	0.1	1.6	1.0		26	25	43	0.01	0.01	140						0.1	0.2	5.8		
	MAX	29.0	7.1	250	1.8	1526		24.0	70.0	150	7.7	7.7	6.2	1.5	0.15	1.5	8.2	200		57	52	110	0.15	0.01	490						3.3	1.9	19.0		
TA5-LINER-SP	n	6	6	4	6	6		4	3	5	7	7	7	7	7	5	2		1	1	5	5	5	4						3	2				
	MEAN	26.3	6.5	233	2.8	924		18.5	2.0	132.6	6.7	3.0	2.8	0.3	3.6	3.9	6.7	1.0		28	28	68.8	3.6	0.04	98.8						1.2	2.1			
	STD. DEV.	6.4	0.2	22.2	1.5	230		23.7		33.1	5.4	1.8	1.6	0.5	4.6	4.6	3.7					29.3	5.4	0.06	127.8						1.0	2.1			
	MIN	17.6	6.3	210	0.8	748		6.0	2.0	83.0	1.4	1.1	1.1	0.0	0.2	0.2	1.0	1.0		28	28	49	0.2	0.01	25						0.5	0.6			
	MAX	33.2	6.7	260	4.6	1371		54.0	2.0	170.0	15.8	5.7	5.3	1.3	13.0	13.0	11.0	1.0		28	28	120	13	0.15	290						2.3	3.6			
TA5-LY-C	n	6	6	4	6	6		4	3	5	6	6	6	6	6	5	3				1	6	5	5	5						5	4			
	MEAN	26.6	6.4	37	6.3	736		1.0	2.0	48.8	32.7	3.2	3.1	0.03	29.5	29.5	7.1	1		14		69.00	30.80	0.02	48.80						1.3	1.4			
	STD. DEV.	5.9	0.5	25.7	1.4	254				29.2	9.9	1.4	1.3	0.04	10.7	10.6	6.4					46.4	11.4	0.03	21.4						1.7	2.5			
	MIN	17.9	5.6	21	4.0	357		1.0	2.0	26.0	16.2	1.4	1.4	0.01	12.0	12.1	1.2	1.0		14		26	12	0.01	12						0.0	0.0			
	MAX	35.3	7.2	75	8.1	1119		1.0	2.0	85.0	43.9	5.1	5.1	0.10	41.0	41.0	18.0	1.0		14		160	41	0.08	66						4.0	5.1			
TA5-PZ-I	n	6	6	5	6	6		5	5	5	6	6	6	6	6	5	5				5	4	4	1	5						5	4	3		
	MEAN	25.9	4.5	3.9	1.1	326		1.8	2.0	11	8.7	1.2	1.1	0.01	7.6	7.6	0.03	1.0			14.6	6.1	0.01	0.01	81.2						0.01	0.1	1.8		
	STD. DEV.	1.4	0.2	4.0	0.8	36		1.3		1.3	4.5	0.5	0.5	0.01	4.2	4.3	0.02				5.2	1.2			7.0						0.0	0.2	2.9		
	MIN	23.2	4.2	2.0	0.4	275		1.0	2.0	10	5.4	0.5	0.5	0.01	4.7	4.7	0.01	1.0				9.2	4.7	0.01	0.01	74						0.01	0.0	0.1	
	MAX	27.1	4.7	11.0	2.6	376		4.0	2.0	13	17.7	1.8	1.8	0.04	16	16	0.06	1.0				23.0	7.3	0.01	0.01	88						0.01	0.1	5.1	
TA6-Denite Tank	n	6	6	5	6	6		5	5	5	6	6	6	6	6	5	5		2	2	6	4	4	6						5	5	1			
	MEAN	24.7	6.6	198	0.5	904		15.0	3.6	128	2.5	2.4	2.2	0.2	0.08	0.3	5.7	36.8		44	43	76.3	0.1	0.01	122.8						4.8	6.1	25		
	STD. DEV.	5.8	0.4	63.8	0.3	192		23.0	2.3	27.7	1.5	1.5	1.4	0.2	0.06	0.2	4.3	80.1		31.1	32.5	53.8	0.1		45.0					2.8	3.8				
	MIN	16.4	5.9	130	0.1	684		2.0	2.0	90	0.9	0.9	0.8	0.1	0.04	0.1	1.8	1.0		22	20	31	0.0	0.01	88						1.0				

Table G.1 (continued)
Statistical Water Quality Summary

Notes

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

²Organic Nitrogen (ON) is a calculated value equal to the difference of TKN and NH₃.

³Total Inorganic Nitrogen (TIN) is a calculated value equal to the sum of NH₃ and NO_x.

D.O. - Dissolved oxygen

Gray-shaded data points indicate values below method detection level (mdl). mdl value used for statistical analyses = 0.0001.

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.

Orange-shaded data points indicate too many colonies were present. The numeric value represents the dilution factor times the maximum reportable number of colonies.

Burnt shaded data points indicate results based upon colony counts outside the method indicated ideal range.