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Public Utilities

December 23, 2014

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. 51 – November 2014

Dear Mr. Morris:

The Hillsborough County Public Utilities Department (County) is pleased to provide the analytical results from the November 2014 sampling event conducted as part of the 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) surficial aquifer designated as TH-73, TH-74, TH-75 are sampled on a monthly schedule and four (4) upper Floridan/Limestone aquifer monitoring wells, designated as TH-72, TH-76, TH-77, and TH-78 are sampled on a quarterly schedule. Representative samples were collected from each of these seven (7) monitoring wells on November 4-5, 2014 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.

pH

pH was observed at 7.92 pH units in new upper Floridan aquifer (UFA) monitoring well, TH-78. This value is within the Secondary Drinking Water Standard (SDWS), and the previously observed values above the acceptable range have steadily decreased to date. The theory that the high pH values were likely attributable to the cement grout materials used to seal the well above the screen appears to be validated. The pH values in the other three UFA monitoring wells, TH-72, TH-76, and TH-77, were recorded at 6.64, 7.19, and 7.26 pH units, respectively. Each of the three (3) surficial aquifer monitoring wells observed pH below the SDWS acceptable range of 6.5-8.5 pH units. Surficial aquifer monitoring wells TH-73, TH-74, and TH-75 were observed at 5.06, 5.50, and 5.53 pH units, which are consistent with the historical data set.

Turbidity

Turbidity values in the surficial aquifer monitoring wells TH-73, TH-74, and TH-75 were recorded at 3.74, 3.06, and 7.24 Nephelometric Turbidity Units (NTUs). Turbidity in the upper Floridan aquifer monitoring wells TH-72, TH-76, TH-77, and TH-78 were recorded at 1.83, 16.4, 1.28, and 1.58 NTUs, respectively.

Conductivity

The conductivity values in TH-73, TH-74, and TH-75 were recorded at 441, 595, and 417 micromhos per centimeter (umhos/cm), which is consistent with historical data set. Conductivity values in TH-72, TH-76, TH-77, and TH-78 were recorded at 2,511, 502, 469, and 555 umhos/cm, respectively. Monitoring well TH-72 is the closest UFA monitoring well to the sinkhole, and it continues to exhibit groundwater impacts similar to those observed over the past year. Conductivity values in TH-76, TH-77, and TH-78 are relatively low and consistent with the unaffected deep wells across the site.

Total Dissolved Solids (TDS)

The TDS in monitoring well TH-72 was observed at 1,400 mg/l, which continues to be above the SDWS of 500 mg/l. The elevated value is likely attributable to the waste within the remediated sinkhole. The remaining three (3) down gradient UFA monitoring wells, TH-76, TH-77, and TH-78 exhibited TDS values of 280, 280, and 320 mg/l, respectively, which is consistent with the water quality of the unaffected deep wells across the site. The TDS in the surficial aquifer monitoring wells TH-73, TH-74, and TH-75 were all below the Secondary Drinking Water Standard (SDWS) of 500 mg/l, which is consistent with historical data set.

Chloride

Chloride was observed at 460 mg/l in monitoring well TH-72, which is above the SDWS of 250 mg/l. The elevated chloride value observed is likely attributable to waste in the sinkhole and the grout materials injected into the subsurface as part of the sinkhole stabilization and remediation. Chloride values in the down gradient UFA monitoring wells TH-76, TH-77, and TH-78 were observed at 11, 10, and 37 mg/l, which is consistent with the unaffected deep wells across the site. The value of 37 mg/l observed in TH-78, although well below the SDWS, is also thought to potentially be attributable to the grout materials used to seal the

casing in the new well. Chloride concentrations in the surficial aquifer wells, TH-73, TH-74 and TH-75 were observed below the SDWS at 77, 94, and 39 mg/l, respectively, which is consistent with historical data set.

Iron

Total iron concentrations in one (1) of the four (4) upper Floridan/Limestone aquifer monitoring wells were observed above the SDWS of 0.3 mg/l. Monitoring well TH-72 exhibited iron at 0.68, mg/l. The remaining three upper Floridan/Limestone monitoring wells, TH-76, TH-77, and TH-78 exhibited iron at 0.27, 0.16, and 0.27 mg/l, respectively. The iron concentrations observed have been consistent, and the iron appears to be naturally occurring in some areas of the limestone formation, and may be the result of impacts from the past strip mining activities in area. Total iron in monitoring wells TH-73, TH-74, and TH-75 was observed at 4.6, 32, and 7.8 mg/l, respectively, and these values exceed the Secondary Drinking Water Standard (SDWS) of 0.3 mg/l. Iron is consistent with historical water quality values across the site, and is likely naturally occurring or a result of past strip mining.

Sodium

Sodium was observed at a concentration of 200 mg/l in monitoring well TH-72, which is above the PDWS of 160 mg/l. The elevated sodium value is likely attributable to the waste in the sinkhole and/or the grouting materials, as previously discussed. Sodium values in down gradient monitoring wells TH-76, TH-77, and TH-78 were observed at 21, 17, and 34 mg/l, which is consistent with the unaffected deep wells across the site. Sodium values in the surifical aquifer monitor wells were all well below the standard and consistent with the historical data set.

Groundwater Elevations and Direction of Flow

On November 4, 2014, the County collected groundwater and surface water elevation data at eleven (11) locations along the western portion of Phases 1-6 at the landfill site, including seven (7) surficial aquifer wells and four (4) upper Floridan (limestone) aquifer wells. No significant changes to the patterns of flow in the surficial aquifer were noted in the data set, and the flow diagram provided is consistent with the observations over the extensive period of record. The elevations observed within the wells closest to the sinkhole indicate that flow patterns continue to be affected in that area, which has not been unexpected. However, the overall direction of flow within the surficial aquifer remains toward the west/northwest.

A contour diagram of the upper Floridan / Limestone aquifer has been prepared for the west side of the landfill around the sinkhole, and it is provided with this submittal. This diagram was generated manually in AutoCad ™ utilizing the four data points closest to the sinkhole. During this sampling event, the changes in elevations between TH-72 and TH-76 is - 0.09 ft., and TH-72 and TH-77 is + 0.15 ft. Elevation of newly installed monitor well TH-78 indicated an elevation of approximately 7 feet higher than those elevations recorded at TH-72, TH-76, and TH-77. This anomaly in the groundwater elevation indicates that TH-78 may be influenced by the surface water body in this area, or some other geologic formation anomaly may be creating this potentiometric high. Based on the significant difference in elevations, the data from TH-78 was

not utilized to prepare the UFA contour diagram. However, the County maintains the position that the configuration of the three down gradient deep monitoring wells adequately addresses the potential for migration of the contamination observed in TH-72.

Conclusions

The water quality observed in the November 2014 IAMP sampling event indicates that the monitoring well TH-72, which is closest to the sinkhole, continues to exhibit impacts to water quality in the upper Floridan / Limestone aquifer. The impacts observed include elevated conductivity, TDS, chloride, iron and sodium. The values have remained relatively stable, and do not appear to be migrating to any of the down gradient deep monitoring wells. The impacts were not unexpected in the immediate vicinity of the sinkhole, as TH-72 is less than fifty feet away from the former surface expression, and likely even closer to the subsurface karst feature where significant amounts of waste and cement grout materials are likely present. Down gradient deep monitoring wells, TH-76 and TH-77, and TH-78 exhibit good water quality with no evidence of impact from the sinkhole. Conductivity values, pH, TDS, sodium and chloride are all very low and consistent with the historical data sets for the unaffected upper Floridan aquifer groundwater monitoring wells at the SCLF.

Recommendations

The County continues to move forward with implementation of the IAMP, which includes the monthly sampling of the four upper Floridan / Limestone aquifer groundwater monitoring wells, TH-72, TH-76, TH-77, and TH-78, and quarterly sampling of the three surficial aquifer wells, TH-73, TH-74, and TH-75. The County will continue to evaluate any water quality changes in both the surficial and upper Floridan aquifer wells, and present the findings in the monthly IAMP reports. However, it should be noted the IAMP has been conducted for four years, and the consistency of the data set supports closure of this monitoring plan. A select group of the IAMP wells, designed to provide long term protectiveness, should be included in the semi-annual sampling required by the Landfill Operations Permit No. 35435-022-SO/01. It is anticipated that an application for modification of that permit, which is currently being prepared for submittal in early 2015, will include this proposed approach. If you have any specific concerns with this concept, please provide your feedback as soon as possible, so we can incorporate any suggestions into our strategy moving forward.

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 this sampling event, a groundwater elevation data table, groundwater contour and flow diagrams for the surficial and upper Floridan / Limestone aquifers, the historical data summary tables for the wells 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,

12/23/2014

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

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Kim Byer, Director, Solid Waste Division, Public Works
Larry Ruiz, Landfill Manager, Solid Waste Division, Public Works
Jeff Greenwell, GMIII, Environmental Services, Public Utilities
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Clark Moore, FDEP Tallahassee
Steve Morgan, FDEP, Southwest District
Andy Schipfer, EPC
Ernest Ely, WMI
Brian Miller, DOH
Rich Siemering, HDR
Bob Curtis, HDR
Joe O'Neill, CDS

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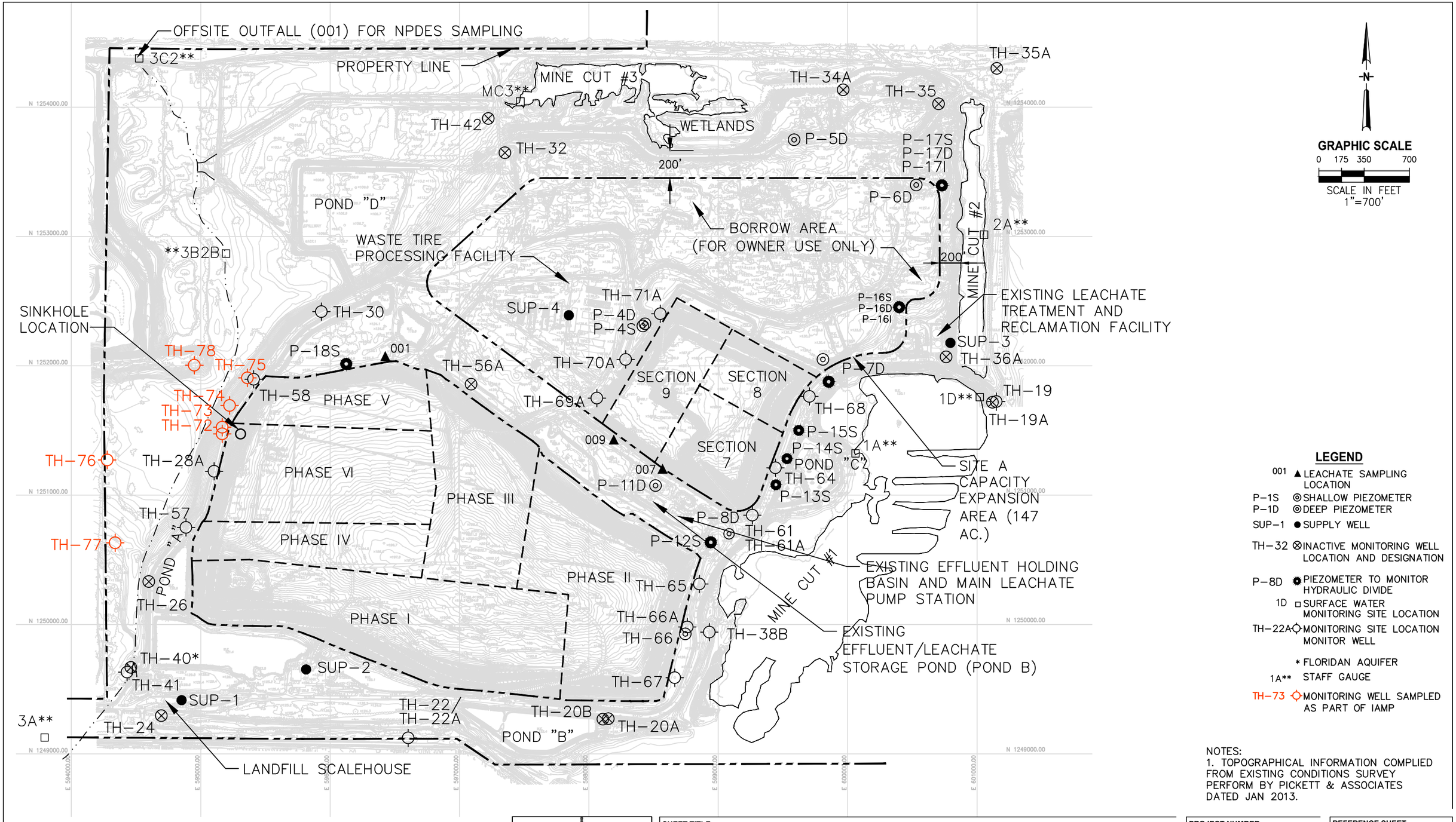

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GRAPHIC SCALE

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: JULY, 2014	EXHIBIT NUMBER: 1

Southeast County Landfill
Laboratory Analytical Data
Surficial and Upper Floridan Aquifer Groundwater Monitoring Wells
November 4-5, 2014

GENERAL	Surficial Aquifer Wells			Upper Floridan Wells				MCL STANDARD
PARAMETERS	**TH-73**	**TH-74**	**TH-75**	**TH-72**	**TH-76**	**TH-77**	**TH-78**	
conductivity (umhos/cm) (field)	441	595	417	2511	502	469	555	**NS**
dissolved oxygen (mg/l) (field)	1.27	0.63	0.39	0.46	0.27	0.27	0.44	**NS**
pH (field)	**5.06**	**5.50**	**5.53**	6.64	7.19	7.26	7.92	**(6.5 - 8.5)****
temperature (°C) (field)	25.18	23.77	24.20	23.46	22.90	23.66	23.33	**NS**
turbidity (NTU) (field)	3.74	3.06	7.24	1.83	16.4	1.28	1.58	**NS**
total dissolved solids (mg/l)	180	300	230	**1,400**	280	280	320	**500****
chloride (mg/l)	77	94	39	**460**	11	10	37	**250****
ammonia nitrogen (mg/l as N)	2.3	4.5	1.7	20	0.37	0.38	0.3	**NS**
METALS (mg/l)								**MCL STANDARD**
arsenic	0.0016 u	0.0016 u	0.0045 i	0.0016 u	0.0016 u	0.0016 u	0.0016 u	**0.01***
iron	**4.6**	**32**	**7.8**	**0.68**	0.27	0.16	0.27	**0.3****
sodium	29	27	16	**200**	21	17	34	**160***

Note: Ref. Groundwater Guidance Concentrations, FDEP 2012

MCL = Maximum Contaminant Level

BDL = Below Detection Limit

NTU = Nephelometric Turbidity Units

NS = No Standard

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

* = Primary Drinking Water Standard

** = Secondary Drinking Water Standard

1,400 Exceeds Standards

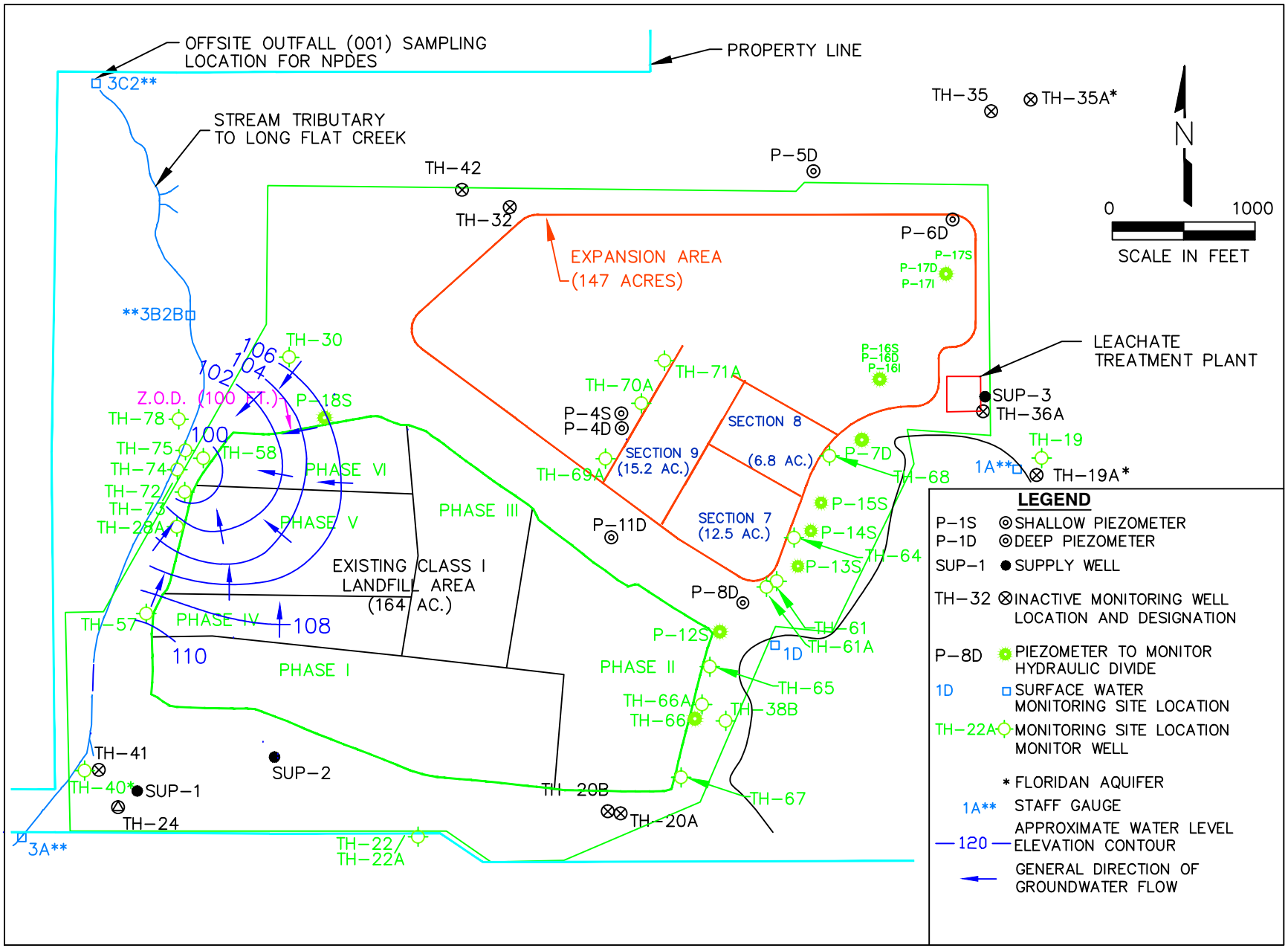
ug/l = micrograms per liter

mg/l = milligrams per liter

Southeast County Landfill
Groundwater Elevations
November 4, 2014

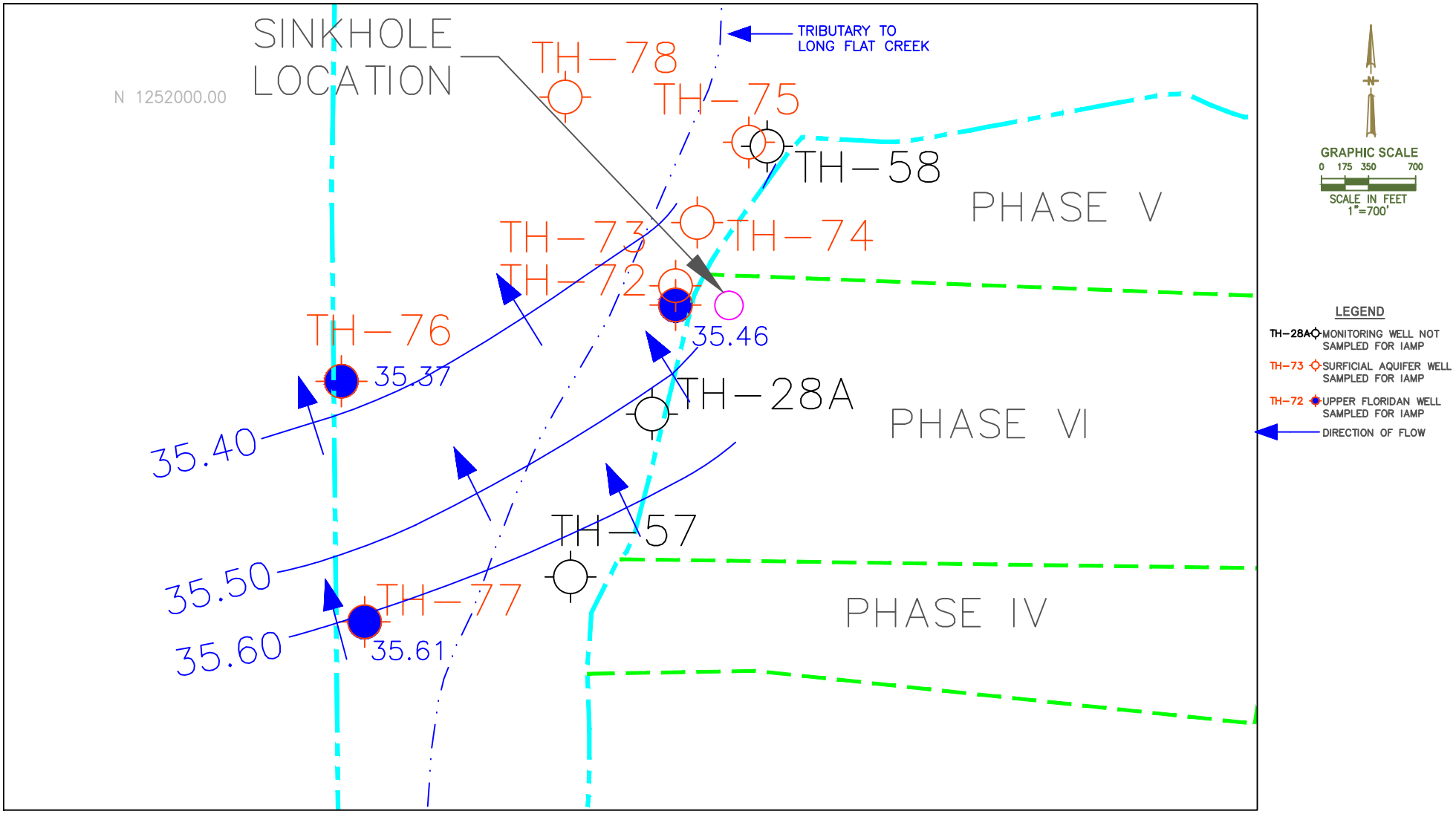
Measuring Point I.D.	T.O.C. Elevations (NGVD)	W.L. B.T.O.C.	W.L. (NGVD)	Time
TH-28A	131.10	27.95	103.15	10:38 AM
TH-30	128.88	23.72	105.16	10:28 AM
TH-57	128.36	18.66	109.70	10:14 AM
TH-58	127.88	27.70	100.18	10:32 AM
TH-72*	130.96	95.50	35.46	10:36 AM
TH-73	131.07	30.42	100.65	10:34 AM
TH-74	109.08	9.21	99.87	10:19 AM
TH-75	106.92	7.66	99.26	10:22 AM
TH-76*	111.21	75.84	35.37	10:52 AM
TH-77*	119.88	84.27	35.61	10:47 AM
TH-78*	120.75	77.73	43.02	11:24 AM

NGVD	**= National Geodetic Vertical Datum**
T.O.C.	**= Top of Casing**
B.T.O.C.	**= Below Top of Casing**
*****	**= Floridan Well**
ND	**= No Data - Potential Error in Survey**
W.L.	**= Water Level**



Southeast County Landfill

Groundwater Elevation Contour Diagram – November 4, 2014



NOVEMBER 2014
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
11/06/2013	97.90	33.06	2,145	0.16	6.69	23.36	0.8	**1,200**	**450**	12	0.004 u	**0.64**	**170**
12/05/2013	98.50	32.46	2,615	0.39	6.74	23.45	0.58	**1,200**	**580**	16	0.004 u	**0.65**	**200**
01/03/2014	99.02	31.94	2,220	0.84	6.83	22.88	1.64	**1,200**	**580**	25	0.004 u	**0.67**	**230 j3**
02/06/2014	99.50	31.46	2,452	0.13	6.69	23.13	2.07	**1,300**	**580**	23 j3	0.004 u	**0.71**	**210**
03/04/2014	97.91	33.05	2,173	0.24	6.67	23.4	1.33	**1,500**	**580**	22	0.004 u	**0.74**	**220**
04/03/2014	96.22	34.74	1,992	0.22	6.74	23.35	1.33	**1,400**	**590**	27	0.0013 u	**0.71**	**220**
05/06/2014	100.22	30.74	2,247	0.46	6.81	23.5	1.22	**1,400**	**590**	24	0.004 u	**0.64**	**230**
06/03/2014	102.58	28.38	2,771	0.34	**6.45**	23.46	0.96	**1,400**	**570**	27	0.004 u	**0.73**	**220**
07/03/2014	97.64	33.32	2,388	0.29	6.86	23.54	1.34	**1,300**	**570**	24	0.004 u	**0.72**	**220**
08/12/2014	90.40	40.56	2,375	0.28	6.87	23.55	0.81	**1,300**	**540**	23	0.004 u	**0.62**	**200 j3**
09/05/2014	90.75	40.21	3,156	0.46	6.74	23.61	1.96	**1,400**	**510**	20	0.004 u	**0.65**	**210**
10/07/2014	88.72	42.24	2,300	0.18	6.78	23.59	0.79	**1,300**	**530**	23	0.004 u	**0.61**	**200**

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
08/02/2013	ND	ND	395	0.23	**5.13**	24.85	10.4	270	130	2.3	0.004 u	**7.8**	38
11/06/2013	30.36	100.71	319	0.62	**5.01**	25.54	6.35	200	76	2.2	0.004 u	**3.8**	25
03/04/2014	30.78	100.29	381	0.39	**4.92**	25.11	6.23	230	96	1.9	0.004 u	**4.6**	31
05/06/2014	30.66	100.41	340	1.13	**5.05**	25.59	4.01	210	90	3.3	0.004 u	**4**	31
08/13/2014	30.22	100.85	426	0.18	**4.76**	25.08	3.38	240	93	3.1	0.004 u	**4.5**	32

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
08/02/2013	ND	ND	508	0.29	**5.55**	23.26	1.3	240	63	3.2	0.004 u	**31**	20
11/06/2013	9.37	99.71	1,348	1.41	**5.43**	23.98	9.71	**890**	**370**	3.2	0.004 u	**60**	78
03/04/2014	9.52	99.56	570	0.58	**5.55**	21.83	2.26	370	95	3.5	0.004 u	**29**	44
05/06/2014	9.22	99.86	549	0.57	**5.56**	22.06	3.93	310	92	3.1	0.004 u	**31**	40
08/13/2014	8.99	100.09	466	0.31	**5.43**	23.95	4.87	**240**	**26**	3.4	0.004 u	**26**	19

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
08/02/2013	ND	ND	356	0.21	**5.63**	23.9	2.1	170	28	1.3	0.0096 i	**7.6**	18
11/06/2013	7.81	99.11	353	1.13	**5.78**	24.32	12.3	200	31	1.3	0.0046 i	**6.5**	14
03/04/2014	7.87	99.05	338	0.39	**5.66**	22.51	5.3	200	27	1.5	0.0067 i	**6.1**	16
05/06/2014	7.63	99.29	341	0.37	**5.67**	22.61	3.01	200	27	1.8	0.0066 i	**6.1**	18
08/13/2014	7.54	99.38	343	0.23	**5.43**	24.52	2.84	190	18	1.5	0.011	**7.5**	12

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
11/06/2013	78.19	33.02	446	0.64	7.54	22.84	29	260	13	0.36	0.004 u	**1.1**	20
12/05/2013	78.80	32.41	478	0.48	7.45	22.9	19.2	240	12	0.35	0.004 u	**0.96**	20
01/03/2014	79.38	31.83	398	0.58	7.67	22.35	19.4	190	12	0.23 j3	0.004 u	**1.1**	20
02/06/2014	79.87	31.34	446	0.14	7.54	22.57	18.1	230	12	0.45	0.004 u	**0.96**	20
03/04/2014	78.20	33.01	434	0.18	7.36	22.7	26.2	230	12	0.33	0.004 u	**0.69**	20
04/03/2014	76.54	34.67	441	0.18	7.46	22.82	24.7	210	12	0.6	0.0013 u	**0.34**	19
05/06/2014	80.52	30.69	427	0.24	7.56	22.85	12.7	220	12	0.38	0.004 u	**0.65**	21
06/03/2014	82.85	28.36	423	0.3	7.47	22.82	16.8	240	12	0.47	0.004 u	**0.64**	20
07/03/2014	77.98	33.23	421	0.3	7.46	22.83	19.5	230	12	0.49	0.004 u	**0.2**	20
08/13/2014	70.72	40.49	445	0.25	7.37	22.81	17	240	12	0.5	0.004 u	**0.7**	20
09/05/2014	71.05	40.16	596	0.2	7.28	22.92	19	240	12	0.72	0.004 u	**0.61**	20
10/07/2014	69.03	42.18	432	0.34	7.37	22.89	17.9	260	12	0.78	0.004 u	**0.77**	19

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
11/06/2013	86.68	33.20	423	0.74	7.43	23.51	25.1	230	9.7	0.36 j3	0.004 u	**0.68**	17
12/05/2013	87.29	32.59	451	0.9	7.44	23.6	16.4	220	9	0.36	0.004 u	**0.58**	17
01/03/2014	87.87	32.01	371	0.85	7.65	23.18	16.5	160	9.1	0.39	0.004 u	**0.63**	17
02/06/2014	88.30	31.58	424	0.09	7.53	23.39	4.62	250	9.2	0.27	0.004 u	0.26	16
03/04/2014	86.70	33.18	418	0.36	7.34	23.38	1.12	230	9.3	0.32	0.004 u	0.21	16
04/03/2014	85.02	34.86	430	0.28	7.45	23.47	1.97	220	9.4	0.61	0.0013 u	0.18	15
05/06/2014	89.02	30.86	414	0.34	7.52	23.47	1.01	220	9.7	0.59	0.004 u	0.19	17
06/03/2014	91.34	28.54	464	0.27	7.47	23.49	0.88	230	9.7	0.75	0.004 u	0.19	17
07/03/2014	86.40	33.48	409	0.34	7.44	23.65	1.56	230	9.6	0.48	0.004 u	0.14 i	17
08/13/2014	79.19	40.69	436	0.36	7.39	23.76	0.61	260	9.5	0.49	0.004 u	0.16 i	16
09/05/2014	79.52	40.36	578	0.37	7.31	23.62	1.02	240	12	0.72	0.004 u	0.61	20
10/07/2014	77.55	42.33	416	0.22	7.36	23.64	0.71	240	9.3	1.4 j3	0.004 u	0.16 i	16

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.

1.2	EXCEEDS STANDARD

Hillsborough County Southeast Landfill
Laboratory Analytical Results from IAMP Groundwater Monitoring
TH-78

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)
07/02/2014	ND	ND	363	0.41	**9.08**	23.89	19.3	210	43	0.44	0.0019 i	**1**	38
08/12/2014	75.51	45.24	467	0.4	**9.55**	23.56	7.37	240	38	0.42 j3	0.004 u	**0.48**	34
09/05/2014	75.12	45.63	680	0.15	8.18	23.46	3.86	270	36	0.40	0.004 u	0.27	35
10/07/2014	73.49	47.26	508	0.30	8.39	23.35	1.12	270	34	0.44	0.004 u	0.23	34

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 - survey data was not complete.
1.2 EXCEEDS STANDARD

Advanced Environmental Laboratories, Inc.

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November 19, 2014

Michael Townsel
Hillsborough Co Public Utilites
332 North Falkenburg Rd
Tampa, FL 33619

RE: Workorder: T1414634 Southeast County Landfill-IAMP

Dear Michael Townsel:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, November 04, 2014. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. The analytical results for the samples contained in this report were submitted for analysis as outlined by the Chain of Custody and results pertain only to these samples.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Heidi Brooks
HBrooks@AELLab.com

Enclosures

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SAMPLE SUMMARY

Workorder: T1414634 Southeast County Landfill-IAMP

Lab ID	Sample ID	Matrix	Date Collected	Date Received
T1414634001	Field Blank	Water	11/4/2014 11:10	11/4/2014 15:25
T1414634002	TH-78	Water	11/4/2014 12:17	11/4/2014 15:25
T1414634003	TH-77	Water	11/4/2014 13:29	11/4/2014 15:25
T1414634004	TH-72	Water	11/4/2014 14:37	11/4/2014 15:25
T1414634005	Duplicate	Water	11/4/2014 00:00	11/4/2014 15:25

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ANALYTICAL RESULTS

Workorder: T1414634 Southeast County Landfill-IAMP

Lab ID: **T1414634001** Date Received: 11/04/14 15:25 Matrix: Water
Sample ID: **Field Blank** Date Collected: 11/04/14 11:10

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B Analysis,Water	Preparation Method: SW-846 3010A Analytical Method: SW-846 6010							
Arsenic	**1.6**	**U**	**ug/L**	**1**	10	1.6	11/10/2014 17:37	T
Iron	**21**	**U**	**ug/L**	**1**	100	21	11/10/2014 17:37	T
Sodium	**0.20**	**I**	**mg/L**	**1**	0.20	0.042	11/10/2014 17:37	T
WET CHEMISTRY								
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.02**	**U**	**mg/L**	**1**	0.10	0.02	11/13/2014 22:22	T
Analysis Desc: Chlorides,SM4500-Cl-E,Water	Analytical Method: SM 4500-Cl-E							
Chloride	**1.1**	**U**	**mg/L**	**1**	5.0	1.1	11/17/2014 17:50	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM18 2540 C							
Total Dissolved Solids	**12**	**U**	**mg/L**	**1.25**	12	12	11/6/2014 12:47	T

Lab ID: **T1414634002** Date Received: 11/04/14 15:25 Matrix: Water
Sample ID: **TH-78** Date Collected: 11/04/14 12:17

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**555**		**umhos/cm**	**1**			11/4/2014 12:17	
Dissolved Oxygen	**0.44**		**mg/L**	**1**			11/4/2014 12:17	
Temperature	**23.33**		**°C**	**1**			11/4/2014 12:17	
Turbidity	**1.58**		**NTU**	**1**			11/4/2014 12:17	
pH	**7.92**		**SU**	**1**			11/4/2014 12:17	

METALS

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ANALYTICAL RESULTS

Workorder: T1414634 Southeast County Landfill-IAMP

Lab ID: **T1414634002** Date Received: 11/04/14 15:25 Matrix: Water
Sample ID: **TH-78** Date Collected: 11/04/14 12:17

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: SW846 6010B Analysis,Water	Preparation Method: SW-846 3010A Analytical Method: SW-846 6010							
Arsenic	**1.6**	**U**	**ug/L**	**1**	10	1.6	11/10/2014 17:43	T
Iron	**270**		**ug/L**	**1**	100	21	11/10/2014 17:43	T
Sodium	**34**		**mg/L**	**1**	0.20	0.042	11/10/2014 17:43	T
WET CHEMISTRY								
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.30**		**mg/L**	**1**	0.10	0.02	11/13/2014 22:22	T
Analysis Desc: Chlorides,SM4500-Cl-E,Water	Analytical Method: SM 4500-Cl-E							
Chloride	**37**		**mg/L**	**1**	5.0	1.1	11/10/2014 17:42	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM18 2540 C							
Total Dissolved Solids	**320**		**mg/L**	**1.25**	12	12	11/6/2014 12:47	T

Lab ID: **T1414634003** Date Received: 11/04/14 15:25 Matrix: Water
Sample ID: **TH-77** Date Collected: 11/04/14 13:29

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**469**		**umhos/cm**	**1**			11/4/2014 13:29	
Dissolved Oxygen	**0.27**		**mg/L**	**1**			11/4/2014 13:29	
Temperature	**23.66**		**°C**	**1**			11/4/2014 13:29	
Turbidity	**1.28**		**NTU**	**1**			11/4/2014 13:29	
pH	**7.26**		**SU**	**1**			11/4/2014 13:29	
METALS								
Analysis Desc: SW846 6010B Analysis,Water	Preparation Method: SW-846 3010A Analytical Method: SW-846 6010							

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ANALYTICAL RESULTS

Workorder: T1414634 Southeast County Landfill-IAMP

Lab ID: **T1414634003** Date Received: 11/04/14 15:25 Matrix: Water
Sample ID: **TH-77** Date Collected: 11/04/14 13:29

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Arsenic	**1.6**	**U**	**ug/L**	**1**	10	1.6	11/10/2014 17:48	T
Iron	**160**		**ug/L**	**1**	100	21	11/10/2014 17:48	T
Sodium	**17**		**mg/L**	**1**	0.20	0.042	11/10/2014 17:48	T
WET CHEMISTRY								
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.38**		**mg/L**	**1**	0.10	0.02	11/13/2014 22:22	T
Analysis Desc: Chlorides,SM4500-Cl-E,Water	Analytical Method: SM 4500-Cl-E							
Chloride	**10**		**mg/L**	**1**	5.0	1.1	11/10/2014 17:42	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM18 2540 C							
Total Dissolved Solids	**280**		**mg/L**	**1.25**	12	12	11/6/2014 12:47	T

Lab ID: **T1414634004** Date Received: 11/04/14 15:25 Matrix: Water
Sample ID: **TH-72** Date Collected: 11/04/14 14:37

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**2511**		**umhos/cm**	**1**			11/4/2014 14:37	
Dissolved Oxygen	**0.46**		**mg/L**	**1**			11/4/2014 14:37	
Temperature	**23.46**		**°C**	**1**			11/4/2014 14:37	
Turbidity	**1.83**		**NTU**	**1**			11/4/2014 14:37	
pH	**6.64**		**SU**	**1**			11/4/2014 14:37	
METALS								
Analysis Desc: Chlorides,SM4500-Cl-E,Water	Analytical Method: SM 4500-Cl-E							
Chloride	**460**		**mg/L**	**10**	50	11	11/10/2014 17:42	T

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ANALYTICAL RESULTS

Workorder: T1414634 Southeast County Landfill-IAMP

Lab ID: **T1414634004** Date Received: 11/04/14 15:25 Matrix: Water
Sample ID: **TH-72** Date Collected: 11/04/14 14:37

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: SW846 6010B Analysis,Water	Preparation Method: SW-846 3010A Analytical Method: SW-846 6010							
Arsenic	**1.6**	**U**	**ug/L**	**1**	10	1.6	11/10/2014 17:54	T
Iron	**680**		**ug/L**	**1**	100	21	11/10/2014 17:54	T
Sodium	**200**		**mg/L**	**1**	0.20	0.042	11/10/2014 17:54	T
WET CHEMISTRY								
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**20**		**mg/L**	**10**	1.00	0.25	11/13/2014 22:22	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM18 2540 C							
Total Dissolved Solids	**1400**		**mg/L**	**1.25**	12	12	11/6/2014 12:47	T

Lab ID: **T1414634005** Date Received: 11/04/14 15:25 Matrix: Water
Sample ID: **Duplicate** Date Collected: 11/04/14 00:00

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6010B Analysis,Water	Preparation Method: SW-846 3010A Analytical Method: SW-846 6010							
Arsenic	**1.6**	**U**	**ug/L**	**1**	10	1.6	11/11/2014 02:30	T
Iron	**610**		**ug/L**	**1**	100	21	11/11/2014 02:30	T
Sodium	**190**		**mg/L**	**1**	0.20	0.042	11/11/2014 02:30	T
WET CHEMISTRY								
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**20**		**mg/L**	**10**	1.00	0.25	11/13/2014 22:22	T
Analysis Desc: Chlorides,SM4500-Cl-E,Water	Analytical Method: SM 4500-Cl-E							
Chloride	**480**		**mg/L**	**10**	50	11	11/10/2014 17:42	T

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ANALYTICAL RESULTS

Workorder: T1414634 Southeast County Landfill-IAMP

Lab ID: **T1414634005**
Sample ID: **Duplicate**

Date Received: 11/04/14 15:25 Matrix: Water
Date Collected: 11/04/14 00:00

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM18 2540 C							
Total Dissolved Solids	**1400**		**mg/L**	**1.25**	12	12	11/6/2014 12:47	T

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ANALYTICAL RESULTS QUALIFIERS

Workorder: T1414634 Southeast County Landfill-IAMP

PARAMETER QUALIFIERS

U	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.

LAB QUALIFIERS

T	DOH Certification #E84589(AEL-T)(FL NELAC Certification)
T^	Not Certified

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QUALITY CONTROL DATA

Workorder: T1414634 Southeast County Landfill-IAMP

QC Batch: DGMt/1435 Analysis Method: SW-846 6010
QC Batch Method: SW-846 3010A Prepared: 11/06/2014 09:00
Associated Lab Samples: T1414634001, T1414634002, T1414634003, T1414634004

METHOD BLANK: 1601219

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
METALS				
Arsenic	ug/L	1.6	1.6	U
Iron	ug/L	21	21	U
Sodium	mg/L	0.042	0.042	U

LABORATORY CONTROL SAMPLE: 1601220

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
METALS						
Arsenic	ug/L	400	390	98	80-120	
Iron	ug/L	25000	28000	108	80-120	
Sodium	mg/L	50	53	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1601221 1601222 Original: T1414563005

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
METALS											
Arsenic	ug/L	-2.4	400	380	390	96	98	75-125	2	20	
Iron	ug/L	100	25000	26000	27000	101	104	75-125	3	20	
Sodium	mg/L	34	50	84	85	100	102	75-125	1	20	

QC Batch: DGMt/1436 Analysis Method: SW-846 6010
QC Batch Method: SW-846 3010A Prepared: 11/06/2014 09:00
Associated Lab Samples: T1414634005

METHOD BLANK: 1601223

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
METALS				
Arsenic	ug/L	1.6	1.6	U

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QUALITY CONTROL DATA

Workorder: T1414634 Southeast County Landfill-IAMP

METHOD BLANK: 1601223

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Iron	ug/L	21	21	U
Sodium	mg/L	0.042	0.042	U

LABORATORY CONTROL SAMPLE: 1601224

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
METALS						
Arsenic	ug/L	400	380	94	80-120	
Iron	ug/L	25000	25000	99	80-120	
Sodium	mg/L	50	50	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1601225 1601226 Original: T1414618002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
METALS											
Arsenic	ug/L	-0.83	400	1.6	1.6U	0	0	75-125	-14	20	
Iron	ug/L	-0.73	25000	21	21U	0	0	75-125	-24	20	
Sodium	mg/L	-0.018	50	0.042	0.042U	0	0	75-125	-7	20	

QC Batch: WCAt/6625 Analysis Method: SM18 2540 C

QC Batch Method: SM18 2540 C Prepared:

Associated Lab Samples: T1414634001, T1414634002, T1414634003, T1414634004, T1414634005

METHOD BLANK: 1601232

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Total Dissolved Solids	mg/L	10	10	U

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QUALITY CONTROL DATA

Workorder: T1414634 Southeast County Landfill-IAMP

LABORATORY CONTROL SAMPLE: 1601233

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	660	620	93	75-125	

SAMPLE DUPLICATE: 1601234 Original: T1414634001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	12U	12	-29	10	

QC Batch: WCAt/6719 Analysis Method: SM 4500-Cl-E

QC Batch Method: SM 4500-Cl-E Prepared:

Associated Lab Samples: T1414634002, T1414634003

METHOD BLANK: 1605768

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Chloride	mg/L	1.1	1.1	U

LABORATORY CONTROL SAMPLE: 1605769

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Chloride	mg/L	40	39	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1605770 1605771 Original: T1414602001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Chloride	mg/L	620	40	660	660	94	104	90-110	1	10	

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QUALITY CONTROL DATA

Workorder: T1414634 Southeast County Landfill-IAMP

QC Batch: WCAt/6720 Analysis Method: SM 4500-Cl-E
QC Batch Method: SM 4500-Cl-E Prepared:
Associated Lab Samples: T1414634004, T1414634005

METHOD BLANK: 1605775

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Chloride	mg/L	1.1	1.1	U

LABORATORY CONTROL SAMPLE: 1605776

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Chloride	mg/L	40	39	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1605777 1605778 Original: T1414634004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Chloride	mg/L	460	40	500	500	95	91	90-110	0	10	

QC Batch: WCAt/6726 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Prepared:
Associated Lab Samples: T1414634001, T1414634002, T1414634003, T1414634004, T1414634005

METHOD BLANK: 1606519

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Ammonia (N)	mg/L	0.02	0.02	U

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QUALITY CONTROL DATA

Workorder: T1414634 Southeast County Landfill-IAMP

LABORATORY CONTROL SAMPLE: 1606520

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Ammonia (N)	mg/L	1	1.0	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1606521 1606522 Original: T1414634001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Ammonia (N)	mg/L	0	1	1.1	1.1	110	110	90-110	0	10	

QC Batch: WCAt/6848 Analysis Method: SM 4500-Cl-E
QC Batch Method: SM 4500-Cl-E Prepared:
Associated Lab Samples: T1414634001

METHOD BLANK: 1611196

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Chloride	mg/L	1.1	1.1	U

LABORATORY CONTROL SAMPLE: 1611197

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Chloride	mg/L	40	37	92	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1611198 1611199 Original: A1406691001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Chloride	mg/L	110	40	150	160	94	107	90-110	3	10	

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QUALITY CONTROL DATA

Workorder: T1414634 Southeast County Landfill-IAMP

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: T1414634 Southeast County Landfill-IAMP

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T1414634001	Field Blank	SW-846 3010A	DGMt/1435	SW-846 6010	ICPt/1242
T1414634002	TH-78	SW-846 3010A	DGMt/1435	SW-846 6010	ICPt/1242
T1414634003	TH-77	SW-846 3010A	DGMt/1435	SW-846 6010	ICPt/1242
T1414634004	TH-72	SW-846 3010A	DGMt/1435	SW-846 6010	ICPt/1242
T1414634005	Duplicate	SW-846 3010A	DGMt/1436	SW-846 6010	ICPt/1243
T1414634001	Field Blank			SM18 2540 C	WCAt/6625
T1414634002	TH-78			SM18 2540 C	WCAt/6625
T1414634003	TH-77			SM18 2540 C	WCAt/6625
T1414634004	TH-72			SM18 2540 C	WCAt/6625
T1414634005	Duplicate			SM18 2540 C	WCAt/6625
T1414634002	TH-78			SM 4500-Cl-E	WCAt/6719
T1414634003	TH-77			SM 4500-Cl-E	WCAt/6719
T1414634004	TH-72			SM 4500-Cl-E	WCAt/6720
T1414634005	Duplicate			SM 4500-Cl-E	WCAt/6720
T1414634001	Field Blank			EPA 350.1	WCAt/6726
T1414634002	TH-78			EPA 350.1	WCAt/6726
T1414634003	TH-77			EPA 350.1	WCAt/6726
T1414634004	TH-72			EPA 350.1	WCAt/6726
T1414634005	Duplicate			EPA 350.1	WCAt/6726
T1414634001	Field Blank			SM 4500-Cl-E	WCAt/6848
T1414634002	TH-78	Field Measurements	FLDt/	Field Measurements	FLDt/
T1414634003	TH-77	Field Measurements	FLDt/	Field Measurements	FLDt/
T1414634004	TH-72	Field Measurements	FLDt/	Field Measurements	FLDt/

Advanced Environmental Laboratories, Inc.

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☐ **Jacksonville:** 6681 Southpoint Pkwy. • Jacksonville, FL 32216 • 904.363.9350 • Fax 904.363.9354
☐ **Miramar:** 10200 USA Today Way, Miramar, FL 33025 • 954.889.2288 • Fax 954.889.2281
☐ **Tallahassee:** 1288 Cedar Center Drive, Tallahassee, FL 32301 • 850.219.6274 • Fax 850.219.6275
☐ **Tampa:** 9610 Princess Palm Ave. • Tampa, FL 33619 • 813.630.9616 • Fax 813.630.4327

T14634

Client Name: Hills. Co. Public Utilities
Address: 332 North Falkenburg Rd.
Tampa, Florida 33619
Phone: (813) 663-3222
FAX: (813) 274-6801
Contact: Michael Townsel
Sampled By: ZACK PATTERSON / ANDREW BALLOUN
Turn Around Time: ☑ STANDARD ☐ RUSH
Page: 1 of: 1

Project Name: Southeast County Landfill - IAMP
P.O. Number/Project Number: N/A
Project Location: Southeast County Landfill
REMARKS/SPECIAL INSTRUCTIONS:

SAMPLE ID	SAMPLE DESCRIPTION	Grab Comp	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. COUNT	PRESERVATION	BOTTLE SIZE & TYPE	ANALYSIS REQUIRED: Ammonia-N	TDS	Chloride	As, Fe, Na							LABORATORY I.D. NUMBER
FIELD BLANK	FIELD BLANK	G	11-4-14	11:10	GW	3			X	X	X	X							001
TH-78	TH-78	G	↓	12:17	↓	3			X	X	X	X							002
TH-77	TH-77	G	↓	13:29	↓	3			X	X	X	X							003
TH-72	TH-72	G	↓	14:37	↓	3			X	X	X	X							004
Duplicate	Duplicate	G	↓	N/A	↓	3			X	X	X	X							005

Matrix Code: **WW** = wastewater **SW** = surface water **GW** = ground water **DW** = drinking water **O** = oil **A** = air **SO** = soil **SL** = sludge

Preservation Code: I = ice H=(HCl) S = (H_2SO_4) N = (HNO_3) T = (Sodium Thiosulfate)

Received on Ice ☑ Yes ☐ No ☑ Temp taken from sample ☐ Temp from blank ☑ Where required, pH checked Temperature when received 3.5 (in degrees celcius)

Form revised 09/19/2012

Device used for measuring Temp by unique identifier (circle IR temp gun used) J: 9A G: LT-1 LT-2 T: 10A A: 3A M: 1A S: 1V

	Relinquished by:	Date	Time	Received by:	Date	Time
1	Zack Patterson	11-4-14	1526	Zack Snead	11/4/14	1526
2						
3						
4						

FOR DRINKING WATER USE (When PWS Information not otherwise supplied)

PWS ID:
Contact Person: Phone:
Supplier of Water:
Site-Address:

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	SELF JAMP	SITE LOCATION:	
WELL NO:	TH-78	SAMPLE ID: TH-78	DATE: 11-4-14

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2	3/8	DEPTH 163.14 feet to 178.14 feet	77.73	BP

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (178.14 feet − 77.73 feet) X .16 gallons/foot = 16.07 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):
177.14	177.14	11:17	12:17	30

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)
11:50	16.5	16.5	.50	77.73	8.21	23.28	539	.66	1.58	NONE	NONE
11:59	4.5	21.0	.50	77.73	8.10	23.29	545	.59	1.49	↓	↓
12:08	4.5	25.5	.50	77.73	7.99	23.33	552	.50	1.56		
12:17	4.5	30.0	.50	77.73	7.92	23.33	555	.44	1.58		

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	12:17	12:23

PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
177.14	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 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 IAMP	SITE LOCATION:	
WELL NO: FIELD BLANK	SAMPLE ID: FIELD BLANK	DATE: 11-4-14

PURGING DATA

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

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

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): Zack Patterson	SAMPLING INITIATED AT: 11:10	SAMPLING ENDED AT: 11:15
PUMP OR TUBING DEPTH IN WELL (feet): N/A	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 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 IAMP	SITE LOCATION:	Lithia, FL	
WELL NO:	Duplicate	SAMPLE ID:	Duplicate	DATE: 11-4-14

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:
N/A	N/A		N/A	N/A

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):
N/A	N/A	N/A	N/A	N/A

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: N/A	SAMPLING ENDED AT: N/A
PUMP OR TUBING DEPTH IN WELL (feet): N/A	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 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:	Southeast County Landfill IAMP	SITE LOCATION:.	Lithia, Florida	
WELL NO:	TH-72	SAMPLE ID:	TH-72	DATE: 11-4-14

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	95.50	DBP

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

= (190 feet − 95.50 feet) X .16 gallons/foot = 15.12 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	13:50	14:37	23.5

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)
14:21	15.5	15.5	.50	95.50	6.65	23.46	2504	.48	1.24	NONE	NONE
14:29	4.0	19.5	.50	95.50	6.65	23.47	2507	.42	2.24	↓	↓
14:37	4.0	23.5	.50	95.50	6.64	23.46	2511	.46	1.83	↓	↓

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	14:37	14:44

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) ~~X~~ (Z)

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 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: Southeast County Landfill IAMP	SITE LOCATION:. Lithia, Florida	
WELL NO: TH-77	SAMPLE ID: TH-77	DATE: 11-4-14

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): 84.27	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 – 84.27 feet) X .16 gallons/foot = gallons 13.59

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: 12:37	PURGING ENDED AT: 13:29	TOTAL VOLUME PURGED (gallons): 20.80

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)
13:11	13.60	13.60	.40	84.80	7.27	23.70	469	.35	1.49	NONE	NONE
13:20	3.60	17.20	.40	84.80	7.26	23.73	469	.30	1.15	↓	↓
13:29	3.60	20.80	.40	84.80	7.26	23.66	469	.27	1.28	↓	↓

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: 13:29	SAMPLING ENDED AT: 13:35
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 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

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December 9, 2014

David Adams
Hillsborough Co Public Utilites
332 North Falkenburg Rd
Tampa, FL 33619

RE: Workorder: T1414746 Southeast County Landfill-IAMP

Dear David Adams:

Enclosed are the analytical results for sample(s) received by the laboratory on Wednesday, November 05, 2014. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. The analytical results for the samples contained in this report were submitted for analysis as outlined by the Chain of Custody and results pertain only to these samples.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Heidi Brooks
HBrooks@AELLab.com

Enclosures

CERTIFICATE OF ANALYSIS

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SAMPLE SUMMARY

Workorder: T1414746 Southeast County Landfill-IAMP

Lab ID	Sample ID	Matrix	Date Collected	Date Received
T1414746001	TH-73	Water	11/5/2014 10:45	11/5/2014 16:00
T1414746002	TH-74	Water	11/5/2014 11:29	11/5/2014 16:00
T1414746003	TH-75	Water	11/5/2014 12:13	11/5/2014 16:00
T1414746004	TH-76	Water	11/5/2014 13:26	11/5/2014 16:00

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ANALYTICAL RESULTS

Workorder: T1414746 Southeast County Landfill-IAMP

Lab ID: **T1414746001** Date Received: 11/05/14 16:00 Matrix: Water

Sample ID: **TH-73** Date Collected: 11/05/14 10:45

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**441**		**umhos/cm**	**1**			11/5/2014 10:45	
Dissolved Oxygen	**1.27**		**mg/L**	**1**			11/5/2014 10:45	
Temperature	**25.18**		**°C**	**1**			11/5/2014 10:45	
Turbidity	**3.74**		**NTU**	**1**			11/5/2014 10:45	
pH	**5.06**		**SU**	**1**			11/5/2014 10:45	
METALS								
Analysis Desc: SW846 6010B Analysis,Water	Preparation Method: SW-846 3010A Analytical Method: SW-846 6010							
Arsenic	**1.6**	**U**	**ug/L**	**1**	10	1.6	11/12/2014 18:08	T
Iron	**4600**		**ug/L**	**1**	100	21	11/12/2014 18:08	T
Sodium	**29**		**mg/L**	**1**	0.20	0.042	11/12/2014 18:08	T
WET CHEMISTRY								
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**2.3**		**mg/L**	**1**	0.10	0.02	11/13/2014 22:22	T
Analysis Desc: Chlorides,SM4500-Cl-E,Water	Analytical Method: SM 4500-Cl-E							
Chloride	**77**		**mg/L**	**2**	10	2.3	11/10/2014 17:42	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM18 2540 C							
Total Dissolved Solids	**180**		**mg/L**	**1.25**	12	12	11/11/2014 08:03	T

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ANALYTICAL RESULTS

Workorder: T1414746 Southeast County Landfill-IAMP

Lab ID: **T1414746002** Date Received: 11/05/14 16:00 Matrix: Water

Sample ID: **TH-74** Date Collected: 11/05/14 11:29

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**595**		**umhos/cm**	**1**			11/5/2014 11:29	
Dissolved Oxygen	**0.63**		**mg/L**	**1**			11/5/2014 11:29	
Temperature	**23.77**		**°C**	**1**			11/5/2014 11:29	
Turbidity	**3.06**		**NTU**	**1**			11/5/2014 11:29	
pH	**5.5**		**SU**	**1**			11/5/2014 11:29	
METALS								
Analysis Desc: SW846 6010B Analysis,Water	Preparation Method: SW-846 3010A Analytical Method: SW-846 6010							
Arsenic	**1.6**	**U**	**ug/L**	**1**	10	1.6	11/12/2014 18:38	T
Iron	**32000**		**ug/L**	**1**	100	21	11/12/2014 18:38	T
Sodium	**27**		**mg/L**	**1**	0.20	0.042	11/12/2014 18:38	T
WET CHEMISTRY								
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**4.5**		**mg/L**	**2**	0.20	0.05	11/13/2014 22:22	T
Analysis Desc: Chlorides,SM4500-Cl-E,Water	Analytical Method: SM 4500-Cl-E							
Chloride	**94**		**mg/L**	**2**	10	2.3	11/10/2014 17:42	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM18 2540 C							
Total Dissolved Solids	**300**		**mg/L**	**1.25**	12	12	11/11/2014 08:03	T

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ANALYTICAL RESULTS

Workorder: T1414746 Southeast County Landfill-IAMP

Lab ID: **T1414746003** Date Received: 11/05/14 16:00 Matrix: Water

Sample ID: **TH-75** Date Collected: 11/05/14 12:13

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**417**		**umhos/cm**	**1**			11/5/2014 12:13	
Dissolved Oxygen	**0.39**		**mg/L**	**1**			11/5/2014 12:13	
Temperature	**24.2**		**°C**	**1**			11/5/2014 12:13	
Turbidity	**7.24**		**NTU**	**1**			11/5/2014 12:13	
pH	**5.53**		**SU**	**1**			11/5/2014 12:13	
METALS								
Analysis Desc: SW846 6010B Analysis,Water	Preparation Method: SW-846 3010A Analytical Method: SW-846 6010							
Arsenic	**4.5**	**I**	**ug/L**	**1**	10	1.6	11/12/2014 18:43	T
Iron	**7800**		**ug/L**	**1**	100	21	11/12/2014 18:43	T
Sodium	**16**		**mg/L**	**1**	0.20	0.042	11/12/2014 18:43	T
WET CHEMISTRY								
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**1.7**		**mg/L**	**1**	0.10	0.02	11/13/2014 22:23	T
Analysis Desc: Chlorides,SM4500-Cl-E,Water	Analytical Method: SM 4500-Cl-E							
Chloride	**39**		**mg/L**	**1**	5.0	1.1	11/10/2014 17:42	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM18 2540 C							
Total Dissolved Solids	**230**		**mg/L**	**1.25**	12	12	11/11/2014 08:03	T

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ANALYTICAL RESULTS

Workorder: T1414746 Southeast County Landfill-IAMP

Lab ID: **T1414746004** Date Received: 11/05/14 16:00 Matrix: Water

Sample ID: **TH-76** Date Collected: 11/05/14 13:26

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**502**		**umhos/cm**	**1**			11/5/2014 13:26	
Dissolved Oxygen	**0.27**		**mg/L**	**1**			11/5/2014 13:26	
Temperature	**22.9**		**°C**	**1**			11/5/2014 13:26	
Turbidity	**16.4**		**NTU**	**1**			11/5/2014 13:26	
pH	**7.19**		**SU**	**1**			11/5/2014 13:26	
METALS								
Analysis Desc: SW846 6010B Analysis,Water	Preparation Method: SW-846 3010A Analytical Method: SW-846 6010							
Arsenic	**1.6**	**U**	**ug/L**	**1**	10	1.6	11/12/2014 18:48	T
Iron	**270**		**ug/L**	**1**	100	21	11/12/2014 18:48	T
Sodium	**21**		**mg/L**	**1**	0.20	0.042	11/12/2014 18:48	T
WET CHEMISTRY								
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.37**		**mg/L**	**1**	0.10	0.02	11/13/2014 22:23	T
Analysis Desc: Chlorides,SM4500-Cl-E,Water	Analytical Method: SM 4500-Cl-E							
Chloride	**11**		**mg/L**	**1**	5.0	1.1	11/10/2014 17:42	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM18 2540 C							
Total Dissolved Solids	**280**		**mg/L**	**1.25**	12	12	11/11/2014 08:03	T

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ANALYTICAL RESULTS QUALIFIERS

Workorder: T1414746 Southeast County Landfill-IAMP

PARAMETER QUALIFIERS

U	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.

LAB QUALIFIERS

T	DOH Certification #E84589(AEL-T)(FL NELAC Certification)
T^	Not Certified

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QUALITY CONTROL DATA

Workorder: T1414746 Southeast County Landfill-IAMP

QC Batch: WCAt/6700 Analysis Method: SM18 2540 C
QC Batch Method: SM18 2540 C Prepared:
Associated Lab Samples: T1414746001, T1414746002, T1414746003, T1414746004

METHOD BLANK: 1605233

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Total Dissolved Solids	mg/L	10	10	U

LABORATORY CONTROL SAMPLE: 1605234

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	660	620	95	75-125	

SAMPLE DUPLICATE: 1605235 Original: T1414707001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	30	30	0	10	

QC Batch: WCAt/6721 Analysis Method: SM 4500-Cl-E
QC Batch Method: SM 4500-Cl-E Prepared:
Associated Lab Samples: T1414746001, T1414746002, T1414746003, T1414746004

METHOD BLANK: 1605782

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Chloride	mg/L	1.1	1.1	U

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QUALITY CONTROL DATA

Workorder: T1414746 Southeast County Landfill-IAMP

LABORATORY CONTROL SAMPLE: 1605783

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Chloride	mg/L	40	39	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1605784 1605785 Original: T1414746001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Chloride	mg/L	77	40	120	120	105	101	90-110	2	10	

QC Batch: WCAt/6726 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Prepared:
Associated Lab Samples: T1414746001, T1414746002

METHOD BLANK: 1606519

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Ammonia (N)	mg/L	0.02	0.02	U

LABORATORY CONTROL SAMPLE: 1606520

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Ammonia (N)	mg/L	1	1.0	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1606521 1606522 Original: T1414634001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Ammonia (N)	mg/L	0	1	1.1	1.1	110	110	90-110	0	10	

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QUALITY CONTROL DATA

Workorder: T1414746 Southeast County Landfill-IAMP

QC Batch: WCAt/6727 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Prepared:
Associated Lab Samples: T1414746003, T1414746004

METHOD BLANK: 1606523

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Ammonia (N)	mg/L	0.02	0.02	U

LABORATORY CONTROL SAMPLE: 1606524

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Ammonia (N)	mg/L	1	1.0	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1606525 1606526 Original: T1414746004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Ammonia (N)	mg/L	0.37	1	1.4	1.3	102	96	90-110	4	10	

QC Batch: DGMt/1451 Analysis Method: SW-846 6010
QC Batch Method: SW-846 3010A Prepared: 11/11/2014 12:00
Associated Lab Samples: T1414746001, T1414746002, T1414746003, T1414746004

METHOD BLANK: 1607151

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
METALS				
Arsenic	ug/L	1.6	1.6	U
Iron	ug/L	21	21	U
Sodium	mg/L	0.042	0.042	U

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QUALITY CONTROL DATA

Workorder: T1414746 Southeast County Landfill-IAMP

LABORATORY CONTROL SAMPLE: 1607152

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
METALS						
Arsenic	ug/L	400	380	95	80-120	
Iron	ug/L	25000	27000	104	80-120	
Sodium	mg/L	50	52	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1607153 1607154 Original: T1414427001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
METALS											
Arsenic	ug/L	2.1	400	390	380	96	95	75-125	1	20	
Iron	ug/L	6200	25000	33000	33000	105	107	75-125	2	20	
Sodium	mg/L	15	50	66	67	100	104	75-125	2	20	

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: T1414746 Southeast County Landfill-IAMP

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T1414746001	TH-73			SM18 2540 C	WCAt/6700
T1414746002	TH-74			SM18 2540 C	WCAt/6700
T1414746003	TH-75			SM18 2540 C	WCAt/6700
T1414746004	TH-76			SM18 2540 C	WCAt/6700
T1414746001	TH-73			SM 4500-Cl-E	WCAt/6721
T1414746002	TH-74			SM 4500-Cl-E	WCAt/6721
T1414746003	TH-75			SM 4500-Cl-E	WCAt/6721
T1414746004	TH-76			SM 4500-Cl-E	WCAt/6721
T1414746001	TH-73			EPA 350.1	WCAt/6726
T1414746002	TH-74			EPA 350.1	WCAt/6726
T1414746003	TH-75			EPA 350.1	WCAt/6727
T1414746004	TH-76			EPA 350.1	WCAt/6727
T1414746001	TH-73	SW-846 3010A	DGMt/1451	SW-846 6010	ICPt/1251
T1414746002	TH-74	SW-846 3010A	DGMt/1451	SW-846 6010	ICPt/1251
T1414746003	TH-75	SW-846 3010A	DGMt/1451	SW-846 6010	ICPt/1251
T1414746004	TH-76	SW-846 3010A	DGMt/1451	SW-846 6010	ICPt/1251
T1414746001	TH-73	Field Measurements	FLDt/	Field Measurements	FLDt/
T1414746002	TH-74	Field Measurements	FLDt/	Field Measurements	FLDt/
T1414746003	TH-75	Field Measurements	FLDt/	Field Measurements	FLDt/
T1414746004	TH-76	Field Measurements	FLDt/	Field Measurements	FLDt/