Hillsborough County
Florida

Office of the County Administrator
Michael S. Merrill

December 19, 2013

Mr. John Morris, P.G.
Florida Department of Environmental Protection
Waste Permitting Section
13051 Telecom Parkway
Temple Terrace, FL 33637

RE: **Southeast County Landfill**
Laboratory Analytical Results
Initial Assessment Monitoring Plan
Report No. 39 – November 2013

Dear Mr. Morris:

The Hillsborough County Public Utilities Department (County) is pleased to provide the analytical results from the November 2013 sampling event conducted as part of our continuation of the Initial Assessment Monitoring Plan (IAMP). The IAMP was developed to address the potential impacts to groundwater from the sinkhole on the edge of Phase VI at the Southeast County Landfill (SCLF), which was discovered on December 14, 2010.

As part of the agreement between the County and Florida Department of Environmental Protection Southwest District Office (Department), three (3) upper Floridan/Limestone aquifer monitoring wells, designated as TH-72, TH-76 and TH-77 are sampled on a monthly schedule and three (3) surficial aquifer monitoring wells, designated as TH-73, TH-74, and TH-75 are sampled on a quarterly schedule. Representative samples were collected from each of these six (6) monitoring wells on November 6-7, 2013 and analyzed for total dissolved solids (TDS), chloride, total ammonia, arsenic, iron, sodium, and five (5) field parameters. Each sample collected was analyzed by our contracted laboratory, Test America, Inc. The following paragraphs summarize the parameter specific results pertinent to the evaluation of potential water quality impacts from the sinkhole at the SCLF.

Turbidity
Turbidity values in the three surficial aquifer monitoring wells were recorded at 6.35, 9.71, and 12.3 Nephelometric Turbidity Units (NTUs). Turbidity in the three upper Floridan / Limestone aquifer monitoring wells were recorded at 0.8, 29, and 25.1 NTUs. The turbidity values observed in the two newer wells, TH-76 and TH-77 have continued to decrease and the County believes that the turbidity values at these two locations will continue to decrease over time as they are pumped during the monthly sampling activities.

Conductivity
The conductivity values in the three surficial aquifer monitoring wells were recorded at 319, 1,348, and 353 micromhos per centimeter (umhos/cm). The elevated conductivity observed in TH-74 indicates that this location is exhibiting the impacts from the buried wastes and grout materials within the sinkhole.

The conductivity values in the three upper Floridan/Limestone aquifer monitoring wells were recorded at 2145, 446, and 423 umhos/cm. Monitoring well TH-72 is located adjacent to the sinkhole and continues to exhibit groundwater impacts from the buried wastes within the sinkhole and the grout materials pumped into the subsurface. The values observed in TH-76 and TH-77 are consistent with the unaffected deep wells across the site.

Total Dissolved Solids (TDS)
TDS was observed in TH-72 and TH-74 above the Secondary Drinking Water Standard (SDWS) of 500 mg/l at concentrations of 1,200 mg/l and 890 mg/l. The other two upper Floridan wells both had TDS values 260 mg/l and 230 mg/l, the other two surficial aquifer wells both exhibited a TDS value of 200 mg/l.

Chloride
The chloride value in TH-72 and TH-74 were observed at 370 mg/l and 450 mg/l, which are above the Primary Dinking Water Standard (PDWS) of 250 mg/l. The other two upper Floridan wells exhibited values of 13 and 9.7, and the other two surficial wells exhibited values of 76 and 31 mg/l. It is apparent that the elevated chloride values observed at each of these locations are attributable to waste that entered the sinkhole and/or the grouting activities. However, these impacts remain limited to the area in close proximity to the sinkhole.

Iron
Total iron concentrations in each of the surficial and upper Floridan aquifer monitoring wells exceeded the SDWS of 0.3 mg/l. The surficial aquifer monitoring wells exhibited values of 3.8, 60, and 6.5 mg/l, and the upper Floridan/Limestone aquifer monitoring wells exhibited values of 0.64, 1.1, and 0.68 mg/l. Results show that the iron observed in TH-72 is lower than the concentrations in TH-76 and TH-77. The elevated iron concentrations observed at

specific locations across the site are consistent with background water quality, and are likely naturally occurring and/or the result of past strip mining activities at the site.

Total Ammonia

Surficial aquifer monitoring well TH-74 and upper Floridan well TH-72 exhibited ammonia above the former GCTL of 2.8 mg/l at concentrations of 3.2 mg/l and 12 mg/l, respectively. The other two surficial aquifer wells exhibited values of 2.2 and 1.3 mg/l, and the other two upper Floridan wells both exhibited a value of 0.36 mg/l.

Groundwater Elevations and Direction of Flow

On November 6, 2013, the County collected groundwater and surface water elevation data at sixty-five (65) points across the site, including twenty eight (28) surficial aquifer wells, seven (7) upper Floridan (limestone) aquifer wells, twenty three (23) piezometers, and seven (7) surface water sites.

No significant changes to the patterns of flow in the surficial aquifer were noted in the September data set and the diagram is consistent with the observations over the period of record. The general direction of flow within the surficial aquifer has historically been to the west northwest across the Southeast County Landfill site. The elevations observed within the wells closest to the sinkhole indicate that flow patterns may be somewhat affected in the area, which would not be unexpected. However, the overall direction of flow within the surficial aquifer remains toward the west/northwest across the site.

A contour diagram of the upper Floridan / Limestone aquifer has been prepared for the general area around the sinkhole and is included with this submittal. This diagram was generated manually in AutoCad ™ utilizing only the three data points closest to the sinkhole. For the month of November, the elevation change between TH-72 and TH-76 is only 0.04 ft., and the change between TH-72 and TH-77 is only 0.18 ft. It should be noted that the potentiometric surface elevations within the upper Floridan aquifer were observed to be ten (10) feet lower in November than what was observed in October. A review of the historical monthly water level data reveals that a significant decrease in UFA elevations occurs during this time of year.

The diagram indicates that flow within the UFA in the area of the former sinkhole continues to be in a north/northwest direction, but at what appears to be a very slow rate. The County will continue to evaluate the direction of flow within the upper Floridan / Limestone aquifer in the vicinity of the sinkhole, and a more comprehensive understanding of this system will be developed over time. However, based on the consistency of the gradient and a consistent direction of flow, an additional down gradient UFA monitoring well may be warranted.

Conclusions

The water quality observed in the November 2013 IAMP sampling event indicates that the upper Floridan / Limestone well TH-72, which is closest to the sinkhole, continues to exhibit impacts to water quality. The impacts observed in TH-72 include elevated conductivity, TDS, chloride, ammonia, iron and sodium. These impacts were not unexpected within the upper Floridan / Limestone aquifer in the immediate vicinity of the sinkhole feature.

Additionally, the County has observed impacts in surficial aquifer monitoring well, TH-74 which also is in relatively close proximity to the sinkhole. These impacts include elevated conductivity, TDS, chloride, ammonia, and iron. The two recently installed upper Floridan / Limestone aquifer monitoring wells, TH-76 and TH-77 exhibit good water quality with no evidence of impact from the sinkhole. Conductivity values, TDS, chloride and ammonia are all very low and consistent with the historical data set for the unaffected upper Floridan aquifer groundwater monitoring wells at the SCLF.

Based on the groundwater elevations in TH-72, TH-76, and TH-77, the direction of flow within the upper Floridan aquifer in the vicinity of the sinkhole again appears to be towards the northwest. The County will continue to evaluate the direction of flow in this area, and if no significant seasonal changes in the direction of flow are observed, an additional upper Floridan well may need to be installed in an appropriate down gradient location northwest of the sinkhole.

Recommendations

The County continues to move forward with the optimized IAMP, which includes the monthly sampling of the three upper Floridan / Limestone aquifer groundwater monitoring wells, TH-72, TH-76, and TH-77, and the quarterly sampling of the three surficial aquifer monitoring wells, TH-73, TH-74, and TH-75. We will continue to evaluate any water quality changes in both the surficial and upper Floridan wells, and present the findings in the monthly IAMP reports.

Enclosed for your review please find a site location map depicting the location of the monitoring wells sampled, the water quality data summary table for the November 2013 sampling event, a groundwater elevation data table, groundwater contour and flow diagrams for the surficial and upper Floridan / Limestone aquifers, the historical data tables for each well sampled this month, and the complete analytical data report from our contracted laboratory, Test America, Inc.

Should you have any questions or require any additional information please feel free to call me at (813) 663-3221.

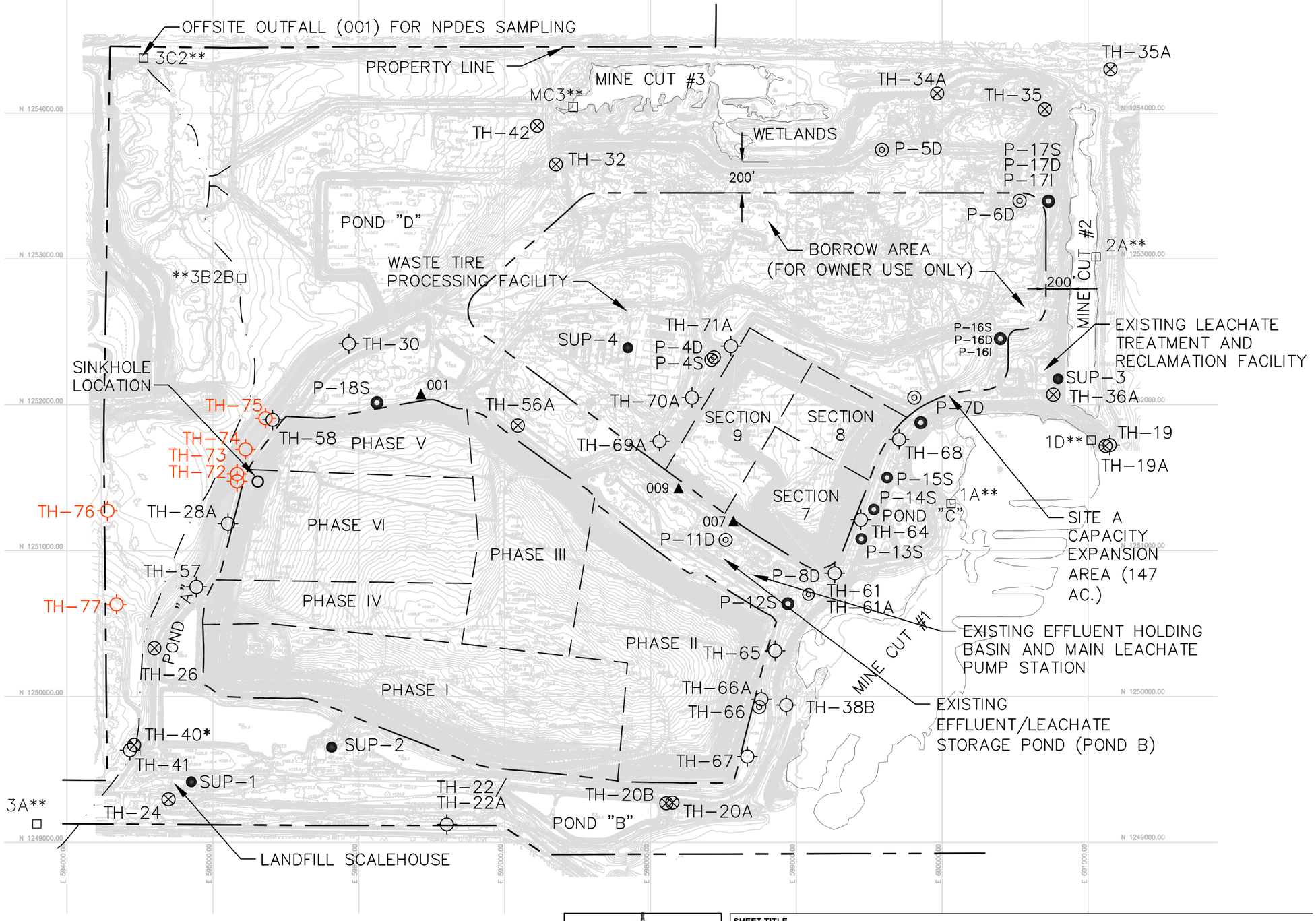
Respectfully submitted,

David S. Adams 12/19/2013

David S. Adams, P.G
Environmental Manager
Public Utilities Department
Environmental Services

xc: George Cassady, Director, Public Utilities Department
Patricia Berry, Public Works Department, Solid Waste Division
Larry Ruiz, Public Works Department, Solid Waste Division
Andy Berry, Public Utilities Department, Environmental Services
Michelle Van Dyk, Public Utilities Department
Richard Tedder, FDEP Tallahassee
Clark Moore, FDEP Tallahassee
Jeff Greenwell, FDEP Southwest District
Susan Pelz, FDEP Southwest District
Steve Morgan, FDEP, Southwest District
Andy Schipfer, EPC
Ernest Ely, WMI
Brian Miller, DOH
Rich Siemering, HDR
Joe O'Neill, CDS

G:/enviro/self/ ADRs/IAMP Reports/ IAMP Report No.39.doc
Final copy scanned to LFS/Southeast/Sinkhole/SCLF – IAMP Report No 39.pdf



N

GRAPHIC SCALE

0 175 350 700

SCALE IN FEET
1"=700'

LEGEND

001 ▲ LEACHATE SAMPLING LOCATION
P-1S ◎ SHALLOW PIEZOMETER
P-1D ◎ DEEP PIEZOMETER
SUP-1 ● SUPPLY WELL
TH-32 ⊗ INACTIVE MONITORING WELL LOCATION AND DESIGNATION
P-8D ◎ PIEZOMETER TO MONITOR HYDRAULIC DIVIDE
1D □ SURFACE WATER MONITORING SITE LOCATION
TH-22A ⊗ MONITORING SITE LOCATION MONITOR WELL
* FLORIDAN AQUIFER
1A** STAFF GAUGE
TH-73 ⊗ MONITORING WELL SAMPLED AS PART OF IAMP

NOTES:
1. TOPOGRAPHICAL INFORMATION COMPLIED FROM EXISTING CONDITIONS SURVEY PERFORM BY PICKETT & ASSOCIATES DATED JAN 2013.

Hillsborough County
Florida

SHEET TITLE

IAMP WELL LOCATIONS
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA

PROJECT NUMBER	REFERENCE SHEET
SCALE	DRAWING NAME
DATE: MAY. 2013	EXHIBIT NUMBER: 1

C:\pwworking\tpa\d0266713\Well Location Map.dwg, Plot, 5/20/2013 3:03:58 PM, lrodrigu

Southeast County Landfill
Laboratory Analytical Data
Surficial and Upper Floridan Aquifer Groundwater Monitoring Wells
November 6-7, 2013

GENERAL (mg/l)	Surficial Aquifer Wells			Upper Floridan Wells				(MCL) STANDARD
PARAMETERS	**TH-73**	**TH-74**	**TH-75**	**TH-72**	**TH-76**	**TH-77**	**Duplicate**	
conductivity (umhos/cm) (field)	319	1348	353	2145	446	423	NA	**NS**
dissolved oxygen (mg/l) (field)	0.62	1.41	1.13	0.16	0.64	0.74	NA	**NS**
pH (field)	**5.01**	**5.43**	**5.78**	6.69	7.54	7.43	NA	**(6.5 - 8.5)****
temperature (°C) (field)	25.54	23.98	24.32	23.36	22.84	23.51	NA	**NS**
turbidity (NTU) (field)	6.35	9.71	12.3	0.8	29	25.1	NA	**NS**
total dissolved solids (mg/l)	200	**890**	200	**1200**	260	230	220	**500****
chloride (mg/l)	76	**370**	31	**450**	13	9.7	9.7	**250****
ammonia nitrogen (mg/l as N)	2.2	**3.2**	1.3	**12**	0.36	0.36 J3	0.44	**2.8*****
								(MCL) STANDARD
Metals: (mg/l)	**TH-73**	**TH-74**	**TH-75**	**TH-72**	**TH-76**	**TH-77**	**Duplicate**	
arsenic	0.004 u	0.004 u	0.0046 i	0.004 u	0.004 u	0.004 u	0.004 u	**0.01***
iron	**3.8**	**60**	**6.5**	**0.64**	**1.1**	**0.68**	**0.68**	**0.3****
sodium	25	78	14	**170**	20	17	17	**160***

MCL=Maximum Contaminant Level

NA =Not Analyzed

NS=No Standard

NTU = Nephelometric Turbidity Units

i = reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

u = parameter was analyzed but not detected.

J3 = estimated value, value may not be accurate. Spike recovery or RPD outside of criteria.

*=Denotes Primary Drinking Water Standard as per Chapter 62-550.310, F.A.C.

**=Denotes Secondary Drinking Water Standard as per Chapter 62-550.320, F.A.C.

*** = Denotes Groundwater Cleanup Target Levels as per Chapter 62,777, F.A.C.

5.01 Exceeds Standard

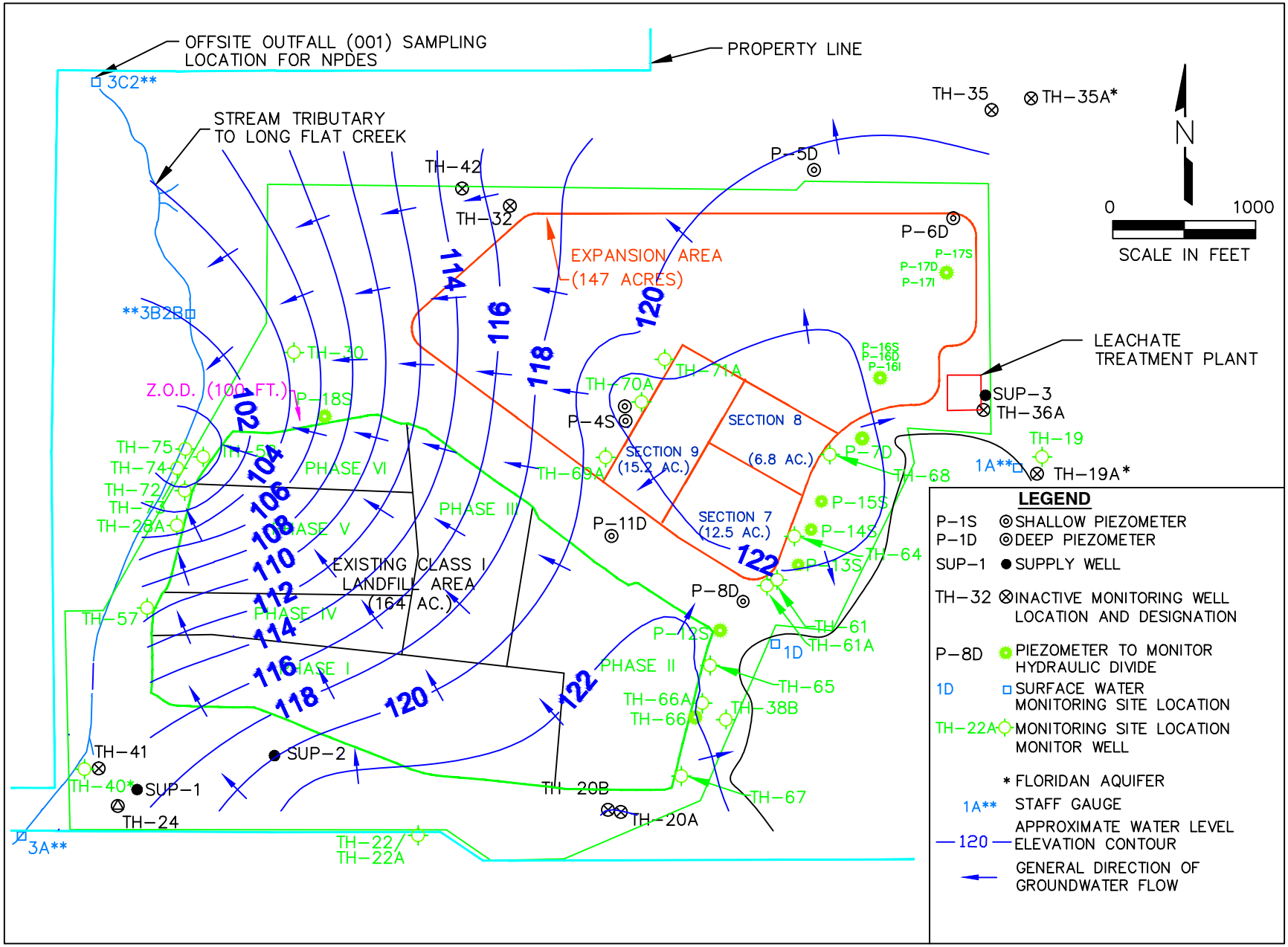
mg/l=milligrams per liter

ug/l = Micrograms per liter

Southeast County Landfill
Groundwater and Surface Water Elevations
November 6, 2013

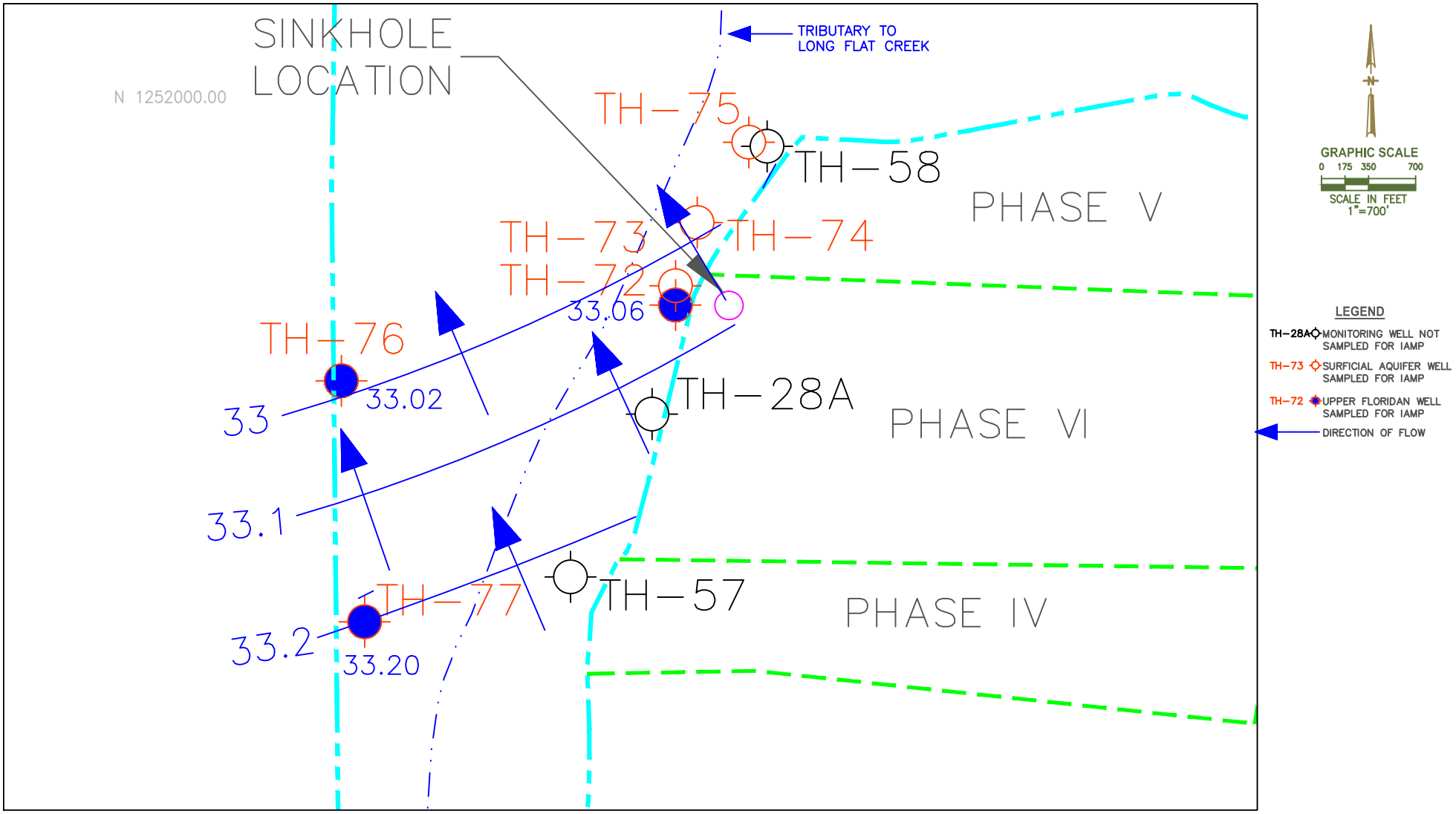
Measuring Point I.D.	T.O.C. Elevations (NGVD)	W.L. B.T.O.C.	W.L. (NGVD)	Time
P-4D	140.78	21.14	119.64	13:17
P-4S	140.95	9.85	131.10	13:15
P-5D	151.94	ND	ND	11:50
P-6D-A	148.01	25.45	122.56	12:49
P-7D	138.92	16.79	122.13	13:38
P-8D	138.34	17.24	121.10	13:45
P-11D	138.02	16.31	121.71	13:24
P-12S	134.97	13.26	121.71	13:48
P-13S	140.21	18.32	121.89	13:29
P-14S	138.56	16.52	122.04	13:33
P-15S	139.19	17.77	121.42	13:35
P-16S	143.38	15.74	127.64	11:29
P-16I	144.15	23.19	120.96	11:27
P-16D	143.84	22.88	120.96	11:30
P-17S	137.35	13.13	124.22	11:42
P-17I	137.32	13.35	123.97	11:40
P-17D	137.22	15.52	121.70	11:39
P-18S	129.86	17.72	112.14	10:57
P-19	133.36	10.78	122.58	12:45
P-20	132.38	11.49	120.89	12:52
P-21	122.79	2.62	120.17	13:01
P-22	128.35	8.01	120.34	13:07
P-23	143.13	22.35	120.78	12:58
TH-19*	130.27	99.20	31.07	11:21
TH-20A	131.86	9.20	122.66	14:01
TH-20B	132.57	10.17	122.40	14:03
TH-22	128.82	5.15	123.67	9:28
TH-22A	129.27	5.79	123.48	9:27
TH-24A	128.23	5.25	122.98	9:30
TH-28A	131.10	27.90	103.20	10:47
TH-30	128.88	23.84	105.04	10:03
TH-32	129.90	12.90	117.00	11:01
TH-35	145.98	27.92	118.06	11:47
TH-36A	152.70	32.38	120.32	11:24
TH-38A	130.68	9.62	121.06	13:56
TH-38B	131.81	14.15	117.66	13:55
TH-40*	124.99	94.09	30.90	9:37
TH-41*	125.00	99.79	25.21	9:39
TH-42*	116.74	73.43	43.31	11:04
TH-57	128.36	18.70	109.66	10:50
TH-58	127.88	28.05	99.83	10:06
TH-61	138.73	16.51	122.22	13:25
TH-61A	139.45	17.19	122.26	13:24
TH-64	139.64	16.72	122.92	13:31
TH-65	135.40	13.70	121.70	13:50
TH-66	130.58	8.46	122.12	13:53
TH-66A	130.66	8.90	121.76	13:52
TH-67	129.51	6.37	123.14	13:59
TH-68	140.01	17.12	122.89	13:40
TH-69A	144.97	24.27	120.70	13:21
TH-70A	146.63	22.54	124.09	13:19
TH-71A	146.95	25.82	121.13	13:13
TH-72	130.96	97.90	33.06	10:09
TH-73	131.07	30.36	100.71	10:11
TH-74	109.08	9.37	99.71	9:53
TH-75	106.92	7.81	99.11	9:58
TH-76	111.21	78.19	33.02	12:28
TH-77	119.88	86.68	33.20	12:24
SW-3A	3.0'=125.53'	0.43	122.96	9:23
SW-3B2B	3.0'=97.97'	ND	ND	12:33
SW-3C2	6.0'=92.33'	1.25	87.58	12:14
Mine Cut #1	4.0'=122.14'	3.10	121.24	13:43
Mine Cut #2	6.0'=123.47'	3.00	120.47	11:16
Mine Cut #3	4.0'=112.27'	2.22	110.49	11:07
Mine Cut #4	5.0'=97.54'	1.38	93.92	11:12

NGVD	**= National Geodetic Vertical Datum**		
T.O.C.	**= Top of Casing**		
B.T.O.C.	**= Below Top of Casing**		
*****	**= Floridan Well**		
ND	**= No Data - Sampling Location Dry**		
W.L.	**= Water Level**		



Southeast County Landfill

Groundwater Elevation Contour Diagram – November 6, 2013



NOVEMBER 2013
UPPER FLORIDAN / LIMESTONE AQUIFER CONTOUR DIAGRAM
IN THE VICINITY OF THE FORMER SINKHOLE
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA

Hillsborough County Southeast Landfill
Laboratory Analytical Results from IAMP Groundwater Monitoring
TH-72

Date	Depth to Water (feet)	Water Table Elevation (NGVD)	conductivity (umhos/cm) (field)	dissolved oxygen (mg/l) (field)	pH (field)	temperature (°C) (field)	turbidity (NTU) (field)	total dissolved solids (mg/l)	chloride (mg/l)	ammonia nitrogen (mg/l as N)	arsenic (mg/l)	iron (mg/l)	sodium (mg/l)
01/27/2011	115.69	15.27	551	0.39	7.43	22.88	3.2	320	32	0.22	0.004 u	**0.52**	32
02/03/2011	112.18	18.78	565	1.09	7.38	22.95	9.9	300	32	0.21	0.004 u	**0.62**	27
02/10/2011	109.80	21.16	514	1.58	7.34	22.65	3.2	340	31	0.28	0.004 u	**0.54**	31
02/14/2011	108.18	22.78	483	1.15	7.36	22.7	3.5	320	32	0.24	0.0013 u	**0.58**	32
02/24/2011	111.71	19.25	513	0.19	7.34	22.85	1	350	32	0.22	0.004 u	**0.53**	31
03/03/2011	111.88	19.08	579	0.77	7.35	22.8	0.8	330	31	0.23	0.004 u	**0.43**	32
03/10/2011	113.65	17.31	551	1.26	7.41	22.73	0.9	320	30	0.18	0.004 u	**0.35**	31
03/17/2011	112.85	18.11	388	1.05	7.34	22.9	0.9	330	30	0.31	0.004 u	0.25	31
03/24/2011	114.33	16.63	1192	1.5	7.58	23.1	1.5	**1,100**	**350**	**9**	0.004 u	**0.64**	130
04/01/2011	115.70	15.26	928	0.16	7.41	22.8	3.6	**520**	110	2	0.004 u	0.24	59
04/08/2011	112.10	18.86	810	0.92	7.35	23.13	6.1	420	87	1.9	0.004 u	0.22	51
05/05/2011	116.21	14.75	609	0.71	7.67	23.01	6.6	320	33	0.3	0.004 u	0.27	37
06/08/2011	119.19	11.77	607	0.71	7.65	23.35	4.51	340	32	0.57	0.004 u	0.2	34
07/07/2011	113.30	17.66	606	0.72	7.4	23.25	3.94	150	64	2.1	0.004 u	**7.9**	27
08/04/2011	103.31	27.65	564	0.33	7.29	23.18	0.4	360	33	0.21	0.004 u	0.18 i	34
09/08/2011	97.99	32.97	536	1.11	7.29	23.2	0.6	340	34	0.41	0.004 u	0.18 i	36
10/04/2011	99.45	31.51	471	1.69	7.31	23.13	1.1	290	31	0.3	0.004 u	0.14 i	34
11/03/2011	103.37	27.59	550	1.8	7.28	23.04	1.51	290	32	0.29	0.004 u	0.15 i	34
12/08/2011	106.80	24.16	528	1.92	7.31	22.9	0.73	320	29	0.32	0.004 u	0.13 i	33
01/05/2012	113.08	17.88	535	0.2	7.23	22.74	0.44	330	32	0.29	0.004 u	0.097 i	31
02/10/2012	113.86	17.10	511	0.94	7.3	22.89	1.39	310	28	0.28	0.004 u	0.13 i	30
03/07/2012	121.00	9.96	575	0.27	7.15	23.23	0.5	310	25	0.22	0.004 u	0.11 i	31
04/05/2012	124.96	6.00	522	1.09	7.08	23.18	0.65	280	28	0.41	0.004 u	0.11 i	29
05/03/2012	126.55	4.41	746	1.6	6.9	23.46	0.81	380	72	2.3	0.004 u	**0.54**	49
06/07/2012	120.46	10.50	641	0.72	7.07	23.4	0.26	370	46	1	0.004 u	0.23	37
07/05/2012	104.95	26.01	900	0.23	6.54	23.52	0.4	**650**	190	**2.9 j3**	0.004 u	**0.39**	70
08/03/2012	98.26	32.70	843	0.69	6.77	23.6	2.23	**730**	210	**3**	0.004 u	**0.48**	78
09/06/2012	91.18	39.66	2,357	0.2	6.51	23.62	1.05	**1,300**	**570**	**12**	0.004 u	**1.1**	**170**
10/04/2012	90.19	40.77	1,654	0.6	**6.43**	23.22	0.46	**1,500**	**650**	**25**	0.004 u	**1.9**	**210**
11/07/2012	99.29	31.67	2,488	0.76	6.58	23.03	0.74	**1,400**	**540**	**15**	0.004 u	**1.4**	**180**
12/05/2012	101.82	29.14	2,416	0.23	**6.49**	23.18	0.45	**1,300**	**540**	**13**	0.004 u	**1.3**	**180 j3**
01/03/2013	100.65	30.31	2,430	1.1	**6.44**	23.09	0.42	**1,400**	**500**	**15**	0.004 u	**1.3**	**170 j3**
02/07/2013	105.58	25.38	2,206	0.6	6.5	23.1	0.22	**1,100**	**470**	**13**	0.004 u	**1.1**	160
03/07/2013	110.00	20.96	1,234	0.3	6.61	22.85	0.41	**770**	**290**	**11**	0.004 u	**1.1**	110
04/04/2013	111.35	19.61	1,252	0.33	6.74	23.15	9.9	**870**	**260**	**10**	0.004 u	**1**	100
05/02/2013	109.56	21.40	1,615	0.18	6.83	23.16	0.45	**810**	**300**	**8.6**	0.004 u	**0.87**	110
06/04/2013	109.62	21.34	1,440	0.31	7.13	23.3	0.27	**850**	**290**	**8.4**	0.004 u	**0.82**	120
07/03/2013	98.72	32.24	1,450	0.18	7.03	23.5	0.41	**820**	**280**	**8.8**	0.004 u	**0.79**	120
08/02/2013	ND	ND	1,256	0.46	6.88	23.43	0.2	**800**	**290**	**6.8**	0.004 u	**0.72**	120
09/05/2013	87.92	43.04	1,001	0.61	6.98	23.45	1.17	**760**	**290**	**7.6**	0.004 u	**0.71**	110
10/02/2013	87.39	43.57	1,566	0.32	6.86	23.53	12.6	**1,000**	**350**	**7.4 j3**	0.004 u	**0.79**	120

New survey data beginning with 10/4/2012.
u = parameter was analyzed but not detected
i = reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
j3 = estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
ND = No Data - water levels collected during quarterly ADR.
1,100 EXCEEDS STANDARD

Hillsborough County Southeast Landfill
Laboratory Analytical Results from IAMP Groundwater Monitoring
TH-73

Date	Depth to Water (feet)	Water Table Elevation (NGVD)	conductivity (umhos/cm) (field)	dissolved oxygen (mg/l) (field)	pH (field)	temperature (°C) (field)	turbidity (NTU) (field)	total dissolved solids (mg/l)	chloride (mg/l)	ammonia nitrogen (mg/l as N)	arsenic (mg/l)	iron (mg/l)	sodium (mg/l)
01/27/2011	30.99	100.08	440	1.7	**5.53**	25.01	22.2	180	69	2.3	0.004 u	**15**	38
02/03/2011	30.85	100.22	400	1.78	**5.62**	26.12	17.6	140	56	1.9	0.004 u	**31**	26
02/10/2011	30.76	100.31	336	1.44	**5.62**	25.86	12	160	56	2	0.004 u	**26**	27
02/14/2011	30.82	100.25	312	0.56	**5.54**	26	15.5	190	55	2.6	0.004 u	**34**	24
02/24/2011	30.78	100.29	340	0.38	**5.62**	26.15	16.4	170	61	3	0.004 u	**17**	28
03/03/2011	30.87	100.20	382	0.53	**5.56**	26	19.4	200	61	2.1	0.004 u	**21**	29
03/10/2011	30.87	100.20	371	0.66	**5.56**	25.97	8.3	170	60	1.7	0.004 u	**21**	27
03/17/2011	30.76	100.31	266	1.22	**5.35**	26	14.3	150	69	2.1	0.004 u	**12**	33
03/24/2011	30.78	100.29	346	0.61	**5.47**	26.02	8	140	63	2	0.004 u	**13**	27
04/01/2011	31.11	99.96	366	0.78	**5.53**	25.89	19.8	160	68	1.7	0.004 u	**14**	29
04/08/2011	30.65	100.42	331	0.62	**5.35**	25.97	18	140	66	2.1	0.004 u	**11**	30
05/05/2011	31.70	99.37	361	0.4	**5.34**	25.64	12.2	150	66	2	0.004 u	**20**	28
06/08/2011	32.54	98.53	391	0.7	**5.41**	25.69	14	150	63	2.2	0.004 u	**14**	27
07/07/2011	31.55	99.52	306	0.35	**5.13**	25.34	19.2	350	33	0.52	0.004 u	0.22	31
08/04/2011	31.40	99.67	262	0.89	**5.12**	25.44	19.9	140	60	1.2	0.004 u	**8.2**	24
09/08/2011	30.66	100.41	259	0.49	**5.24**	25.41	28.1	170	62	1.9	0.004 u	**8.5**	27
10/04/2011	31.16	99.91	345	0.89	**5.2**	25.48	12	220	96	1.8	0.004 u	**9.1**	33
11/03/2011	31.27	99.80	1273	0.3	**5.21**	25.55	8.16	**720**	**360**	**7.3**	0.004 u	**22**	97
12/08/2011	31.96	99.11	1499	0.62	**5.3**	25.24	2.64	**820**	**500**	**3**	0.004 u	**26**	110
01/05/2012	32.31	98.76	1188	0.71	**5.16**	25.18	2.05	**750**	**350**	**3.3**	0.004 u	**19**	80
02/10/2012	32.25	98.82	304	0.55	**5.28**	25.24	3.31	190	67	1.6	0.004 u	**4.9**	23
03/07/2012	32.42	98.65	312	1.08	**5.22**	25.24	3.3	150	56	1.2	0.004 u	**4.7**	22
04/05/2012	32.63	98.44	231	0.79	**5.06**	24.94	4.39	120	50	1.1	0.004 u	**4.1**	20
05/03/2012	32.74	98.33	283	0.99	**4.8**	24.88	6.47	160	63	1.9	0.004 u	**4.5**	22
06/07/2012	32.40	98.67	224	0.87	**4.82**	24.64	5.6	140	48	1.6	0.004 u	**3.3**	18
07/05/2012	31.51	99.56	232	0.31	**4.77**	24.63	9	140	50	1.7	0.004 u	**4**	18
08/03/2012	32.09	98.98	201	0.71	**5.02**	24.63	5.13	160	52	1.7	0.004 u	**3.8**	19
09/06/2012	31.22	99.76	242	0.5	**5.06**	24.67	7.39	140	47	1.3	0.004 u	**3.6**	18
10/04/2012	31.46	99.61	222	0.18	**4.86**	24.68	7.56	130	43	1.2	0.004 u	**3.4**	16
11/07/2012	31.84	99.23	231	0.39	**5.06**	24.75	5.54	130	45	0.94	0.004 u	**3.6**	16
12/05/2012	32.14	98.93	237	0.2	**5.03**	24.9	3.26	110	46	0.84	0.004 u	**3.5**	17
01/03/2013	31.91	99.16	237	0.49	**4.95**	24.84	2.47	130	45	1.1	0.004 u	**3.2**	16
02/07/2013	32.11	98.96	221	0.69	**4.84**	24.79	4.8	120	47	0.84	0.004 u	**3**	15
03/07/2013	32.41	98.66	179	0.23	**4.78**	24.46	2.64	110	45	1.2	0.004 u	**3.1**	17
04/04/2013	32.41	98.66	191	0.2	**4.73**	24.42	2.49	140	53	1.1	0.004 u	**3.4**	20
05/02/2013	31.40	99.67	240	0.24	**5.12**	24.43	8.82	120	52	0.99	0.004 u	**3.4**	16
06/04/2013	31.14	99.93	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
07/03/2013	30.22	100.85	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
08/02/2013	ND	ND	395	0.23	**5.13**	24.85	10.4	270	130	2.3	0.004 u	**7.8**	38
09/04/2013	29.89	101.18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
10/04/2013	29.74	101.33	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

New survey data beginning with 10/4/2012.

u = parameter was analyzed but not detected

NS = No Sample Collected (Surficial wells are now sampled quarterly)

ND = No Data - water levels collected during quarterly ADR.

5.53 EXCEEDS STANDARD

HIllsborough County Southeast Landfill
Laboratory Analytical Results from IAMP Groundwater Monitoring
TH-74

Date	Depth to Water (feet)	Water Table Elevation (NGVD)	conductivity (umhos/cm) (field)	dissolved oxygen (mg/l) (field)	pH (field)	temperature (°C) (field)	turbidity (NTU) (field)	total dissolved solids (mg/l)	chloride (mg/l)	ammonia nitrogen (mg/l as N)	arsenic (mg/l)	iron (mg/l)	sodium (mg/l)
11/03/2011	9.65	ND	485	0.51	**5.56**	23.62	5.45	280	48	**2.9**	0.004 u	**26**	20
12/08/2011	10.11	98.97	445	0.89	**5.64**	22.9	14.7	270	40	2.3	0.0042 i	**27**	21
01/05/2012	10.30	98.78	474	0.66	**5.66**	21.97	16.8	240	59	1.8	0.004 u	**30**	26
02/10/2012	10.22	98.86	501	0.6	**5.42**	21.48	9.99	350	95	2.5	0.004 u	**34**	22
03/07/2012	10.40	98.68	618	0.53	**5.24**	21.57	8.7	210	120	2.3	0.004 u	**38**	22
04/05/2012	10.53	98.55	592	0.79	**5.13**	21.74	13.7	270	120	2.8	0.004 u	**40**	24
05/03/2012	10.71	98.37	602	0.86	**5.15**	21.93	12.5	330	110	2.8	0.004 u	**38**	25
06/07/2012	10.45	98.63	334	0.75	**5.35**	22.48	6.92	210	37	**3**	0.004 u	**20**	16
07/05/2012	9.45	99.63	495	0.32	**4.99**	23.09	5.33	240	73	2.1	0.004 u	**11**	27
08/03/2012	9.99	99.09	261	0.37	**5.18**	23.63	6.12	210	47	**3**	0.004 u	**19**	15
09/06/2012	9.36	99.66	578	0.24	**5.33**	24.08	2.37	330	110	2.8	**0.012**	**21**	36
10/04/2012	9.53	99.55	369	0.25	**5.36**	24.12	3.98	260	76	**3.5**	0.0055 i	**19**	22
11/07/2012	9.91	99.17	385	0.36	**5.47**	23.53	3.21	240	60	1.9	0.0045 i	**18**	20
12/05/2012	10.14	98.94	398	0.34	**5.44**	22.82	3.08	230	59	2.7	0.004 u	**21**	19
01/03/2013	9.96	99.12	418	0.31	**5.43**	22.03	3.03	280	59	2.7	0.004 u	**20**	20
02/07/2013	10.16	98.92	394	0.34	**5.43**	21.66	1.95	200	45	1.9	0.004 u	**20**	16
03/07/2013	10.23	98.85	363	0.35	**5.38**	21.06	1.24	180	47	**3**	0.004 u	**20**	17
04/04/2013	10.52	98.56	273	0.38	**5.34**	20.75	5.85	210	43	1.9	0.004 u	**20**	16
05/02/2013	9.94	99.14	357	0.39	**5.61**	21.28	2.62	190	37	2.8	0.004 u	**21**	14
06/04/2013	9.91	99.17	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
07/03/2013	8.90	100.18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
08/02/2013	ND	ND	508	0.29	**5.55**	23.26	1.3	240	63	**3.2**	0.004 u	**31**	20
09/04/2013	8.94	100.14	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
10/04/2013	8.87	100.21	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

New survey data beginning with 10/4/2012.

u = parameter was analyzed but not detected

i = reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

NS = No Sample Collected (Surficial wells are now sampled quarterly)

ND = No Data - water levels collected during quarterly ADR.

5.56 EXCEEDS STANDARD

Hillsborough County Southeast Landfill
Laboratory Analytical Results from IAMP Groundwater Monitoring
TH-75

Date	Depth to Water (feet)	Water Table Elevation (NGVD)	conductivity (umhos/cm) (field)	dissolved oxygen (mg/l) (field)	pH (field)	temperature (°C) (field)	turbidity (NTU) (field)	total dissolved solids (mg/l)	chloride (mg/l)	ammonia nitrogen (mg/l as N)	arsenic (mg/l)	iron (mg/l)	sodium (mg/l)
11/03/2011	7.68	ND	396	0.25	**5.65**	23.63	11.6	220	49	1.4	0.0085 i	**11**	14
12/08/2011	7.90	99.02	301	0.46	**5.57**	22.9	20.1	150	23	1.1	**0.011**	**8.9**	11
01/05/2012	8.01	98.91	300	0.92	**5.58**	21.69	18.9	180	25	1.1	0.0071 i	**8.6**	10
02/10/2012	8.00	98.92	422	0.51	**5.48**	21.5	17.9	280	81	1.1	0.0072 i	**12**	20
03/07/2012	8.14	98.78	495	0.26	**5.39**	21.5	19.6	220	79	0.96	0.0079 i	**13**	22
04/05/2012	8.15	98.77	584	0.33	**5.37**	21.76	4.94	300	130	1.3	0.0063 i	**16**	26
05/03/2012	8.27	98.65	588	0.28	**5.32**	22.06	0.0	350	120	1.9	0.0078 i	**16**	33
06/07/2012	8.14	98.78	702	0.39	**5.61**	22.87	5.69	480	140	1.5	0.0095 i	**10**	40
07/05/2012	7.36	99.56	344	0.22	**5.35**	23.52	6.48	180	37	2	0.01	**9.8**	15
08/03/2012	7.80	99.12	241	0.28	**5.28**	24.07	4.21	190	25	1.8	0.008 i	**8.3**	14
09/06/2012	7.42	99.50	360	0.18	**5.41**	24.5	4.41	200	40	2	0.01	**9.1**	15
10/04/2012	7.55	99.37	346	0.15	**5.35**	24.54	6.73	240	51	2.5	0.0084 i	**9.2**	15
11/07/2012	7.79	99.13	422	0.3	**5.48**	23.8	2.51	200	54	1.6	0.0086 i	**9.8**	17
12/05/2012	7.98	98.94	395	0.31	**5.5**	22.97	7.22	210	48	1.4	0.0067 i	**9.2**	16
01/03/2013	7.88	99.04	447	0.37	**5.53**	21.89	13.9	400	60	1.3	0.0065 i	**8.1**	21
02/07/2013	8.02	98.90	453	0.2	**5.48**	21.71	6.35	240	62	1.5	0.0076 i	**9.8**	19
03/07/2013	8.04	98.88	379	0.27	**5.4**	21.38	2.71	200	40	1.9	0.0061 i	**8**	17
04/04/2013	8.23	98.69	245	0.25	**5.34**	21.08	4.92	180	22	1.7	0.0068 i	**7.3**	14
05/02/2013	8.00	98.92	340	0.21	**5.61**	21.72	1.59	170	26	1.3	0.0071 i	**7.6**	13
06/04/2013	7.85	99.07	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
07/03/2013	7.34	99.58	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
08/02/2013	ND	ND	356	0.21	**5.63**	23.9	2.1	170	28	1.3	0.0096 i	**7.6**	18
09/04/2013	7.47	99.45	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
10/04/2013	7.45	99.47	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

New survey data beginning with 10/4/2012.

i = reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

ND = No Data - water levels collected during quarterly ADR.

5.65 EXCEEDS STANDARD

Hillsborough County Southeast Landfill
Laboratory Analytical Results from IAMP Groundwater Monitoring
TH-76

Date	Depth to Water (feet)	Water Table Elevation (NGVD)	conductivity (umhos/cm) (field)	dissolved oxygen (mg/l) (field)	pH (field)	temperature (°C) (field)	turbidity (NTU) (field)	total dissolved solids (mg/l)	chloride (mg/l)	ammonia nitrogen (mg/l as N)	arsenic (mg/l)	iron (mg/l)	sodium (mg/l)
05/02/2013	89.83	21.38	450	0.22	7.63	22.81	36.9	220	13	0.4	0.004 u	**1.1**	20
06/04/2013	89.91	21.30	401	0.27	7.86	22.9	16.2	240	13	0.4	0.004 u	**0.66**	22
07/03/2013	79.04	32.17	398	0.19	8	23	28.6	210	12	0.34	0.004 u	**0.99**	22
08/02/2013	ND	ND	343	0.22	7.57	23.02	42.2	230	13	0.26	0.004 u	**1.6**	21
09/05/2013	68.22	42.99	278	0.21	7.74	22.97	46	240	12	0.32	0.004 u	**1.5**	20
10/02/2013	67.69	43.46	399	0.22	7.61	22.99	61.9	120	13	0.38	0.004 u	**1.7**	20

u = parameter was analyzed but not detected

ND = No Data - water levels collected during quarterly ADR.

1.1 EXCEEDS STANDARD

Hillsborough County Southeast Landfill
Laboratory Analytical Results from IAMP Groundwater Monitoring
TH-77

Date	Depth to Water (feet)	Water Table Elevation (NGVD)	conductivity (umhos/cm) (field)	dissolved oxygen (mg/l) (field)	pH (field)	temperature (°C) (field)	turbidity (NTU) (field)	total dissolved solids (mg/l)	chloride (mg/l)	ammonia nitrogen (mg/l as N)	arsenic (mg/l)	iron (mg/l)	sodium (mg/l)
05/02/2013	98.31	21.57	440	0.57	7.39	23.39	59.4	190	9.4	0.39	0.004 u	**1.2**	17
06/04/2013	98.38	21.50	384	0.56	7.86	23.59	35.4	230	8.9	0.42	0.004 u	**0.89**	18
07/03/2013	87.48	32.40	388	0.41	7.8	23.7	38.4	210	8.9	0.4	0.004 u	**1.1**	17
08/02/2013	ND	ND	334	0.47	7.44	23.66	42.9	230	9.2	0.36	0.004 u	**1.1**	18
09/05/2013	76.66	43.22	269	0.83	7.61	23.68	47.1	230	8.9	0.35	0.004 u	**0.96**	16
10/02/2013	76.14	43.72	383	0.69	7.5	23.59	52.7	240	9.1	0.39	0.004 u	**1.3**	17

u = parameter was analyzed but not detected
ND = No Data - water levels collected during quarterly ADR.
1.2 EXCEEDS STANDARD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Tampa
6712 Benjamin Road
Suite 100
Tampa, FL 33634
Tel: (813)885-7427

TestAmerica Job ID: 660-57513-1
Client Project/Site: SELF-IAMP Monitoring Wells

For:
Hillsborough Co Public Utilities Dept
Environmental Services Group
Brandon Support Operations Complex
332 North Falkenburg Rd, 2nd Floor
Tampa, Florida 33619

Attn: David Adams

Authorized for release by:
11/15/2013 2:44:09 PM

Nancy Robertson, Project Manager II
(813)885-7427
nancy.robertson@testamericainc.com

Table of Contents

Sample Summary

Client: Hillsborough Co Public Utilities Dept
Project/Site: SELF-IAMP Monitoring Wells

TestAmerica Job ID: 660-57513-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
660-57513-1	BLANK FIELD	Ground Water	11/06/13 10:20	11/06/13 15:35
660-57513-2	TH-72	Ground Water	11/06/13 11:45	11/06/13 15:35
660-57513-3	TH-73	Ground Water	11/06/13 10:26	11/06/13 15:35
660-57555-1	TH-77	Ground Water	11/07/13 10:46	11/07/13 15:45
660-57555-2	TH-76	Ground Water	11/07/13 11:51	11/07/13 15:45
660-57555-3	TH-75	Ground Water	11/07/13 13:18	11/07/13 15:45
660-57555-4	TH-74	Ground Water	11/07/13 12:38	11/07/13 15:45
660-57555-5	DUPLICATE	Ground Water	11/07/13 00:00	11/07/13 15:45

Job ID: 660-57513-1

Laboratory: TestAmerica Tampa

Narrative

Job Narrative
660-57513-1

Comments
No additional comments.

Receipt
The samples were received on 11/6/2013 3:35 PM and 11/7/2013 3:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 5.1° C and 5.1° C.

Metals
Method 6010B: The matrix spike (MS) recovery for sodium in batch 143171 was outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

General Chemistry
Method 350.1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 302726 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria. The sample is flagged with J3.

Method 350.1: The matrix spike (MS) recovery for batch 302983 was outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
U	Indicates that the compound was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

General Chemistry

Qualifier	Qualifier Description
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: Hillsborough Co Public Utilities Dept
Project/Site: SELF-IAMP Monitoring Wells

TestAmerica Job ID: 660-57513-1

Client Sample ID: BLANK FIELD — Lab Sample ID: 660-57513-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sodium	0.61		0.50	0.31	mg/L	1		6010B	Total Recoverable

Client Sample ID: TH-72 — Lab Sample ID: 660-57513-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	450		5.0	2.5	mg/L	10		300.0	Total/NA
Iron	640		200	50	ug/L	1		6010B	Total Recoverable
Sodium	170		0.50	0.31	mg/L	1		6010B	Total Recoverable
Ammonia as N	12		0.50	0.26	mg/L	10		350.1	Total/NA
Total Dissolved Solids	1200		25	25	mg/L	1		SM 2540C	Total/NA
Field pH	6.69				SU	1		Field Sampling	Total/NA
Field Temperature	23.36				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.16				mg/L	1		Field Sampling	Total/NA
Specific Conductance	2145				uS/cm	1		Field Sampling	Total/NA
Turbidity	0.80				NTU	1		Field Sampling	Total/NA

Client Sample ID: TH-73 — Lab Sample ID: 660-57513-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	76		2.0	1.0	mg/L	4		300.0	Total/NA
Iron	3800		200	50	ug/L	1		6010B	Total Recoverable
Sodium	25		0.50	0.31	mg/L	1		6010B	Total Recoverable
Ammonia as N	2.2		0.10	0.052	mg/L	2		350.1	Total/NA
Total Dissolved Solids	200		5.0	5.0	mg/L	1		SM 2540C	Total/NA
Field pH	5.01				SU	1		Field Sampling	Total/NA
Field Temperature	25.54				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.62				mg/L	1		Field Sampling	Total/NA
Specific Conductance	319				uS/cm	1		Field Sampling	Total/NA
Turbidity	6.35				NTU	1		Field Sampling	Total/NA

Client Sample ID: TH-77 — Lab Sample ID: 660-57555-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9.7		0.50	0.25	mg/L	1		300.0	Total/NA
Iron	680		200	50	ug/L	1		6010B	Total Recoverable
Sodium	17		0.50	0.31	mg/L	1		6010B	Total Recoverable
Ammonia as N	0.36	J3	0.050	0.026	mg/L	1		350.1	Total/NA
Total Dissolved Solids	230		10	10	mg/L	1		SM 2540C	Total/NA
Field pH	7.43				SU	1		Field Sampling	Total/NA
Field Temperature	23.51				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.74				mg/L	1		Field Sampling	Total/NA
Specific Conductance	423				uS/cm	1		Field Sampling	Total/NA
Turbidity	25.1				NTU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Hillsborough Co Public Utilities Dept
Project/Site: SELF-IAMP Monitoring Wells

TestAmerica Job ID: 660-57513-1

Client Sample ID: TH-76 — Lab Sample ID: 660-57555-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	13		0.50	0.25	mg/L	1		300.0	Total/NA
Iron	1100		200	50	ug/L	1		6010B	Total Recoverable
Sodium	20		0.50	0.31	mg/L	1		6010B	Total Recoverable
Ammonia as N	0.36		0.050	0.026	mg/L	1		350.1	Total/NA
Total Dissolved Solids	260		10	10	mg/L	1		SM 2540C	Total/NA
Field pH	7.54				SU	1		Field Sampling	Total/NA
Field Temperature	22.84				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	0.64				mg/L	1		Field Sampling	Total/NA
Specific Conductance	446				uS/cm	1		Field Sampling	Total/NA
Turbidity	29.0				NTU	1		Field Sampling	Total/NA

Client Sample ID: TH-75 — Lab Sample ID: 660-57555-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	31		0.50	0.25	mg/L	1		300.0	Total/NA
Arsenic	4.6	I	10	4.0	ug/L	1		6010B	Total Recoverable
Iron	6500		200	50	ug/L	1		6010B	Total Recoverable
Sodium	14		0.50	0.31	mg/L	1		6010B	Total Recoverable
Ammonia as N	1.3		0.050	0.026	mg/L	1		350.1	Total/NA
Total Dissolved Solids	200		5.0	5.0	mg/L	1		SM 2540C	Total/NA
Field pH	5.78				SU	1		Field Sampling	Total/NA
Field Temperature	24.32				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	1.13				mg/L	1		Field Sampling	Total/NA
Specific Conductance	353				uS/cm	1		Field Sampling	Total/NA
Turbidity	12.3				NTU	1		Field Sampling	Total/NA

Client Sample ID: TH-74 — Lab Sample ID: 660-57555-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	370		5.0	2.5	mg/L	10		300.0	Total/NA
Iron	60000		200	50	ug/L	1		6010B	Total Recoverable
Sodium	78		0.50	0.31	mg/L	1		6010B	Total Recoverable
Ammonia as N	3.2		0.10	0.052	mg/L	2		350.1	Total/NA
Total Dissolved Solids	890		17	17	mg/L	1		SM 2540C	Total/NA
Field pH	5.43				SU	1		Field Sampling	Total/NA
Field Temperature	23.98				Degrees C	1		Field Sampling	Total/NA
Oxygen, Dissolved	1.41				mg/L	1		Field Sampling	Total/NA
Specific Conductance	1348				uS/cm	1		Field Sampling	Total/NA
Turbidity	9.71				NTU	1		Field Sampling	Total/NA

Client Sample ID: DUPLICATE — Lab Sample ID: 660-57555-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9.7		0.50	0.25	mg/L	1		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: DUPLICATE (Continued)

Lab Sample ID: 660-57555-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	680		200	50	ug/L	1		6010B	Total Recoverable
Sodium	17		0.50	0.31	mg/L	1		6010B	Total Recoverable
Ammonia as N	0.44		0.050	0.026	mg/L	1		350.1	Total/NA
Total Dissolved Solids	220		10	10	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Hillsborough Co Public Utilities Dept
Project/Site: SELF-IAMP Monitoring Wells

TestAmerica Job ID: 660-57513-1

Client Sample ID: BLANK FIELD
Date Collected: 11/06/13 10:20
Date Received: 11/06/13 15:35

Lab Sample ID: 660-57513-1
Matrix: Ground Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.25	U	0.50	0.25	mg/L			11/11/13 14:35	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.0	U	10	4.0	ug/L		11/08/13 08:53	11/11/13 10:12	1
Iron	50	U	200	50	ug/L		11/08/13 08:53	11/11/13 10:12	1
Sodium	**0.61**		0.50	0.31	mg/L		11/08/13 08:53	11/11/13 10:12	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	0.026	U	0.050	0.026	mg/L			11/12/13 15:56	1
Total Dissolved Solids	5.0	U	5.0	5.0	mg/L			11/08/13 09:09	1

Client: Hillsborough Co Public Utilities Dept
Project/Site: SELF-IAMP Monitoring Wells

TestAmerica Job ID: 660-57513-1

Client Sample ID: TH-72
Date Collected: 11/06/13 11:45
Date Received: 11/06/13 15:35

Lab Sample ID: 660-57513-2
Matrix: Ground Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	450		5.0	2.5	mg/L			11/11/13 14:48	10

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.0	U	10	4.0	ug/L		11/08/13 08:53	11/11/13 10:15	1
Iron	640		200	50	ug/L		11/08/13 08:53	11/11/13 10:15	1
Sodium	170		0.50	0.31	mg/L		11/08/13 08:53	11/11/13 10:15	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	12		0.50	0.26	mg/L			11/12/13 18:19	10
Total Dissolved Solids	1200		25	25	mg/L			11/08/13 09:09	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	6.69				SU			11/06/13 11:45	1
Field Temperature	23.36				Degrees C			11/06/13 11:45	1
Oxygen, Dissolved	0.16				mg/L			11/06/13 11:45	1
Specific Conductance	2145				uS/cm			11/06/13 11:45	1
Turbidity	0.80				NTU			11/06/13 11:45	1

Client: Hillsborough Co Public Utilities Dept
Project/Site: SELF-IAMP Monitoring Wells

TestAmerica Job ID: 660-57513-1

Client Sample ID: TH-73
Date Collected: 11/06/13 10:26
Date Received: 11/06/13 15:35

Lab Sample ID: 660-57513-3
Matrix: Ground Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	76		2.0	1.0	mg/L			11/11/13 15:00	4

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.0	U	10	4.0	ug/L		11/08/13 08:53	11/11/13 10:19	1
Iron	3800		200	50	ug/L		11/08/13 08:53	11/11/13 10:19	1
Sodium	25		0.50	0.31	mg/L		11/08/13 08:53	11/11/13 10:19	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	2.2		0.10	0.052	mg/L			11/12/13 17:25	2
Total Dissolved Solids	200		5.0	5.0	mg/L			11/08/13 09:09	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.01				SU			11/06/13 10:26	1
Field Temperature	25.54				Degrees C			11/06/13 10:26	1
Oxygen, Dissolved	0.62				mg/L			11/06/13 10:26	1
Specific Conductance	319				uS/cm			11/06/13 10:26	1
Turbidity	6.35				NTU			11/06/13 10:26	1

Client: Hillsborough Co Public Utilities Dept
Project/Site: SELF-IAMP Monitoring Wells

TestAmerica Job ID: 660-57513-1

Client Sample ID: TH-77
Date Collected: 11/07/13 10:46
Date Received: 11/07/13 15:45

Lab Sample ID: 660-57555-1
Matrix: Ground Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.7		0.50	0.25	mg/L			11/12/13 23:45	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.0	U	10	4.0	ug/L		11/11/13 10:57	11/11/13 16:31	1
Iron	680		200	50	ug/L		11/11/13 10:57	11/11/13 16:31	1
Sodium	17		0.50	0.31	mg/L		11/11/13 10:57	11/11/13 16:31	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	0.36	J3	0.050	0.026	mg/L			11/11/13 17:41	1
Total Dissolved Solids	230		10	10	mg/L			11/11/13 09:00	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	7.43				SU			11/07/13 10:46	1
Field Temperature	23.51				Degrees C			11/07/13 10:46	1
Oxygen, Dissolved	0.74				mg/L			11/07/13 10:46	1
Specific Conductance	423				uS/cm			11/07/13 10:46	1
Turbidity	25.1				NTU			11/07/13 10:46	1

Client: Hillsborough Co Public Utilities Dept
Project/Site: SELF-IAMP Monitoring Wells

TestAmerica Job ID: 660-57513-1

Client Sample ID: TH-76
Date Collected: 11/07/13 11:51
Date Received: 11/07/13 15:45

Lab Sample ID: 660-57555-2
Matrix: Ground Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13		0.50	0.25	mg/L			11/13/13 00:25	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.0	U	10	4.0	ug/L		11/11/13 10:57	11/11/13 16:35	1
Iron	1100		200	50	ug/L		11/11/13 10:57	11/11/13 16:35	1
Sodium	20		0.50	0.31	mg/L		11/11/13 10:57	11/11/13 16:35	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	0.36		0.050	0.026	mg/L			11/11/13 17:41	1
Total Dissolved Solids	260		10	10	mg/L			11/11/13 09:00	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	7.54				SU			11/07/13 11:51	1
Field Temperature	22.84				Degrees C			11/07/13 11:51	1
Oxygen, Dissolved	0.64				mg/L			11/07/13 11:51	1
Specific Conductance	446				uS/cm			11/07/13 11:51	1
Turbidity	29.0				NTU			11/07/13 11:51	1

Client: Hillsborough Co Public Utilities Dept
Project/Site: SELF-IAMP Monitoring Wells

TestAmerica Job ID: 660-57513-1

Client Sample ID: TH-75
Date Collected: 11/07/13 13:18
Date Received: 11/07/13 15:45

Lab Sample ID: 660-57555-3
Matrix: Ground Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	31		0.50	0.25	mg/L			11/13/13 00:38	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.6	I	10	4.0	ug/L		11/11/13 10:57	11/11/13 16:38	1
Iron	6500		200	50	ug/L		11/11/13 10:57	11/11/13 16:38	1
Sodium	14		0.50	0.31	mg/L		11/11/13 10:57	11/11/13 16:38	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	1.3		0.050	0.026	mg/L			11/12/13 07:16	1
Total Dissolved Solids	200		5.0	5.0	mg/L			11/11/13 09:00	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.78				SU			11/07/13 13:18	1
Field Temperature	24.32				Degrees C			11/07/13 13:18	1
Oxygen, Dissolved	1.13				mg/L			11/07/13 13:18	1
Specific Conductance	353				uS/cm			11/07/13 13:18	1
Turbidity	12.3				NTU			11/07/13 13:18	1

Client: Hillsborough Co Public Utilities Dept
Project/Site: SELF-IAMP Monitoring Wells

TestAmerica Job ID: 660-57513-1

Client Sample ID: TH-74
Date Collected: 11/07/13 12:38
Date Received: 11/07/13 15:45

Lab Sample ID: 660-57555-4
Matrix: Ground Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	370		5.0	2.5	mg/L			11/13/13 00:52	10

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.0	U	10	4.0	ug/L		11/11/13 10:57	11/11/13 16:42	1
Iron	60000		200	50	ug/L		11/11/13 10:57	11/11/13 16:42	1
Sodium	78		0.50	0.31	mg/L		11/11/13 10:57	11/11/13 16:42	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	3.2		0.10	0.052	mg/L			11/12/13 07:19	2
Total Dissolved Solids	890		17	17	mg/L			11/11/13 09:00	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	5.43				SU			11/07/13 12:38	1
Field Temperature	23.98				Degrees C			11/07/13 12:38	1
Oxygen, Dissolved	1.41				mg/L			11/07/13 12:38	1
Specific Conductance	1348				uS/cm			11/07/13 12:38	1
Turbidity	9.71				NTU			11/07/13 12:38	1

Client: Hillsborough Co Public Utilities Dept
Project/Site: SELF-IAMP Monitoring Wells

TestAmerica Job ID: 660-57513-1

Client Sample ID: DUPLICATE
Date Collected: 11/07/13 00:00
Date Received: 11/07/13 15:45

Lab Sample ID: 660-57555-5
Matrix: Ground Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	9.7		0.50	0.25	mg/L			11/13/13 01:05	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.0	U	10	4.0	ug/L		11/11/13 10:57	11/11/13 16:45	1
Iron	680		200	50	ug/L		11/11/13 10:57	11/11/13 16:45	1
Sodium	17		0.50	0.31	mg/L		11/11/13 10:57	11/11/13 16:45	1

General Chemistry

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	0.44		0.050	0.026	mg/L			11/12/13 07:16	1
Total Dissolved Solids	220		10	10	mg/L			11/11/13 09:00	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 680-302610/5
Matrix: Water
Analysis Batch: 302610

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.25	U	0.50	0.25	mg/L			11/11/13 11:57	1

Lab Sample ID: LCS 680-302610/6
Matrix: Water
Analysis Batch: 302610

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.47		mg/L		95	90 - 110

Lab Sample ID: LCSD 680-302610/7
Matrix: Water
Analysis Batch: 302610

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	9.48		mg/L		95	90 - 110	0	30

Lab Sample ID: 640-45691-M-4 MS
Matrix: Water
Analysis Batch: 302610

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	22		50.0	69.7		mg/L		96	80 - 120

Lab Sample ID: 640-45691-M-4 MSD
Matrix: Water
Analysis Batch: 302610

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	22		50.0	70.0		mg/L		97	80 - 120	0	30

Lab Sample ID: MB 680-302879/33
Matrix: Water
Analysis Batch: 302879

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.25	U	0.50	0.25	mg/L			11/12/13 19:58	1

Lab Sample ID: LCS 680-302879/34
Matrix: Water
Analysis Batch: 302879

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.1		mg/L		101	90 - 110

Lab Sample ID: LCSD 680-302879/35
Matrix: Water
Analysis Batch: 302879

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10.0	10.1		mg/L		101	90 - 110	0	30

Lab Sample ID: 660-57555-1 MS
Matrix: Ground Water
Analysis Batch: 302879

Client Sample ID: TH-77
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	9.7		10.0	19.8		mg/L		101	80 - 120

Lab Sample ID: 660-57555-1 MSD
Matrix: Ground Water
Analysis Batch: 302879

Client Sample ID: TH-77
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	9.7		10.0	19.8		mg/L		102	80 - 120	0	30

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 660-143171/1-A
Matrix: Water
Analysis Batch: 143224

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 143171

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.0	U	10	4.0	ug/L		11/08/13 08:53	11/11/13 09:15	1
Iron	50	U	200	50	ug/L		11/08/13 08:53	11/11/13 09:15	1
Sodium	0.31	U	0.50	0.31	mg/L		11/08/13 08:53	11/11/13 09:15	1

Lab Sample ID: LCS 660-143171/2-A
Matrix: Water
Analysis Batch: 143224

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 143171

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1000	981		ug/L		98	80 - 120
Iron	1000	1050		ug/L		105	80 - 120
Sodium	10.0	10.1		mg/L		101	80 - 120

Lab Sample ID: 640-45698-A-7-B MS
Matrix: Water
Analysis Batch: 143224

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 143171

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	4.0	U	1000	1040		ug/L		104	80 - 120
Iron	50	U	1000	1020		ug/L		102	80 - 120
Sodium	360	J3	10.0	366	J3	mg/L		68	80 - 120

Lab Sample ID: 640-45698-A-7-C MSD
Matrix: Water
Analysis Batch: 143224

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 143171

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	4.0	U	1000	1050		ug/L		105	80 - 120	1	20
Iron	50	U	1000	1050		ug/L		105	80 - 120	2	20
Sodium	360	J3	10.0	367		mg/L		81	80 - 120	0	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 660-143229/1-A
Matrix: Water
Analysis Batch: 143224

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 143229

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.0	U	10	4.0	ug/L		11/11/13 10:57	11/11/13 15:52	1
Iron	50	U	200	50	ug/L		11/11/13 10:57	11/11/13 15:52	1
Sodium	0.31	U	0.50	0.31	mg/L		11/11/13 10:57	11/11/13 15:52	1

Lab Sample ID: LCS 660-143229/2-A
Matrix: Water
Analysis Batch: 143224

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 143229

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1000	998		ug/L		100	80 - 120
Iron	1000	1030		ug/L		103	80 - 120
Sodium	10.0	9.90		mg/L		99	80 - 120

Lab Sample ID: 660-57558-A-1-B MS
Matrix: Water
Analysis Batch: 143224

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 143229

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	4.0	U	1000	1020		ug/L		102	80 - 120
Iron	50	U	1000	1020		ug/L		102	80 - 120
Sodium	5.6		10.0	15.4		mg/L		98	80 - 120

Lab Sample ID: 660-57558-A-1-C MSD
Matrix: Water
Analysis Batch: 143224

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 143229

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	4.0	U	1000	1050		ug/L		105	80 - 120	2	20
Iron	50	U	1000	1030		ug/L		103	80 - 120	1	20
Sodium	5.6		10.0	15.6		mg/L		101	80 - 120	1	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 680-302726/2
Matrix: Water
Analysis Batch: 302726

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	0.026	U	0.050	0.026	mg/L			11/11/13 17:41	1

Lab Sample ID: LCS 680-302726/16
Matrix: Water
Analysis Batch: 302726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia as N	1.00	0.997		mg/L		100	90 - 110

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: 660-57555-1 MS
Matrix: Ground Water
Analysis Batch: 302726

Client Sample ID: TH-77
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia as N	0.36	J3	1.00	1.17	J3	mg/L		81	90 - 110		

Lab Sample ID: 660-57555-1 MSD
Matrix: Ground Water
Analysis Batch: 302726

Client Sample ID: TH-77
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia as N	0.36	J3	1.00	1.12	J3	mg/L		76	90 - 110	4	30

Lab Sample ID: MB 680-302983/29
Matrix: Water
Analysis Batch: 302983

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	0.026	U	0.050	0.026	mg/L			11/12/13 16:33	1

Lab Sample ID: LCS 680-302983/1
Matrix: Water
Analysis Batch: 302983

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia as N	1.00	1.01		mg/L		101	90 - 110

Lab Sample ID: 660-57475-C-1 MS
Matrix: Water
Analysis Batch: 302983

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia as N	0.030	I J3	1.00	0.911	J3	mg/L		88	90 - 110		

Lab Sample ID: 660-57475-C-1 MSD
Matrix: Water
Analysis Batch: 302983

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia as N	0.030	I J3	1.00	0.927		mg/L		90	90 - 110	2	30

Lab Sample ID: 660-57475-C-2 DU
Matrix: Water
Analysis Batch: 302983

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Ammonia as N	0.055		0.0539		mg/L		2	30

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 660-143174/1
Matrix: Water
Analysis Batch: 143174

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5.0	U	5.0	5.0	mg/L			11/08/13 09:09	1

Lab Sample ID: LCS 660-143174/2
Matrix: Water
Analysis Batch: 143174

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	10000	9980		mg/L		100	80 - 120

Lab Sample ID: 640-45691-K-3 DU
Matrix: Water
Analysis Batch: 143174

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	190		192		mg/L		2	20

Lab Sample ID: MB 660-143219/1
Matrix: Water
Analysis Batch: 143219

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	5.0	U	5.0	5.0	mg/L			11/11/13 09:00	1

Lab Sample ID: LCS 660-143219/2
Matrix: Water
Analysis Batch: 143219

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	10000	9880		mg/L		99	80 - 120

Lab Sample ID: 660-57555-3 DU
Matrix: Ground Water
Analysis Batch: 143219

Client Sample ID: TH-75
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	200		210		mg/L		5	20

HPLC/IC

Analysis Batch: 302610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
640-45691-M-4 MS	Matrix Spike	Total/NA	Water	300.0	
640-45691-M-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
660-57513-1	BLANK FIELD	Total/NA	Ground Water	300.0	
660-57513-2	TH-72	Total/NA	Ground Water	300.0	
660-57513-3	TH-73	Total/NA	Ground Water	300.0	
LCS 680-302610/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 680-302610/7	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 680-302610/5	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 302879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-57555-1	TH-77	Total/NA	Ground Water	300.0	
660-57555-1 MS	TH-77	Total/NA	Ground Water	300.0	
660-57555-1 MSD	TH-77	Total/NA	Ground Water	300.0	
660-57555-2	TH-76	Total/NA	Ground Water	300.0	
660-57555-3	TH-75	Total/NA	Ground Water	300.0	
660-57555-4	TH-74	Total/NA	Ground Water	300.0	
660-57555-5	DUPLICATE	Total/NA	Ground Water	300.0	
LCS 680-302879/34	Lab Control Sample	Total/NA	Water	300.0	
LCSD 680-302879/35	Lab Control Sample Dup	Total/NA	Water	300.0	
MB 680-302879/33	Method Blank	Total/NA	Water	300.0	

Metals

Prep Batch: 143171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
640-45698-A-7-B MS	Matrix Spike	Total Recoverable	Water	3005A	
640-45698-A-7-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	
660-57513-1	BLANK FIELD	Total Recoverable	Ground Water	3005A	
660-57513-2	TH-72	Total Recoverable	Ground Water	3005A	
660-57513-3	TH-73	Total Recoverable	Ground Water	3005A	
LCS 660-143171/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 660-143171/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 143224

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
640-45698-A-7-B MS	Matrix Spike	Total Recoverable	Water	6010B	143171
640-45698-A-7-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010B	143171
660-57513-1	BLANK FIELD	Total Recoverable	Ground Water	6010B	143171
660-57513-2	TH-72	Total Recoverable	Ground Water	6010B	143171
660-57513-3	TH-73	Total Recoverable	Ground Water	6010B	143171
660-57555-1	TH-77	Total Recoverable	Ground Water	6010B	143229
660-57555-2	TH-76	Total Recoverable	Ground Water	6010B	143229
660-57555-3	TH-75	Total Recoverable	Ground Water	6010B	143229
660-57555-4	TH-74	Total Recoverable	Ground Water	6010B	143229
660-57555-5	DUPLICATE	Total Recoverable	Ground Water	6010B	143229
660-57558-A-1-B MS	Matrix Spike	Total Recoverable	Water	6010B	143229
660-57558-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	6010B	143229
LCS 660-143171/2-A	Lab Control Sample	Total Recoverable	Water	6010B	143171
LCS 660-143229/2-A	Lab Control Sample	Total Recoverable	Water	6010B	143229

Metals (Continued)

Analysis Batch: 143224 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 660-143171/1-A	Method Blank	Total Recoverable	Water	6010B	143171
MB 660-143229/1-A	Method Blank	Total Recoverable	Water	6010B	143229

Prep Batch: 143229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-57555-1	TH-77	Total Recoverable	Ground Water	3005A	
660-57555-2	TH-76	Total Recoverable	Ground Water	3005A	
660-57555-3	TH-75	Total Recoverable	Ground Water	3005A	
660-57555-4	TH-74	Total Recoverable	Ground Water	3005A	
660-57555-5	DUPLICATE	Total Recoverable	Ground Water	3005A	
660-57558-A-1-B MS	Matrix Spike	Total Recoverable	Water	3005A	
660-57558-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	
LCS 660-143229/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 660-143229/1-A	Method Blank	Total Recoverable	Water	3005A	

General Chemistry

Analysis Batch: 143174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
640-45691-K-3 DU	Duplicate	Total/NA	Water	SM 2540C	
660-57513-1	BLANK FIELD	Total/NA	Ground Water	SM 2540C	
660-57513-2	TH-72	Total/NA	Ground Water	SM 2540C	
660-57513-3	TH-73	Total/NA	Ground Water	SM 2540C	
LCS 660-143174/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 660-143174/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 143219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-57555-1	TH-77	Total/NA	Ground Water	SM 2540C	
660-57555-2	TH-76	Total/NA	Ground Water	SM 2540C	
660-57555-3	TH-75	Total/NA	Ground Water	SM 2540C	
660-57555-3 DU	TH-75	Total/NA	Ground Water	SM 2540C	
660-57555-4	TH-74	Total/NA	Ground Water	SM 2540C	
660-57555-5	DUPLICATE	Total/NA	Ground Water	SM 2540C	
LCS 660-143219/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 660-143219/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 302726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-57555-1	TH-77	Total/NA	Ground Water	350.1	
660-57555-1 MS	TH-77	Total/NA	Ground Water	350.1	
660-57555-1 MSD	TH-77	Total/NA	Ground Water	350.1	
660-57555-2	TH-76	Total/NA	Ground Water	350.1	
660-57555-3	TH-75	Total/NA	Ground Water	350.1	
660-57555-4	TH-74	Total/NA	Ground Water	350.1	
660-57555-5	DUPLICATE	Total/NA	Ground Water	350.1	
LCS 680-302726/16	Lab Control Sample	Total/NA	Water	350.1	
MB 680-302726/2	Method Blank	Total/NA	Water	350.1	

General Chemistry (Continued)

Analysis Batch: 302983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-57475-C-1 MS	Matrix Spike	Total/NA	Water	350.1	
660-57475-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	
660-57475-C-2 DU	Duplicate	Total/NA	Water	350.1	
660-57513-1	BLANK FIELD	Total/NA	Ground Water	350.1	
660-57513-2	TH-72	Total/NA	Ground Water	350.1	
660-57513-3	TH-73	Total/NA	Ground Water	350.1	
LCS 680-302983/1	Lab Control Sample	Total/NA	Water	350.1	
MB 680-302983/29	Method Blank	Total/NA	Water	350.1	

Field Service / Mobile Lab

Analysis Batch: 143265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
660-57513-2	TH-72	Total/NA	Ground Water	Field Sampling	
660-57513-3	TH-73	Total/NA	Ground Water	Field Sampling	
660-57555-1	TH-77	Total/NA	Ground Water	Field Sampling	
660-57555-2	TH-76	Total/NA	Ground Water	Field Sampling	
660-57555-3	TH-75	Total/NA	Ground Water	Field Sampling	
660-57555-4	TH-74	Total/NA	Ground Water	Field Sampling	

Client Sample ID: BLANK FIELD

Lab Sample ID: 660-57513-1

Date Collected: 11/06/13 10:20

Matrix: Ground Water

Date Received: 11/06/13 15:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	302610	11/11/13 14:35	PAT	TAL SAV
Total Recoverable	Prep	3005A			143171	11/08/13 08:53	GAF	TAL TAM
Total Recoverable	Analysis	6010B		1	143224	11/11/13 10:12	GAF	TAL TAM
Total/NA	Analysis	SM 2540C		1	143174	11/08/13 09:09	TKO	TAL TAM
Total/NA	Analysis	350.1		1	302983	11/12/13 15:56	JME	TAL SAV

Client Sample ID: TH-72

Lab Sample ID: 660-57513-2

Date Collected: 11/06/13 11:45

Matrix: Ground Water

Date Received: 11/06/13 15:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10	302610	11/11/13 14:48	PAT	TAL SAV
Total Recoverable	Prep	3005A			143171	11/08/13 08:53	GAF	TAL TAM
Total Recoverable	Analysis	6010B		1	143224	11/11/13 10:15	GAF	TAL TAM
Total/NA	Analysis	SM 2540C		1	143174	11/08/13 09:09	TKO	TAL TAM
Total/NA	Analysis	350.1		10	302983	11/12/13 18:19	JME	TAL SAV
Total/NA	Analysis	Field Sampling		1	143265	11/06/13 11:45		TAL TAM

Client Sample ID: TH-73

Lab Sample ID: 660-57513-3

Date Collected: 11/06/13 10:26

Matrix: Ground Water

Date Received: 11/06/13 15:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		4	302610	11/11/13 15:00	PAT	TAL SAV
Total Recoverable	Prep	3005A			143171	11/08/13 08:53	GAF	TAL TAM
Total Recoverable	Analysis	6010B		1	143224	11/11/13 10:19	GAF	TAL TAM
Total/NA	Analysis	SM 2540C		1	143174	11/08/13 09:09	TKO	TAL TAM
Total/NA	Analysis	350.1		2	302983	11/12/13 17:25	JME	TAL SAV
Total/NA	Analysis	Field Sampling		1	143265	11/06/13 10:26		TAL TAM

Client Sample ID: TH-77

Lab Sample ID: 660-57555-1

Date Collected: 11/07/13 10:46

Matrix: Ground Water

Date Received: 11/07/13 15:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	302879	11/12/13 23:45	VAS	TAL SAV
Total Recoverable	Prep	3005A			143229	11/11/13 10:57	GAF	TAL TAM
Total Recoverable	Analysis	6010B		1	143224	11/11/13 16:31	GAF	TAL TAM
Total/NA	Analysis	SM 2540C		1	143219	11/11/13 09:00	TKO	TAL TAM
Total/NA	Analysis	350.1		1	302726	11/11/13 17:41	JME	TAL SAV
Total/NA	Analysis	Field Sampling		1	143265	11/07/13 10:46		TAL TAM

Client Sample ID: TH-76

Lab Sample ID: 660-57555-2

Date Collected: 11/07/13 11:51

Matrix: Ground Water

Date Received: 11/07/13 15:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	302879	11/13/13 00:25	VAS	TAL SAV
Total Recoverable	Prep	3005A			143229	11/11/13 10:57	GAF	TAL TAM
Total Recoverable	Analysis	6010B		1	143224	11/11/13 16:35	GAF	TAL TAM
Total/NA	Analysis	SM 2540C		1	143219	11/11/13 09:00	TKO	TAL TAM
Total/NA	Analysis	350.1		1	302726	11/11/13 17:41	JME	TAL SAV
Total/NA	Analysis	Field Sampling		1	143265	11/07/13 11:51		TAL TAM

Client Sample ID: TH-75

Lab Sample ID: 660-57555-3

Date Collected: 11/07/13 13:18

Matrix: Ground Water

Date Received: 11/07/13 15:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	302879	11/13/13 00:38	VAS	TAL SAV
Total Recoverable	Prep	3005A			143229	11/11/13 10:57	GAF	TAL TAM
Total Recoverable	Analysis	6010B		1	143224	11/11/13 16:38	GAF	TAL TAM
Total/NA	Analysis	SM 2540C		1	143219	11/11/13 09:00	TKO	TAL TAM
Total/NA	Analysis	350.1		1	302726	11/12/13 07:16	JME	TAL SAV
Total/NA	Analysis	Field Sampling		1	143265	11/07/13 13:18		TAL TAM

Client Sample ID: TH-74

Lab Sample ID: 660-57555-4

Date Collected: 11/07/13 12:38

Matrix: Ground Water

Date Received: 11/07/13 15:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10	302879	11/13/13 00:52	VAS	TAL SAV
Total Recoverable	Prep	3005A			143229	11/11/13 10:57	GAF	TAL TAM
Total Recoverable	Analysis	6010B		1	143224	11/11/13 16:42	GAF	TAL TAM
Total/NA	Analysis	SM 2540C		1	143219	11/11/13 09:00	TKO	TAL TAM
Total/NA	Analysis	350.1		2	302726	11/12/13 07:19	JME	TAL SAV
Total/NA	Analysis	Field Sampling		1	143265	11/07/13 12:38		TAL TAM

Client Sample ID: DUPLICATE

Lab Sample ID: 660-57555-5

Date Collected: 11/07/13 00:00

Matrix: Ground Water

Date Received: 11/07/13 15:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	302879	11/13/13 01:05	VAS	TAL SAV
Total Recoverable	Prep	3005A			143229	11/11/13 10:57	GAF	TAL TAM
Total Recoverable	Analysis	6010B		1	143224	11/11/13 16:45	GAF	TAL TAM
Total/NA	Analysis	SM 2540C		1	143219	11/11/13 09:00	TKO	TAL TAM
Total/NA	Analysis	350.1		1	302726	11/12/13 07:16	JME	TAL SAV

Lab Chronicle

Client: Hillsborough Co Public Utilities Dept
Project/Site: SELF-IAMP Monitoring Wells

TestAmerica Job ID: 660-57513-1

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TAL TAM = TestAmerica Tampa, 6712 Benjamin Road, Suite 100, Tampa, FL 33634, TEL (813)885-7427

Method Summary

Client: Hillsborough Co Public Utilities Dept
Project/Site: SELF-IAMP Monitoring Wells

TestAmerica Job ID: 660-57513-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL SAV
6010B	Metals (ICP)	SW846	TAL TAM
350.1	Nitrogen, Ammonia	MCAWW	TAL SAV
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL TAM
Field Sampling	Field Sampling	EPA	TAL TAM

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TAL TAM = TestAmerica Tampa, 6712 Benjamin Road, Suite 100, Tampa, FL 33634, TEL (813)885-7427

Certification Summary

Client: Hillsborough Co Public Utilities Dept
Project/Site: SELF-IAMP Monitoring Wells

TestAmerica Job ID: 660-57513-1

Laboratory: TestAmerica Tampa

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40610	06-30-14
Florida	NELAP	4	E84282	06-30-14
Georgia	State Program	4	905	06-30-14
USDA	Federal		P330-11-00177	04-20-14

Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-15
A2LA	ISO/IEC 17025		399.01	02-28-15
Alabama	State Program	4	41450	06-30-14
Arkansas DEQ	State Program	6	88-0692	02-01-14
California	NELAP	9	3217CA	07-31-14
Colorado	State Program	8	N/A	12-31-13 *
Connecticut	State Program	1	PH-0161	03-31-15
Florida	NELAP	4	E87052	06-30-14
GA Dept. of Agriculture	State Program	4	N/A	12-31-13 *
Georgia	State Program	4	N/A	06-30-14
Georgia	State Program	4	803	06-30-14
Guam	State Program	9	09-005r	06-17-14
Hawaii	State Program	9	N/A	06-30-14
Illinois	NELAP	5	200022	11-30-13 *
Indiana	State Program	5	N/A	06-30-14
Iowa	State Program	7	353	07-01-15
Kentucky	State Program	4	90084	12-31-13 *
Kentucky (UST)	State Program	4	18	06-30-14
Louisiana	NELAP	6	30690	06-30-14
Maine	State Program	1	GA00006	08-16-14
Maryland	State Program	3	250	12-31-13 *
Massachusetts	State Program	1	M-GA006	06-30-14
Michigan	State Program	5	9925	06-30-14
Mississippi	State Program	4	N/A	06-30-14
Montana	State Program	8	CERT0081	01-01-14 *
Nebraska	State Program	7	TestAmerica-Savannah	06-30-14
New Jersey	NELAP	2	GA769	06-30-14
New Mexico	State Program	6	N/A	06-30-14
New York	NELAP	2	10842	04-01-14
North Carolina DENR	State Program	4	269	12-31-13 *
North Carolina DHHS	State Program	4	13701	07-31-14
Oklahoma	State Program	6	9984	08-31-14
Pennsylvania	NELAP	3	68-00474	06-30-14
Puerto Rico	State Program	2	GA00006	01-01-14 *
South Carolina	State Program	4	98001	06-30-14
Tennessee	State Program	4	TN02961	06-30-14
Texas	NELAP	6	T104704185-08-TX	11-30-13 *
USDA	Federal		SAV 3-04	04-07-14
Virginia	NELAP	3	460161	06-14-14
Washington	State Program	10	C1794	06-10-14

* Expired certification is currently pending renewal and is considered valid.

Certification Summary

Client: Hillsborough Co Public Utilities Dept
Project/Site: SELF-IAMP Monitoring Wells

TestAmerica Job ID: 660-57513-1

Laboratory: TestAmerica Savannah (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia	State Program	3	9950C	12-31-13 *
West Virginia DEP	State Program	3	94	06-30-14
Wisconsin	State Program	5	999819810	08-31-14
Wyoming	State Program	8	8TMS-L	06-30-14

* Expired certification is currently pending renewal and is considered valid.

Serial Number

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

TestAmerica Tampa
6712 Benjamin Rd, Suite 100
Tampa, FL 33634
www.testamericainc.com
Phone: (813) 885 7427
Fax: (813) 885 7049

Alternate Laboratory Name/Location:
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION
SELF-IAMP Monitoring Wells		Lithia, FL
TESTAMERICA (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Nancy Robertson		
CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Michael Townsel	(813) 663-3222	(813) 274-6801
CLIENT NAME	CLIENT EMAIL	
Hills. County Public Utilities	townselm@hillsboroughcounty.org	
CLIENT ADDRESS		
332 North Falkenburg Road		
COMPANY CONTRACTING THIS WORK	SAMPLER'S SIGNATURE	

PAGE OF

STANDARD REPORT DELIVERY ○
DATE DUE
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE:
NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT...)	NUMBER OF CONTAINERS SUBMITTED: Ammonia-N	TDS	Chloride	As, Fe, Na							REMARKS
								H_2SO_4	ice	ice	HNO_3							
11-6-13	10:20	Field Blank	G	X				1	1	1	1							
↓	11:45	TH-72	↓	X														
↓	10:26	TH-73	↓	X														

660-57513 Chain of Custody

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
	11/6/13	1535						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	11/6/13	1535						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT YES ○ NO ○	CUSTODY SEAL NO.	STL LOG NO.	LABORATORY REMARKS:
						5.1°C CW07

FCU036:12.20.00:2

Original - Return to Laboratory with Sample(s)

11/15/2013

Serial Number

11/15/2013

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

TestAmerica Tampa
6712 Benjamin Rd, Suite 100
Tampa, FL 33634
www.testamericainc.com
Phone: (813) 885 7427
Fax: (813) 885 7049

Alternate Laboratory Name/Location:
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION
SELF-IAMP Monitoring Wells		Lithia, FL
TESTAMERICA (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Nancy Robertson		
CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Michael Townsel	(813) 663-3222	(813) 274-6801
CLIENT NAME	CLIENT EMAIL	
Hills. County Public Utilities	townselm@hillsboroughcounty.org	
CLIENT ADDRESS		
332 North Falkenburg Road		
COMPANY CONTRACTING THIS WORK	SAMPLER'S SIGNATURE	

PAGE ___ OF ___

STANDARD REPORT DELIVERY ○
DATE DUE
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE:
NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT...)	NUMBER OF CONTAINERS SUBMITTED: H2SO4 Ammonia-N	TDS Ice	Chloride Ice	As, Fe, Na HNO3	REMARKS
11-7-13	10.46	TH-77	G	X				X	X	X	X	
	11.51	TH-76	G	X				X	X	X	X	
	13.18	TH-75	G	X				X	X	X	X	
	13.38	TH-74	G	X				X	X	X	X	
↓	✓	Duplicate	G	X				X	X	X	X	

660-57555 Chain of Custody

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
	11-7-13	1545						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	11/7/13	1545						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT YES ○ NO ○	CUSTODY SEAL NO.	STL LOG NO.	LABORATORY REMARKS:
						5.1° C wet

FCU036:12.20.00:2

Original - Return to Laboratory with Sample(s)

TestAmerica Tampa
6712 Benjamin Road Suite 100
Tampa, FL 33634
Phone (813) 885-7427 Fax (813) 885-7049

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)
Client Contact: Shipping/Receiving
Company: TestAmerica Laboratories, Inc.
Address: 5102 LaRoche Avenue,
City: Savannah
State, Zip: GA, 31404
Phone: 912-354-7858(Tel) 912-352-0165(Fax)
Email:
Project Name: SELF MWs,SS,Private Wells,NPDES
Site: Southeast Landfill

Sampler:
Phone:
Lab PM: Robertson, Nancy
E-Mail: nancy.robertson@testamericainc.com
Carrier Tracking No(s):

COC No: 660-61659.1
Page: Page 1 of 1
Job #: 660-57513-1

Due Date Requested: 11/13/2013
TAT Requested (days):
PO #:
WO #:
Project #: 66003915
SSOW#:

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	350.1/ Nitrogen, Ammonia	300_ORGFM_28D/ Chloride	Total Number of containers	Special Instructions/Note:
			Preservation Code							
BLANK FIELD (660-57513-1)	11/6/13	10:20 Eastern		Water			X	X	2	
TH-72 (660-57513-2)	11/6/13	11:45 Eastern		Water			X	X	2	
TH-73 (660-57513-3)	11/6/13	10:26 Eastern		Water			X	X	2	

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*
Special Instructions/QC Requirements:

Empty Kit Relinquished by: Date: Time: Method of Shipment:

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by: R PRICE	11-7-13 1500				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 11/8/13 0655	Company TAS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 1.2°C

TestAmerica Tampa
6712 Benjamin Road Suite 100
Tampa, FL 33634
Phone (813) 885-7427 Fax (813) 885-7049

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Robertson, Nancy	Carrier Tracking No(s):	COC No: 660-61704.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: nancy.robertson@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 660-57555-1
Address: 5102 LaRoche Avenue, ,	Due Date Requested: 11/14/2013			
City: Savannah	TAT Requested (days):			
State, Zip: GA, 31404				
Phone: 912-354-7858(Tel) 912-352-0165(Fax)	PO #:			
Email:	WO #:			
Project Name: SELF MWs,SS,Private Wells,NPDES	Project #: 66003915			
Site: Southeast Landfill	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	350.1/ Nitrogen, Ammonia	300_ORGFM_28D/ Chloride	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
TH-77 (660-57555-1)	11/7/13	10:46 Eastern		Water			X	X	2	
TH-76 (660-57555-2)	11/7/13	11:51 Eastern		Water			X	X	2	
TH-75 (660-57555-3)	11/7/13	13:18 Eastern		Water			X	X	2	
TH-74 (660-57555-4)	11/7/13	12:38 Eastern		Water			X	X	2	
DUPLICATE NOT BLANK (660-57555-5)	11/7/13	Eastern		Water			X	X	2	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		11-8-13 @ 1600	TA-TPA			
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 11/09/13 8:01	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 0.2, 0.2°C

11/15/2013

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SELF IAMP (Quarterly)	SITE LOCATION:	Lithia, FL
WELL NO:	TH-73	SAMPLE ID:	DATE: 11-6-13

PURGING DATA

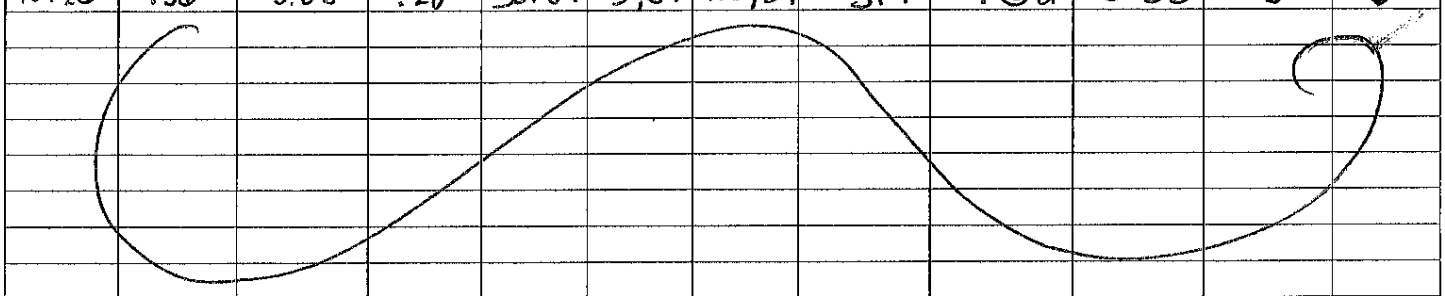
WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2	1/2	33.4 feet to 43.4 feet	30.30	BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= .08 gallons + (.006 gallons/foot X 45.4 feet) + .30 gallons = .65 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
42.4	42.4	10.15	10.26	3.08

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or mS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
10.22	1.96	1.96	.88	30.80	5.02	25.53	318	.70	6.42	NONE	NONE
10.24	.56	2.52	.28	30.81	5.01	25.53	318	.66	6.51	↓	↓
10.26	.56	3.08	.28	30.81	5.01	25.54	319	.62	6.35	↓	↓



WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
ANDREW BALLOON / ZACK PATTERSON		10.26	10.38

PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
42.4	T		

FIELD DECONTAMINATION: PUMP Y N (Dedicated) TUBING Y N (Dedicated) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
					SEE COC				

SEE COC FOR ANALYSIS

50% clouds - Breezy

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SELF IAMP (Quarterly)	SITE LOCATION:	Lithia, Florida
WELL NO:	TH-72	SAMPLE ID:	DATE: 11-6-13

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2	0.5	180 feet to 190 feet	97.90	DBP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

= (190 feet – 97.90 feet) X .16 gallons/foot = 14.74 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
189	189	10.42	11.45	22.68

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. µS/cm	DISSOLVED OXYGEN mg/L	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
11.23	14.76	14.76	.36	97.94	6.68	23.40	2161	.19	.83	NONE	NONE
11.34	3.96	18.72	.36	97.95	6.68	23.39	2147	.18	.76	↓	↓
11.45	3.96	22.68	.36	97.95	6.69	23.36	2145	.16	.80		

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
ANDREW BALLOON / ZACK PATTERSON		11.45	11.55

PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
189	T		

FIELD DECONTAMINATION: PUMP Y N (Dedicated) TUBING Y N (Dedicated) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
					SEE COC				

SEE C.O.C. FOR SAMPLE ANALYSIS DBP =Dedicated Bladder Pump

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: SELF IAMP	SITE LOCATION:
WELL NO: FIELD BLANK	SAMPLE ID:
DATE: 11-6-13	

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

FIELD BLANK

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: ANDREW BALLOON / ZACK PATTERSON	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 10.20	SAMPLING ENDED AT: 10.31
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE: T	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N Dedicated TUBING Y N Dedicated		DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
					SEE COC				

SEE COC FOR ANALYSIS

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SELF AMP	SITE LOCATION:	LITHIA, FL
WELL NO:	TH-7S	SAMPLE ID:	DATE: 11-7-13

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2	1/2	7 feet to 17 feet	7.83	BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (17 feet − 7.83 feet) X .16 gallons/foot = 1.47 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
16	16	12.55	13.18	1.84

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
13.14	1.52	1.52	.08	7.88	5.80	24.33	355	1.24	12.2	NONE	NONE
13.16	.16	1.68	.08	7.88	5.79	24.33	354	1.18	12.9	↓	↓
13.18	.16	1.84	.08	7.88	5.78	24.32	353	1.13	12.3	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
ANDREW BALLOON / ZACK PATTERSON	Zack Patterson	13.18	13.29

PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
16	T		

FIELD DECONTAMINATION: PUMP Y N (Dedicated) TUBING Y N (Dedicated) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
					SEE	COC			

SEE COC FOR ANALYSIS

50% clouds - light breeze

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SELF IAMP	SITE LOCATION:	LITHIA, FL
WELL NO:	TH-74	SAMPLE ID:	DATE: 11-7-13

PURGING DATA

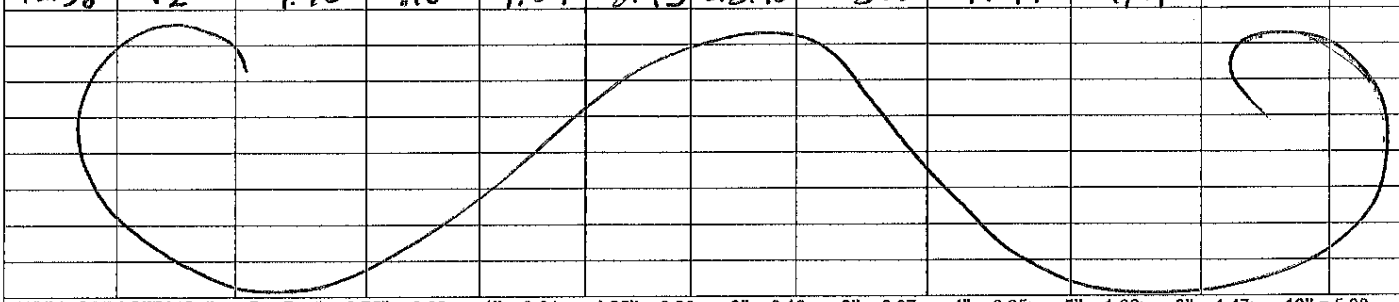
WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2	1/2	7 feet to 17 feet	9.42	BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (17 feet − 9.42 feet) X .16 gallons/foot = 1.21 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
16	16	12.21	12.38	1.70

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or mS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
12.34	1.30	1.30	.10	9.57	5.45	23.97	1353	1.51	7.85	NONE	NONE
12.36	.2	1.50	.10	9.57	5.44	23.98	1351	1.49	8.29		
12.38	.2	1.70	.10	9.57	5.43	23.98	1348	1.41	9.71		



WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
ANDREW BALLOON / ZACK PATTERSON	Zack Patterson	12.38	12.49

PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
16	T		

FIELD DECONTAMINATION: PUMP Y N (Dedicated) TUBING Y N (Dedicated) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
					SEE COC				

SEE COC FOR ANALYSIS

50% clouds - light Breeze

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SELF IAMP	SITE LOCATION:.	Lithia, Florida
WELL NO:	TH-76	SAMPLE ID:	DATE: 11-7-13

PURGING DATA

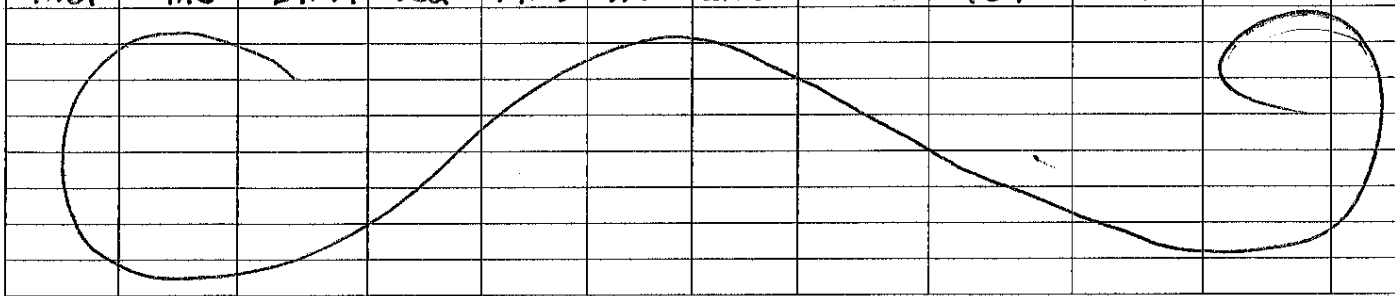
WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.5	WELL SCREEN INTERVAL DEPTH: 163.35 feet to 178.35 feet	STATIC DEPTH TO WATER (feet): 78.20	PURGE PUMP TYPE OR BAILER: DBP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (178.35 feet − 78.20 feet) X .16 gallons/foot = 16.02 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 177.35	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 177.35	PURGING INITIATED AT: 11.04	PURGING ENDED AT: 11.51	TOTAL VOLUME PURGED (gallons): 24.44

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. µS/cm	DISSOLVED OXYGEN mg/L	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
11.35	16.12	16.12	.52	79.05	7.58	22.93	448	.66	26.3	light cloudy	NONE
11.43 ~~11.47~~	4.16	20.28	.52	79.05	7.55	22.86	446	.66	27.0	↓	↓
11.51	4.16	24.44	.52	79.05	7.54	22.84	446	.64	29.0	↓	↓



WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: ANDREW BALLOON / ZACK PATTERSON	SAMPLER(S) SIGNATURE(S): Zack Patterson	SAMPLING INITIATED AT: 11.51	SAMPLING ENDED AT: 12.02
PUMP OR TUBING DEPTH IN WELL (feet): 177.35	TUBING MATERIAL CODE: T	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N (Dedicated)	TUBING Y N (Dedicated)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
					SEE COC				

SEE C.O.C. FOR SAMPLE ANALYSIS DBP = Dedicated bladder pump

65% clouds.

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SELF IAMP	SITE LOCATION:	Lithia, Florida
WELL NO:	TH-77	SAMPLE ID:	DATE: 11-7-13

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.5	WELL SCREEN INTERVAL DEPTH: 154.2 feet to 169.2 feet	STATIC DEPTH TO WATER (feet): 86.69	PURGE PUMP TYPE OR BAILER: DBP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)

= (169.2 feet – 86.69 feet) X .16 gallons/foot = 13.20 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)

= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 168.2	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 168.2	PURGING INITIATED AT: 9.55	PURGING ENDED AT: 10.46	TOTAL VOLUME PURGED (gallons): 20.4

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. µS/cm	DISSOLVED OXYGEN mg/L	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
10.28	13.20	13.20	.40	87.36	7.43	23.49	423	.71	25.4	NONE	NONE
10.37	3.60	16.80	.40	87.37	7.44	23.51	423	.72	26.6	↓	↓
10.46	3.60	20.4	.40	87.36	7.43	23.51	423	.74	25.1	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: ANDREW BALLOON / ZACK PATTERSON	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 10.46	SAMPLING ENDED AT: 10.57
PUMP OR TUBING DEPTH IN WELL (feet): 168.2	TUBING MATERIAL CODE: T	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N (Dedicated)	TUBING Y N (Dedicated)	DUPLICATE: (Y) N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
					SEE COC				

95% clouds - overcast

SEE C.O.C. FOR SAMPLE ANALYSIS DBP= Dedicated bladder pump

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SELF IAMP	SITE LOCATION:	LITITIA, FL
WELL NO:	Duplicate	SAMPLE ID:	DATE: 11-7-13

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

DUPLICATE

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: ANDREW BALLOON / ZACK PATTERSON	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE: T	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: ~~PUMP~~ ~~Y~~ ~~N~~ ~~Dedicated~~ TUBING Y N Dedicated		DUPLICATE: (Y) N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
					SEE COC				

SEE COC FOR ANALYSIS

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

Login Sample Receipt Checklist

Client: Hillsborough Co Public Utilities Dept

Job Number: 660-57513-1

Login Number: 57513

List Source: TestAmerica Tampa

List Number: 1

Creator: McNulty, Carol

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Hillsborough Co Public Utilities Dept

Job Number: 660-57513-1

Login Number: 57513
List Number: 1
Creator: Banda, Christy S

List Source: TestAmerica Savannah
List Creation: 11/08/13 08:59 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Hillsborough Co Public Utilities Dept

Job Number: 660-57513-1

Login Number: 57555

List Source: TestAmerica Tampa

List Number: 1

Creator: Snead, Joshua

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Hillsborough Co Public Utilities Dept

Job Number: 660-57513-1

Login Number: 57555
List Number: 1
Creator: Contreras, Cesar A

List Source: TestAmerica Savannah
List Creation: 11/09/13 09:15 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	