Hillsborough County Florida

PUBLIC UTILITIES
PO Box 1110
Tampa, FL 33601-1110

July 30, 2018

Mr. Steve Tafuni
Florida Department of Environmental Protection
Waste Permitting Section
13051 Telecom Parkway
Temple Terrace, FL 33637

SUBJECT: **Southeast County Class I Landfill**
WACS Facility ID No. 41193
Supplemental Groundwater Sampling Report – May 2018
Consent Agreement, OGC File No. 17-0058

Dear Mr. Tafuni:

The Hillsborough County Public Utilities Department (County) has prepared this supplemental groundwater data report in accordance with part 9(g) of the referenced Consent Agreement and Rule 62-701.510(8)(a), F.A.C. This water quality sampling event was conducted at the Southeast County Landfill (SCLF) to address groundwater impacts of the surficial aquifer on the east side of the Phase II waste filled area.

Representative groundwater samples were collected on May 7-8, 2018 from eight (8) surficial aquifer monitoring wells identified as TH-20B, TH-66A, TH-67, TH-79, TH-80, TH-81, TH-82, and TH-83, for TDS, chloride, sodium, and ammonia. A representative groundwater sample from monitoring well TH-38B was unable to be collected due to low water table conditions in the surficial aquifer. Analyses was performed by our contracted laboratory, Advanced Environmental Laboratories, Inc. (AEL). A site map is provided depicting the well locations within the landfill property and the following paragraphs detail the specific findings from the groundwater laboratory results.

Surficial Aquifer Groundwater Monitoring Wells

pH

Each surficial aquifer monitoring well east of the Phase II waste filled area continued to exhibit pH below the Secondary Drinking Water Standard (SDWS) acceptable criteria of 6.5 to 8.5 pH units. The pH during this monitoring period ranged from 5.51 to 6.46 pH units and has historically been observed below this criteria. Background water quality recorded within the surficial aquifer prior to construction and operation of the landfill established the pH and has been consistent over the period of record.

Total Dissolved Solids (TDS)

Detection well TH-67 exhibited TDS at 880 mg/l during this water quality monitoring event exceeding the SDWS of 500 mg/l. Over the period of record, the County observed this pattern of increased groundwater parameters throughout seasonal low periods of the surficial aquifer and a decrease in parameter concentrations as the site reaches the seasonal high. A TDS value of 610 mg/l was exhibited in detection well TH-79 is the closest well to the source location. This location has slowly continued to naturally attenuate since implementation of corrective actions and has remained consistent since November 2017. The water quality in detection well TH-83 indicated TDS at 890 mg/l. Although this is a dramatic water quality change from February 2018, the County believes the dry conditions are contributing to the elevated levels of water quality parameters.

Prior to 2016, the monitoring wells at the site exhibited naturally occurring seasonal fluctuations of the surficial aquifer prior to any water quality changes. Even with the corrective actions functioning as designed, the County believes seasonal fluctuations shall continue in the near future as water quality continue to slowly attenuate below the respective standards.

Chloride

Concentrations of chloride were detected from 21 to 320 mg/l during this water quality monitoring event with the highest value exhibited in detection well TH-83. Water quality changes are not an indicator of a continuing source from the landfill, but as exhibited in the other monitoring wells, is due to the existing leachate discharge in 2016 and the seasonal low water level elevations. The remaining groundwater monitoring wells did not indicate chloride exceeding the SDWS during this monitoring event.

Sodium

Sodium was detected at each monitoring location below the Primary Drinking Water Standard (PDWS) of 160 mg/l during this water quality monitoring event. Monitoring locations TH-67,

TH-79, and TH-81, previously exceeding the PDWS, continue to exhibit substantial water quality improvements since implementation of the corrective actions. These improvements are seasonality driven; however, the sodium trend has continued to decrease over the last nine (9) months and believes this patterns shall continue in the future.

Groundwater Elevations and Flow Direction

Groundwater elevations were recorded prior to sampling the) surficial aquifer groundwater monitoring wells on May 7, 2018. A surficial aquifer groundwater contour diagram was prepared to evaluate the general direction of flow at and around the affected area. The direction of flow in the surficial aquifer continues toward the Mine Cut to the east and southeast directions and is consistent with the historical evaluations in this general area. The surface water elevation in Mine Cut 1 is the primary influence on the direction of flow in this area, and is clearly demonstrated by the elevation data recorded.

Conclusions

Water quality observed in surficial aquifer monitoring wells along the east side of Phase II exhibited minimal impacts from leachate originating from the landfill. Detection wells TH-67, and TH-79 exhibited TDS over the SDWS and detection well TH-83 exhibited exceedances of TDS and chloride due seasonal low water level elevation, but continue to exhibit overall substantial water quality improvements since 2016. All other parameters from the remaining monitoring wells except pH, were within their standards.

Ongoing evaluation and implementation of the corrective actions shall continue along the Phase II area of the landfill. Improved water quality generated from the combination of these remedial processes and natural attenuation of the surficial aquifer are supported by the representative groundwater data. Future seasonal groundwater fluctuation may result in the rebound of constituents of concern. This trend is expected for the near future; however, the County believes that the overall reduction in parameter concentrations will continue.

Should you have any questions, require any additional information, or would like to discuss the information provided within this submittal, please feel free to contact us at (813) 663-3222 or (813) 612-7757.

Respectfully submitted,

Michael D. Townsel 7/30/2018
Senior Hydrologist
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Public Utilities Department

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Section Manager – GM III
Environmental Services
Public Utilities Department

Enclosures

xc: Larry Ruiz, Landfill Manager, Solid Waste Management Division
Kimberly Byer, Director, Solid Waste Management Division
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Kelly Boatwright, Florida Department of Environmental Protection
Justin Chamberlain, P.G., Florida Department of Environmental Protection
Melissa Madden, Florida Department of Environmental Protection
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Clark Moore, Florida Department of Environmental Protection
Andy Schipfer, HC Environmental Protection Commission
Bob Curtis, P.E., SCS Engineers, Inc.

SOUTHEAST COUNTY LANDFILL
SURFICIAL AQUIFER GROUNDWATER CONTOUR MAP
FEBRUARY 7,2018

2016 AERIAL PHOTO

Legend

- Existing Monitoring Wells
- Direction Of Flow

Hillsborough County Florida
EST. 1834
SM

Southeast County Landfill
Supplemental Site Assessment Data
May 7-8, 2018

General Parameters Detected	Surficial Aquifer Wells									MCL Standard
	TH-20B	TH-38B	TH-66A	TH-67	TH-79	TH-80	TH-81	TH-82	TH-83	
well type	Background	Background	Detection	Detection	Detection	Detection	Detection	Background	Detection	
conductivity (umhos/cm) (field)	484.6	ND	333	1329	1102	777	644	370.9	1505	NS
dissolved oxygen (mg/l) (field)	1.81	ND	0.69	0.39	1.63	0.22	0.24	0.49	0.70	NS
ORP (mV)	11.4	ND	-124.8	-46.1	-95.4	11.8	-28.3	2.5	-16.1	NS
temperature (°C) (field)	23.10	ND	25.10	24.80	24.60	25.50	25.90	26.50	23.90	NS
turbidity (NTU) (field)	1.35	ND	0.78	2.71	3.28	0.98	3.07	2.85	1.63	NS
pH (SU) (field)	**5.54**	ND	**5.99**	**6.39**	**5.85**	**5.70**	**6.32**	**5.51**	**6.46**	(6.5 - 8.5)**
Field Parameters Detected										**MCL Standard**
total dissolved solids (mg/l)	360	ND	230	**880**	**610**	480	380	300	**890**	500**
chloride (mg/l)	130	ND	21	240	180	110	91	84	**320**	250**
ammonia nitrogen (mg/l as N)	1.3	ND	0.8	4.2	5	0.79 j4	1.8	5	15	NS
Metals Detected (mg/l)										**MCL Standard**
sodium	37	ND	11	110	94	56	62	13	140	160*

Notes: Reference Groundwater Guidance Concentrations, FDEP 2012

NS=No Standard

MCL=Maximum Contaminant Level (Groundwater Standards)

*= Primary Drinking Water Standards as per Cahpter 62-550.310, F.A.C.

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

5.54 Exceeds 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.

j4 = Estimated Result

ND = No data - TH38B was dry, unable to purge and sample

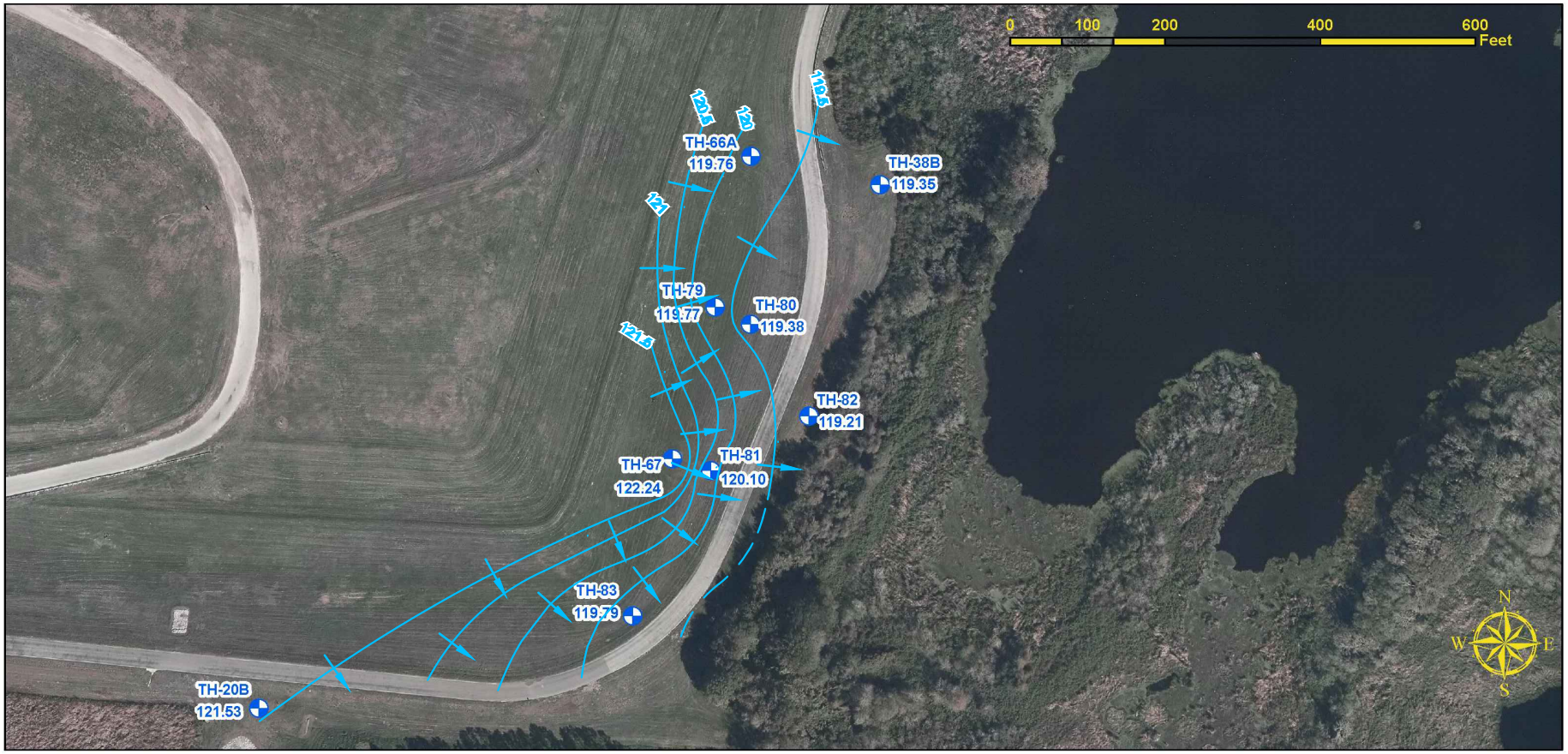
ug/l=micrograms per liter

mg/l=milligrams per liter

mV = millivolts

Southeast County Landfill
Surficial Aquifer Groundwater Elevations
May 7, 2018

Measuring Point I.D.	T.O.C. Elevations (NGVD)	W.L. B.T.O.C.	W.L. (NGVD)
TH-20B	132.57	11.04	121.53
TH-38B	131.81	12.46	119.35
TH-66A	130.66	10.90	119.76
TH-67	129.51	7.27	122.24
TH-79	129.60	9.83	119.77
TH-80	129.52	10.14	119.38
TH-81	130.26	10.16	120.10
TH-82	131.24	12.03	119.21
TH-83	130.23	10.44	119.79
NGVD	**= National Geodetic Vertical Datum**		
T.O.C.	**= Top of Casing**		
B.T.O.C.	**= Below Top of Casing**		
W.L.	**= Water Level**		



SOUTHEAST COUNTY LANDFILL
SURFICIAL AQUIFER GROUNDWATER
CONTOUR MAP
May 7, 2018

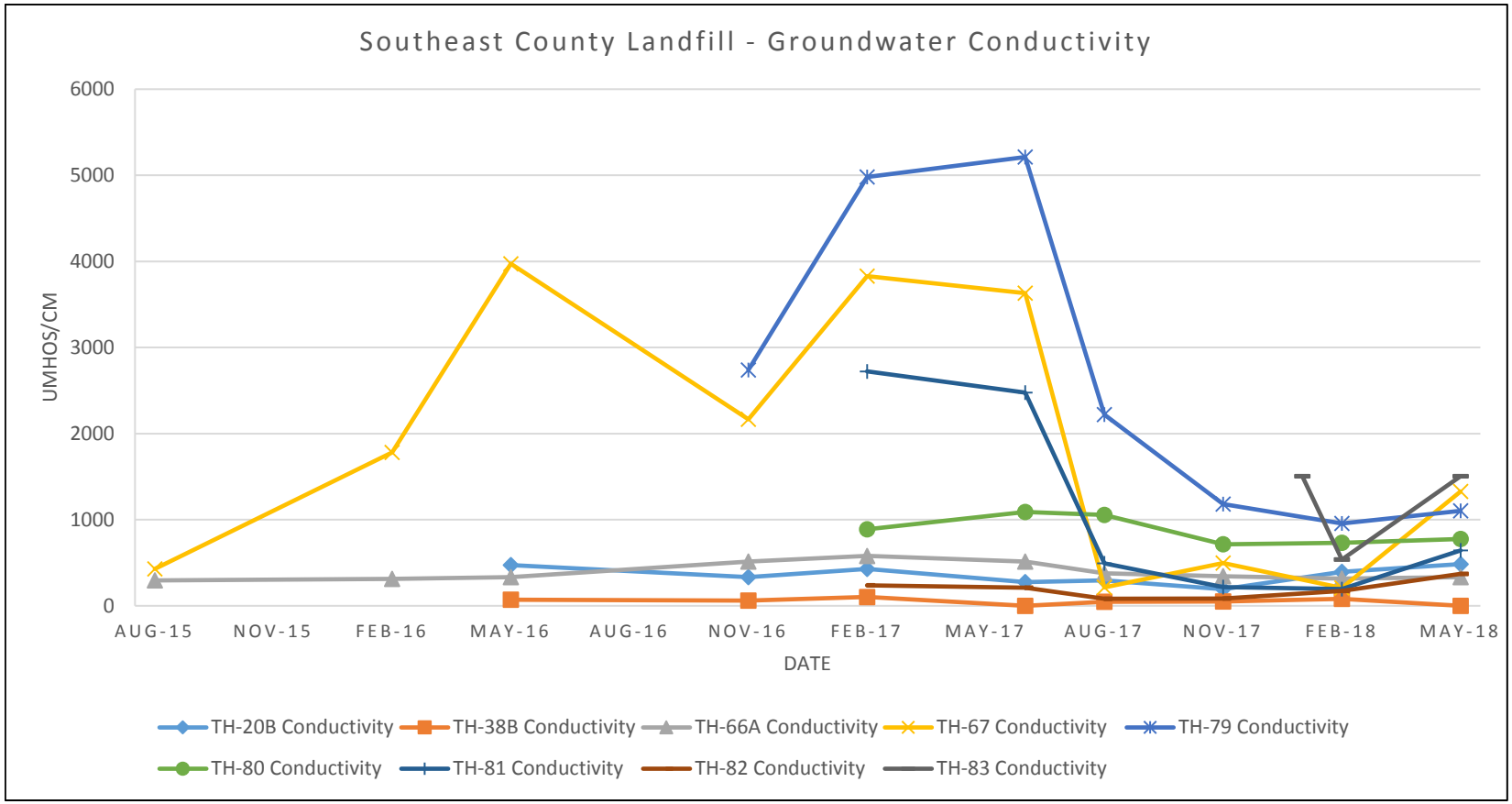
2016 AERIAL PHOTO

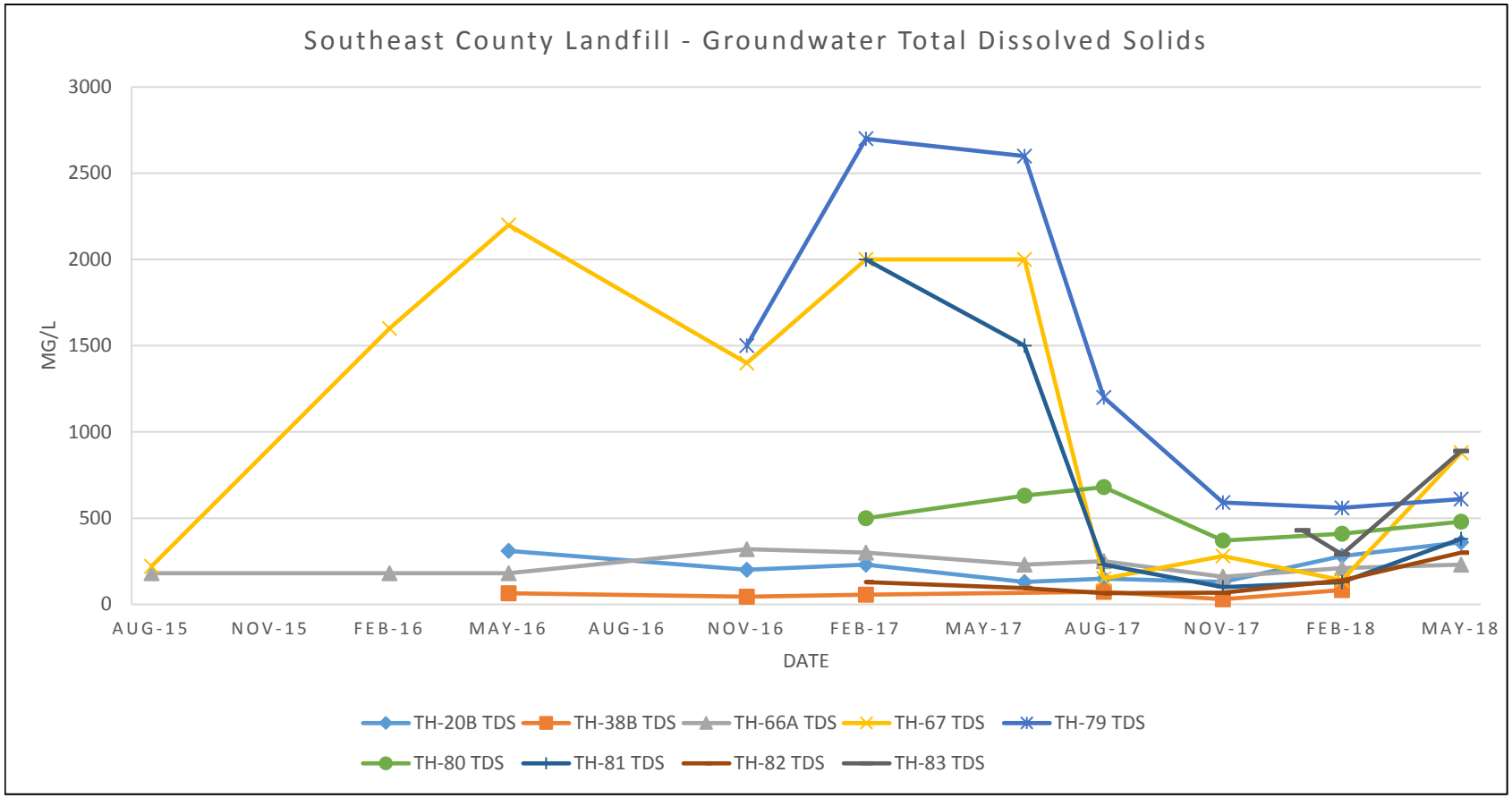
Legend

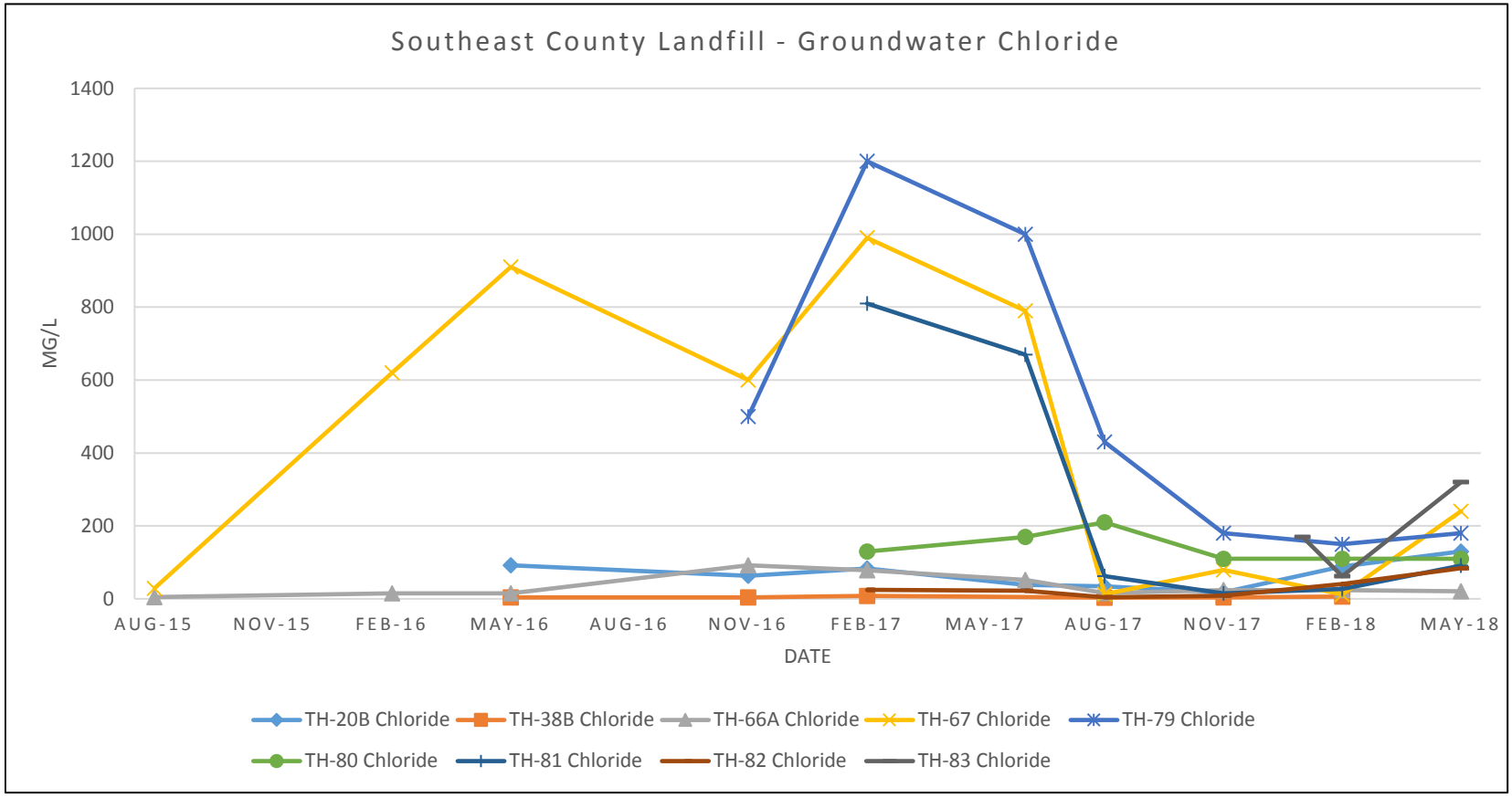
Existing Monitoring Wells

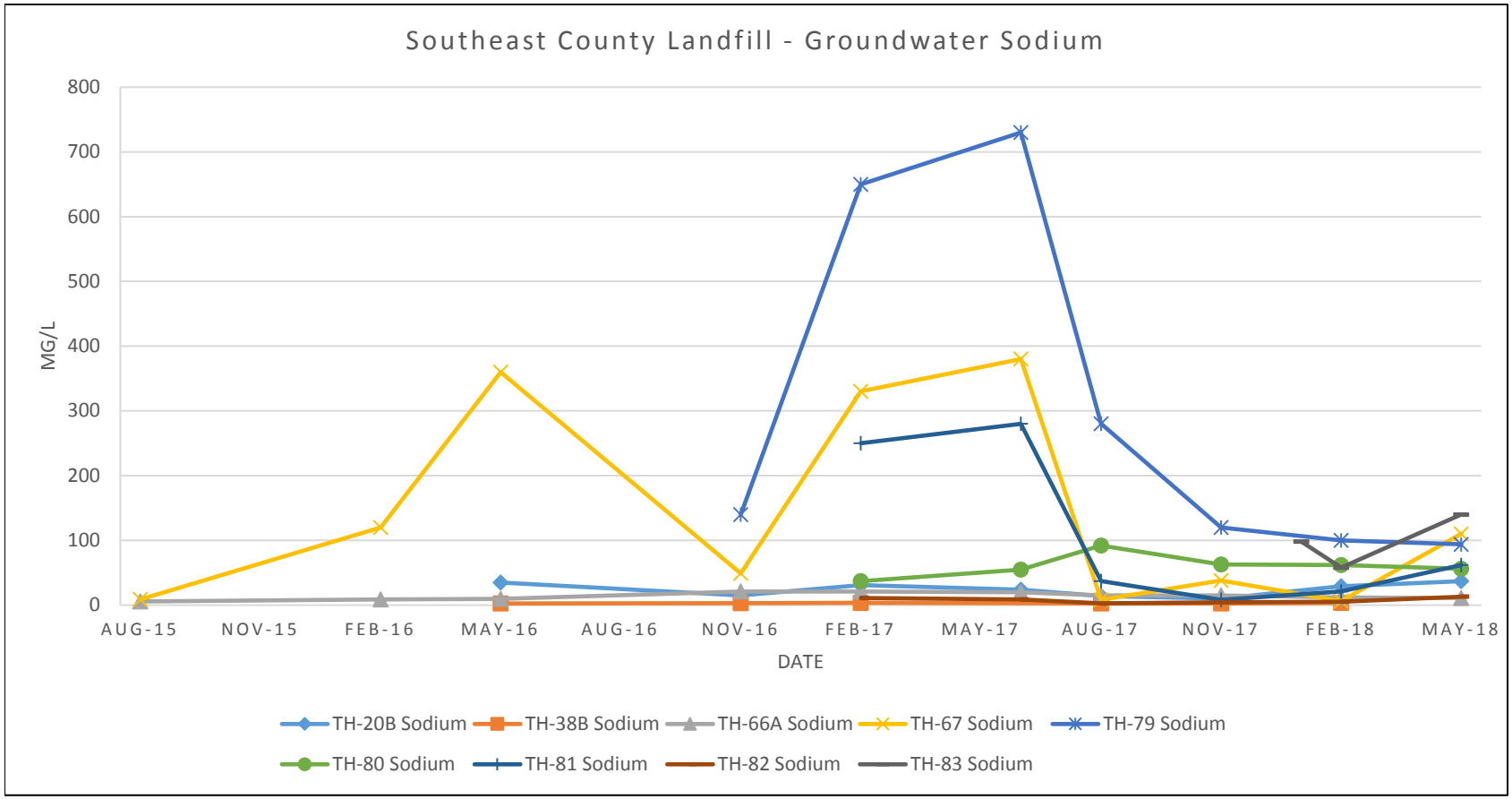
Direction Of Flow

Hillsborough County Florida


Southeast County Landfill - Groundwater Conductivity
6000
5000
4000
3000
2000
1000
0
UMHOS/CM
AUG-15
NOV-15
FEB-16
MAY-16
AUG-16
NOV-16
FEB-17
MAY-17
AUG-17
NOV-17
FEB-18
MAY-18
DATE
TH-20B Conductivity
TH-38B Conductivity
TH-66A Conductivity
TH-67 Conductivity
TH-79 Conductivity
TH-80 Conductivity
TH-81 Conductivity
TH-82 Conductivity
TH-83 Conductivity


Southeast County Landfill - Groundwater Total Dissolved Solids
3000
2500
2000
1500
1000
500
0
MG/L
AUG-15
NOV-15
FEB-16
MAY-16
AUG-16
NOV-16
FEB-17
MAY-17
AUG-17
NOV-17
FEB-18
MAY-18
DATE
TH-20B TDS
TH-38B TDS
TH-66A TDS
TH-67 TDS
TH-79 TDS
TH-80 TDS
TH-81 TDS
TH-82 TDS
TH-83 TDS


Southeast County Landfill - Groundwater Chloride
1400
1200
1000
800
600
400
200
0
MG/L
AUG-15
NOV-15
FEB-16
MAY-16
AUG-16
NOV-16
FEB-17
MAY-17
AUG-17
NOV-17
FEB-18
MAY-18
DATE
TH-20B Chloride
TH-38B Chloride
TH-66A Chloride
TH-67 Chloride
TH-79 Chloride
TH-80 Chloride
TH-81 Chloride
TH-82 Chloride
TH-83 Chloride


Southeast County Landfill - Groundwater Sodium
800
700
600
500
400
300
200
100
0
MG/L
AUG-15
NOV-15
FEB-16
MAY-16
AUG-16
NOV-16
FEB-17
MAY-17
AUG-17
NOV-17
FEB-18
MAY-18
DATE
TH-20B Sodium
TH-38B Sodium
TH-66A Sodium
TH-67 Sodium
TH-79 Sodium
TH-80 Sodium
TH-81 Sodium
TH-82 Sodium
TH-83 Sodium

Southeast County Landfill
Historical Supplemental Assessment Groundwater Data
TH-20B

Field Parameters	May-16	Nov-16	Feb-17	Jun-17	Aug-17	Nov-17	Feb-18	May-18	MCL Standard
conductivity (umhos/cm) (field)	473	332	427	275	294	192.9	394.8	484.6	**NS**
dissolved oxygen (mg/l) (field)	0.23	0.27	0.18	0.19	0.1	2	0.37	1.81	**NS**
ORP (mV)	-9.6	-31.2	-41.7	36.9	-34	-26.7	-2.4	11.4	**NS**
temperature (°C) (field)	23.47	25.47	23.77	23.92	25.51	25.90	22.90	23.10	**NS**
turbidity (NTU) (field)	2.39	4.14	3.77	1.37	2.82	4.3	2.99	1.35	**NS**
pH (field)	**5.67**	**5.43**	**5.82**	**5.52**	**5.72**	**5.95**	**5.68**	**5.54**	**(6.5 - 8.5)****
General Parameters									**MCL Standard**
total dissolved solids (mg/l)	310	200	230	130	150	130	280	360	**500****
chloride (mg/l)	92	63	83	38	34	18	89	130	**250****
ammonia nitrogen (mg/l as N)	2.2	1.5	1.2	1.2	1.7	1.3	1.2	1.3	**NS**
Metals Detected (mg/l)									**MCL Standard**
sodium	35	15	31	24	14	10	29	37	**160***

Note: Reference FDEP Groundwater Guidance Concentrations
NS = No Standard
MCL = Maximum Contaminant Level
* = Primary Drinking Water Standard
** = Secondary Drinking Water Standard
5.67 = Exceeds Standard
mV = millivolts
NTU = Nephelometric Turbidity Units
mg/l = milligrams per liter
NGVD = National Geodedic Vertical Datum

Southeast County Landfill
Historical Supplemental Assessment Groundwater Data
TH-38B

Field Parameters	May-16	Nov-16	Feb-17	May-17	Aug-17	Nov-17	Feb-18	May-18	MCL Standard
conductivity (umhos/cm) (field)	70	61	103	ND	46	49.6	79.2	ND	**NS**
dissolved oxygen (mg/l) (field)	1.5	0.76	2.02	ND	0.96	1.27	0.86	ND	**NS**
ORP (mV)	175.5	-22.9	6.2	ND	158	28.1	70.7	ND	**NS**
temperature (°C) (field)	24.78	25.37	23.93	ND	26.66	26.10	23.50	ND	**NS**
turbidity (NTU) (field)	8.75	16	16.5	ND	46.6	11.2	3.6	ND	**NS**
pH (field)	**4.95**	**4.73**	**5.45**	ND	**4.69**	**5.16**	**5.22**	ND	**(6.5 - 8.5)****
General Parameters									**MCL Standard**
total dissolved solids (mg/l)	65	45	57	ND	73	30	83	ND	**500****
chloride (mg/l)	4.2 i	4.2 i	8.2	ND	3.4 i	3.9 i	6.4	ND	**250****
ammonia nitrogen (mg/l as N)	0.79	0.66	1.4	ND	0.14	0.23	2.2	ND	**NS**
Metals Detected (mg/l)									**MCL Standard**
sodium	2.8	3	3.6	ND	2.7	2.8	3.4	ND	**160***

Note: Reference FDEP Groundwater Guidance Concentrations
NS = No Standard
MCL = Maximum Contaminant Level
ND = No Data, well was dry
* = Primary Drinking Water Standard
** = Secondary Drinking Water Standard
4.95 = Exceeds Standard
mV = millivolts
NTU = Nephelometric Turbidity Units
mg/l = milligrams per liter
NGVD = National Geodedic Vertical Datum

Southeast County Landfill
Historical Supplemental Assessment Groundwater Data
TH-66A

Field Parameters	Feb-16	Feb-16	May-16	Nov-16	Feb-17	May-17	Aug-17	Nov-17	Feb-18	May-18	MCL Standard
conductivity (umhos/cm) (field)	295	313	334	512	580	513	376	342.1	315.6	333	NS
dissolved oxygen (mg/l) (field)	0.38	0.5	0.65	0.33	0.64	1.13	0.09	1.93	0.46	0.69	NS
ORP (mV)	ND	ND	69.7	-3	-69.2	30.3	-102.9	-158.7	-43.6	-124.8	NS
temperature (°C) (field)	27.01	21.5	24.55	25.44	23.68	27.67	26.63	25.90	22.50	25.10	NS
turbidity (NTU) (field)	3.17	1.35	0.86	0.49	1.06	2.17	1.81	1.89	0.89	0.78	NS
pH (field)	**6.00**	**6.12**	**6.03**	**5.82**	**6.18**	**6.09**	**5.88**	**6.09**	**5.87**	**5.99**	(6.5 - 8.5)**
General Parameters											**MCL Standard**
total dissolved solids (mg/l)	180	180	180	320	300	230	250	160	210	230	500**
chloride (mg/l)	4.9 i	15	15	92	78	52	16	24	24	21	250**
ammonia nitrogen (mg/l as N)	0.22	0.12	0.34	0.44	0.5	0.57	0.02 u	0.88	0.09 i	0.8	NS
Metals Detected (mg/l)											**MCL Standard**
sodium	5.7	8.7	9.5	21	21	20	15	15	12	11	160*

Note: Reference FDEP Groundwater Guidance Concentrations
NS = No Standard
MCL = Maximum Contaminant Level
* = Primary Drinking Water Standard
** = Secondary Drinking Water Standard
6.00 = Exceeds Standard
mV = millivolts
NTU = Nephelometric Turbidity Units
mg/l = milligrams per liter
NGVD = National Geodedic Vertical Datum

Southeast County Landfill
Historical Supplemental Assessment Groundwater Data
TH-67

Field Parameters	Aug-15	Feb-16	May-16	Nov-16	Feb-17	May-17	Aug-17	Nov-17	Feb-18	May-18	MCL Standard
conductivity (umhos/cm) (field)	429	1780	3973	2166	3830	3630	215	497.4	207.7	1329	NS
dissolved oxygen (mg/l) (field)	0.55	1.05	0.42	3.04	2.13	0.26	0.31	2.06	5.97	0.39	NS
ORP (mV)	ND	ND	-7.9	-100	-41.7	-12.1	43.2	-9.5	103.7	-46.1	NS
temperature (°C) (field)	28.32	20.81	24.63	25.23	24.52	25.25	26.79	25.40	22.20	24.80	NS
turbidity (NTU) (field)	1.13	10.11	7.64	5.29	8.72	7.64	16.5	5.05	7.76	2.71	NS
pH (field)	**6.41**	**5.98**	**6.18**	**6.21**	**6.44**	**6.32**	**6.29**	**6.43**	6.54	**6.39**	**(6.5 - 8.5)****
General Parameters											**MCL Standard**
total dissolved solids (mg/l)	220	**1600**	**2200**	**1400**	**2000**	**2000**	150	280	140	**880**	**500****
chloride (mg/l)	29	**620**	**910**	**600**	**990**	**790**	13	79	12	240	**250****
ammonia nitrogen (mg/l as N)	0.12	1.5	36	11	14	14	0.02 u	1.5	0.025 u	4.2	NS
Metals Detected (mg/l)											**MCL Standard**
sodium	8.7	120	**360**	49	**330**	**380**	8.4	38	6.3	110	**160***

Note: Reference FDEP Groundwater Guidance Concentrations
NS = No Standard
MCL = Maximum Contaminant Level
* = Primary Drinking Water Standard
** = Secondary Drinking Water Standard
6.41 = Exceeds Standard
mV = millivolts
NTU = Nephelometric Turbidity Units
mg/l = milligrams per liter
NGVD = National Geodedic Vertical Datum

Southeast County Landfill
Historical Supplemental Assessment Groundwater Data
TH-79

General Parameters	Nov-16	Feb-17	May-17	Aug-17	Nov-17	Feb-18	May-18	MCL Standard
conductivity (umhos/cm) (field)	2740	4980	5212	2221	1183	956	1102	NS
dissolved oxygen (mg/l) (field)	0.25	1.73	1.23	1.67	4.39	3.33	1.63	NS
ORP (mV)	1.4	-20.3	-40.6	-30.8	-27.7	-15.0	-95.4	NS
temperature (°C) (field)	24.03	21.77	25.49	28.04	24.90	20.70	24.60	NS
turbidity (NTU) (field)	27.6	60.2	12	2.66	2.81	7.97	3.28	NS
pH (field)	**6.09**	**6.40**	**6.29**	**6.19**	**6.28**	**6.11**	**5.85**	**(6.5 - 8.5)****
Field Parameters								**MCL Standard**
total dissolved solids (mg/l)	**1500**	**2700**	**2600**	**1200**	**590**	**560**	**610**	**500****
chloride (mg/l)	500	**1200**	**1000**	**430**	180 j4	150	180	**250****
ammonia nitrogen (mg/l as N)	30	35	32	8.8	4.5	3.8	5	NS
Metals Detected (mg/l)								**MCL Standard**
sodium	140	**650**	**730**	**280**	120	100	94	**160***

Note: Reference FDEP Groundwater Guidance Concentrations
NS = No Standard
MCL = Maximum Contaminant Level
* = Primary Drinking Water Standard
** = Secondary Drinking Water Standard
6.09 = Exceeds Standard
mV = millivolts
NTU = Nephelometric Turbidity Units
mg/l = milligrams per liter
NGVD = National Geodedic Vertical Datum

Southeast County Landfill
Historical Groundwater Assessment Groundwater Data
TH-80

Field Parameters	Mar-17	May-17	Aug-17	Nov-17	Feb-18	May-18	MCL Standard
conductivity (umhos/cm) (field)	889	1090	1055	714	733	777	NS
dissolved oxygen (mg/l) (field)	0.38	0.16	0.05	3.24	0.79	0.22	NS
ORP (mV)	-10.7	34.2	-120.4	-100.7	13.8	11.8	NS
temperature (°C) (field)	24.49	25.26	25.17	25.70	24.90	25.50	NS
turbidity (NTU) (field)	16	10.6	37	17.3	2.49	0.98	NS
pH (field)	**5.67**	**5.63**	**5.69**	**5.95**	**5.69**	**5.70**	**(6.5 - 8.5)****
General Parameters							**MCL Standard**
total dissolved solids (mg/l)	500	**630**	**680**	370	410	480	**500****
chloride (mg/l)	130 j4	170	210	110	110	110	**250****
ammonia nitrogen (mg/l as N)	1.5	0.74	0.64	0.36	0.52	0.79 j4	NS
Metals Detected (mg/l)							**MCL Standard**
sodium	37	55	92	63	62	56	**160***

Note: Reference FDEP Groundwater Guidance Concentrations

NS = No Standard

MCL = Maximum Contaminant Level

* = Primary Drinking Water Standard

** = Secondary Drinking Water Standard

5.67 = Exceeds Standard

mV = millivolts

NTU = Nephelometric Turbidity Units

mg/l = milligrams per liter

NGVD = National Geodedic Vertical Datum

Southeast County Landfill
Historical Supplemental Assessment Groundwater Data
TH-81

Field Parameters	Mar-17	May-17	Aug-17	Nov-17	Feb-18	May-18	MCL Standard
conductivity (umhos/cm) (field)	2723	2476	493	216.8	194.9	644	NS
dissolved oxygen (mg/l) (field)	0.53	0.72	1.77	1.73	2.12	0.24	NS
ORP (mV)	24.9	17.7	68.5	76	71.7	-28.3	NS
temperature (°C) (field)	23.7	25.81	28.68	26.50	22.10	25.90	NS
turbidity (NTU) (field)	16.1	27.5	22.7	13	14.5	3.07	NS
pH (field)	**6.00**	**6.05**	**6.12**	**5.95**	**6.15**	**6.32**	**(6.5 - 8.5)****
General Parameters							**MCL Standard**
total dissolved solids (mg/l)	**2000**	**1500**	230	100	130	380	**500****
chloride (mg/l)	**810**	**670**	62	15	27	91	**250****
ammonia nitrogen (mg/l as N)	4.1	2.3	0.52	0.025 u	0.33	1.8	NS
Metals Detected (mg/l)							**MCL Standard**
sodium	**250**	**280**	37	8.2	21	62	**160***

Note: Reference FDEP Groundwater Guidance Concentrations

NS = No Standard

MCL = Maximum Contaminant Level

* = Primary Drinking Water Standard

** = Secondary Drinking Water Standard

6.00 = Exceeds Standard

mV = millivolts

NTU = Nephelometric Turbidity Units

mg/l = milligrams per liter

NGVD = National Geodedic Vertical Datum

Southeast County Landfill
Historical Supplemental Assessment Groundwater Data
TH-82

Field Parameters	Mar-17	Jun-17	Aug-17	Nov-17	Feb-18	May-18	MCL Standard
conductivity (umhos/cm) (field)	239	210	82	83	174.3	370.9	**NS**
dissolved oxygen (mg/l) (field)	0.23	0.70	4.11	1.28	1.17	0.49	**NS**
ORP (mV)	-147.1	41.9	177.2	-17.5	107.3	2.5	**NS**
temperature (°C) (field)	26.16	25.5	27.84	27.40	24.10	26.50	**NS**
turbidity (NTU) (field)	ND	33.4	34.3	27.4	4.56	2.85	**NS**
pH (field)	**5.69**	**5.48**	**4.73**	**5.30**	**5.07**	**5.51**	**(6.5 - 8.5)****
General Parameters							**MCL Standard**
total dissolved solids (mg/l)	130	94	65	68	140	300	**500****
chloride (mg/l)	25	22	4.3 i	8.4	41	84	**250****
ammonia nitrogen (mg/l as N)	4.9	4.7	0.02 u	1.4	0.69	5	**NS**
Metals Detected (mg/l)							**MCL Standard**
sodium	11	9	2.8	4.5	5.4	13	**160***

Note: Reference FDEP Groundwater Guidance Concentrations
NS = No Standard
MCL = Maximum Contaminant Level
* = Primary Drinking Water Standard
** = Secondary Drinking Water Standard
5.69 = Exceeds Standard
mV = millivolts
NTU = Nephelometric Turbidity Units
mg/l = milligrams per liter
NGVD = National Geodedic Vertical Datum

Southeast County Landfill
Historical Supplemental Assessment Groundwater Data
TH-83

Field Parameters	Jan-18	Feb-18	May-18	MCL Standard
conductivity (umhos/cm) (field)	1504	537	1505	**NS**
dissolved oxygen (mg/l) (field)	1.12	1.02	0.70	**NS**
ORP (mV)	6.7	10.6	-16.1	**NS**
temperature (°C) (field)	22.7	23.10	23.90	**NS**
turbidity (NTU) (field)	5.05	4.78	1.63	**NS**
pH (field)	6.90	6.55	**6.46**	**(6.5 - 8.5)****
General Parameters				**MCL Standard**
total dissolved solids (mg/l)	430	290	**890**	**500****
chloride (mg/l)	170	62	**320**	**250****
ammonia nitrogen (mg/l as N)	6.5	4.7	15	**NS**
Metals Detected (mg/l)				**MCL Standard**
sodium	98	58	140	**160***

Note: Reference FDEP Groundwater Guidance Concentrations
NS = No Standard
MCL = Maximum Contaminant Level
* = Primary Drinking Water Standard
** = Secondary Drinking Water Standard
6.46 = Exceeds Standard
mV = millivolts
NTU = Nephelometric Turbidity Units
mg/l = milligrams per liter
NGVD = National Geodedic Vertical Datum

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May 30, 2018

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

RE: Workorder: T1807839 SELF Supplemental Site Assess

Dear Michael Townsel:

Enclosed are the analytical results for sample(s) received by the laboratory between Monday, May 07, 2018 and Tuesday, May 08, 2018. 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 Parker - Project Manager
HParker@AELLab.com

Enclosures

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SAMPLE SUMMARY

Workorder: T1807839 SELF Supplemental Site Assess

Lab ID	Sample ID	Matrix	Date Collected	Date Received
T1807839001	Field Blank	Water	5/7/2018 09:48	5/7/2018 15:05
T1807839002	TH-66A	Water	5/7/2018 10:12	5/7/2018 15:05
T1807839003	TH-79	Water	5/7/2018 11:01	5/7/2018 15:05
T1807839004	TH-80	Water	5/7/2018 11:50	5/7/2018 15:05
T1807839005	TH-67	Water	5/7/2018 12:37	5/7/2018 15:05
T1807839006	TH-81	Water	5/7/2018 13:13	5/7/2018 15:05
T1807839007	TH-82	Water	5/7/2018 13:54	5/7/2018 15:05
T1807839008	Duplicate	Water	5/7/2018 00:00	5/7/2018 15:05
T1807839009	TH-83	Water	5/8/2018 08:54	5/8/2018 10:58
T1807839010	TH-20B	Water	5/8/2018 09:28	5/8/2018 10:58

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ANALYTICAL RESULTS

Workorder: T1807839 SELF Supplemental Site Assess

Lab ID: **T1807839001** Date Received: 05/07/18 15:05 Matrix: Water

Sample ID: **Field Blank** Date Collected: 05/07/18 09:48

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							
Sodium	**0.17**	**U**	**mg/L**	**1**	0.20	0.17	5/9/2018 18:14	T
WET CHEMISTRY								
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.025**	**U**	**mg/L**	**1**	0.10	0.025	5/14/2018 12:53	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**10**	**U**	**mg/L**	**1**	10	10	5/10/2018 10:28	T
Analysis Desc: Chlorides,SM4500-Cl-E,Water	Analytical Method: SM 4500-Cl-E							
Chloride	**2.6**	**U**	**mg/L**	**1**	5.0	2.6	5/15/2018 07:34	T

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ANALYTICAL RESULTS

Workorder: T1807839 SELF Supplemental Site Assess

Lab ID: **T1807839002** Date Received: 05/07/18 15:05 Matrix: Water

Sample ID: **TH-66A** Date Collected: 05/07/18 10:12

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	**333**		**umhos/cm**	**1**			5/7/2018 10:12	....
Dissolved Oxygen	**0.69**		**mg/L**	**1**			5/7/2018 10:12	....
ORP-2580BW	**-124.8**		**mV**	**1**			5/7/2018 10:12	....
Temperature	**25.1**		**°C**	**1**			5/7/2018 10:12	....
Turbidity	**0.78**		**NTU**	**1**			5/7/2018 10:12	....
pH	**5.99**		**SU**	**1**			5/7/2018 10:12	....
METALS								
Analysis Desc: SW846 6010B Analysis,Water	Preparation Method: SW-846 3010A Analytical Method: SW-846 6010							
Sodium	**11**		**mg/L**	**1**	0.20	0.17	5/9/2018 18:19	T
WET CHEMISTRY								
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.80**		**mg/L**	**1**	0.10	0.025	5/14/2018 12:53	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**230**		**mg/L**	**1**	10	10	5/10/2018 10:28	T
Analysis Desc: Chlorides,SM4500-Cl-E,Water	Analytical Method: SM 4500-Cl-E							
Chloride	**21**		**mg/L**	**1**	5.0	2.6	5/15/2018 07:36	T

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ANALYTICAL RESULTS

Workorder: T1807839 SELF Supplemental Site Assess

Lab ID: **T1807839003** Date Received: 05/07/18 15:05 Matrix: Water

Sample ID: **TH-79** Date Collected: 05/07/18 11:01

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	**1102**		**umhos/cm**	**1**			5/7/2018 11:01	....
Dissolved Oxygen	**1.63**		**mg/L**	**1**			5/7/2018 11:01	....
ORP-2580BW	**-95.4**		**mV**	**1**			5/7/2018 11:01	....
Temperature	**24.6**		**°C**	**1**			5/7/2018 11:01	....
Turbidity	**3.28**		**NTU**	**1**			5/7/2018 11:01	....
pH	**5.85**		**SU**	**1**			5/7/2018 11:01	....
METALS								
Analysis Desc: SW846 6010B Analysis,Water	Preparation Method: SW-846 3010A Analytical Method: SW-846 6010							
Sodium	**94**		**mg/L**	**1**	0.20	0.17	5/9/2018 18:22	T
WET CHEMISTRY								
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**5.0**		**mg/L**	**10**	1.0	0.25	5/14/2018 12:53	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**610**		**mg/L**	**1**	10	10	5/10/2018 10:28	T
Analysis Desc: Chlorides,SM4500-Cl-E,Water	Analytical Method: SM 4500-Cl-E							
Chloride	**180**		**mg/L**	**5**	25	13	5/15/2018 08:02	T

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ANALYTICAL RESULTS

Workorder: T1807839 SELF Supplemental Site Assess

Lab ID: **T1807839004** Date Received: 05/07/18 15:05 Matrix: Water

Sample ID: **TH-80** Date Collected: 05/07/18 11:50

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	**777**		**umhos/cm**	**1**			5/7/2018 11:50	....
Dissolved Oxygen	**0.22**		**mg/L**	**1**			5/7/2018 11:50	....
ORP-2580BW	**11.8**		**mV**	**1**			5/7/2018 11:50	....
Temperature	**25.5**		**°C**	**1**			5/7/2018 11:50	....
Turbidity	**0.98**		**NTU**	**1**			5/7/2018 11:50	....
pH	**5.7**		**SU**	**1**			5/7/2018 11:50	....
METALS								
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.79**	**J4**	**mg/L**	**1**	0.10	0.025	5/14/2018 12:53	T
Analysis Desc: SW846 6010B Analysis,Water	Preparation Method: SW-846 3010A Analytical Method: SW-846 6010							
Sodium	**56**		**mg/L**	**1**	0.20	0.17	5/9/2018 22:56	T
WET CHEMISTRY								
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**480**		**mg/L**	**1**	10	10	5/10/2018 10:28	T
Analysis Desc: Chlorides,SM4500-Cl-E,Water	Analytical Method: SM 4500-Cl-E							
Chloride	**110**		**mg/L**	**5**	25	13	5/15/2018 08:03	T

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ANALYTICAL RESULTS

Workorder: T1807839 SELF Supplemental Site Assess

Lab ID: **T1807839005** Date Received: 05/07/18 15:05 Matrix: Water

Sample ID: **TH-67** Date Collected: 05/07/18 12:37

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	**1329**		**umhos/cm**	**1**			5/7/2018 12:37	....
Dissolved Oxygen	**0.39**		**mg/L**	**1**			5/7/2018 12:37	....
ORP-2580BW	**-46.1**		**mV**	**1**			5/7/2018 12:37	....
Temperature	**24.8**		**°C**	**1**			5/7/2018 12:37	....
Turbidity	**2.71**		**NTU**	**1**			5/7/2018 12:37	....
pH	**6.39**		**SU**	**1**			5/7/2018 12:37	....
METALS								
Analysis Desc: SW846 6010B Analysis,Water	Preparation Method: SW-846 3010A Analytical Method: SW-846 6010							
Sodium	**110**		**mg/L**	**1**	0.20	0.17	5/9/2018 23:08	T
WET CHEMISTRY								
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**4.2**		**mg/L**	**5**	0.50	0.12	5/14/2018 12:53	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**880**		**mg/L**	**1**	10	10	5/10/2018 10:28	T
Analysis Desc: Chlorides,SM4500-Cl-E,Water	Analytical Method: SM 4500-Cl-E							
Chloride	**240**		**mg/L**	**5**	25	13	5/15/2018 08:03	T

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ANALYTICAL RESULTS

Workorder: T1807839 SELF Supplemental Site Assess

Lab ID: **T1807839006** Date Received: 05/07/18 15:05 Matrix: Water

Sample ID: **TH-81** Date Collected: 05/07/18 13:13

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	**644**		**umhos/cm**	**1**			5/7/2018 13:13	....
Dissolved Oxygen	**0.24**		**mg/L**	**1**			5/7/2018 13:13	....
ORP-2580BW	**-28.3**		**mV**	**1**			5/7/2018 13:13	....
Temperature	**25.9**		**°C**	**1**			5/7/2018 13:13	....
Turbidity	**3.07**		**NTU**	**1**			5/7/2018 13:13	....
pH	**6.32**		**SU**	**1**			5/7/2018 13:13	....
METALS								
Analysis Desc: SW846 6010B Analysis,Water	Preparation Method: SW-846 3010A Analytical Method: SW-846 6010							
Sodium	**62**		**mg/L**	**1**	0.20	0.17	5/9/2018 23:30	T
WET CHEMISTRY								
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**1.8**		**mg/L**	**1**	0.10	0.025	5/14/2018 12:53	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**380**		**mg/L**	**1**	10	10	5/10/2018 10:28	T
Analysis Desc: Chlorides,SM4500-Cl-E,Water	Analytical Method: SM 4500-Cl-E							
Chloride	**91**		**mg/L**	**1**	5.0	2.6	5/15/2018 07:38	T

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ANALYTICAL RESULTS

Workorder: T1807839 SELF Supplemental Site Assess

Lab ID: **T1807839007** Date Received: 05/07/18 15:05 Matrix: Water

Sample ID: **TH-82** Date Collected: 05/07/18 13:54

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	**370.9**		**umhos/cm**	**1**			5/7/2018 13:54	....
Dissolved Oxygen	**0.49**		**mg/L**	**1**			5/7/2018 13:54	....
ORP-2580BW	**2.5**		**mV**	**1**			5/7/2018 13:54	....
Temperature	**26.5**		**°C**	**1**			5/7/2018 13:54	....
Turbidity	**2.85**		**NTU**	**1**			5/7/2018 13:54	....
pH	**5.51**		**SU**	**1**			5/7/2018 13:54	....
METALS								
Analysis Desc: SW846 6010B Analysis,Water	Preparation Method: SW-846 3010A Analytical Method: SW-846 6010							
Sodium	**13**		**mg/L**	**1**	0.20	0.17	5/9/2018 23:34	T
WET CHEMISTRY								
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**5.0**		**mg/L**	**1**	0.10	0.025	5/14/2018 12:53	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**300**		**mg/L**	**1**	10	10	5/10/2018 10:28	T
Analysis Desc: Chlorides,SM4500-Cl-E,Water	Analytical Method: SM 4500-Cl-E							
Chloride	**84**		**mg/L**	**1**	5.0	2.6	5/15/2018 07:39	T

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ANALYTICAL RESULTS

Workorder: T1807839 SELF Supplemental Site Assess

Lab ID: **T1807839008** Date Received: 05/07/18 15:05 Matrix: Water

Sample ID: **Duplicate** Date Collected: 05/07/18 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							
Sodium	**100**		**mg/L**	**1**	0.20	0.17	5/9/2018 23:38	T
WET CHEMISTRY								
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**4.4**		**mg/L**	**1**	0.10	0.025	5/14/2018 12:53	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**640**		**mg/L**	**1**	10	10	5/10/2018 10:28	T
Analysis Desc: Chlorides,SM4500-Cl-E,Water	Analytical Method: SM 4500-Cl-E							
Chloride	**180**		**mg/L**	**5**	25	13	5/15/2018 08:04	T

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ANALYTICAL RESULTS

Workorder: T1807839 SELF Supplemental Site Assess

Lab ID: **T1807839009** Date Received: 05/08/18 10:58 Matrix: Water

Sample ID: **TH-83** Date Collected: 05/08/18 08:54

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	**1505**		**umhos/cm**	**1**			5/8/2018 08:54	....
Dissolved Oxygen	**0.7**		**mg/L**	**1**			5/8/2018 08:54	....
ORP-2580BW	**-16.1**		**mV**	**1**			5/8/2018 08:54	....
Temperature	**23.9**		**°C**	**1**			5/8/2018 08:54	....
Turbidity	**1.63**		**NTU**	**1**			5/8/2018 08:54	....
pH	**6.46**		**SU**	**1**			5/8/2018 08:54	....
METALS								
Analysis Desc: SW846 6010B Analysis,Water	Preparation Method: SW-846 3010A Analytical Method: SW-846 6010							
Sodium	**140**		**mg/L**	**1**	0.20	0.17	5/9/2018 23:41	T
WET CHEMISTRY								
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**15**		**mg/L**	**5**	0.50	0.12	5/21/2018 14:46	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**890**		**mg/L**	**1**	10	10	5/11/2018 09:21	T
Analysis Desc: Chlorides,SM4500-Cl-E,Water	Analytical Method: SM 4500-Cl-E							
Chloride	**320**		**mg/L**	**5**	25	13	5/15/2018 08:05	T

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ANALYTICAL RESULTS

Workorder: T1807839 SELF Supplemental Site Assess

Lab ID: **T1807839010** Date Received: 05/08/18 10:58 Matrix: Water

Sample ID: **TH-20B** Date Collected: 05/08/18 09:28

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	**484.6**		**umhos/cm**	**1**			5/8/2018 09:28	....
Dissolved Oxygen	**1.81**		**mg/L**	**1**			5/8/2018 09:28	....
ORP-2580BW	**11.4**		**mV**	**1**			5/8/2018 09:28	....
Temperature	**23.1**		**°C**	**1**			5/8/2018 09:28	....
Turbidity	**1.35**		**NTU**	**1**			5/8/2018 09:28	....
pH	**5.54**		**SU**	**1**			5/8/2018 09:28	....
METALS								
Analysis Desc: SW846 6010B Analysis,Water	Preparation Method: SW-846 3010A Analytical Method: SW-846 6010							
Sodium	**37**		**mg/L**	**1**	0.20	0.17	5/9/2018 23:45	T
WET CHEMISTRY								
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**1.3**		**mg/L**	**1**	0.10	0.025	5/21/2018 14:46	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**360**		**mg/L**	**1**	10	10	5/11/2018 09:21	T
Analysis Desc: Chlorides,SM4500-Cl-E,Water	Analytical Method: SM 4500-Cl-E							
Chloride	**130**		**mg/L**	**5**	25	13	5/15/2018 08:05	T

CERTIFICATE OF ANALYSIS

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Payments: P.O. Box 551580 Jacksonville, FL 32255-1580
Phone: (813)630-9616
Fax: (813)630-4327

ANALYTICAL RESULTS QUALIFIERS

Workorder: T1807839 SELF Supplemental Site Assess

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.
J4	Estimated Result

LAB QUALIFIERS

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

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QUALITY CONTROL DATA

Workorder: T1807839 SELF Supplemental Site Assess

QC Batch: DGMt/1664 Analysis Method: SW-846 6010
QC Batch Method: SW-846 3010A Prepared: 05/09/2018 12:45
Associated Lab Samples: T1807839001, T1807839002, T1807839003

METHOD BLANK: 2707375

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
METALS				
Sodium	mg/L	0.17	0.17	U

LABORATORY CONTROL SAMPLE: 2707376

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
METALS						
Sodium	mg/L	50	49	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2707377 2707378 Original: T1807163042

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
METALS											
Sodium	mg/L	89	50	130	130	91	88	75-125	1	20	

QC Batch: DGMt/1665 Analysis Method: SW-846 6010
QC Batch Method: SW-846 3010A Prepared: 05/09/2018 12:45
Associated Lab Samples: T1807839004, T1807839005, T1807839006, T1807839007, T1807839008, T1807839009, T1807839010

METHOD BLANK: 2707392

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
METALS				
Sodium	mg/L	0.17	0.17	U

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QUALITY CONTROL DATA

Workorder: T1807839 SELF Supplemental Site Assess

LABORATORY CONTROL SAMPLE: 2707393

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
METALS						
Sodium	mg/L	50	52	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2707394 2707395 Original: T1807839004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
METALS											
Sodium	mg/L	56	50	100	100	96	97	75-125	0	20	

QC Batch: WCAt/3523 Analysis Method: SM 2540 C

QC Batch Method: SM 2540 C Prepared:

Associated Lab Samples: T1807839001, T1807839002, T1807839003, T1807839004, T1807839005, T1807839006, T1807839007, T1807839008

METHOD BLANK: 2708421

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

LABORATORY CONTROL SAMPLE: 2708422

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	660	720	108	85-115	

SAMPLE DUPLICATE: 2708423 Original: T1807163054

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	150	170	9	10	

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QUALITY CONTROL DATA

Workorder: T1807839 SELF Supplemental Site Assess

QC Batch: WCAt/3552 Analysis Method: SM 2540 C
QC Batch Method: SM 2540 C Prepared:
Associated Lab Samples: T1807839009, T1807839010

METHOD BLANK: 2709811

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

LABORATORY CONTROL SAMPLE: 2709812

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	660	730	110	85-115	

SAMPLE DUPLICATE: 2709813 Original: T1807952002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	300	310	3	10	

QC Batch: WCAt/3589 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Prepared:
Associated Lab Samples: T1807839001, T1807839002

METHOD BLANK: 2711486

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Ammonia (N)	mg/L	0.025	0.025	U

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QUALITY CONTROL DATA

Workorder: T1807839 SELF Supplemental Site Assess

LABORATORY CONTROL SAMPLE: 2711487

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Ammonia (N)	mg/L	0.5	0.49	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2711490 2711491 Original: T1807809002

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	1.0	106	102	90-110	4	10	

QC Batch: WCAt/3590 Analysis Method: EPA 350.1

QC Batch Method: EPA 350.1 Prepared:

Associated Lab Samples: T1807839003, T1807839004, T1807839005, T1807839006, T1807839007, T1807839008

METHOD BLANK: 2711492

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Ammonia (N)	mg/L	0.025	0.025	U

LABORATORY CONTROL SAMPLE: 2711493

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Ammonia (N)	mg/L	0.5	0.49	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2711494 2711495 Original: T1807839004

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	0.79	1	1.7	1.7	91	88	90-110	2	10	

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QUALITY CONTROL DATA

Workorder: T1807839 SELF Supplemental Site Assess

QC Batch: WCAt/3611 Analysis Method: SM 4500-Cl-E
QC Batch Method: SM 4500-Cl-E Prepared:
Associated Lab Samples: T1807839001, T1807839002, T1807839003, T1807839004, T1807839005, T1807839006, T1807839007,

METHOD BLANK: 2712287

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Chloride	mg/L	2.6	2.6	U

LABORATORY CONTROL SAMPLE: 2712288

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Chloride	mg/L	50	51	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2712289 2712290 Original: T1807995001

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	21	50	71	71	99	99	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2712291 2712292 Original: T1807839001

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	0.46	50	51	51	101	102	90-110	1	10	

QC Batch: WCAt/3739 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Prepared:
Associated Lab Samples: T1807839009, T1807839010

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QUALITY CONTROL DATA

Workorder: T1807839 SELF Supplemental Site Assess

METHOD BLANK: 2718661

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Ammonia (N)	mg/L	0.025	0.025	U

LABORATORY CONTROL SAMPLE: 2718662

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Ammonia (N)	mg/L	0.5	0.49	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2718663 2718664 Original: F1802370002

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	0.18	1	1.2	1.2	102	100	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2718665 2718666 Original: T1807929001

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	0.09	1	1.1	1.1	101	102	90-110	1	10	

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: T1807839 SELF Supplemental Site Assess

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T1807839001	Field Blank	SW-846 3010A	DGMt/1664	SW-846 6010	ICPt/1434
T1807839002	TH-66A	SW-846 3010A	DGMt/1664	SW-846 6010	ICPt/1434
T1807839003	TH-79	SW-846 3010A	DGMt/1664	SW-846 6010	ICPt/1434
T1807839004	TH-80	SW-846 3010A	DGMt/1665	SW-846 6010	ICPt/1435
T1807839005	TH-67	SW-846 3010A	DGMt/1665	SW-846 6010	ICPt/1435
T1807839006	TH-81	SW-846 3010A	DGMt/1665	SW-846 6010	ICPt/1435
T1807839007	TH-82	SW-846 3010A	DGMt/1665	SW-846 6010	ICPt/1435
T1807839008	Duplicate	SW-846 3010A	DGMt/1665	SW-846 6010	ICPt/1435
T1807839009	TH-83	SW-846 3010A	DGMt/1665	SW-846 6010	ICPt/1435
T1807839010	TH-20B	SW-846 3010A	DGMt/1665	SW-846 6010	ICPt/1435
T1807839001	Field Blank			SM 2540 C	WCAt/3523
T1807839002	TH-66A			SM 2540 C	WCAt/3523
T1807839003	TH-79			SM 2540 C	WCAt/3523
T1807839004	TH-80			SM 2540 C	WCAt/3523
T1807839005	TH-67			SM 2540 C	WCAt/3523
T1807839006	TH-81			SM 2540 C	WCAt/3523
T1807839007	TH-82			SM 2540 C	WCAt/3523
T1807839008	Duplicate			SM 2540 C	WCAt/3523
T1807839009	TH-83			SM 2540 C	WCAt/3552
T1807839010	TH-20B			SM 2540 C	WCAt/3552
T1807839001	Field Blank			EPA 350.1	WCAt/3589
T1807839002	TH-66A			EPA 350.1	WCAt/3589
T1807839003	TH-79			EPA 350.1	WCAt/3590
T1807839004	TH-80			EPA 350.1	WCAt/3590
T1807839005	TH-67			EPA 350.1	WCAt/3590
T1807839006	TH-81			EPA 350.1	WCAt/3590
T1807839007	TH-82			EPA 350.1	WCAt/3590
T1807839008	Duplicate			EPA 350.1	WCAt/3590

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: T1807839 SELF Supplemental Site Assess

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T1807839001	Field Blank			SM 4500-Cl-E	WCAt/3611
T1807839002	TH-66A			SM 4500-Cl-E	WCAt/3611
T1807839003	TH-79			SM 4500-Cl-E	WCAt/3611
T1807839004	TH-80			SM 4500-Cl-E	WCAt/3611
T1807839005	TH-67			SM 4500-Cl-E	WCAt/3611
T1807839006	TH-81			SM 4500-Cl-E	WCAt/3611
T1807839007	TH-82			SM 4500-Cl-E	WCAt/3611
T1807839008	Duplicate			SM 4500-Cl-E	WCAt/3611
T1807839009	TH-83			SM 4500-Cl-E	WCAt/3611
T1807839010	TH-20B			SM 4500-Cl-E	WCAt/3611
T1807839009	TH-83			EPA 350.1	WCAt/3739
T1807839010	TH-20B			EPA 350.1	WCAt/3739
T1807839002	TH-66A	Field Measurements	FLDt/	Field Measurements	FLDt/
T1807839003	TH-79	Field Measurements	FLDt/	Field Measurements	FLDt/
T1807839004	TH-80	Field Measurements	FLDt/	Field Measurements	FLDt/
T1807839005	TH-67	Field Measurements	FLDt/	Field Measurements	FLDt/
T1807839006	TH-81	Field Measurements	FLDt/	Field Measurements	FLDt/
T1807839007	TH-82	Field Measurements	FLDt/	Field Measurements	FLDt/
T1807839009	TH-83	Field Measurements	FLDt/	Field Measurements	FLDt/
T1807839010	TH-20B	Field Measurements	FLDt/	Field Measurements	FLDt/

T1807859

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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: T. Aguilar J. Fuller
Turn Around Time: ☒ STANDARD ☐ RUSH
Page: 1 of: 1

Project Name: SELF Supplemental Site Assessment
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	ANALYSIS REQUIRED: Total Ammonia-N	Sodium	Chloride	TDS							LABORATORY I.D. NUMBER
	Field Blank	—	5/7/18	9:48	DI	3		X	X	X	X							001
	TH-66A	G	5/7/18	10:12	GW	3		X	X	X	X							002
	TH-79	G	5/7/18	11:01	GW	3		X	X	X	X							003
	TH-80	G	5/7/18	11:50	GW	3		X	X	X	X							004
	TH-67	G	5/7/18	12:37	GW	3		X	X	X	X							005
	TH-81	G	5/7/18	13:13	GW	3		X	X	X	X							006
	TH-82	G	5/7/18	13:54	GW	3		X	X	X	X							007
	Duplicate	G	5/7/18	—	GW	3		X	X	X	X							008

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 = (H2SO4) N = (HNO3) T = (Sodium Thiosulfate)

Received on Ice ☒ Yes ☐ No ☒ Temp taken from sample ☐ Temp from blank ☐ Where required, pH checked Temperature when received 10.1 (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		5/7/18	15:05		5/7/18	1505
2						
3						
4						

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

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

T1807839

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☐ **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
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Client Name: Hills. Co. Public Utilities
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Contact: Michael Townsel
Sampled By: T. Aguilar J. Fuller
Turn Around Time: ☑ STANDARD ☐ RUSH
Page: 1 of: 1

Project Name: SELF Supplemental Site Assessment
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: Total Ammonia-N	Sodium	Chloride	TDS							LABORATORY I.D. NUMBER
	TH-83	G	5/8/18	8:54	GW	3			X	X	X	X							009
	TH-20B	G	5/8/18	9:26	GW	3			X	X	X	X							010

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 = (H2SO4) N = (HNO3) T = (Sodium Thiosulfate)

Received on Ice ☑ Yes ☐ No ☐ Temp taken from sample ☐ Temp from blank ☐ Where required, pH checked Temperature when received 8.5 (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		5/8/18	10:54		5/8/18	10:58
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: Southeast County Landfill	SITE LOCATION: Lithia, Florida	
WELL NO: Field Blank	SAMPLE ID: Field Blank	DATE: 5/7/18

PURGING DATA

WELL DIAMETER (inches): N/A	TUBING DIAMETER (inches): N/A	WELL SCREEN INTERVAL DEPTH: N/A ft to N/A	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)

= (N/A feet – N/A feet) X 0.16 gallons/foot = N/A gallons

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

= N/A gallons + (N/A gallons/foot X N/A feet) + N/A gallons = N/A 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)
9:48											

N/A Field Blank 5/7/18

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: T. Aguilar J. Fuller	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 9:48	SAMPLING ENDED AT: 9:58
PUMP OR TUBING DEPTH IN WELL (feet): N/A	TUBING MATERIAL CODE: N/A	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	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)

REMARKS: **SEE C.O.C. FOR SAMPLE 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)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Southeast County Landfill	SITE LOCATION: Lithia, Florida	
WELL NO: TH-66A	SAMPLE ID: TH-66A	DATE: 5/7/18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/2	WELL SCREEN INTERVAL DEPTH: 5.37 ft to 15.37 ft	STATIC DEPTH TO WATER (feet): 10.90	PURGE PUMP TYPE OR BAILER: BP

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

= (15.37 feet – 10.90 feet) X 0.16 gallons/foot = 0.72 gallons

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

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

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 14.37	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 14.37	PURGING INITIATED AT: 9:39	PURGING ENDED AT: 10:12	TOTAL VOLUME PURGED (gallons): 1.29

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)
9:54	0.75	0.75	0.05	12.03	5.96	24.9	330.5	0.84	2.00	Clear	None
10:00	0.18	0.93	0.03	11.98	5.97	25.0	333.1	0.66	1.00	Clear	None
10:06	0.18	1.11	0.03	11.98	5.99	25.2	334.2	0.61	1.25	Clear	None
10:12	0.18	1.29	0.03	12.10	5.99	25.1	333.0	0.69	0.78	Clear	None

C.A 5/7/18

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): T. Aguilar J. Fuller	SAMPLING INITIATED AT: 10:12	SAMPLING ENDED AT: 10:22 5/7/18
PUMP OR TUBING DEPTH IN WELL (feet): 14.37	TUBING MATERIAL CODE: T	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	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)
							ORP: 10:12 (-124.8)		

REMARKS: **SEE C.O.C. FOR SAMPLE ANALYSIS** **ORP:** 9:54 (-101.7) 10:00 (-112.9) 10:06 (-119.5)

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)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Southeast County Landfill	SITE LOCATION: Lithia, Florida	
WELL NO: TH-79	SAMPLE ID: TH-79	DATE: 5/7/18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/2	WELL SCREEN INTERVAL DEPTH: 7.80 ft to 17.80 Ft	STATIC DEPTH TO WATER (feet): 9.83	PURGE PUMP TYPE OR BAILER: BP

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

= (17.80 feet – 9.83 feet) X 0.16 gallons/foot = 1.28 gallons

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

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

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 16.80	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 16.80	PURGING INITIATED AT: 10:31	PURGING ENDED AT: 11:01	TOTAL VOLUME PURGED (gallons): 1.5

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)
10:57	1.3	1.3	0.05	10.38	5.85	24.6	1099	0.70	3.63	Clear	None
10:59	0.1	1.4	0.05	10.38	5.85	24.6	1101	0.69	2.94	Clear	None
11:01	0.1	1.5	0.05	10.38	5.85	24.6	1102	1.63	3.28	Clear	None

CA 5/7/18

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: T. Aguilar J. Fuller	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 11:01	SAMPLING ENDED AT: 11:11
PUMP OR TUBING DEPTH IN WELL (feet): 16.80	TUBING MATERIAL CODE: T	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: _____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	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			

REMARKS: **SEE C.O.C. FOR SAMPLE ANALYSIS** **ORP:** 10:57 (-99.6), 10:59 (-102.5), 11:01 (-95.4)

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)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Southeast County Landfill	SITE LOCATION: Lithia, Florida	
WELL NO: TH-80	SAMPLE ID: TH-80	DATE: 5/17/18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/2	WELL SCREEN INTERVAL DEPTH: 8.65 ft to 18.65 Ft	STATIC DEPTH TO WATER (feet): 10.14	PURGE PUMP TYPE OR BAILER: BP

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

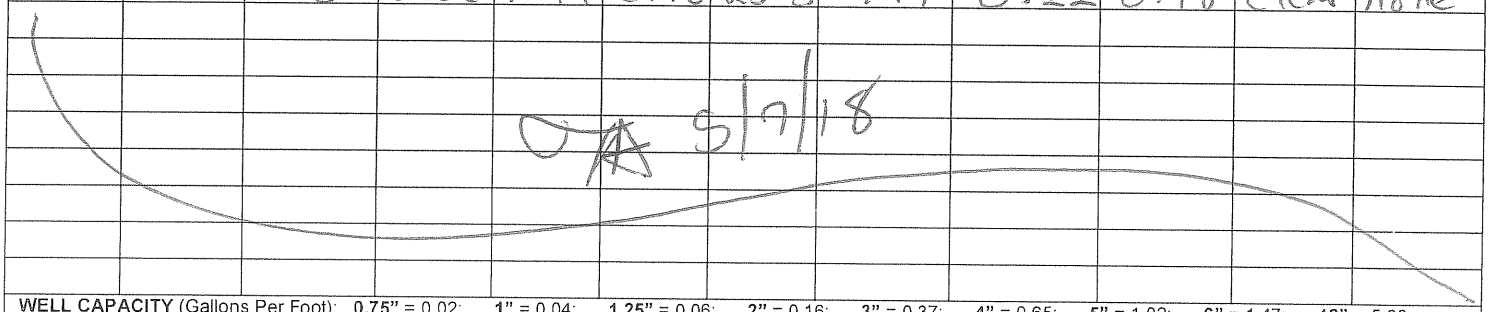
= (18.65 feet – 10.14 feet) X 0.16 gallons/foot = 1.36 gallons

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

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

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 17.65	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 17.65	PURGING INITIATED AT: 11:18	PURGING ENDED AT: 11:50	TOTAL VOLUME PURGED (gallons): 1.6

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)
11:46	1.4	1.4	0.05	10.19	5.69	25.5	777	0.24	1.35	Clear	None
11:48	0.1	1.5	0.05	10.19	5.69	25.5	777	0.23	1.08	Clear	None
11:50	0.1	1.6	0.05	10.19	5.70	25.5	777	0.22	0.98	Clear	None



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: T. Aguilar J. Fuller	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 11:50	SAMPLING ENDED AT: 12:00
PUMP OR TUBING DEPTH IN WELL (feet): 17.65	TUBING MATERIAL CODE: T	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: _____ µm

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N) (replaced) 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)

REMARKS: **SEE C.O.C. FOR SAMPLE ANALYSIS** **ORP:** 11:46 (15.5), 11:48 (13.9), 11:50 (11.8)

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)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Southeast County Landfill	SITE LOCATION: Lithia, Florida	
WELL NO: TH-67	SAMPLE ID: TH-67	DATE: 5/7/18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 0.5	WELL SCREEN INTERVAL DEPTH: 5.25 ft to 15.25 ft	STATIC DEPTH TO WATER (feet): 7.27	PURGE PUMP TYPE OR BAILER: BP

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

= (15.25 feet – 7.27 feet) X 0.16 gallons/foot = 1.28 gallons

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

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

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 14.25	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 14.25	PURGING INITIATED AT: 12:07	PURGING ENDED AT: 12:37	TOTAL VOLUME PURGED (gallons): 1.5

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)
12:33	1.3	1.3	0.05	9.65	6.41	24.8	1342	0.43	3.14	Clear	None
12:35	0.1	1.4	0.05	9.65	6.40	24.8	1338	0.42	2.54	Clear	None
12:37	0.1	1.5	0.05	9.65	6.39	24.8	1329	0.39	2.71	Clear	None
				JTA	5/7/18						

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: T. Aguilar J. Fuller	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 12:37	SAMPLING ENDED AT: 12:47
PUMP OR TUBING DEPTH IN WELL (feet): 14.25	TUBING MATERIAL CODE: T	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	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)

REMARKS: **SEE C.O.C. FOR SAMPLE ANALYSIS** **ORP:** 12:33 (-46.4), 12:35 (-46.5), 12:37 (-46.1)

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

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Southeast County Landfill	SITE LOCATION: Lithia, Florida	
WELL NO: TH-81	SAMPLE ID: TH-81	DATE: 5/7/18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/2	WELL SCREEN INTERVAL DEPTH: 6.94 ft to 16.94 Ft	STATIC DEPTH TO WATER (feet): 10.16	PURGE PUMP TYPE OR BAILER: BP

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

= (16.94 feet – 10.16 feet) X 0.16 gallons/foot = 1.09 gallons

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

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

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15.94	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15.94	PURGING INITIATED AT: 12:47	PURGING ENDED AT: 13:13	TOTAL VOLUME PURGED (gallons): 1.3

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)
13:09	1.1	1.1	0.05	10.32	6.30	26.0	642	0.28	3.69	Clear	None
13:11	0.1	1.2	0.05	10.32	6.31	25.9	643	0.25	3.14	Clear	None
13:13	0.1	1.3	0.05	10.32	6.32	25.9	644	0.24	3.07	Clear	None

JA 5/7/18

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: T. Aguilar J. Fuller	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 13:13	SAMPLING ENDED AT: 13:23
PUMP OR TUBING DEPTH IN WELL (feet): 15.94	TUBING MATERIAL CODE: T	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N) (replaced) 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)

REMARKS: **SEE C.O.C. FOR SAMPLE ANALYSIS** **ORP:** 13:09 (-25.3), 13:11 (-28.5), 13:13 (-28.3)

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)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Southeast County Landfill	SITE LOCATION: Lithia, Florida	
WELL NO: TH-82	SAMPLE ID: TH-82	DATE: 5/7/18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/2	WELL SCREEN INTERVAL DEPTH: 8.94 ft to 18.94 Ft	STATIC DEPTH TO WATER (feet): 12.03	PURGE PUMP TYPE OR BAILER: BP

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

= (18.94 feet – 12.03 feet) X 0.16 gallons/foot = 1.11 gallons

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

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

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 17.94	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 17.94	PURGING INITIATED AT: 13:27	PURGING ENDED AT: 13:54	TOTAL VOLUME PURGED (gallons): 1.35

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)
13:50	1.15	1.15	0.05	12.10	5.51	26.7	361.9	0.59	3.57	Clear	None
13:52	0.1	1.25	0.05	12.10	5.52	26.6	366.9	0.52	3.32	Clear	None
13:54	0.1	1.35	0.05	12.10	5.51	26.5	370.9	0.49	2.85	Clear	None

DTA 5/7/18

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: T. Aguilar J. Fuller	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 13:54	SAMPLING ENDED AT: 14:04

PUMP OR TUBING DEPTH IN WELL (feet): 17.94	TUBING MATERIAL CODE: T	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N) (replaced) 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)

REMARKS: **SEE C.O.C. FOR SAMPLE ANALYSIS** **ORP:** 13:50(6.9), 13:52(5.2), 13:54(2.9)

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)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Southeast County Landfill	SITE LOCATION: Lithia, Florida	
WELL NO: DUPLICATE	SAMPLE ID: DUPLICATE	DATE: 5/7/18

PURGING DATA

WELL DIAMETER (inches): N/A	TUBING DIAMETER (inches): N/A	WELL SCREEN INTERVAL DEPTH: N/A ft to N/A	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)

= (N/A feet – N/A feet) X 0.16 gallons/foot = N/A gallons

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

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

Duplicate 5/7/18 OA

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: T. Aguilar J. Fuller	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)	TUBING Y (N) (replaced)	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)

REMARKS: **SEE C.O.C. FOR SAMPLE 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)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Southeast County Landfill	SITE LOCATION: Lithia, Florida	
WELL NO: TH-83	SAMPLE ID: TH-83	DATE: 5/8/18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/2	WELL SCREEN INTERVAL DEPTH: 5.47 ft to 15.47 Ft	STATIC DEPTH TO WATER (feet): 10.47	PURGE PUMP TYPE OR BAILER: BP

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

= (15.47 feet − 10.47 feet) X 0.16 gallons/foot = 0.8 gallons

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

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

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 14.47	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 14.47	PURGING INITIATED AT: 8:42	PURGING ENDED AT: 8:54	TOTAL VOLUME PURGED (gallons): 1.2

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)
8:50	0.8	0.8	0.1	10.48	6.49	23.8	1544	1.31	1.51	Clear	None
8:52	0.2	1.0	0.1	10.48	6.47	23.9	1519	0.85	1.35	Clear	None
8:54	0.2	1.2	0.1	10.48	6.46	23.9	1505	0.70	1.03	Clear	None

OA 5/8/18

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

OA 5/9/18

SAMPLED BY (PRINT) / AFFILIATION: T. Aguilar J. Fuller	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 8:54	SAMPLING ENDED AT: 9:01
PUMP OR TUBING DEPTH IN WELL (feet): 14.47	TUBING MATERIAL CODE: T	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N) (replaced) 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)

REMARKS: **SEE C.O.C. FOR SAMPLE ANALYSIS** **ORP:** 8:50 (-12.8), 8:52 (-15.4), 8:54 (-16.1)

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)

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Southeast County Landfill	SITE LOCATION: Lithia, Florida	
WELL NO: TH-20B	SAMPLE ID: TH-20B	DATE: 5/8/18

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/2	WELL SCREEN INTERVAL DEPTH: 12.80 ft to 22.80 ft	STATIC DEPTH TO WATER (feet): 11.14	PURGE PUMP TYPE OR BAILER: BP

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

gallons = (22.8 feet – 11.14 feet) X 0.16 gallons/foot = 1.87

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

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

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 21.8	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 21.8	PURGING INITIATED AT: 9:08	PURGING ENDED AT: 9:28	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)
9:24	1.92	1.92	0.12	11.84	5.52	23.1	482.7	1.96	2.07	Clear	None
9:26	0.24	2.16	0.12	11.84	5.53	23.1	483.9	1.90	1.40	Clear	None
9:28	0.24	2.4	0.12	11.84	5.54	23.1	484.6	1.81	1.35	Clear	None

N/A 5/8/18

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: T. Aguilar J. Fuller	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 9:28	SAMPLING ENDED AT: 9:33
PUMP OR TUBING DEPTH IN WELL (feet): 21.8	TUBING MATERIAL CODE: T	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	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)

REMARKS: **SEE C.O.C. FOR SAMPLE ANALYSIS** **ORP:** 9:24 (15.5), 9:26 (13.6), 9:28 (11.4)

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)

Advanced Environmental Laboratories, Inc.

6681 Southpoint Parkway
Jacksonville, Florida 32216
Office (904) 363-9350
Fax (904) 363-9354

Project No.: T1807839

Client Name: Hillsborough County Public Utilities

ProjectID: SELF Supplemental Site Assess

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.

Analysis: All holding times were met.

III. Method

Analysis: EPA 350.1

Preparation: None

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

A. Calibration: All acceptance criteria were met.

B. Blanks: All acceptance criteria were met.

C. Duplicates: All acceptance criteria were met.

D. Spikes: The matrix spike duplicate recovery of ammonia for T1807839004 (MSD 88%) was outside control criteria. Recoveries in the Laboratory Control Sample (LCS), Matrix Spike (MS) and %RPD were acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential low bias in this matrix for this analyte. The affected sample has been qualified to indicate matrix interference. Acceptable criteria is 90-110%.

E. Serial Diluion: All acceptance criteria were met.

F. Samples: Sample analyses proceeded normally.

G. Other: