

PUBLIC UTILITIES PO Box 1110 Tampa, FL 33601-1110

Lesley "Les" Miller, Jr. Sandra L. Murman Kimberly Overman Mariella Smith Stacy R. White **COUNTY ADMINISTRATOR** Michael S. Merrill **COUNTY ATTORNEY**

February 5, 2019

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

CHIEF DEVELOPMENT & INFRASTRUCTURE SERVICES ADMINISTRATOR Lucia E. Garsys

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

Dear Mr. Tafuni:

On behalf of the Hillsborough County Transportation and Utility Services, Solid Waste Management Division (SWMD), 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 by on November 8-9, 2018 from each of the nine (9) surficial aquifer monitoring wells identified as TH-20B, TH-38B, TH-66A, TH-67, TH-79, TH-80, TH-81, TH-82, and TH-83 for TDS, chloride, sodium, and ammonia. Laboratory 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.

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Surficial Aquifer Groundwater Monitoring Wells

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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 4.71 to 6.28 pH units. Background water quality records prior to construction and operation of the landfill established naturally occurring pH within the surficial aquifer below the SDWS.

Total Dissolved Solids (TDS)

Each of the detection and compliance surficial aquifer monitoring wells well exhibited TDS below the SDWS of 500 mg/l during this monitoring event ranging from 84 to 470 mg/l. A pattern of elevated groundwater parameters throughout seasonal low periods and a decrease in parameter concentrations as the site reaches the seasonal high has been consistent over the period of record as the corrective actions continue to be implemented. Monitoring wells TH-67 and TH-79 are identified as the closest source locations during the initial water quality changes in February 2016 and continue to exhibit a significant reduction in TDS over the period of record. Detection well TH-83 continues to exhibit an overall downward trend for TDS as the corrective actions of groundwater.

Seasonal fluctuations within the surficial aquifer prior to any water quality changes exhibited in the February 2016 monitoring event have been well documented by the County. Tabulated data and graphical representation dating back to 2010 for TH-67 is provided within this submittal to demonstrate the seasonality exhibited prior to impacts of groundwater in the area east of Phase II. Even with the corrective actions functioning as designed, the County believes these seasonal fluctuations shall continue as water quality slowly attenuates to pre-2016 levels.

Chloride

Concentrations of chloride were detected from 3.6 to 130 mg/l during this water quality monitoring event below the SDWS of 150 mg/l. Water quality changes since corrective actions continue to correspond with seasonal high and seasonal low water level elevations. Data collected to date has scientifically exemplified improved water quality since corrective actions were initiated and exhibits the continued downward trend in the concentrations of chloride.

<u>Sodium</u>

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 continue to exhibit substantial water quality improvements since

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implementation of the corrective actions and are seasonality driven as previously demonstrated by the data. However, the overall downward trend for sodium since May and August of 2017 continue to attenuate as demonstrated by the effectiveness of the corrective actions.

Groundwater Elevations and Flow Direction

Groundwater elevations were recorded prior to sampling the surficial aquifer groundwater monitoring wells on November 8, 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.

Geophysical Survey

The SWMD contracted SCS Engineers, Inc. and their subcontractor Geoview, Inc. to conduct an updated geophysical survey between the southeast corner of the Phase II waste filled landfill area and the landfill access road to compare current bulk soil conductivity to previous geophysical studies of the same area from 2016 and 2017. Changes exhibited in the conductivity of the surficial aquifer from each survey indicates lower response values over the period of record indicating an improvement in water quality since February 2016. Each survey continues to support the findings of quarterly laboratory data analyzed from the groundwater samples collected and the effectiveness of the County's corrective actions. A copy of the November 2, 2018 survey is attached as part of this submittal.

Conclusions

Water quality in surficial aquifer monitoring wells along the east side of Phase II continues to demonstrate improvements since the corrective actions were implemented in early 2017. Detection wells TH-67, TH-79, and TH-83 are the closest monitoring points to the source area exhibited TDS and chloride within their SDWS and sodium within the PDWS. The only SDWS exceedance at the site continues to be pH; however, it has been well documented to be naturally occurring within the aquifer prior to landfill operation activities in the mid 1980's.

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 and the subsurface conductivity surveys. As depicted in the seasonality trends of the groundwater, future seasonal fluctuation may result in the slight rebound of constituents of concern. This trend is expected for the near future; however, the County believes that the Mr. Steve Tafuni February 5, 2019 Page 4 of 4

overall reduction in parameter concentrations shall continue. The County believes a discussion with the Department is warranted on reduction of groundwater monitoring frequency as part of this Consent Agreement. Implementation of the corrective actions shall continue within the Phase II area of the landfill.

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

Senior Hydrologist Environmental Services Public Utilities Department

Jeffry Greenwell, P.E.

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 Joe O'Neill, Professional Engineer II, Solid Waste Management Division Kelly Boatwright, Florida Department of Environmental Protection Justin Chamberlain, P.G., Florida Department of Environmental Protection Melissa Madden, Florida Department of Environmental Protection Ken Guilbeault, P.G., Project Director, SCS Engineers, Inc. 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



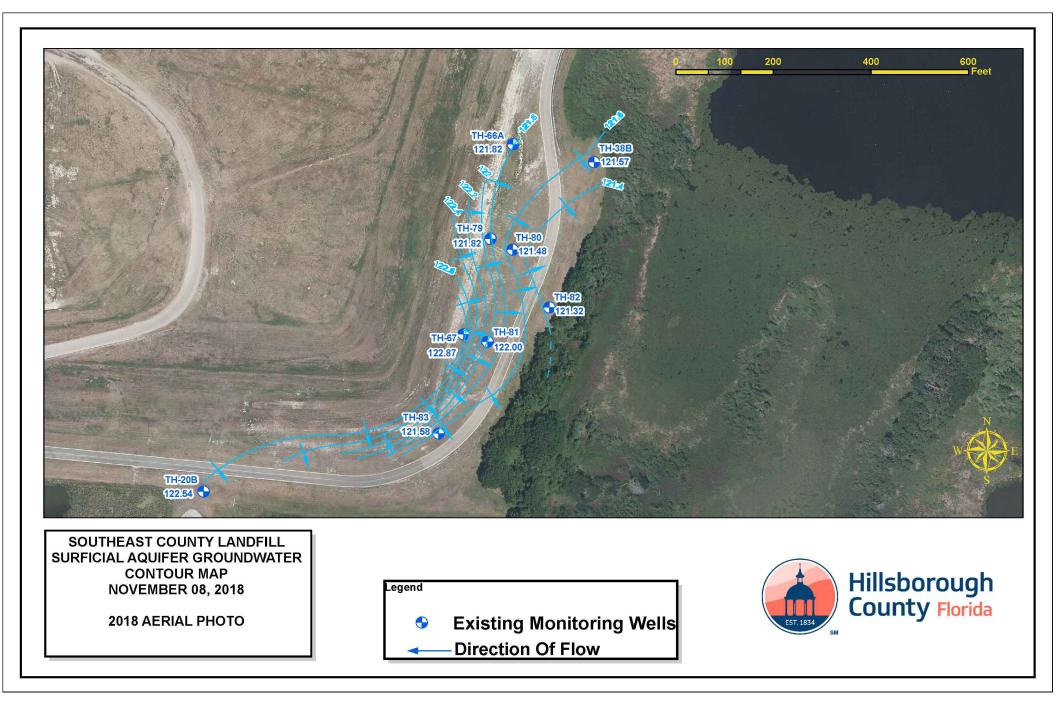
Hillsborough County Florida

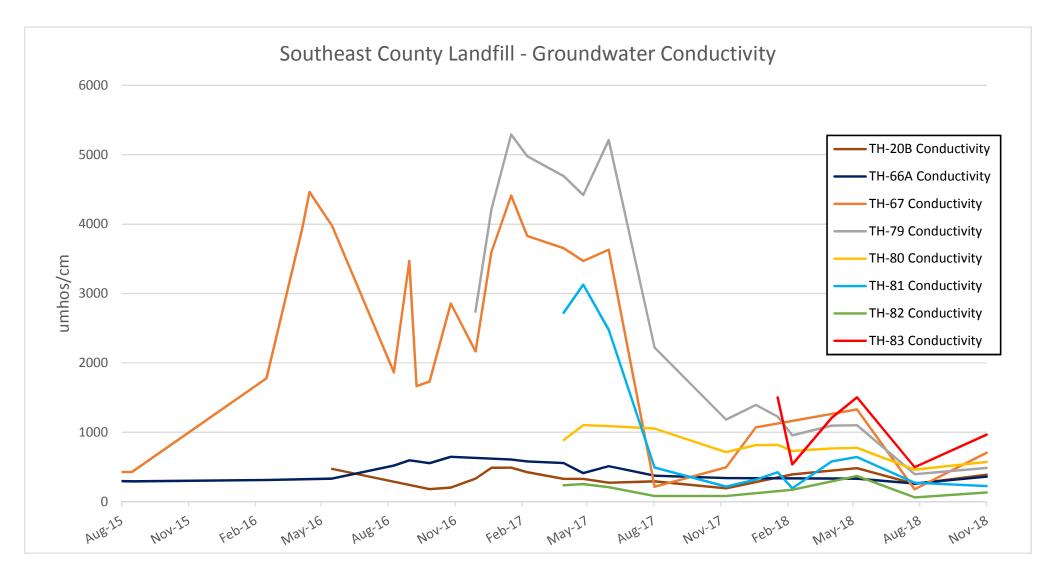
Southeast County Landfill Supplemental Site Assessment Data November 8-9, 2018

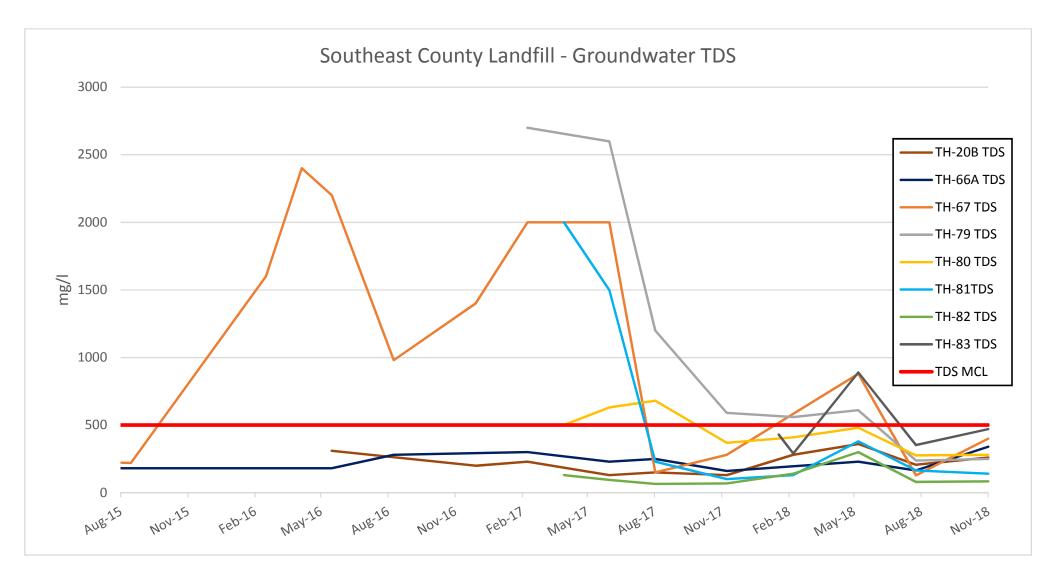
				Surficial Ac	uifer Wells					MCI Standard
General Parameters Detected	TH-20B	TH-38B	TH-66A	TH-67	TH-79	TH-80	TH-81	TH-82	TH-83	MCL Standard
well type	Background	Background	Detection	Detection	Detection	Detection	Detection	Background	Detection	
conductivity (umhos/cm) (field)	390.5	55.7	361.7	706	488.9	575	226.6	134.6	968	NS
dissolved oxygen (mg/l) (field)	0.11	0.22	0.56	0.14	1.60	0.1	0.45	0.34	0.63	NS
ORP (mV)	30.7	88.1	-61.8	-50.1	27.1	28.5	81.1	32	61.3	NS
temperature (°C) (field)	26.00	26.50	26.80	26.70	26.20	26.40	27.30	26.90	27.20	NS
turbidity (NTU) (field)	2.65	3.84	1.81	8.41	15.6	1.74	5.54	4.18	1.1	NS
pH (SU) (field)	5.41	4.71	5.94	6.09	5.56	5.55	5.62	4.97	6.28	(6.5 - 8.5)**
Field Parameters Detected										MCL Standard
total dissolved solids (mg/l)	260	340	240	400	250	280	140	84	470	500**
chloride (mg/l)	72	3.6 i	20	92	24	50	13	18	130	250**
ammonia nitrogen (mg/l as N)	1.9	0.3	2	1.5	1.7	0.38	0.13	1.7	13	NS
Metals Detected (mg/l)										MCL Standard
sodium	20	2.5	9.9	35	16	30	6.3	6.2	110	160*
Notes: Reference Groundwater Guidanc	e Concentration	s, FDEP 2012								
NS=No Standard										
MCL=Maximum Contaminant Level (Gro	oundwater Stand	ards)								
*= 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.	С.							
5.41	Exceeds Standa	rd								
NTU=Nephelometric Turbidity Units										
i = reported value is between the labora	tory method det	ection limit and	the laboratory p	practical quantita	ation limit.					
u = parameter was analyzed but not det	ter was analyzed but not detected.									
ug/l=micrograms per liter										
mg/l=milligrams per liter										
mV = millivolts										

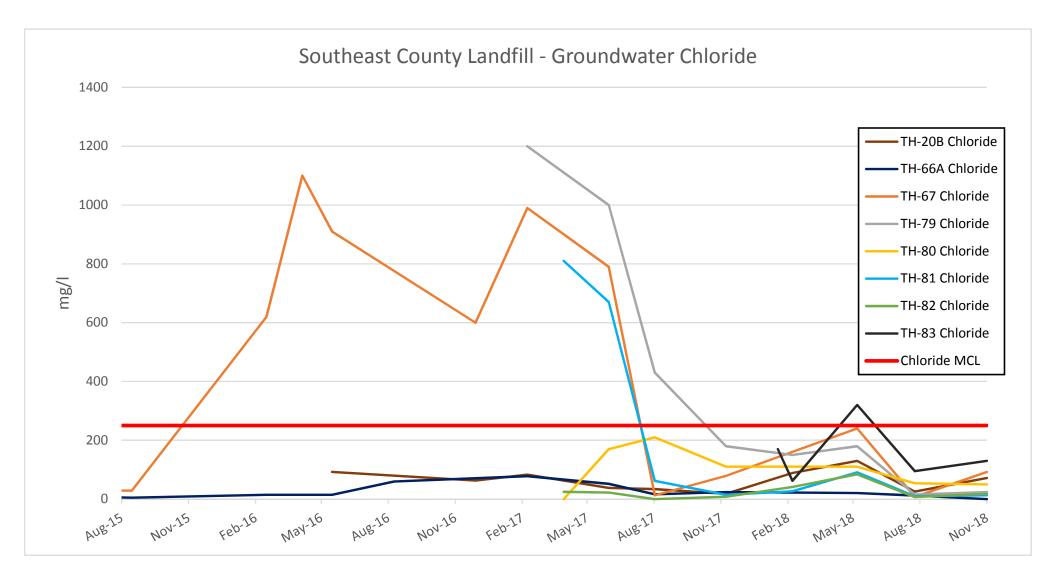
Southeast County Landfill Surficial Aquifer Groundwater Elevations November 8, 2018

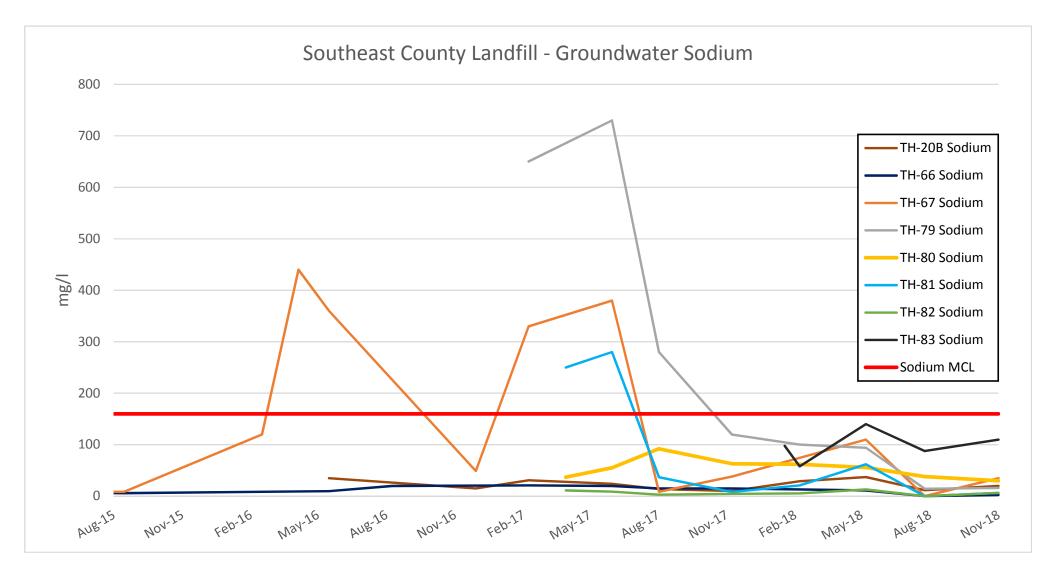
Measuring Point	T.O.C. Elevations	W.L.	W.L.
I.D.	(NGVD)	B.T.O.C.	(NGVD)
TH-20B	132.57	10.03	122.54
TH-38B	131.81	10.24	121.57
TH-66A	130.66	8.84	121.82
TH-67	129.51	6.64	122.87
TH-79	129.60	7.78	121.82
TH-80	129.52	8.04	121.48
TH-81	130.26	8.26	122.00
TH-82	131.24	9.92	121.32
TH-83	130.23	8.65	121.58
NGVD	= National Geodetic V	ertical Datum	
T.O.C.	= Top of Casing		
B.T.O.C.	= Below Top of Casing	S	
W.L.	= Water Level		

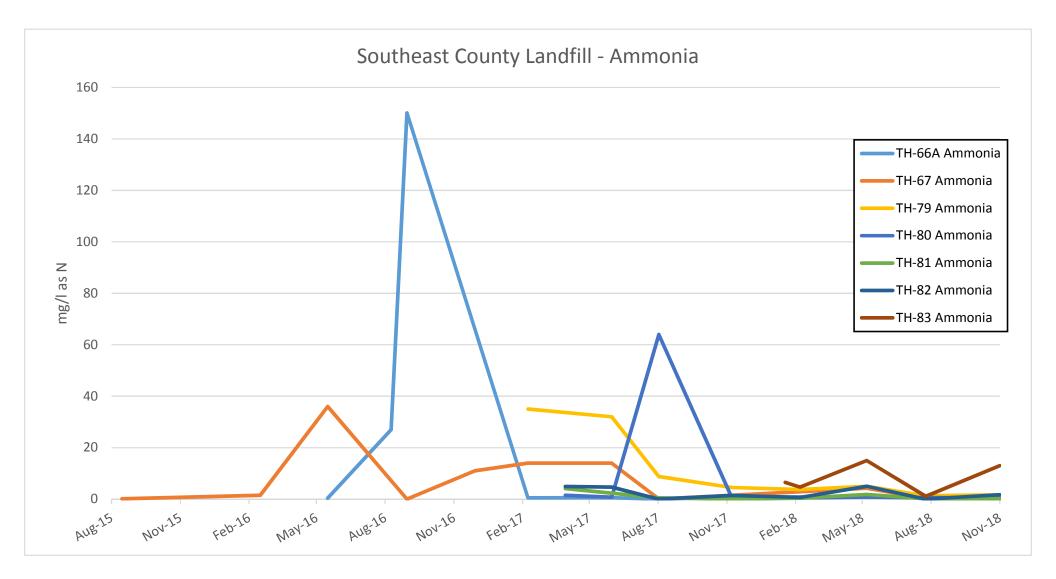












TH-20B

Field Parameters	May-16	Nov-16	Feb-17	Jun-17	Aug-17	Nov-17	Feb-18	May-18	Jul-18	Nov-18	MCL Standard
conductivity (umhos/cm) (field)	473	332	427	275	294	192.9	394.8	484.6	257	390.5	NS
dissolved oxygen (mg/l) (field)	0.23	0.27	0.18	0.19	0.1	2	0.37	1.81	0.11	0.11	NS
ORP (mV)	-9.6	-31.2	-41.7	36.9	-34	-26.7	-2.4	11.4	32	30.7	NS
temperature (°C) (field)	23.47	25.47	23.77	23.92	25.51	25.90	22.90	23.10	25.90	26.00	NS
turbidity (NTU) (field)	2.39	4.14	3.77	1.37	2.82	4.3	2.99	1.35	19	2.65	NS
pH (field)	5.67	5.43	5.82	5.52	5.72	5.95	5.68	5.54	5.92	5.41	(6.5 - 8.5)**
General Parameters											MCL Standard
total dissolved solids (mg/l)	310	200	230	130	150	130	280	360	206	260	500**
chloride (mg/l)	92	63	83	38	34	18	89	130	25.7	72	250**
ammonia nitrogen (mg/l as N)	2.2	1.5	1.2	1.2	1.7	1.3	1.2	1.3	1.8	1.9	NS
Metals Detected (mg/l)											MCL Standard
sodium	35	15	31	24	14	10	29	37	11.5	20	160*
Note: Reference FDEP Groundwater Guid	ance Concentrat	ions									
NS = No Standard											
MCL = Maximum Contaminant Level											
* = Primary Drinking Water Standard											
** = Secondary Drinking Water Standa	ard										
5.67 = Exceeds Standard											
mV = millivolts	-										
NTU = Nephelometric Turbidity Units											
mg/l = milligrams per liter											
NGVD = National Geodedic Vertical Da	atum										

TH-38B

Field Parameters	May-16	Nov-16	Feb-17	May-17	Aug-17	Nov-17	Feb-18	May-18	Jul-18	Nov-18	MCL Standard
conductivity (umhos/cm) (field)	70	61	103	ND	46	49.6	79.2	ND	51	55.7	NS
dissolved oxygen (mg/l) (field)	1.5	0.76	2.02	ND	0.96	1.27	0.86	ND	0.57	0.22	NS
ORP (mV)	175.5	-22.9	6.2	ND	158	28.1	70.7	ND	22.7	88.1	NS
temperature (°C) (field)	24.78	25.37	23.93	ND	26.66	26.10	23.50	ND	27.53	26.50	NS
turbidity (NTU) (field)	8.75	16	16.5	ND	46.6	11.2	3.6	ND	21.9	3.84	NS
pH (field)	4.95	4.73	5.45	ND	4.69	5.16	5.22	ND	5.70	4.71	(6.5 - 8.5)**
General Parameters											MCL Standard
total dissolved solids (mg/l)	65	45	57	ND	73	30	83	ND	50 i	340	500**
chloride (mg/l)	4.2 i	4.2 i	8.2	ND	3.4 i	3.9 i	6.4	ND	12	3.6 i	250**
ammonia nitrogen (mg/l as N)	0.79	0.66	1.4	ND	0.14	0.23	2.2	ND	0.59	0.3	NS
Metals Detected (mg/l)											MCL Standard
sodium	2.8	3	3.6	ND	2.7	2.8	3.4	ND	7.15 i	2.5	160*
Note: Reference FDEP Groundwater Guida	nce Concentrati	ions									
NS = No Standard											
MCL = Maximum Contaminant Level											
ND = No Data, well was dry											
* = Primary Drinking Water Standard											
** = Secondary Drinking Water Standa	rd										
4.95 = Exceeds Standard											
mV = millivolts											
NTU = Nephelometric Turbidity Units											
mg/l = milligrams per liter											
NGVD = National Geodedic Vertical Dat	tum										

Field Parameters	Aug-15	Feb-16	May-16	Nov-16	Feb-17	May-17	Aug-17	Nov-17	Feb-18	May-18	Jul-18	Nov-18	MCL Standard
conductivity (umhos/cm) (field)	295	313	334	512	580	513	376	342.1	315.6	333	263	361.7	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	0.2	0.56	NS
ORP (mV)	ND	ND	69.7	-3	-69.2	30.3	-102.9	-158.7	-43.6	-124.8	125.4	-61.8	NS
temperature (°C) (field)	27.01	21.5	24.55	25.44	23.68	27.67	26.63	25.90	22.50	25.10	27.30	26.80	NS
turbidity (NTU) (field)	3.17	1.35	0.86	0.49	1.06	2.17	1.81	1.89	0.89	0.78	3.65	1.81	NS
pH (field)	6.00	6.12	6.03	5.82	6.18	6.09	5.88	6.09	5.87	5.99	6.89	5.94	(6.5 - 8.5)**
General Parameters													MCL Standard
total dissolved solids (mg/l)	180	180	180	320	300	230	250	160	210	230	164	240	500**
chloride (mg/l)	4.9 i	15	15	92	78	52	16	24	24	21	12	20	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	0.54	2	NS
Metals Detected (mg/l)													MCL Standard
sodium	5.7	8.7	9.5	21	21	20	15	15	12	11	7.15 i	9.9	160*
Note: Reference FDEP Groundwater Guida	ance Concentrat	ions											
NS = No Standard													
MCL = Maximum Contaminant Level													
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6.00 = Exceeds Standard													
mV = millivolts													
NTU = Nephelometric Turbidity Units													
mg/l = milligrams per liter													
NGVD = National Geodedic Vertical Da	itum												

Field Parameters	Aug-15	Feb-16	May-16	Nov-16	Feb-17	May-17	Aug-17	Nov-17	Feb-18	May-18	Jul-18	Nov-18	MCL Standard
conductivity (umhos/cm) (field)	429	1780	3973	2166	3830	3630	215	497.4	207.7	1329	180	706	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	0.08	0.14	NS
ORP (mV)	ND	ND	-7.9	-100	-41.7	-12.1	43.2	-9.5	103.7	-46.1	2.4	-50.1	NS
temperature (°C) (field)	28.32	20.81	24.63	25.23	24.52	25.25	26.79	25.40	22.20	24.80	27.94	26.70	NS
turbidity (NTU) (field)	1.13	10.11	7.64	5.29	8.72	7.64	16.5	5.05	7.76	2.71	10.4	8.41	NS
pH (field)	6.41	5.98	6.18	6.21	6.44	6.32	6.29	6.43	6.54	6.39	6.44	6.09	(6.5 - 8.5)**
General Parameters	-												MCL Standard
total dissolved solids (mg/l)	220	1600	2200	1400	2000	2000	150	280	140	880	128	400	500**
chloride (mg/l)	29	620	910	600	990	790	13	79	12	240	76	92	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	0.28	1.5	NS
Metals Detected (mg/l)													MCL Standard
sodium	8.7	120	360	49	330	380	8.4	38	6.3	110	1.94 i	35	160*
Note: Reference FDEP Groundwater Guida	nce Concentrati	ons											
NS = No Standard													
MCL = Maximum Contaminant Level													
* = Primary Drinking Water Standard													
** = Secondary Drinking Water Standar	rd												
6.41 = Exceeds Standard													
mV = millivolts													
NTU = Nephelometric Turbidity Units													
mg/I = milligrams per liter													
NGVD = National Geodedic Vertical Dat	tum												

General Parameters	Nov-16	Feb-17	May-17	Aug-17	Nov-17	Feb-18	May-18	Jul-18	Nov-18	MCL Standard
conductivity (umhos/cm) (field)	2740	4980	5212	2221	1183	956	1102	397	488.9	NS
dissolved oxygen (mg/l) (field)	0.25	1.73	1.23	1.67	4.39	3.33	1.63	0.15	1.60	NS
ORP (mV)	1.4	-20.3	-40.6	-30.8	-27.7	-15.0	-95.4	54.0	27.1	NS
temperature (°C) (field)	24.03	21.77	25.49	28.04	24.90	20.70	24.60	29.40	26.20	NS
turbidity (NTU) (field)	27.6	60.2	12	2.66	2.81	7.97	3.28	3.2	15.6	NS
pH (field)	6.09	6.40	6.29	6.19	6.28	6.11	5.85	6.04	5.56	(6.5 - 8.5)**
Field Parameters										MCL Standard
total dissolved solids (mg/l)	1500	2700	2600	1200	590	560	610	238	250	500**
chloride (mg/l)	500	1200	1000	430	180 j4	150	180	15.4	24	250**
ammonia nitrogen (mg/l as N)	30	35	32	8.8	4.5	3.8	5	1.3	1.7	NS
Metals Detected (mg/l)										MCL Standard
sodium	140	650	730	280	120	100	94	14.4	16	160*
Note: Reference FDEP Groundwater Guid	ance Concentra	tions								
NS = No Standard										
MCL = Maximum Contaminant Level										
* = Primary Drinking Water Standard										
<pre>** = Secondary Drinking Water Standa</pre>	ard									
6.09 = Exceeds Standard										
mV = millivolts										
NTU = Nephelometric Turbidity Units										
mg/I = milligrams per liter										
NGVD = National Geodedic Vertical Da	itum									

Southeast County Landfill Historical Groundwater Assessment Groundwater Data

Field Parameters	Mar-17	May-17	Aug-17	Nov-17	Feb-18	May-18	Jul-18	Nov-18	MCL Standard
conductivity (umhos/cm) (field)	889	1090	1055	714	733	777	462	575	NS
dissolved oxygen (mg/l) (field)	0.38	0.16	0.05	3.24	0.79	0.22	0.50	0.1	NS
ORP (mV)	-10.7	34.2	-120.4	-100.7	13.8	11.8	2.3	28.5	NS
temperature (°C) (field)	24.49	25.26	25.17	25.70	24.90	25.50	26.68	26.40	NS
turbidity (NTU) (field)	16	10.6	37	17.3	2.49	0.98	0.52	1.74	NS
pH (field)	5.67	5.63	5.69	5.95	5.69	5.70	6.63	5.55	(6.5 - 8.5)**
General Parameters									MCL Standard
total dissolved solids (mg/l)	500	630	680	370	410	480	276	280	500**
chloride (mg/l)	130 j4	170	210	110	110	110	53.9	50	250**
ammonia nitrogen (mg/l as N)	1.5	0.74	0.64	0.36	0.52	0.79 j4	0.65	0.38	NS
Metals Detected (mg/l)									MCL Standard
sodium	37	55	92	63	62	56	38	30	160*
Note: Reference FDEP Groundwater Guida	nce Concentrati	ons							
NS = No Standard									
MCL = Maximum Contaminant Level									
* = Primary Drinking Water Standard									
** = Secondary Drinking Water Standa	rd								
5.67 = Exceeds Standard									
mV = millivolts									
NTU = Nephelometric Turbidity Units									
mg/l = milligrams per liter									
NGVD = National Geodedic Vertical Da	tum								

Field Parameters	Mar-17	May-17	Aug-17	Nov-17	Feb-18	May-18	Jul-18	Nov-18	MCL Standard
conductivity (umhos/cm) (field)	2723	2476	493	216.8	194.9	644	275	226.6	NS
dissolved oxygen (mg/l) (field)	0.53	0.72	1.77	1.73	2.12	0.24	1.33	0.45	NS
ORP (mV)	24.9	17.7	68.5	76	71.7	-28.3	150	81.1	NS
temperature (°C) (field)	23.7	25.81	28.68	26.50	22.10	25.90	28.89	27.30	NS
turbidity (NTU) (field)	16.1	27.5	22.7	13	14.5	3.07	6.09	5.54	NS
pH (field)	6.00	6.05	6.12	5.95	6.15	6.32	5.88	5.62	(6.5 - 8.5)**
General Parameters									MCL Standard
total dissolved solids (mg/l)	2000	1500	230	100	130	380	164	140	500**
chloride (mg/l)	810	670	62	15	27	91	9.4	13	250**
ammonia nitrogen (mg/l as N)	4.1	2.3	0.52	0.025 u	0.33	1.8	0.15	0.13	NS
Metals Detected (mg/l)									MCL Standard
sodium	250	280	37	8.2	21	62	6.89 i	6.3	160*
Note: Reference FDEP Groundwater Guida	ance Concentrat	ions							
NS = No Standard									
MCL = Maximum Contaminant Level									
* = Primary Drinking Water Standard									
** = Secondary Drinking Water Standa	ird								
6.00 = Exceeds Standard									
mV = millivolts									
NTU = Nephelometric Turbidity Units									
mg/l = milligrams per liter									
NGVD = National Geodedic Vertical Da	itum								

Field Parameters	Mar-17	Jun-17	Aug-17	Nov-17	Feb-18	May-18	Jul-18	Nov-18	MCL Standard
conductivity (umhos/cm) (field)	239	210	82	83	174.3	370.9	63	134.6	NS
dissolved oxygen (mg/l) (field)	0.23	0.70	4.11	1.28	1.17	0.49	2.84	0.34	NS
ORP (mV)	-147.1	41.9	177.2	-17.5	107.3	2.5	30.3	32	NS
temperature (°C) (field)	26.16	25.5	27.84	27.40	24.10	26.50	27.95	26.90	NS
turbidity (NTU) (field)	ND	33.4	34.3	27.4	4.56	2.85	0.99	4.18	NS
pH (field)	5.69	5.48	4.73	5.30	5.07	5.51	5.58	4.97	(6.5 - 8.5)**
General Parameters									MCL Standard
total dissolved solids (mg/l)	130	94	65	68	140	300	80	84	500**
chloride (mg/l)	25	22	4.3 i	8.4	41	84	6.5	18	250**
ammonia nitrogen (mg/l as N)	4.9	4.7	0.02 u	1.4	0.69	5	0.039 i	1.7	NS
Metals Detected (mg/l)		_	-	-	-	-	_	_	MCL Standard
sodium	11	9	2.8	4.5	5.4	13	2.08 i	6.2	160*
Note: Reference FDEP Groundwater Guida 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		ions							
mg/l = milligrams per liter	tum								
mg/l = milligrams per liter NGVD = National Geodedic Vertical Da	atum								

Field Parameters	Jan-18	Feb-18	May-18	Jul-18	Nov-18	MCL Standard
conductivity (umhos/cm) (field)	1504	537	1505	498	968	NS
dissolved oxygen (mg/l) (field)	1.12	1.02	0.70	2.14	0.63	NS
ORP (mV)	6.7	10.6	-16.1	140.7	61.3	NS
temperature (°C) (field)	22.7	23.10	23.90	26.48	27.20	NS
turbidity (NTU) (field)	5.05	4.78	1.63	3.56	1.1	NS
pH (field)	6.90	6.55	6.46	6.44	6.28	(6.5 - 8.5)**
General Parameters		-			-	MCL Standard
total dissolved solids (mg/l)	430	290	890	352	470	500**
chloride (mg/l)	170	62	320	94.9	130	250**
ammonia nitrogen (mg/l as N)	6.5	4.7	15	1.1	13	NS
Metals Detected (mg/l)		-			-	MCL Standard
sodium	98	58	140	87.7	110	160*
Note: Reference FDEP Groundwater Guid	ance Concentrati	ons	-		-	
NS = No Standard						
MCL = Maximum Contaminant Level						
* = Primary Drinking Water Standard						
** = Secondary Drinking Water Standa	ard					
6.46 = Exceeds Standard						
mV = millivolts						
NTU = Nephelometric Turbidity Units						
mg/l = milligrams per liter						
NGVD = National Geodedic Vertical Da	atum					

January 15, 2019 File No. 09215600.07

MEMORANDUM

TO: Mr. Larry Ruiz, S.C.FROM: Mr. Ken Guilbeault, P.G. and Mr. Kollan Spradlin, P.E.SUBJECT: 2018 Subsurface Geophysics Survey

Executive Summary

SCS Engineers contracted Geoview, Inc. in 2016 and 2017 to conduct subsurface conductivity surveys between the southeast corner of Phase II and the landfill perimeter road. In order to evaluate the change in conductivity over time, SCS Engineers contracted Geoview, Inc. again in November 2018 to conduct an additional subsurface conductivity survey of the subject area.

SCS Engineers found that a comparison of the 2016, 2017, and 2018 subsurface conductivity shows a discernable decline in bulk subsurface conductivity. Additionally, local groundwater quality continues to improve, and monitored parameters meet both primary and secondary drinking water standards. The corrective actions conducted by SWMD appear effective and have reduced groundwater parameter exceedances observed during the quarterly monitoring events.

Introduction

As requested by the Hillsborough County Transportation and Utilities Services, Solid Waste Management Division (SWMD), SCS Engineers (SCS) has prepared this memorandum to present the findings of the November 2018 geophysical survey conducted between the southeastern side of Phase II and the perimeter road at the Southeast County Landfill (SCLF).

Background

Previously, subsurface geophysical surveys were conducted by Geoview, Inc. (Geoview) in November 2016 and October 2017 near the southeast perimeter of Phase II. Both of the previous reports presented the bulk conductivity measurements near the edge of the Phase II perimeter berm to a depth of approximately 16 feet below ground surface.

The 2016 and 2017 surveys identified an area of elevated subsurface conductivity that was mapped and defined within the Geoview reports. Each of the 2016 and 2017 reports delineated the area of elevated conductivity near the Phase II landfill limit at the time of the survey. In order to compare current subsurface conductivity to that of previous geophysical surveys, SCS retained Geoview to complete an additional geophysical assessment of the same area using the same method (frequency domain electromagnetics) in November 2018. This survey was completed on November 2, 2018, and the report is included as **Attachment 1**. Mr. Larry Ruiz, S.C. January 15, 2019 Page 2

Field Investigation

Geoview personnel conducted the November 2018 field measurements of bulk subsurface conductivity using a Geonics EM-31-MK2 ground conductivity meter in vertical dipole orientation. An SCS representative was on site to observe and document field activities. Conductivity measurements were collected by Geoview at one-foot intervals along transects spaced approximately 15 feet apart, parallel to the SCLF landfill limits. Previous surveys conducted by Geoview in 2016 and 2017 used the same type of meter with the same orientation and settings.

Findings

Each of the 2016, 2017, and 2018 Geoview report figures show an area of elevated soil conductivity response near the toe of the containment berm in the southeast corner of Phase II. The figures produced by Geoview depicting terrain conductivity are included as **Figure 1** (2016), **Figure 2** (2017), and **Figure 3** (2018).

SCS compared the results of the November 2018 geophysical investigation to the November 2016 geophysical investigation. A discernable decrease in the bulk subsurface conductivity is apparent within the area of elevated conductivity response upon comparison of the 2016, 2017, and 2018 figures.

From 2016 to 2018, conductivity values between TH-67 and TH-83 decreased approximately 60 milli-seimens/meter (mS/m). Additionally, the subsurface conductivity of the area immediately south of TH-79 decreased approximately 40 mS/m. Conversely, conductivity values near the perimeter road changed little (less than 10 mS/m) from 2016 to 2018, which supports that the conductively changes are limited to the area between the toe of the Phase II containment berm and the perimeter road.

The November 2018 Geoview report states that changes in local conductivity measurements can be caused by either metallic interference (metal monitoring well housings and pumps), changes in geologic conditions, or changes in groundwater chemistry. For the purposes of the November 2018 report, Geoview assumed that changes in conductivity are result of changes in the conductance of shallow groundwater. Metallic interference of subsurface conductivity was limited to areas immediately adjacent to metal monitoring well housings and protective bollards. Interference was so localized that the increase in conductivity cause by interference is obstructed by the symbols indicating the locations of the monitoring wells.

Conclusion

Overall, groundwater quality continues to improve as shown in the most recent monitoring event (August 2018), and the monitored groundwater parameters meet both primary and secondary drinking water standards. The corrective actions conducted by SWMD appear effective and have reduced groundwater parameter exceedances observed during the quarterly monitoring events.

Attachments

Figure 1

2016 Geoview Subsurface Conductivity Figure

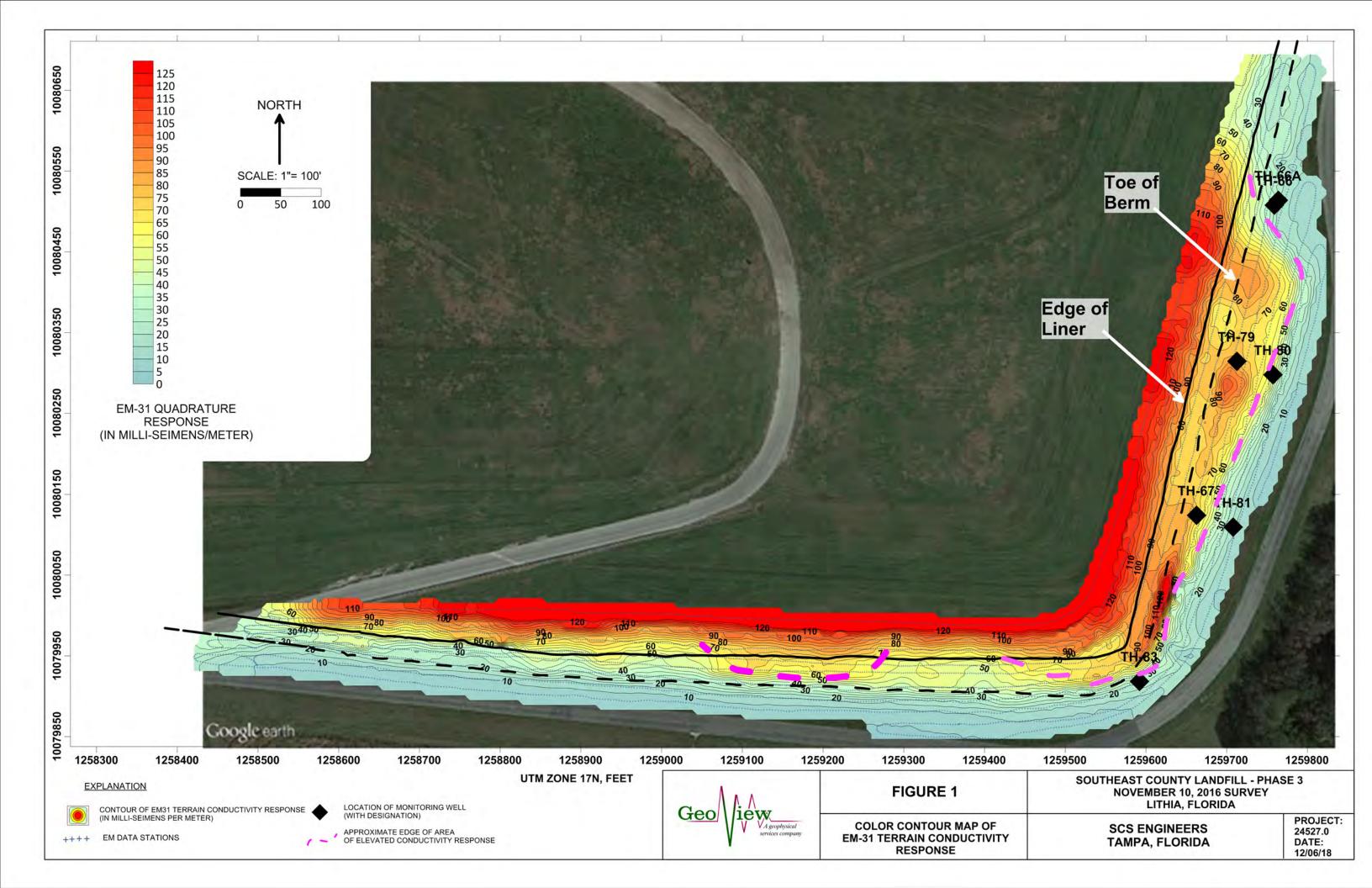


Figure 2

2017 Geoview Subsurface Conductivity Figure

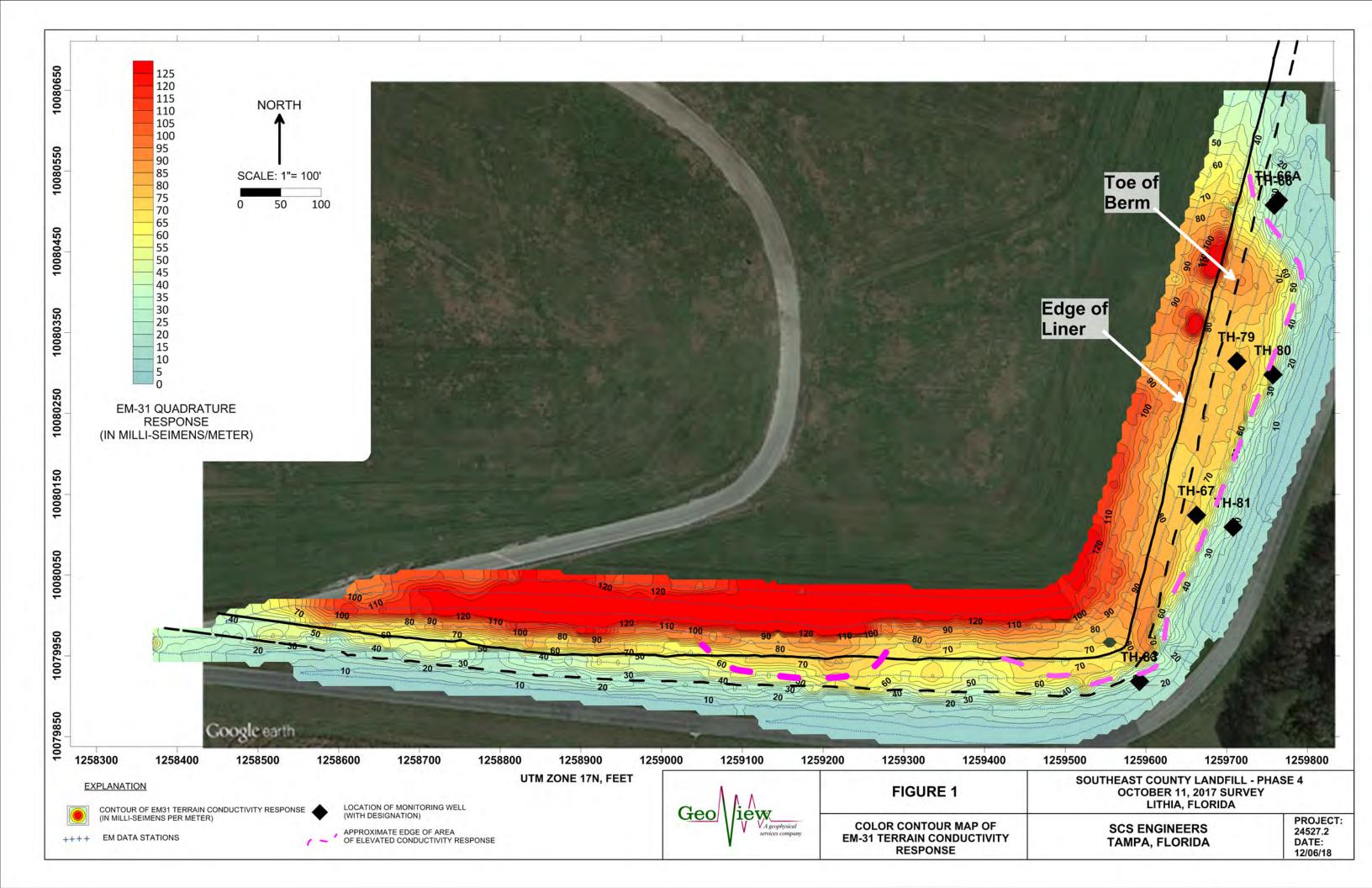
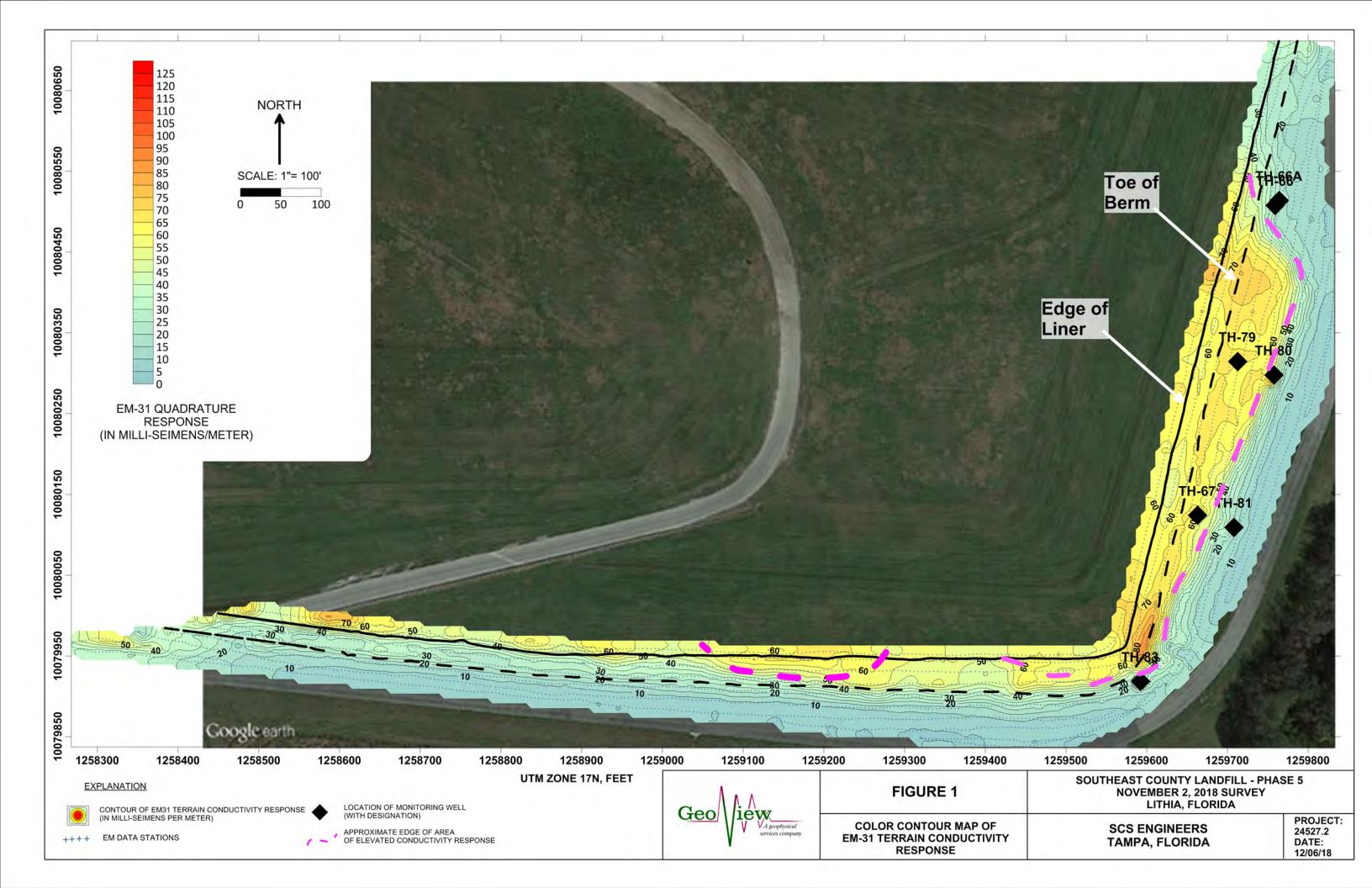


Figure 3

2018 Geoview Subsurface Conductivity Figure



Attachment 1

2018 Geoview Geophysical Investigation Report

FINAL REPORT GEOPHYSICAL INVESTIGATION SOUTHEAST COUNTY LANDFILL - PHASE II LITHIA, FLORIDA

Prepared for SCS Engineers Tampa, FL

Prepared by GeoView, Inc. St. Petersburg, FL

November 12, 2018

Mr. Alex Ortega Hillsborough County 3922 Coconut Palm Drive, Suite 102 Tampa, FL 33619

Subject: Transmittal of Final Report for Geophysical Investigation Southeast County Landfill - Phase V – Lithia, Florida GeoView Project Number 24527.2

Dear Mr. Ortega,

GeoView, Inc. (GeoView) is pleased to submit the final report that summarizes and presents the results of the geophysical investigation performed at the above referenced site. Electromagnetics were used to compare the current bulk soil conductivity within the study area to previous surveys conducted in 2016 and 2017. GeoView appreciates the opportunity to have assisted you on this project. If you have any questions or comments about the report, please contact us.

Sincerely, GEOVIEW, INC.

Michael J. Wightman, P.G. President Florida Professional Geologist Number 1423

Christophen Taylor

Chris Taylor, P.G. Vice President Florida Professional Geologist Number 2256

A Geophysical Services Company

Tel.: (727) 209-2334 *Fax:* (727) 328-2477

1.0 Introduction

A geophysical investigation was conducted on November 2, 2018 at the Southeast County Landfill in Lithia, Florida. The geophysical investigation was performed near the southeastern corner of the landfill as specified by Hillsborough County personnel. The geophysical investigation was centered about monitoring well TH-67 where elevated conductivity levels have been detected in the shallow groundwater. The purpose of this investigation was to compare the current bulk soil conductivity within the study area to previous surveys conducted in 2016 and 2017. The geophysical investigation was conducted using frequency domain electromagnetics (EM).

The majority of the study area was previously surveyed using EM in 2016 and 2017. Results from this investigation are provided in GeoView Project Numbers 23973 and 24527.

2.0 Site Description

The geophysical investigation was performed near the southeast corner of the landfill. The survey area extended from 10 feet inside the edge of the liner of the landfill towards the access road to the south and east of the landfill. The survey area encompassed monitoring wells TH-66, TH-67, TH-79, TH-81 and TH83 as shown on Figure 1.

3.0 Description of Geophysical Investigation

3.1 Instrumentation and Field Procedures

The EM survey was conducted using a Geonics EM31-MK2 (EM-31) ground conductivity meter. The EM-31 survey was conducted using a vertical dipole orientation which provided bulk conductivity readings for the earth materials to an approximate depth of 16 to 18 ft below land surface (bls). Terrain conductivity and inphase data was collected at intervals of every 1 ft along transects spaced approximately 10 to 20 ft apart. The transects were oriented parallel to the edge of the landfill. The positions of the geophysical transect lines were recorded using a Trimble Geo7x. The data then contoured using Surfertm contouring software.

3.2 Causes for Observed Changes in Terrain Conductivity

Changes in terrain conductivity, that are not associated with interference effects, can be caused by either changes in geological conditions or changes in the groundwater chemistry. Typical changes that cause increases in terrain conductivity related to geological factors are increases in the clay, silt or organic content of the soils that are within the effective depth of exploration for the EM equipment. Typical changes in the groundwater chemistry that cause increases in terrain conductivity are increases in the concentration of dissolved ions. Increases in either salt or metallic ion concentrations typically have the greatest effect upon increasing the terrain conductivity response.

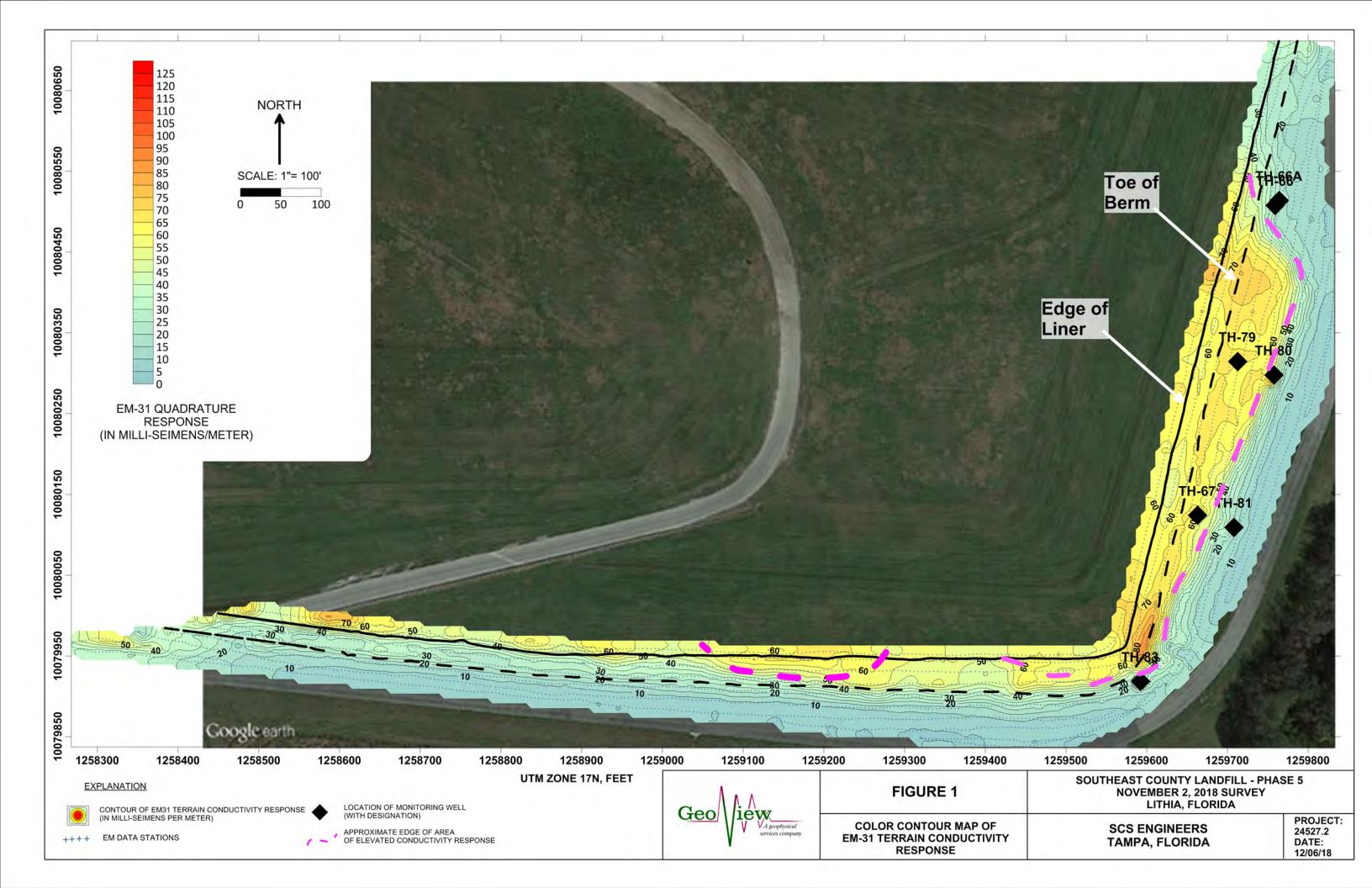
It is not possible to distinguish the cause of a change in terrain conductivity from variations in geological or groundwater conditions. In order to make such a distinction, it is necessary to collect and analyze soil and groundwater samples in suspect and background areas. For the purposes of this study, it is assumed that any increases in terrain conductivity are associated with increases in conductance of the shallow groundwater.

4.0 Survey Results

The EM-31 terrain conductivity results are presented in Figure 1. The terrain conductivity response measures the bulk conductivity of soil and groundwater and is expressed in milli-siemens per meter (mS/m). Terrain conductivity values considered to represent background conditions ranged up to 50 mS/m. These areas are shown in light blue to light yellow on Figure 1. One broad anomaly area consisting of an elevated conductivity response was identified southeast of the toe of the landfill berm. The area is identified by conductivity values in excess of 50 to 55 mS/m (yellow to red contours on Figure 1).

This anomaly area may represent an area of elevated shallow groundwater conductivity. The area extended up to 80 ft east of the toe of the berm. The boundary of this anomaly area is indicated with a magenta dashed line on Figure 1. Monitoring TH-67 (where elevated groundwater conductivities are present) was located within this area. Monitoring well TH-66 (where elevated groundwater conductivities are not present) is outside of this area. The EM showed a possible second minor increase in conductivity values in the southeast corner of the landfill, immediately northeast of TH-83.

Appendix 1 Figure



APPENDIX 2 Description of Geophysical Methods, Survey Methodologies and Limitations

A2.1 On Site Measurements

The measurements that were collected and used to identify the location of the EM-31 data points were made using a Trimble GeoXH GPS. The degree of accuracy of such an approach is typically less than one meter.

A2.2 Electromagnetics

The EM method is a non-destructive geophysical technique that measures the electrical conductivity of subsurface materials. The conductivity is determined by inducing (from a transmitter) a time-varying magnetic field and measuring (with a receiver) the amplitude and phase shift of an induced secondary magnetic field. The EM survey was conducted using a Geonics EM31-MK2 (EM-31). For soil conditions typical to Florida, the EM-31 unit provides a measurement of ground conductivity to a depth of 16 to 18 ft bls.

Variations in subsurface conductivity may be caused by the presence of buried metallic objects or by geological changes such as changes in soil type (clay vs. sand) or variations in pore fluid conductivity. Typical applications for the EM method include:

- Location of buried metallic objects
- Mapping conductive contaminant groundwater plumes (chlorides)
- Mapping of non-conductive (hydrocarbon) contaminant groundwater plumes
- Delineating abandoned trenches or lagoons with fill material different from native soils
- Determining relative concentrations of near-surface conductive soils (clays)
- Delineating bedrock fracture zones
- Identifying large voids or cavities

There are two components of the induced magnetic field measured by the EM-31 equipment. The first is the quadrature-phase (out-of-phase) component that measures the bulk conductivity of soil and groundwater. This is referred to as the terrain conductivity response with units that are expressed in milli-Siemens per meter (mS/m). The second component is the in-phase response that is relatively more sensitive to large metallic objects such as pipes, drums, large items of buried metallic debris and underground storage tanks. This portion of the instrument

response is expressed in parts per thousand (ppt). In areas where no metals are present the in-phase response is zero. By using the in-phase and quadrature-phase components, it is possible to determine whether a change in bulk conductivity is due to the presence of buried metallic objects or due to changes in either subsurface soil conditions or pore fluid conductivity.

The EM-31 survey is performed by walking the instrumentation across the project site along a system of parallel transect lines. The separation distance between transect sites is dictated by the survey requirements. For surveys designed to identify relatively large areas of buried debris (e.g., landfills), a transect spacing of 50 to 100 feet is typical. For surveys designed to identify discrete areas of buried debris, a transect spacing of 10 to 20 feet is used. The EM-31 data is electronically recorded and then downloaded to a computer for processing. EM data is usually presented as either profiles (for an individual transect) or as contour maps. Contour maps are developed using Surfertm, a computer contouring program.

The estimated maximum depths of investigation are for homogenous (similar) soil materials that are relatively resistive. Depending upon site conditions, the actual depth of investigation could be 10 to 30 percent less. Also, the measured conductivity value for a particular coil orientation and spacing is representative (in a complex relationship) of all the soil materials between the ground surface and the maximum depth of investigation. In other words, the conductivity measurement is not representative of the actual conductance of the earth materials that occur at the maximum depth of investigation.

GeoView can make no warranties or representations of the conditions that may be present beyond the depth of investigation or resolving capability of the EM method or in areas that were either not accessible to the geophysical investigation or where areas of cultural interference were present.



> Phone: (813)630-9616 Fax: (813)630-4327

December 9, 2018

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

RE: Workorder: T1819288 SELF Supplemental Site

Dear Michael Townsel:

Enclosed are the analytical results for sample(s) received by the laboratory between Thursday, November 08, 2018 and Friday, November 09, 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,

o Parker

Heidi Parker - Project Manager HParker@AELLab.com

Enclosures

Report ID: 591623 - 1786159

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CERTIFICATE OF ANALYSIS





> Phone: (813)630-9616 Fax: (813)630-4327

SAMPLE SUMMARY

Workorder: T1819288 SELF Supplemental Site

Lab ID	Sample ID	Matrix	Date Collected	Date Received
T1819288001	TH-66A	Water	11/8/2018 09:25	11/8/2018 11:33
T1819288002	Field Blank	Water	11/9/2018 08:02	11/9/2018 13:20
T1819288003	TH-82	Water	11/9/2018 08:30	11/9/2018 13:20
T1819288004	TH-38B	Water	11/9/2018 08:50	11/9/2018 13:20
T1819288005	TH-79	Water	11/9/2018 09:19	11/9/2018 13:20
T1819288006	TH-80	Water	11/9/2018 09:49	11/9/2018 13:20
T1819288007	TH-67	Water	11/9/2018 10:30	11/9/2018 13:20
T1819288008	TH-81	Water	11/9/2018 10:56	11/9/2018 13:20
T1819288009	TH-83	Water	11/9/2018 11:15	11/9/2018 13:20
T1819288010	TH-20B	Water	11/9/2018 11:38	11/9/2018 13:20
T1819288011	Duplicate	Water	11/9/2018 00:00	11/9/2018 13:20

Report ID: 591623 - 1786159

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ANALYTICAL RESULTS

Workorder: T1819288 SELF Supplemental Site

Lab ID: Sample ID:	T1819288001 TH-66A				Date Received: Date Collected:		Matrix:	Water	
Sample Descri	iption:				Location:				
Parameters		Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAN	METERS								
Analysis Desc: measurements	: Data entry of field	Anal	lytical Me	ethod: Field	Measurements				
Conductivity Dissolved Oxy ORP-2580BW Temperature Turbidity pH	-	361.7 0.56 -61.8 26.8 1.81 5.94		umhos/cr mg/L mV °C NTU SU	n 1 1 1 1 1 1			11/8/2018 09:25 11/8/2018 09:25 11/8/2018 09:25 11/8/2018 09:25 11/8/2018 09:25 11/8/2018 09:25	···· ···· ····
METALS									
Analysis Desc: Analysis,Water	: SW846 6010B r			Vethod: SW ethod: SW-8					
Sodium		9.9		mg/L	1	0.20	0.17	11/14/2018 15:36	т
WET CHEMIS									
Analysis Desc:	: Ammonia,E350.1,Water	Anal	lytical Me	ethod: EPA 3	50.1				
Ammonia (N)		2.0		mg/L	1	0.10	0.025	11/29/2018 16:16	Т
Analysis Desc: Solids,SM2540		Anal	lytical Me	ethod: SM 2	540 C				
Total Dissolved	d Solids	240		mg/L	1	10	10	11/13/2018 11:31	т
Analysis Desc: E,Water	: Chlorides,SM4500-Cl-	Anal	lytical Me	ethod: SM 4	500-CI-E				
Chloride		20		mg/L	1	5.0	2.6	11/21/2018 12:13	т

Report ID: 591623 - 1786159

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CERTIFICATE OF ANALYSIS





> Phone: (813)630-9616 Fax: (813)630-4327

ANALYTICAL RESULTS

Workorder: T1819288 SELF Supplemental Site

Lab ID: Sample ID:	T1819288002 Field Blank				Date Received: Date Collected:		Matrix:	Water	
Sample Descr	iption:				Location:				
						Adjusted	Adjusted		
Parameters		Results	Qual	Units	DF	PQL	MDL	Analyzed	Lab
METALS									
	: SW846 6010B	Prepa	aration N	Method: S	SW-846 3010A				
Analysis,Wate	r	Analy	/tical Me	thod: SW					
Sodium		0.17	U	mg/L	1	0.20	0.17	11/14/2018 15:40	Т
WET CHEMIS	STRY								
Analysis Desc	: Ammonia,E350.1,Water	Analy	/tical Me	thod: EP					
Ammonia (N)		0.025	U	mg/L	1	0.10	0.025	11/30/2018 14:10	Т
Analysis Desc Solids,SM254	: Tot Dissolved 0C	Analy	/tical Me	ethod: SM	2540 C				
Total Dissolve	d Solids	10	U	mg/L	1	10	10	11/13/2018 11:31	Т
Analysis Desc E,Water	: Chlorides,SM4500-Cl-	Analy	/tical Me	ethod: SM	I 4500-CI-E				
Chloride		2.6	U	mg/L	1	5.0	2.6	11/21/2018 12:13	Т

Report ID: 591623 - 1786159

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CERTIFICATE OF ANALYSIS





> Phone: (813)630-9616 Fax: (813)630-4327

ANALYTICAL RESULTS

Workorder: T1819288 SELF Supplemental Site

Sample ID: T	1819288003 H-82				Date Received: Date Collected:		Matrix:	Water	
Sample Descript	tion:				Location:				
Parameters		Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL		Lab
FIELD PARAME	TERS								
Analysis Desc: D measurements	Data entry of field	Anal	ytical Me	ethod: Field	Measurements				
Conductivity Dissolved Oxyge ORP-2580BW Temperature Turbidity pH	en	134.6 0.34 32 26.9 4.18 4.97		umhos/d mg/L mV °C NTU SU	:m 1 1 1 1 1 1			11/9/2018 08:30 11/9/2018 08:30 11/9/2018 08:30 11/9/2018 08:30 11/9/2018 08:30 11/9/2018 08:30	···· ···· ····
METALS									
Analysis Desc: C E,Water	Chlorides,SM4500-Cl-	Anal	ytical Me	ethod: SM 4	1500-CI-E				
Chloride		18		mg/L	1	5.0	2.6	11/21/2018 12:15	Т
Analysis Desc: S Analysis,Water	SW846 6010B			Method: SV ethod: SW-	V-846 3010A 846 6010				
Sodium		6.2		mg/L	1	0.20	0.17	11/14/2018 16:02	Т
WET CHEMISTR									
Analysis Desc: A	mmonia,E350.1,Water	Anal	ytical Me	ethod: EPA	350.1				
Ammonia (N)		1.7		mg/L	1	0.10	0.025	11/30/2018 14:11	Т
Analysis Desc: To Solids,SM2540C		Anal	ytical Me	ethod: SM 2	2540 C				
Total Dissolved S	Solids	84		mg/L	1	10	10	11/13/2018 11:31	т

Report ID: 591623 - 1786159

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CERTIFICATE OF ANALYSIS





> Phone: (813)630-9616 Fax: (813)630-4327

ANALYTICAL RESULTS

Workorder: T1819288 SELF Supplemental Site

Lab ID: Sample ID:	T1819288004 TH-38B				Date Received: Date Collected:		Matrix:	Water	
Sample Descr	ription:				Location:				
Parameters		Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAM	METERS								
Analysis Desc measurements	:: Data entry of field s	Anal	lytical Me	ethod: Field	Measurements				
Conductivity Dissolved Oxy ORP-2580BW Temperature Turbidity pH	-	55.7 0.22 88.1 26.5 3.84 4.71		umhos/cr mg/L mV °C NTU SU	n 1 1 1 1 1 1			11/9/2018 08:50 11/9/2018 08:50 11/9/2018 08:50 11/9/2018 08:50 11/9/2018 08:50 11/9/2018 08:50	···· ···· ····
METALS									
Analysis Desc Analysis,Wate	:: SW846 6010B rr			Method: SW ethod: SW-8					
Sodium		2.5		mg/L	1	0.20	0.17	11/14/2018 16:06	т
WET CHEMIS	STRY								
Analysis Desc	: Ammonia,E350.1,Water	Anal	lytical Me	ethod: EPA 3	50.1				
Ammonia (N)		0.30		mg/L	1	0.10	0.025	11/30/2018 14:12	Т
Analysis Desc Solids,SM2540	:: Tot Dissolved 0C	Anal	lytical Me	ethod: SM 2	540 C				
Total Dissolved	d Solids	340		mg/L	1	10	10	11/13/2018 11:31	Т
Analysis Desc E,Water	: Chlorides,SM4500-Cl-	Anal	lytical Me	ethod: SM 4	500-CI-E				
Chloride		3.6	I	mg/L	1	5.0	2.6	11/21/2018 12:17	Т

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CERTIFICATE OF ANALYSIS





ANALYTICAL RESULTS

Workorder: T1819288 SELF Supplemental Site

	1819288005 H-79				Date Received: Date Collected:		Matrix:	Water	
Sample Description	on:				Location:				
Parameters		Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL		Lab
FIELD PARAMET	TERS								
Analysis Desc: Da measurements	ata entry of field	Anal	lytical Me	ethod: Field	Measurements				
Conductivity Dissolved Oxyger ORP-2580BW Temperature Turbidity pH	n	488.9 1.6 27.1 26.2 15.6 5.56		umhos/o mg/L mV °C NTU SU	:m 1 1 1 1 1 1			11/9/2018 09:19 11/9/2018 09:19 11/9/2018 09:19 11/9/2018 09:19 11/9/2018 09:19 11/9/2018 09:19	···· ···· ····
METALS									
Analysis Desc: SN Analysis,Water	W846 6010B			Vethod: SV	V-846 3010A 846 6010				
Sodium		16		mg/L	1	0.20	0.17	11/14/2018 16:10	Т
WET CHEMISTR	Y								
	mmonia,E350.1,Water	Anal	lytical Me	ethod: EPA	350.1				
Ammonia (N)		1.7		mg/L	1	0.10	0.025	11/30/2018 14:12	т
Analysis Desc: To Solids,SM2540C	ot Dissolved	Anal	lytical Me	ethod: SM 2	2540 C				
Total Dissolved Se	olids	250		mg/L	1	10	10	11/13/2018 11:31	т
Analysis Desc: Ch E,Water	hlorides,SM4500-Cl-	Anal	lytical Me	ethod: SM 4	4500-CI-E				
Chloride		24		mg/L	1	5.0	2.6	11/21/2018 12:18	т

Report ID: 591623 - 1786159

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CERTIFICATE OF ANALYSIS





> Phone: (813)630-9616 Fax: (813)630-4327

ANALYTICAL RESULTS

Workorder: T1819288 SELF Supplemental Site

Lab ID: Sample ID:	T1819288006 TH-80				Date Received: Date Collected:		Matrix:	Water	
Sample Descr	ription:				Location:				
Parameters		Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL		Lab
FIELD PARAM	METERS								
Analysis Desc measurements	: Data entry of field s	Anal	lytical Me	ethod: Fiel	d Measurements				
Conductivity Dissolved Oxy ORP-2580BW Temperature Turbidity pH		575 0.1 28.5 26.4 1.74 5.55		umhos/ mg/L mV °C NTU SU	cm 1 1 1 1 1 1			11/9/2018 09:49 11/9/2018 09:49 11/9/2018 09:49 11/9/2018 09:49 11/9/2018 09:49 11/9/2018 09:49	···· ···· ····
METALS									
Analysis Desc Analysis,Wate	2: SW846 6010B Pr				W-846 3010A -846 6010				
Sodium		30		mg/L	1	0.20	0.17	11/14/2018 16:13	Т
WET CHEMIS	STRY								
Analysis Desc	: Ammonia,E350.1,Water	Anal	lytical Me	ethod: EPA	350.1				
Ammonia (N)		0.38		mg/L	1	0.10	0.025	11/30/2018 14:13	Т
Analysis Desc Solids,SM254	:: Tot Dissolved 0C	Anal	lytical Me	ethod: SM	2540 C				
Total Dissolve	d Solids	280		mg/L	1	10	10	11/13/2018 11:31	т
Analysis Desc E,Water	:: Chlorides,SM4500-Cl-	Anal	lytical Me	ethod: SM	4500-CI-E				
Chloride		50		mg/L	1	5.0	2.6	11/21/2018 12:19	т

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ANALYTICAL RESULTS

Workorder: T1819288 SELF Supplemental Site

Lab ID: Sample ID:	T1819288007 TH-67				Date Received: Date Collected:		Matrix:	Water	
Sample Desc	ription:				Location:				
Parameters		Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL		Lab
FIELD PARA	METERS								
Analysis Desc measurement	c: Data entry of field	Anal	ytical Me	ethod: Field	Measurements				
Conductivity Dissolved Oxy ORP-2580BW Temperature Turbidity pH		706 0.14 -50.1 26.7 8.41 6.09		umhos/o mg/L mV °C NTU SU	:m 1 1 1 1 1 1			11/9/2018 10:30 11/9/2018 10:30 11/9/2018 10:30 11/9/2018 10:30 11/9/2018 10:30 11/9/2018 10:30	···· ···· ····
METALS									
Analysis,Wate	c: SW846 6010B er	Anal		ethod: SW-					
Sodium		35		mg/L	1	0.20	0.17	11/14/2018 16:17	Т
WET CHEMIS	STRY								
Analysis Desc	: Ammonia,E350.1,Water	Anal	ytical Me	ethod: EPA	350.1				
Ammonia (N)		1.5		mg/L	1	0.10	0.025	11/30/2018 14:19	Т
Analysis Desc Solids,SM254	c: Tot Dissolved 40C	Anal	ytical Me	ethod: SM 2	2540 C				
Total Dissolve	d Solids	400		mg/L	1	10	10	11/13/2018 11:31	т
Analysis Desc E,Water	c: Chlorides,SM4500-Cl-	Anal	ytical Me	ethod: SM 4	4500-CI-E				
Chloride		92		mg/L	1	5.0	2.6	11/21/2018 12:19	т

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ANALYTICAL RESULTS

Workorder: T1819288 SELF Supplemental Site

Lab ID: Sample ID:	T1819288008 TH-81				Date Received: Date Collected:	11/09/18 13:20 11/09/18 10:56	Matrix:	Water	
Sample Descr	ription:				Location:				
Parameters		Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARA	METERS								
Analysis Desc measurement	: Data entry of field s	Ana	lytical Me	ethod: Field I	Measurements				
Conductivity Dissolved Oxy ORP-2580BW Temperature Turbidity pH		226.6 0.45 81.1 27.3 5.54 5.62		umhos/cn mg/L mV °C NTU SU	n 1 1 1 1 1 1			11/9/2018 10:56 11/9/2018 10:56 11/9/2018 10:56 11/9/2018 10:56 11/9/2018 10:56 11/9/2018 10:56	···· ···· ····
METALS									
Analysis Desc Analysis,Wate	2: SW846 6010B er			Method: SW- ethod: SW-84					
Sodium		6.3		mg/L	1	0.20	0.17	11/14/2018 16:21	т
WET CHEMIS									
Analysis Desc	: Ammonia,E350.1,Water	Ana	lytical Me	ethod: EPA 3	50.1				
Ammonia (N)		0.13		mg/L	1	0.10	0.025	11/30/2018 14:20	Т
Analysis Desc Solids,SM254	: Tot Dissolved 0C	Ana	lytical Me	ethod: SM 25	540 C				
Total Dissolve	d Solids	140		mg/L	1	10	10	11/13/2018 11:31	Т
Analysis Desc E,Water	:: Chlorides,SM4500-Cl-	Anal	lytical Me	ethod: SM 45	500-CI-E				
Chloride		13		mg/L	1	5.0	2.6	11/21/2018 12:20	т

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ANALYTICAL RESULTS

Workorder: T1819288 SELF Supplemental Site

Lab ID: Sample ID:	T1819288009 TH-83				Date Received: Date Collected:		Matrix:	Water	
Sample Descr	ription:				Location:				
Parameters		Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAM	METERS								
Analysis Desc measurements	: Data entry of field s	Anal	lytical Me	ethod: Field	Measurements				
Conductivity Dissolved Oxy ORP-2580BW Temperature Turbidity pH	-	968 0.63 61.3 27.2 1.1 6.28		umhos/cr mg/L mV °C NTU SU	m 1 1 1 1 1 1			11/9/2018 11:15 11/9/2018 11:15 11/9/2018 11:15 11/9/2018 11:15 11/9/2018 11:15 11/9/2018 11:15	···· ···· ····
METALS									
Analysis Desc Analysis,Wate	2: SW846 6010B er			Vethod: SW ethod: SW-8	-846 3010A 46 6010				
Sodium		110		mg/L	1	0.20	0.17	11/15/2018 16:11	т
WET CHEMIS	STRY								
Analysis Desc	: Ammonia,E350.1,Water	Anal	lytical Me	ethod: EPA 3	350.1				
Ammonia (N)		13		mg/L	2	0.20	0.050	11/30/2018 15:03	Т
Analysis Desc Solids,SM254	: Tot Dissolved 0C	Anal	lytical Me	ethod: SM 2	540 C				
Total Dissolve	d Solids	470		mg/L	1	10	10	11/13/2018 11:31	Т
Analysis Desc E,Water	:: Chlorides,SM4500-Cl-	Anal	lytical Me	ethod: SM 4	500-CI-E				
Chloride		130		mg/L	5	25	13	11/21/2018 12:36	т

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ANALYTICAL RESULTS

Workorder: T1819288 SELF Supplemental Site

Lab ID: Sample ID:	T1819288010 TH-20B				Date Received: Date Collected:		Matrix:	Water	
Sample Descri	iption:				Location:				
Parameters		Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAM	METERS								
Analysis Desc: measurements	: Data entry of field	Anal	ytical Me	ethod: Field I	Measurements				
Conductivity Dissolved Oxy ORP-2580BW Temperature Turbidity pH	0	390.5 0.11 30.7 26 2.65 5.41		umhos/cn mg/L mV °C NTU SU	n 1 1 1 1 1 1			11/9/2018 11:38 11/9/2018 11:38 11/9/2018 11:38 11/9/2018 11:38 11/9/2018 11:38 11/9/2018 11:38	···· ···· ····
METALS									
Analysis,Water	: SW846 6010B r	Anal		Method: SW- ethod: SW-84	46 6010				
Sodium		20		mg/L	1	0.20	0.17	11/14/2018 16:25	Т
WET CHEMIS	TRY								
Analysis Desc:	: Ammonia,E350.1,Water	Anal	ytical Me	ethod: EPA 3	50.1				
Ammonia (N)		1.9		mg/L	1	0.10	0.025	11/30/2018 14:21	Т
Analysis Desc: Solids,SM2540		Anal	ytical Me	ethod: SM 25	540 C				
Total Dissolved	d Solids	260		mg/L	1	10	10	11/13/2018 11:31	т
Analysis Desc: E,Water	: Chlorides,SM4500-Cl-	Anal	ytical Me	ethod: SM 45	600-CI-E				
Chloride		72		mg/L	1	5.0	2.6	11/21/2018 12:21	т

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ANALYTICAL RESULTS

Workorder: T1819288 SELF Supplemental Site

Lab ID: Sample ID:	T1819288011 Duplicate				Date Received: Date Collected:		Matrix:	Water	
Sample Descr	iption:				Location:				
Parameters		Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS									
	: SW846 6010B	Prep	aration N	Method: S	SW-846 3010A				
Analysis,Wate	ſ	Anal	ytical Me	ethod: SV					
Sodium		16		mg/L	1	0.20	0.17	11/14/2018 16:28	Т
WET CHEMIS	STRY								
Analysis Desc	: Ammonia,E350.1,Water	Anal	ytical Me	ethod: EP	A 350.1				
Ammonia (N)		1.7		mg/L	1	0.10	0.025	11/30/2018 14:22	Т
Analysis Desc Solids,SM254	: Tot Dissolved 0C	Anal	ytical Me	ethod: SM	1 2540 C				
Total Dissolve	d Solids	330		mg/L	1	10	10	11/13/2018 11:31	Т
Analysis Desc E,Water	: Chlorides,SM4500-Cl-	Anal	ytical Me	thod: SM	1 4500-CI-E				
Chloride		24		mg/L	1	5.0	2.6	11/21/2018 12:22	Т

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ANALYTICAL RESULTS QUALIFIERS

Workorder: T1819288 SELF Supplemental Site

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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QC Batch: WC	At/7359		Analysis Meth	od:	SM 2540 C	
QC Batch Method: SM	2540 C		Prepared:			
Associated Lab Samples:	T1819288001,	T1819288002, T1	819288003, T181	9288004, T1	1819288005, T1	819288006, T1819288007,
METHOD BLANK: 29028	15					
Parameter	Units	Blank Result	Reporting Limit Qu	alifiers		
WET CHEMISTRY Total Dissolved Solids	mg/L	10	10 U			
LABORATORY CONTRO	L SAMPLE: 2902	2816				
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
WET CHEMISTRY Total Dissolved Solids	mg/L	660	760	115	85-115	
SAMPLE DUPLICATE: 2	902817		Original: T1819	287026		
Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY Total Dissolved Solids	mg/L	760	780	2	10	
QC Batch: DG	Mt/2517		Analysis Meth	od:	SW-846 6010	
	-846 3010A		Prepared:		11/14/2018 10:0	
Associated Lab Samples:	T1819288001,	T1819288002, T1	819288003, T181	9288004, T1	1819288005, T1	819288006, T1819288007,
METHOD BLANK: 29066	50					
Parameter	Units	Blank Result	Reporting Limit Qu	alifiers		
METALS Sodium	mg/L	0.17	0.17 U			

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LABORATORY CONTRO	DL SAMPLE: 29	906651								
Parameter	Units		ike nc.	LCS Result	L0 % R	CS lec	% Rec Limits C	ualifiers		
METALS Sodium	mg/L		50	50	1	00	80-120			
MATRIX SPIKE & MATR	IX SPIKE DUPLI	CATE: 2906	652	29066	53	Orig	inal: T181	9230001		
Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD Qualifiers
METALS Sodium	mg/L	3.2	50	53	52	99	98	75-125	1	20
	CAt/7579 // 4500-CI-E · 1181928800	01, T1819288	002 T18 [,]	Analysis M Prepared: 19288003 T1			500-CI-E 88005 T18	19288006	T18 ²	19288007
METHOD BLANK: 2914						.,				
Parameter	Units		Blank tesult	Reporting Limit	Qualifiers					
WET CHEMISTRY Chloride	mg/L		2.6	2.6	U					
LABORATORY CONTRO	DL SAMPLE: 29	914427								
Parameter	Units		ike nc.	LCS Result	L0 % R	CS Rec	% Rec Limits C	ualifiers		
WET CHEMISTRY Chloride	mg/L		50	50	1	01	90-110			
MATRIX SPIKE & MATR	IX SPIKE DUPLI	CATE: 2914	428	29144	29	Orig	inal: T181	9360001		
Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD Qualifiers

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Workorder: T1819288 SELF Supplemental Site

MATRIX SPIKE & M	ATRIX SPIKE DUPLIC	CATE: 2914	430	29144	31	Origi	nal: T1819	9288003			
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	18	50	68	68	100	100	90-110	0	10	
QC Batch:	WCAt/7726			Analysis Me	ethod:	EPA 3	50.1				
QC Batch Method: Associated Lab Sam	EPA 350.1 ples: T181928800	1		Prepared:							
METHOD BLANK: 2	920833										
Parameter	Units		Blank Result	Reporting Limit	Qualifiers						
WET CHEMISTRY Ammonia (N)	mg/L		0.025	0.025	U						
LABORATORY CON	TROL SAMPLE: 29	20834									
LABORATORY CON	TROL SAMPLE: 29 Units	S	bike bnc.	LCS Result	L % F	CS Rec	% Rec Limits Q	ualifiers			
		S						ualifiers			
Parameter WET CHEMISTRY Ammonia (N)	Units	SI Co	onc. 0.5	Result	% F	8ec 93	Limits Q				
Parameter WET CHEMISTRY Ammonia (N)	Units mg/L	SI Co	onc. 0.5	Result 0.46	% F	8ec 93	Limits Q 90-110	9198002 % Rec	RPD	Max RPD	Qualifiers
Parameter WET CHEMISTRY Ammonia (N) MATRIX SPIKE & M	Units mg/L ATRIX SPIKE DUPLIC	St Co CATE: 2920 Original	0.5 0.5 838 Spike	Result 0.46 29208 MS	% F 39 MSD	93 Origi MS	Limits Q 90-110 nal: T1819 MSD	9198002 % Rec	RPD	RPD	Qualifiers
Parameter WET CHEMISTRY Ammonia (N) MATRIX SPIKE & M Parameter WET CHEMISTRY	Units mg/L ATRIX SPIKE DUPLIC Units	Sp Co CATE: 2920 Original Result	0.5 838 Spike Conc.	Result 0.46 29208 MS Result	% F 39 MSD Result 1.1	93 Origi MS % Rec	Limits Q 90-110 nal: T1819 MSD % Rec 105	9198002 % Rec Limit		RPD	Qualifiers

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METHOD BLANK: 29222	298										
Parameter	Units		Blank Result	Reporting Limit	Qualifiers						
WET CHEMISTRY Ammonia (N)	mg/L		0.025	0.025	U						
LABORATORY CONTRO	DL SAMPLE: 2	2922299									
Parameter	Units		oike onc.	LCS Result		.CS Rec	% Rec Limits C	ualifiers			
WET CHEMISTRY Ammonia (N)	mg/L		0.5	0.48		97	90-110				
MATRIX SPIKE & MATR	IX SPIKE DUPL	ICATE: 2922	2303	29223	304	Orig	inal: T181	9321001			
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	-0.04	1	0.96	0.95	96	95	90-110	0	10	
MATRIX SPIKE & MATR	IX SPIKE DUPL	ICATE: 2922	2718	29227	719	Orig	inal: S180	1961001			
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	2.2	1	3.2	3.2	100	100	90-110	0	10	

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: T1819288 SELF Supplemental Site

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T1819288001	TH-66A			SM 2540 C	WCAt/7359
T1819288002	Field Blank			SM 2540 C	WCAt/7359
T1819288003	TH-82			SM 2540 C	WCAt/7359
T1819288004	TH-38B			SM 2540 C	WCAt/7359
T1819288005	TH-79			SM 2540 C	WCAt/7359
T1819288006	TH-80			SM 2540 C	WCAt/7359
T1819288007	TH-67			SM 2540 C	WCAt/7359
T1819288008	TH-81			SM 2540 C	WCAt/7359
T1819288009	TH-83			SM 2540 C	WCAt/7359
T1819288010	TH-20B			SM 2540 C	WCAt/7359
T1819288011	Duplicate			SM 2540 C	WCAt/7359
T1819288001	TH-66A	SW-846 3010A	DGMt/2517	SW-846 6010	ICPt/1866
Г1819288002	Field Blank	SW-846 3010A	DGMt/2517	SW-846 6010	ICPt/1866
1819288003	TH-82	SW-846 3010A	DGMt/2517	SW-846 6010	ICPt/1866
1819288004	TH-38B	SW-846 3010A	DGMt/2517	SW-846 6010	ICPt/1866
1819288005	TH-79	SW-846 3010A	DGMt/2517	SW-846 6010	ICPt/1866
1819288006	TH-80	SW-846 3010A	DGMt/2517	SW-846 6010	ICPt/1866
1819288007	TH-67	SW-846 3010A	DGMt/2517	SW-846 6010	ICPt/1866
1819288008	TH-81	SW-846 3010A	DGMt/2517	SW-846 6010	ICPt/1866
Г1819288009	TH-83	SW-846 3010A	DGMt/2517	SW-846 6010	ICPt/1866
Г1819288010	TH-20B	SW-846 3010A	DGMt/2517	SW-846 6010	ICPt/1866
Г1819288011	Duplicate	SW-846 3010A	DGMt/2517	SW-846 6010	ICPt/1866
T1819288001	TH-66A			SM 4500-CI-E	WCAt/7579
Г1819288002	Field Blank			SM 4500-CI-E	WCAt/7579
1819288003	TH-82			SM 4500-CI-E	WCAt/7579
Г1819288004	TH-38B			SM 4500-CI-E	WCAt/7579
1819288005	TH-79			SM 4500-CI-E	WCAt/7579
1819288006	TH-80			SM 4500-CI-E	WCAt/7579
1819288007	TH-67			SM 4500-CI-E	WCAt/7579
1819288008	TH-81			SM 4500-CI-E	WCAt/7579
Г1819288009	TH-83			SM 4500-CI-E	WCAt/7579
1819288010	TH-20B			SM 4500-CI-E	WCAt/7579

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: T1819288 SELF Supplemental Site

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T1819288011	Duplicate			SM 4500-CI-E	WCAt/7579
T1819288001	TH-66A			EPA 350.1	WCAt/7726
T1819288002	Field Blank			EPA 350.1	WCAt/7760
T1819288003	TH-82			EPA 350.1	WCAt/7760
T1819288004	TH-38B			EPA 350.1	WCAt/7760
T1819288005	TH-79			EPA 350.1	WCAt/7760
T1819288006	TH-80			EPA 350.1	WCAt/7760
T1819288007	TH-67			EPA 350.1	WCAt/7760
T1819288008	TH-81			EPA 350.1	WCAt/7760
T1819288009	TH-83			EPA 350.1	WCAt/7760
T1819288010	TH-20B			EPA 350.1	WCAt/7760
T1819288011	Duplicate			EPA 350.1	WCAt/7760
T1819288001	TH-66A	Field Measurements	FLDt/	Field Measurements	FLDt/
T1819288003	TH-82	Field Measurements	FLDt/	Field Measurements	FLDt/
T1819288004	TH-38B	Field Measurements	FLDt/	Field Measurements	FLDt/
T1819288005	TH-79	Field Measurements	FLDt/	Field Measurements	FLDt/
T1819288006	TH-80	Field Measurements	FLDt/	Field Measurements	FLDt/
T1819288007	TH-67	Field Measurements	FLDt/	Field Measurements	FLDt/
T1819288008	TH-81	Field Measurements	FLDt/	Field Measurements	FLDt/
T1819288009	TH-83	Field Measurements	FLDt/	Field Measurements	FLDt/
T1819288010	TH-20B	Field Measurements	FLDt/	Field Measurements	FLDt/

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	Phone:		(Person:	Contact Person: Supplier of Water										
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0.10	TER USE when such that we want the	51	DRINK	FOR		Time	Date	1.011	Received by		Time	Date	Neiiiiquisried by	No.
0	J: 9A G: LT-1 LT-2 / T- 10A A: 3A M-1A		a IR temp g	entifier (circle IR temp gun used	unique ide	ng Temp by	for measuring	Device used for measuring Temp by unique identifier (circle IR temp gun used)					3/2012	orm revised 09/19/2012
dium Thiosulfate)	1.77	Code: 1= Ice	Fleseivauon code:	A Indihana an	Second 1				Temp from blank		Temp taken from sample	Temp take	Ves DNG	sceived on Ice
			Deemation	1	SL = sludne	SO = soil S	A=air S	water O = oil	DW = drinking water		er GW = ground water	SW = surface water		latrix Code: WW = wastewater
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L		-			PRES	0	NIN LINN	DATE TIME	Comp D				1	
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DRATORY I.D. NUMBER	0.2196275	Chloride 명종 문자 TDS 명종 문자 TDS 명종 문자	Sodium Fillan	Total Ammonia-N	ANALYSIS REQUIRED	ANALYSIS REQUIRED Total Ammonia-N	U Tampi I Tampi Nuctions	Edit N/A Southeast County Landfill REMARKS/SPECIAL INSTRUCTIONS	REM	Project Name P-O Number/Project Number Project Location: RE	g Rd.	o. Public Utilities Falkenburg Rd. 19 3222 6801 6801 0wnsel 0wnsel		Client Name: Hills. (Address: 332 North Tampa, Florida 33 Phone: (813) 663 FAX: (813) 274 Contact: Michael T Sampled By: Michael T Sampled By: STANDARD
94 · Fax 407, 937.1587		31e 1016 • A 1L 32608 • 3 ville, FL 322 3025 • 954 8	ake Blvd, S ainesville, F L - Jackson amar, FL 30	28 S. North Ist Blvd. • G Inpaint Pkw ay Way, Mir	fings: 5 965 SW 47 9681 Sout	onte Spr sville: 49 onville: 10200	Altam Gaine Jacks		5.	ries, Inc	al Laborato	Advanced Environmental Laboratories, Inc.	Ŵ	

				ſ	Supplier of Water	Supplie Site-	1	-	-						4
	ne	Phone:			Contact Person	Conta	1								60-1
					PWS ID:	PV	þ.	21 14	11)	14 13:19	10/11 11/01	XING	- 0
-	ation not otherwise	TER USE (When PWS	GWA	RINKIN	OR DF	_	ā	Date Time		Received by:	Rec	te Time	by: Date	Relinquished by	
	T: 10A) A: 3A M: 1A S 1V	J: 8A G: LT-1 LT-2 / T:		n unß duue	(circle IR temp gun used)	e identifier (p by uniqu	easuring Tem	Device used for measuring Temp by unique identifier	De				Form revised Usin19/2012	Form re
celcius)	scawed 1.7 (in degrees celcius)	Temperature when received	ked	pH chec	Where required, pH checked	When				n blank	Temp from blank	Temp taken from sample	LIN0 Temp	Received on Ice JAYes	Receive
osulfate)	I = ice H=(HCI) S = (H2SO4) N = (HNO3) T = (Sodium Thiosulfate)	ce H=(HCI) S = (H2SO4)		Preservation Code:	Preserv	afige	I SL = sludge	= air SO = soil	0 = 0 A =	DW = drinking water	1.11	e water GW = ground water	SW	13	Maurix
when	1167		X	X	X	X	1000 A	3	1	41/24	1.000		atom.		
4	010		X	X	X	X		3	14:34 G	81/10/11	9		1-200		
Pa	e and a second		X	X	X	X	1	3	0 61.11	11/19/18	9		CR-H		
P	ROC		1	X	X	X	1	S	9 35 O	M/9//4	5		18-4	1_	
12	tw		X	X	X	X	5 . J.	E	10:30 6	21/12/12	9		H-6-1		
X	(J)G		X	K	X	1	<u> </u>	320 3	9.44 G	11/9/15	6		H-80		1
P-1	1005		X	X	X	X		2	4:19 6	11/04/196	9		21#		
1	P W		R	X	X	X	[-	5	9 0518	11/10/18	9	5	H-58	1	
K	6.03		X	X	X	X	Ľ	GE S	0	Pullelin	99	2	14- V.A		1
14	1772		×	×	×	×	1	H	8.02 0	11/2/24	1	lant	TICIA U		
101			T	t	T		P		TIMIT	1 1	1	-	117	1	
LAB		-	_			ATION	RESER-	MATRIX NO.	SAMPLING M	DATE	Grab Comp	SAMPLE DESCRIPTION	SAMPLE DE	SAMPLE ID	SAN
OR/			TDS	Chlo	Sod	Tota	ANA						ft	Page: of:	0
TC			;	orid	ium	-							ARD RUSH	Turn Around Time: StanDard	Turn Arc
RY		_		e	1	-	eie					Aller	Ward-Fr	ed By T. Aqui	Sampled By:
1.0					-	-	DE						Michael Townsel	1.1	Contact:
D. N			-			-	011						(813) 274-6801		FAX:
UN			_		-	-		NS	REMARKS/SPECIAL INSTRUCTIONS	MARKS/SPEC	RE		(813) 663-3222		Phone:
ИB			1	1	1		-	1990	Southeast County Landfill	Southeas	Project Location:	q	33619	Tampa, Florida 33619	Tan
ER				-	-	TY	BOT			N/A	P.O. Number/Project Number		332 North Falkenburg Rd.	100	Address:
							Ent TLE	te Assessm	SELF Supplemental Site Assessment	SELF Su	Project Name;	Public Utilities	Co.	Client Name: Hills.	Clien
R	6639 4 363,9354 50,219,6275 778/19,288	Carton of Stress Southpoint Plawy Southpoint Plawy<	FL 32216 - 954.888 FL 3230 FL 3230 813.630	ile, FL 320 (Sonville, FL 33025 ahassee, L 33619	 Miramar, F Drive, Tali Tampa, F 	outhpoint Pi oday Way, dar Center	2: 6581 S 200 USA T 1288 Ce	Jacksonville: 681 Southpoint P Miramar: 10200 USA Today Way, Tallahassee: 1288 Cedar Center Tampa: 9510 Princess Palm Ave.			es, Inc.	Environmental Laboratories, Inc.	Environme		16
1597	Altamonte Springs: 528 S, Northlake Blvd., Ste. 1016 • Altamonte Springs, FL 32701 • 407 937 1594 • Fax 407 937 1597	amonte Springs, FL 32701	016 • Alta	d. Ste. 1	thlake BN	528 S, No	prings:	tamonte S					Advanced		1

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OITE								·····			
SITE NAME: S	outheas	t County I	_andfill			ITE OCATION:	₋ithia, Flo	rida			
WELL NO:	TH-66A	1		SAMPLE	ID: TH-	66A			DATE:	slig	
					PUR	GING DA	TA			$\sigma \mu \sigma$	
WELL		TUBING			LL SCREEN	INTERVAL	STATIC	DEPTH		GE PUMP TYPE	
	(inches): 2		ER (inches):	1/2 DEF	PTH: 5.37 ft	t to 15.37 ft	TOWAT	ER (feet): 8	ĎЧ OR B	AILER: BP	
l (only fill out	if applicable)										
FOUNDMEN	TYOUTHE		= (15.37	feet -	6,84	feet) X	0.16 UBING LENGTH	gallons/foot	= 1,045) gallons
(only fill out	if applicable)	URGE: 1 EQU	INVENT VOL					UBING LENGTH) + FLOW CELI	L VOLUME	
INITIAL PU	MP OR TUBI			gallons + (P OR TUBING		gallons/foot X		feet) +	gallons		ons
	WELL (feet):	14.37		WELL (feet):	-	PURGIN INITIATI	IG ED AT: 9,10	PURGING ENDED AT:	9:25	TOTAL VOLUN PURGED (gallo	
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 <u>or</u> μS/cm	DISSOLVED OXYGEN (circle units) mg/L) or % saturation	TURBIDITY (NTUs)	-	ODOR (describe)
9:21		-	6,1	9.89	5.96	27.0	373.4	0.79	1.14	Clear	None
9:23	0.2	1.3	0.1	9.89	5.95	26.8	366.1	0.67	1.36	Clear	None
9:25	0.2	1.5	0.1	9.89	5.94	26.8	361.7	0.56	1.81	Clear	None
1		5									
		1									
		14/18								Ļ	
							A-			\rightarrow	
TUBING INS	SIDE DIA. CAI	s Per Foot): 0. PACITY (Gal./Ft	.): 1/8" = 0.0	006; 3/16"	= 0.0014;	1/4" = 0.002	6; 5/16'' = 0.	004; 3/8" = 0	006; 1/2" =	0.010; 5/8"	= 5.88 = 0.016
PURGINGE	QUIPMENT C	JODES: B =	Bailer; B	IP = Bladder P		SP = Electric	Submersible Pu	mp; PP = Pe	ristaltic Pump;	0 = Other	(Specify)
SAMPLED B	BY (PRINT) / A	FFILIATION:		SAMPLER(S)	SIGNATURE	E(S):		SAMPLING	0.0	SAMPLING	h
ToHac	J W/W	allut. (371		T.Da		SAMPLING INITIATED AT	9:25	SAMPLING ENDED AT:	7:28
	UBING VELL (feet):	14 37		TÚBING MATERIAL CO				-FILTERED: Y	(N)	FILTER SIZE:	μm
			200		TUBING	Y N re	placed)	DUPLICATE:	Y (N	
		R SPECIFICAT		/		ESERVATIO		INTENDE			
SAMPLE	#	MATERIAL		PRESERVATI	VE T	OTAL VOL	FINAL	ANALYSIS AN	ID/OR EQU	IPMENT F	MPLE PUMP LOW RATE
ID CODE (CONTAINERS	CODE		USED	ADDEL	D IN FIELD (r	nL) pH	METHO		ODE (m	L per minute)
							×				
REMARKS:	SEE C.C).C. FOR §	SAMPLE	ANALY	SIS	ORF	·9:21(-	18.1),9::	23(-55,	4).9:25(-	618)
MATERIAL C		AG = Amber Gla		Clear Glass;	PE = Polye	ethylene;	P = Polypropyl	ene; S = Silicor	ne; T = Teflor	n; O = Other	(Specify)
		RFI		Flow Peristalt		SM = Straw I	Bladder Pump; Method (Tubing	Gravity Drain);	Submersible F O = Other (S		
OTES: 1.	The above of	do not constit	tute all of th	ne informati	on require	d by Chapt	er 62-160, F.A	C			

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

SITE		-			SI	ITE					
NAME: S	Southeast	County La	andfill		L(DCATION: LI	thia, Flori	ida	Λ	i a	/
WELL NO	: Field Bla	nk		SAMPLE	D: Field	l Blank			DATE:	a 15	К
					PURC	GING DA	ΓΑ	<u> </u>			
WELL		TUBIN			LL SCREEN		STATIC	DEPTH	PUR	GE PUMP 1	TYPE
DIAMETE	R (inches): N		TER (inches)	N/A DEF	PTH: N/A ft t	o N/A	TO WAT	ER (feet): N/A	ORI	BAILER: N	I/A
	ut if applicable)							WELL CAPAC			
			= (N/A feet -	N/A fe	et) X C	.16	gallons/foot = UBING LENGTH	N/A	gallor	าร
(only fill ou	NT VOLUME I	PURGE: 1 EQL	IPMENT VO	L. = PUMP VOL	UME + (TUB	SING CAPACIT	Ү Х Т	UBING LENGTH) + FLOW CE	LL VOLUME	
(0,,,) ,,, , , , , , , , , , , , , , , ,	at in applicable)			= N/A ga	llons + (N/A gallons/f	ootx N/A	feet) +	V/A gallons	- NI/A	gallons
INITIAL PU	UMP OR TUBI			MP OR TUBINO	3	PURGING		PURGING	arr ganons	TOTAL VO	
DEPTH IN	WELL (feet):	N/A	DEPTH IN	WELL (feet):	N/A		рат: N/A	ENDED AT:	N/A		gallons): N/A
	VOLUME	CUMUL. VOLUME	PURGE	DEPTH	pН		COND.	DISSOLVED OXYGEN			
TIME	PURGED	PURGED	RATE	TO WATER	(standard	TEMP. (^o C)	(circle units) µmhos/cm	(circle units)	(NTUS)	Y COLC (descri	
	(gallons)	(gallons)	(gpm)	(feet)	units)		or µS/cm	mg/Dor % saturation	(11103)	(desch	be) (describe)
1/2 All All All All All All All All All Al											
								Part of the second s			
	Y	Fiere		1							
		<i>s</i>						DT.			
		01	an				119	1 4			<u> </u>
		TO,						Ę.			
		-						X			
WELL CAP	ACITY (Gallor	is Per Foot): 0.	75" = 0.02;	1" = 0.04;	1.25" = 0.06	; 2" = 0.16;	3" = 0.37;	4" = 0.65; 5		;" = 1.47;	12" = 5.88
TODING IN	EQUIPMENT C	PACITY (Gal./F	$(1/8)^{\circ} = 0.$	0006; 3/16"	= 0.0014;	1/4" = 0.0026;	5/16" = 0.0	004; 3/8" = 0.	006; 1/2" :	= 0.010;	5/8" = 0.016
		JODEO. D-	- Dallel,	BP = Bladder Pi		P = Electric Su		np; PP = Pe	ristaltic Pump;	0 = 0	ther (Specify)
SAMPLED	BY (PRINT) / A	FFILIATION:		SAMPLER(S) S	SIGNATURE	(S):	A	0.000		1	
T. Aa	witar	J.Fu	25	Fin	An			SAMPLING INITIATED AT	8:02	SAMPLIN ENDED A	G T: 8:05
PUMP OR	₽UBING			TUBING	0.		FIELD-	I FILTERED: Y			ZE:μm
	WELL (feet):		l.	MATERIAL CO	de: N/A			n Equipment Typ			ΖΕ μιη
FIELD DEC	ONTAMINATIO	DN: PUMP	Y (N	ソ	TUBING	Y Nrepl	aced)	DUPLICATE:	Y	N	
		R SPECIFICAT	ION	S	SAMPLE PRE	SERVATION		INTENDE		MPLING	SAMPLE PUMP
SAMPLE ID CODE	# CONTAINERS	MATERIAL , CODE	/OLUME	PRESERVATIV USED		DTAL VOL	FINAL	ANALYSIS AN		JIPMENT CODE	FLOW RATE (mL per minute)
		UUDL		0320	ADDED	IN FIELD (ML) рН				
REMARKS:	SEE C.	O.C. FOR	SAMP	LE ANAL	YSIS	*					
MATERIAL	CODES:	AG = Amber GI	ass: CG -	Clear Glass;	PE = Polyet	bylana: DD	- Dobussi				
	EQUIPMENT (istaltic Pump;	B = Bailer		= Polypropyle		,		her (Specify)
		RFI	PP = Reverse	Flow Peristaltic	Pump; S	SM = Straw Me	thod (Tubing C	ESP = Electric Gravity Drain);	O = Other (S	Pump; Specify)	
OTES: 1.	The above of	o not consti	tute all of t	he informatio	n 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)

Γ	SITE					T	SITE					
	NAME: S	Southeast	County L	andfill				Lithia, Flori	ida		/	
	WELL NC	TH-82			SAMPI	LE ID: TH				DATE:	Talia	
						PUI	RGING DA	ATA		/		
	WELL		TUBI	√G	W	ELL SCREE	EN INTERVAL	STATIC	DEPTH	PUR	GE PUMP TYPE	
	DIAMETE	R (inches): 2	DIAM	ETER (inches):	: 1/2 DI	EPTH: 8.94	ft to 18.94 Ft	TO WAT	FR (feet) · O (BAILER: BP	-
	WELL VO	LUME PURGE it if applicable)	: 1 WELL VO	OLUME = (TO	TAL WELL DE	EPTH – S	TATIC DEPTH	TO WATER) X	WELL CAPAC	ITY		
	(only in ot			= (18.94 fee	- 90		feet) X (ITY X T	0.16	allons/foot =	1.44	allons
	EQUIPME	NT VOLUME I	PURGE: 1 EQ	UIPMENT VOI	L. = PUMP VC	DLUME + (T	UBING CAPAC	ITY X T). 16 g UBING LENGTH) + FLOW CEL		
					=	gallons + (N (gall	ons/foot X 🛛 🔊	(A feet)+ N/A	gallons = A	
		JMP OR TUBI			MP OR TUBIN	1G			6 PURGING ENDED AT:			
-	DEPTH IN	WELL (feet):	17.94	DEPTH IN	WELL (feet):	17.94	INITIAT	ED AT: 1.3-		0,50	TOTAL VOLUN PURGED (gallo	ons): 3, 4
		VOLUME	CUMUL.	PURGE	DEPTH TO	pH		COND.	DISSOLVED OXYGEN			1
	TIME	PURGED	PURGED	RATE	WATER	(standar	d TEMP. (°C)	(circle units) µmhos/cm	(circle units)	(NTUS)	COLOR (describe)	ODOR (describe)
	S4.	(gallons)	(gallons)	(gpm)	(feet)	units)		or µS/cm	mg/L or % saturation	((describe)
6	8:11	1.5	1.5	0.1	9.94	5.40	26.8	251.2	0.66	7.43	Clear	None.
2	<u> 3:13</u>	0.2	1.7	0.1	9.94	5.3		231.1	0.60	6.87	Clear	None
< 4	6:15	0.2	1.9	0.1	9.94	5.30	526.8	201.9	0.55,	6.51	Clear	None
P 4	<u>8:17</u>	161.1	3.0	<u>0,1</u>	9,94	5.00	126.9	139.6	0.38	5.05	Clian	none
2	6:25	0.2	3.2	0.1	9.94		126.9	136.7	0.36	4.42	Clear	none
4	5:30	0.2	3.4	0.1	9,94	4.95	126.9	134.6	0.34	4.18		
Contraction of					1			and the second	Burners and the second se			
	<u> </u>		HA		and the second se			4		A REAL PROPERTY OF THE PARTY OF		
-			11.0			-	On				and the second	
								8×**				
												Contraction of the Institute of the Inst
T	UBING IN	SIDE DIA. CA	IS Per Foot): PACITY (Gal./	0.75" = 0.02; Ft.): 1/8" = 0.1	1" = 0.04; 0006; 3/16	1.25 " = 0. " = 0.0014:	06; 2" = 0.1 1/4" = 0.002	6; 3 " = 0.37; 6; 5/16" = 0.	4" = 0.65; 4 004; 3/8" = 0.	5'' = 1.02; 6		= 5.88 = 0.016
		EQUIPMENT (BP = Bladder			Submersible Pur		ristaltic Pump;		
						SAM	PLING DA	\TA				(
C mm	Constant of a	BY (PRINT) / A	FFILIATION:		SAMPLER(S) SIGNATUI	RE(S):		SAMPLING	QUAN	SAMPLING	7:00
P	UMP OR	WBING	J. tul	101	TUBING	<u>n ngu</u>	Ap/		INITIATED AT	0,30	SAMPLING ENDED AT:	0,55
		VELL (feet):	17.94		MATERIAL C	~	<i>U</i>	FIELD-	-FILTERED: Y		FILTER SIZE:	μ m
		ONTAMINATIO				TUBING	Y NI re	placed)	DUPLICATE:	Y	N	
	SAMP	LE CONTAINE	R SPECIFICA		·	SAMPLEE	RESERVATIO		INTENDE			
	SAMPLE	#	MATERIAL	VOLUME	PRESERVAT		TOTAL VOL	FINAL	ANALYSIS AN	ID/OR EQL	JIPMENT F	MPLE PUMP LOW RATE
	D CODE	CONTAINERS	CODE		USED	ADD	ED IN FIELD (r	nL) pH	METHO			L per minute)
									ORP: 8	7 /	8.4)	
					11-1				8		2,9)	1
-								4	8	130 (3)	2.6)	
		OFF A										
RI	EMARKS:	SEE U.U	J.C. FUR	SAMPLE	: ANALY	SIS	OKI	8:11(2	17) 2.10	2(-17.1)	18-15/29	
M	ATERIAL	CODES:	AG = Amber (Glass; CG =	Clear Glass;	PE = Pol	yethylene; I		ene; S = Silicor	e; T = Teflo	n; 0 = Other	Specific)
SA	AMPLING	EQUIPMENT		PP = After Per	istaltic Pump;	B = Ba	iler; BP = I	Bladder Pump;	ESP = Electric	-		(opecity)
NO	TEQ. 1	The shows	Ri	FPP = Reverse	Flow Peristal	Itic Pump:	SM = Straw N	Vethod (Tubing Cer 62-160, F.A	Gravity Drain)	O = Other (S		
140	160, 1,	THE ADOVE (TO HOL COUS	utute all of t	ne informat	ion requir	ed by Chapte	er 62-160. F.A	C			

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

SITE					S	ITE					
NAME: S	outheas	t Count	y Landfill		-		_ithia, Flo	orida	,		
WELL NO:	TH-38E	1		SAMPL	EID: TH-	38B			DATE:	9/14	
						GING DA	ATA				
WELL		TUB			LL SCREEN		STATIC	DEPTH	PURG	GE PUMP TYPE	E
	(inches): 2		IETER (inches): 1/2 DE	PTH: 5.42 ft	to 15.42 Ft	TO WAT	TER (feet):	2 <u>5</u> or ba	AILER: BP	
(only fill out	(if applicable)						TO WATER)	K WELL CAPAC	ITY		
			= (15.42 feet	- 10.2	15	feet) X (0.16 gallons	/foot = 0,8	3 gallons	6
EQUIPMEN (only fill out	IT VOLUME F if applicable)	URGE: 1 E	QUIPMENT VO								
	MP OR TUBI	10	CINIAL DI	= g JMP OR TUBIN	allons + (🛤	In gall	ons/foot X 🛛 🖉	MA feet	+ ~ 1/2	gallons = A	A gallons
	WELL (feet):	14.42		N WELL (feet):	-		IG ED AT. O + 20	PURGING ENDED AT:	GIGN!		EA
		CUMUL		DEPTH	17.72		COND.	DISSOLVED		PURGED (gallo	ns): [
TIME	VOLUME PURGED	VOLUM	E PURGE	ТО	pH (standard units)	TEMP. (^o C)	(circle units) µmhos/cm	OXYGEN (circle units)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
OF 1111	(gallons)	(gallons		(feet)			or [µS/cm]	mg/L <u>or</u> % saturation		((00001100)
8:46	0.9	0.9	0.1	11.15	4.60		<u>55.5</u>	0.23	6.91	Clear	None
8:48	0.1	1.3		11.24	4.66	26.4	55.6	0.21	5.02	Clear	hone
00.00	0.2	1.	6.	1 11.26	4.71	26.5	53.1	6,22	3.84	Clear	None
	6	N. N					Commence and Commen	A COLUMN TO A COLUMNT TO A COLUMN			
	q	aliq	5								
					/						
		8					\frown				
											<u></u>
		Concession and the second second									
WELL CAPA	ACITY (Gallon	s Per Foot):	0.75" = 0.02;	1" = 0.04; .0006; 3/16"	1.25" = 0.06	; 2 " = 0.16	6; 3" = 0.37;		" = 1.02; 6"	= 1.47; 12"	= 5.88
PURGING E	QUIPMENT C	ODES:		BP = Bladder P			6; 5/16'' = 0. Submersible Pu		006; 1/2'' = ristaltic Pump;	0.010; 5/8" 0 = Other	= 0.016
					SAMP	LING DA		<u>inp, 11–16</u>	instanto Fump,		(Specity)
SAMPLED B	BY (PRINT) / A	FFILIATION		SAMPLER(S)	SIGNATURE	E(S):		SAMPLING	0.00	SAMPLING	7.00
PUMP OR T	IM Lac	J.T.	rel	TUBING	<u>n 10</u>	02		INITIATED AT	\$150	SAMPLING < ENDED AT:	\$:53
	/ELL (feet):	14.42		MATERIAL CO	DF T		FIELD	-FILTERED: Y on Equipment Typ		FILTER SIZE:	μm
		- Contraction of the second seco	MP Y N	V)		Y N (re		DUPLICATE:		N	
SAMPL	E CONTAINE	R SPECIFIC	ATION			ESERVATION		INTENDE			MPLE PUMP
SAMPLE ID CODE	# CONTAINERS	MATERIAL	VOLUME	PRESERVATI		OTAL VOL	FINAL	ANALYSIS AN	D/OR EQUI	PMENT FI	OW RATE
	JUNTAINERS	CODE		USED		D IN FIELD (m	L) pH	METHOD		DDE (ml	_ per minute)
				·····							
REMARKS:	SEE C.C	.C. FOF	SAMPL	E ANALYS	SIS	ORF	· 8:46	(1055)	8:14(GL	1 NA.C	26991
MATERIAL C	ODES:	AG = Amber	Glass; CG =	Clear Glass;	PE = Polye	thylene; F	P = Polypropyle	ene; S = Silicon	e; T = Teflon;	0'= Other	(Specify)
SAMPLING E	QUIPMENT (APP = After Pe	ristaltic Pump; e Flow Peristalti	B = Baile		Bladder Pump;	ESP = Electric	Submersible P	ump;	(p//)/
OTES: 1.	The above o	lo not con	stitute all of	the information	on required	by Chapte	lethod (Tubing (r 62-160, F.A	Gravity Drain);	O = Other (Sp	ecify)	

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

SITE SITE												
NAME: Southeast County Landfill LOCATION: Lithia, Florida												
WELL NO	o: TH-79			SAMPLE	ID: TH-	79	DATE: 11918					
					PUR	GING DA	TA		į.			
WELL	_	TUBI			LL SCREEN		STATIC	DEPTH	PURC	GE PUMP TYPE		
	ER (inches): 2		ETER (inches):	1/2 DEI	PTH: 7.80 ft	to 17.80 Ft	TO WAT	DEPTH ER (feet): 7,7	OR B	AILER: 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 - 7.7) feet) X 0.16 gallons/foot = 1.605 gallons EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME											
	$= \text{gallons} + (N \land \text{gallons/foot X} \land N \land \text{feet}) + N \land \text{gallons} = N \land \text{gallons}$											
INITIAL PUMP OR TUBING FINAL PUMP OR TUBING PURGING CALL OF PURGING CALL OF TOTAL VOLUME												
										ns): 🔔 .		
	VOLUME	CUMUL. VOLUME	PURGE	DEPTH TO	pН	TEMP.	COND. (circle units)	DISSOLVED OXYGEN				
TIME	PURGED (gallons)	PURGED	RATE	WATER	(standard units)	(°C)	µmhos/cm	(circle units)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	
C		(gallons)	(gpm)	(feet)	units)		or µS/cm	% saturation			()	
9:15		1.7	0.1	8.90	5.56	26.2	445.2	1.16	18,8	Clear	None	
9.11	0.2	1.9	0.1	8,90		26.2	486.9	1.22	16.7	Clear	None	
9:10	10.2	2.1	0.1	8.90	<u>5.56</u>	26.2	488,9	1.60	15.6	Clear	None	
1							ALTERNATION OF A	9				
								and the second sec				
		1	4						and the second division of the second divisio			
	119110											
		1 .				0						
							A				~	
		Non-second second se										
WELL CA	PACITY (Gallon NSIDE DIA, CAI	is Per Foot): PACITY (Gal /	0.75" = 0.02; Ft.): 1/8" = 0.00	1'' = 0.04;	1.25'' = 0.06	; 2" = 0.16	5; 3" = 0.37; 5; 5/16" = 0.0	4" = 0.65; 5			= 5.88	
	EQUIPMENT C			P = Bladder P			Submersible Pur		006; 1/2" = ristaltic Pump;	0.010; 5/8" O = Other	= 0.016	
						ING DA			istanic Fump,	0 - Other	(Specity)	
SAMPLED	BY (PRINT) / A			AMPLER(S)	SIGNATURE	(S):		SAMPLING	(SAMPLINC		
	auila	()	Fully (Tiln	(AL	Jan-		SAMPLING INITIATED AT:	9.19	SAMPLING ENDED AT:	1:22	
PUMP OR		16 90		UBING			FIELD-	FILTERED: Y	IN/	FILTER SIZE:		
	WELL (feet):			IATERIAL CC		- Californian	I	n Equipment Typ	e:			
			المتشمير)		TUBING	Y N(rep		DUPLICATE:	Y	N		
SAMPLE	PLE CONTAINE					ESERVATION					VIPLE PUMP	
ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME P	RESERVATIN USED		OTAL VOL) IN FIELD (m	FINAL pH	ANALYSIS AN			OW RATE	
REMARKS:	SEE C.C).C. FOR	SAMPLE	ANALYS	SIS	ORP	9:15(3	0 0 9:17	68.50	2. ia(20	1	
MATERIAL	CODES:	AG = Amber C	Blass; CG = C	lear Glass;	PE = Polye	thylene; P	P = Polypropyle	ne; S = Silicone	e; T = Teflon	0 = Other (Specify)	
	EQUIPMENT	R	PP = After Perist FPP = Reverse F	low Peristalti	B = Baile c Pump; s	r; BP = B SM = Straw M	ladder Pump; lethod (Tubing C	ESP = Electric		ump:		
OTES: 1.	The above of	to not const	titute all of the	e informatio	n required	by Chapte	r 62-160 F A	<u> </u>				

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

P			G	ROUNI	DWAT	ER SA	MPLINC	G LOG		, ¢	Pa	
SITE NAME: S	outheast	County La	andfill		1		_ithia, Flor	ida	/1	19/18	date	
WELL NO	TH-80			SAMPLI	ID: TH-				DATE:	244	<u> </u>	
[PURGING DATA WELL TUBING WELL SCREEN INTERVAL STATIC DEDTU DURDER DATE											
	R (inches): 2	TUBING	G TER (inches)			INTERVAL ft to 18.65 F	STATIC	DEPTH ER (feet): 8				
WELL VO	LUME PURGE	: 1 WELL VO	UME = (TO	TAL WELL DEP	PTH – STA	ATIC DEPTH	TO WATER) X	WELL CAPAC	<u>) р</u> ј ок ва ITY	AILER: BP		
		URGE: 1 EQL	= (18.65 feet	- 8,0)4	feet) X (D.16 ga	allons/foot =	.69	allons	
eQUIPME (only fill ou	NT VOLUME F it if applicable)	URGE: 1 EQL	IPMENT VO					UBING LENGTH	+ FLOW CELL	VOLUME		
INITIAL PL	JMP OR TUBI	JG		$\frac{= N A g}{MP OR TUBING}$	allons + (🔨	gall		feet)	+ N/A	gallons =	A gallons	
DEPTH IN WELL (feet): 17.65 DEPTH IN WELL (feet): 17.65 PURGING ENDED AT: 9:26 ENDED AT: 9:26									9:49	OTAL VOLUM PURGED (gallo	E	
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)	
9:45	1.7		0.1	8,23	5.55	26.4	573	0.14	2.32	Clear	None.	
9:47	0.2	1,9	0.1	8.23	5.56	26.4	574	0,12	1.44	Clear	None	
9:49	10.2	2.1	0.1	8.23	5.55	26.4	575	0,10	1.74	Clear	None	
		101	th-									
	-	KIDH	12			/						
								\sim				
````	<u></u>							A	·			
WELL CAP	ACITY (Gallon	s Per Foot): 0.	$75" = 0.02^{\circ}$	1" = 0.04:	1 25" - 0.06	; <b>2"</b> = 0.16	<del>3</del> ; <b>3"</b> = 0.37;					
TUBING IN	SIDE DIA. CAI	PACITY (Gal./Fi	.): 1/8" = 0.0	0006; <b>3/16"</b>	= 0.0014;	1/4" = 0.0026	5; <b>5/16"</b> = 0.0	004; <b>3/8"</b> = 0.0			= 5.88 = 0.016	
PURGING	EQUIPMENT C	ODES: B=	Bailer; I	3P = Bladder P		SP = Electric S	Submersible Pur	np; PP = Per	istaltic Pump;	O = Other (	(Specify)	
SAMPLED I	BY (PRINT) / A	FFILIATION:	5. E	SAMPLER(S)			IA	SAMPLING	······································	0.1.1.2.1.1.2	-	
PUMP OR 1	quila	J.F.	iller		170	Zingermannel		INITIATED AT:	9:49	SAMPLING C ENDED AT:	1:52	
	VELL (feet):	7.65		TUBING MATERIAL CO			FIELD-	FILTERED: Y	N I	FILTER SIZE:	μm	
	ONTAMINATIC		1		TUBING	Y N rei	placed)			N)		
SAMP	LE CONTAINE	R SPECIFICAT	ION	S	SAMPLE PRI	ESERVATION		INTENDED			/PLE PUMP	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	/OLUME	PRESERVATIN USED		OTAL VOL ) IN FIELD (m	FINAL IL) pH	ANALYSIS AN METHOD	D/OR EQUIF	PMENT FL	OW RATE . per minute)	
REMARKS:	SEE C.O	.C. FOR S	SAMPLE	ANALYS	SIS	ORP	9:45(3	200.11	n(na z) a	2.1106	s d	
MATERIAL (	-	AG = Amber Gla	ass; CG = (	Clear Glass;	PE = Polye		P = Polypropyle	ne; <b>S</b> = Silicone	T = Teflon;	0 = Other (	Specify)	
	EQUIPMENT C	RFF	P = After Peri PP = Reverse	Flow Peristaltic	B = Baile Pump;	r; BP = B SM = Straw M	ladder Pump; lethod (Tubing C	ESP = Electric		mp;		
OTES: 1.	The above d	o not constit	ute all of th	ne informatio	n required	hy Chante	r 62-160, F.A.	<u> </u>				

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

SITE					S	ITE						
NAME: S	outheas	t County	/ Landfill		L	LOCATION: Lithia, Florida						
WELL NO:	TH-67			SAMPLE I	D: TH-	H-67 DATE: 11.9/14						
					PUR	GING DA	TA		l	110		
WELL	-	TUBI			SCREEN	INTERVAL	STATIC	DEPTH	PURG	E PUMP TYPE	-	
DIAMETER	R (inches): 2	DIAN	ETER (inches	): 0.5 DEPT	Ή: 5.25 f	t to 15.25 ft	TO WAT	ER (feet): 6.6	4 000	AILER: BP	-	
(only fill out	UME PURGE	:: 1 WELL V	OLUME = (TO	TAL WELL DEPT	H - STA	TIC DEPTH	TO WATER)	WELL CAPAC	TY			
	,		= (	15.25 _{feet}	-6.64	feet) X	0.16	gallons/foot	-129	> gallons		
EQUIPMEN	NT VOLUME F	PURGE: 1 EC	UIPMENT VO	15.25 feet DL. = PUMP VOLU	ME + (TU	BING CAPAC	ITY X T	UBING LENGTH)	+ FLOW CELL	VOLUME		
				= gall				∫∫feet)			∆ gallons	
	MP OR TUBI			JMP OR TUBING								
DEPTH IN WELL (feet): 14.25 DEPTH IN WELL (feet): 14.25 PURGING INITIATED AT: 9.55 PURGING ENDED AT: 10,30 PURGED (gallons): 3.2												
TUAE	VOLUME	CUMUL.		DEPTH TO	рН	TEMP.	COND. (circle units)	DISSOLVED OXYGEN				
TIME	PURGED (gallons)	PURGED	RATE	WATER	(standard units)	(°C)	µmhos/cm	(circle units)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	
intio		(gallons)	(gpm)	(feet)	41/100/	5 A	or µS/cm	<u>mg/l</u> } <u>or</u> % saturation			(	
10:12	1,4	1.4	0,1	9.60 (	2.03	26.4	568	0.19	11.4	Clear	Mone	
10:14	0.2	1.6	0.1	9.60 0	5.01	26.4	590	0.17	8.7	Clear	None	
10:26	1.2	2.8	0.1	11.20 6	<u>,08</u>	26.7		0.14	6,84	Char	none	
10:28		3.0	0.1	11.276		26.7	708	0.15	7.96	Clear	NOAR	
10:30	0.2	3.2	0.1	11.356	6.09	26.7	706	G.14	8.41	Clear	None	
		1.4-		_					·			
	-119	VID										
	and the second se					0	K					
	<u></u>					1	~					
									An			
TUBING INS	SIDE DIA. CA	s Per Foot): PACITY (Gal./	0.75" = 0.02; Ft.): 1/8" = 0	1" = 0.04; 1. .0006; 3/16" =	.25" = 0.06 0.0014:	; 2" = 0.16 1/4" = 0.0026	3'' = 0.37; $5'_{,} 5/16'' = 0.$		" = 1.02; 6" 006; 1/2" =		= 5.88	
PURGING E	QUIPMENT C	ODES: E	s = Bailer;	BP = Bladder Pun			Submersible Pur		istaltic Pump;	0 = Other	= 0.016	
					SAMPI	LING DA					(opeony)	
SAMPLED B	Y (PRINT) / A	FFILIATION	. 11 ./	SAMPLER(S) SI	GNATURE	(S):	/	SAMPLING	10.03	SAMPLING .	,	
PUMP OR T	<u>vuilar</u>	1.1	ANA	TUBING	$^{\prime}D$	Ng/		INITIATED AT:	10:30	SAMPLING ENDED AT:	0:33	
	/ELL (feet):	14.25		MATERIAL COD	с. Т		FIELD-	FILTERED: Y	N	FILTER SIZE:	μm	
	ONTAMINATIC		IP Y IN	<		V N/rer		DUPLICATE:		<u></u>		
	E CONTAINE		T							N		
SAMPLE	#	MATERIAL	VOLUME	PRESERVATIVE		OTAL VOL	FINAL	INTENDE			OW RATE	
ID CODE (	CONTAINERS	CODE	VOLUME	USED		) IN FIELD (m	L) pH	METHOD	CC		per minute)	
						······		ORP: 10	1:28 (-40	1.5)		
								10	:30 (-50	2.1		
									~			
		_										
REMARKS:	SEE C.O	.C. FOR	SAMPLE	ANALYSI	S	ORP	"ininf.	2960) 1.	· uil in	M IN MI	( 110 it)	
MATERIAL C	ODES:	AG = Amber (	Glass; CG =	Clear Glass; F	PE = Polye	thylene; P	P = Polypropyle	ene; <b>S</b> = Silicone	$\frac{T}{T} = Teflon;$	0 [/] = Other (	Specify)	
SAMPLING E	QUIPMENT C		PP = After Pe	ristaltic Pumo:	B = Baile	r; BP = B	ladder Pump:	ESP = Electric	,,		opecity)	
OTES: 1	The above o	R In not core	HPP = Revers	e Flow Peristaltic F he information	Pump;	SM = Straw M	lethod (Tubing C	Gravity Drain)	O = Other (Sp	ecify)		
			urare all OLI	are mormation	required	i by Chapte	r 62-160, F.A.	.C.				

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

SITE						SITE					
NAME: Southeast County Landfill LOCATION: Lithia, Florida											
WELL NO:	TH-81			SAM	PLE ID: T	H-81 DATE: 1/9/17					
					PU	JRGING D	ATA			/ / /	
WELL		TUBIN	G		WELL SCR	EEN INTERVAL	STATIC	DEPTH	PUR	GE PUMP TY	PF
DIAMETER	R (inches): 2	DIAME	TER (inches)	): 1/2	DEPTH: 6.	94 ft to 16.94 i	P4 ft to 16.94 Ft     TO WATER (feet): 6,26     OR BAILER: BP       STATIC DEPTH TO WATER)     X     WELL CAPACITY				
	( if anniicania)								ITY		
	,,		= (	16.94 f	eet - H	.24	feet) X (	) 16 a	allons/foot -	120	gallons
EQUIPMEN	IT VOLUME F	URGE: 1 EQU	JIPMENT VO	L. = PUMP	/OLUME +	(TUBING CAPAC	ITY X T	D. 16 ga	) + FLOW CEL	L VOLUME	galions
											V/A Hallons
INITIAL PU	MP OR TUBIN			IMP OR TUE	ING	M     gallons/foot X     M     feet) +     M     gallons =     V/A     gallons       4     PURGING INITIATED AT: 10:36     PURGING ENDED AT: 10:56     TOTAL VOLUME PURGED (gallons): 2, 0					
DEPTH IN \	WELL (feet):	15.94	DEPTH IN	WELL (feet	<u>): 15.9</u>	4 INITIAT	ED AT: 10:3		10:56	PURGED (ga	llons): 2.0
	VOLUME	CUMUL. VOLUME	PURGE	DEPTH TO	Hq H		COND.	DISSOLVED OXYGEN			
TIME	PURGED	PURGED	RATE	WATE	R (stand units	1 101.1	(circle units) µmhos/cm	(circle units)	TURBIDITY (NTUs)	COLOR (describe	ODOR (describe)
8 4 B m -	(gallons)	(gallons)	(gpm)	(feet)		·/	or µS/cm	mg/L <u>or</u> % saturation	( /	(	
10:50	4	1.4	0.1	8.3	25.6	227.1	218.0	0,19	30.0	Clea	~ None
10:52		1.6	0.1	9.3	0 5.9	59 27.2	221.7	1.03	15.1	Clea	
10:54		1.4	0.1	\$13	05.1	20 27.3	224.7	0,59	4.93	3 Clea	
10:56	0.2	2.0	6.1	8.3	05.6	227.3	226.0	0.45	5.54		A
											1000
		1							Service and the service of the servi		
		110.1	4								
		111917	V				$\sim$	A			
						/	V	R			
$\backslash$											
	A second day of the second sec			and Bertractore							1
WELL CAPA TUBING INS	ACITY (Gallon	s Per Foot): 0	$.75^{\circ} = 0.02;$	1" = 0.04;	1.25" =	0.06; 2" = 0.1 4; 1/4" = 0.002					2" = 5.88
	QUIPMENT C			BP = Bladde			6; <b>5/16''</b> = 0.1 Submersible Pur		006; 1/2" = ristaltic Pump;		3" = 0.016 er (Specify)
					the second s	APLING DA		<u>np, 11-10</u>	nstante i unip,	0 - Othe	ir (Speciry)
	Y (PRINT) / A		5	SAMPLER(				SAMPLING	•	SAMPLING	
PUMPORT	uila(	J. Ful	1)e(	<u> </u>	101/2	Er-		INITIATED AT	10.56	ENDED AT:	10:59
	/ELL (feet):	15 01		TUBING	arr-100			FILTERED: Y	N)	FILTER SIZE	
			Y TN	MATERIAL				on Equipment Typ		()	
	· · · · · · · · · · · · · · · · · · ·	R SPECIFICAT			TUBIN	-38649	placed)	DUPLICATE:	Y	M	
SAMPLE	#			PRESERVA		TOTAL VOL		INTENDE ANALYSIS AN			AMPLE PUMP FLOW RATE
	CONTAINERS	CODE	VOLUME	USED		DED IN FIELD (r	nL) pH	METHOE			mL per minute)
								6RP; 10	156 (81	.1)	
REMARKS:	SEE C.C	.C. FOR	SAMPLI	EANAL	YSIS	ORP	10:50	13.0 10.	Salan	10:54	(570)
MATERIAL C	ODES:	AG = Amber GI	ass; CG =	Clear Glass	PE = P	olyethylene; I	PP = Polypropyle	ene; S = Silicon	e; T = Teflor	0 = Othe	r (Specify)
SAMPLING E	QUIPMENT		P = After Per	istaltic Pump	); B = I	Bailer; BP = [	Bladder Pump;	ESP = Electric	Submersible F	Pump;	(
OTES: 1. 1	The above o	KFI O not consti	PP = Reverse	tow Perist	attion regr	SM = Straw M ired by Chapte	Aethod (Tubing C	Gravity Drain)	O = Other (S	pecify)	
		-				mea by chapt	= 02-100, F.A.				

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

SITE	Southoost	County Lo	ndfill			SITE						
	TH-83	County La	Indilli			LOCATION: Lithia, Florida						
VVELL NO	: 111-05			SAMPLE	ID: TH-8				DATE: [// 4	<u>i/18</u>		
WELL VO	DIAMETER (inches): 2       DIAMETER (inches): 1/2       DEPTH: 5.47 ft to 15.47 Ft       TO WATER (feet): 6.65       OR BAILER: BP         WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X       WELL CAPACITY         (only fill out if applicable)       OR BAILER: DEPTH TO WATER) X       WELL CAPACITY											
EQUIPME	NT VOLUME F	URGE: 1 FOU		15.47 feet -	$- \mathcal{O}.\mathcal{O}$		feet) X (	).16 ga	illons/foot =	<u>,09 g</u>	allons	
				= N los ga	illons + ( N		ons/foot X	feet)	+ N A	gallons =	gallons	
	JMP OR TUBIN WELL (feet):	ig 14.47		IP OR TUBING			G ED AT: 11:04	PURGING ENDED AT:	11:15]		1E ons): [.76	
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/) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	
11:13	0.32	1.12	0.16		6,34	27.1	976	0.76	1.5	Clean	none	
Hils	0.52	1.76	0,16	8.70	6.28	127.2	968	0.63	61.1	Clear	None	
		18						The second s				
	1114											
							VK	ø				
TUBING IN	PACITY (Gallon ISIDE DIA. CAI EQUIPMENT C	s Per Foot): 0.7 PACITY (Gal./Ft. ODES: B =	): 1/8" = 0.0	1" = 0.04; 006; 3/16" = P = Bladder Pu	= 0.0014;	1/4" = 0.0026	5; 3" = 0.37; 5; 5/16" = 0.1 Submersible Pur	004; 3/8" = 0.0	" = 1.02; 6" 006; 1/2" = r ristaltic Pump;		= 5.88 = 0.016 (Specify)	
	BY (PRINT) / A				SAMPI	LING DA	TA					
	unlas'	J.Fu	ler	SAMPLER(S) S	2/An	URE(S): SAMPLING INITIATED AT: 11:15 SAMPLING ENDED AT: 11:15				1:15		
	WELL (feet):	4.47		TUBING		g si		FILTERED: Y	e.N	FILTER SIZE:	μm	
	ONTAMINATIC	· · · · · · · · · · · · · · · · · · ·			TUBING	Y N (rej	placed)	DUPLICATE:		N		
		R SPECIFICATI	ION	S	AMPLE PRI	ESERVATION		INTENDE			MPLE PUMP	
SAMPLE ID CODE	# CONTAINERS	MATERIAL V CODE	OLUME F	PRESERVATIV USED		OTAL VOL D IN FIELD (m	IL) FINAL pH	ANALYSIS AN METHOD			LOW RATE L per minute)	
REMARKS:	SEE C.C	.C. FOR S	SAMPLE	ANALYS	SIS	ORF	)	5.5) 111	nlinin	11.100	12	
MATERIAL	CODES:	AG = Amber Gla	ass; CG = C	Clear Glass;	PE = Polye	thylene; F	P = Polypropyle		s(60.9) e; <b>T</b> = Teflon;	O = Other	(Specify)	
	EQUIPMENT (	RFF		Flow Peristaltic	B = Baile Pump;	r; BP = B SM = Straw N	ladder Pump; Iethod (Tubing C	ESP = Electric Gravity Drain):	Submersible Pi 0 = Other (Sp	ump;		
OTES: 1.	The above of	lo not constit	ute all of th	e informatio	n required	by Chapte	r 62-160, F.A	.C. //				

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

SITE												
NAME:	NAME: Southeast County Landfill LOCATION: Lithia, Florida											
WELL NO	: TH-20B			SAMPLE	1D: TH-2	H-20B DATE: 11918						
PURGING DATA												
WELL		TUBING			L SCREEN		STATIC I	DEPTH	PUR	GE PUMP TYPE		
DIAMETE	R (inches): 2	DIAMET	ER (inches):	3 / 1000		ft to 22.80		ER (feet): 9,9		AILER: BP		
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)												
	$= (22.8  \text{feet} - 9,9\%  \text{feet}) \times 0.16  \text{gallons/foot} = 2,05$											
gallons EQUIPME	ENT VOLUME P	URGE: 1 FOU						UBING LENGTH)			~	
	ut if applicable)										N1	
INITIAL P	$= \frac{N}{2} \text{ gallons} + (\frac{N}{2} \text{ gallons/foot X} + \frac{N}{2} \text{ gallons/foot X} + \frac{N}{2} \text{ gallons} = N$											
DEPTH IN	I WELL (feet):	21.8	DEPTH IN V	VELL (feet):	21.8	INITIATI	ED AT:	ENDED AT:	1:34	PURGED (gallo	ons): 4:06	
		CUMUL.		DEPTH			COND.	DISSOLVED	1			
TIME	VOLUME PURGED	VOLUME PURGED	PURGE RATE	TO WATER	pH (standard	TEMP. ( ^o C)	(circle units) μmhos/cm	OXYGEN (circle units)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	
	(gallons)	(gallons)	(gpm)	(feet)	units)	(0)	or µS/cm	(mg/l) or % saturation	(14105)	(describe)	(describe)	
11:33	12,32	2.32	0.29	12.40	5.34	26.1	367.6	0.17	2.03	CRAI	Nove	
11:34	0.58	2,90	0.29		5.34	26.1	377.2	0.15	1.71	Clear	hone	
11:36		3.48	0,29	12.40	5.37	26.0	387.4	0.12	2.08	Clear	None	
11139	30.58	4.06	0,29	(2.40	5.41	26.0	390.5	0.11	2.65	Clear	None	
44 AUGUST					·····							
	ß	5				Junior			and the second design of the s			
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	gaaratii gaarattiitiite	110						<i>a</i> .				
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		Contractivity and an and a second	a kanana kanakana kana kana kana kana k									
WELL CA	PACITY (Gallor NSIDE DIA, CA	s Per Foot): 0. PACITY (Gal./Ft	75" = 0.02; ): 1/8" = 0.0	1" = 0.04; 006; 3/16"	1.25" = 0.06 = 0.0014;	6; 2" = 0.1 1/4" = 0.002	6; 3" = 0.37; 6; 5/16" = 0.				' = 5.88 ' = 0.016	
PURGING	EQUIPMENT C	ODES: B =	Bailer; B	P = Bladder P	ump; E	SP = Electric	Submersible Pur	mp; PP = Pe	ristaltic Pump;	0 = Other	(Specify)	
0.000						LING DA	<b>NTA</b>					
$\sim \sim \sim$	BY (PRINT) / A		Aller !!	SAMPLER(S)	SIGNATURE	E(S):		SAMPLING INITIATED AT	11-20	SAMPLING ENDED AT:	1.11	
PUMP OR	TUBING	0,10	1	UBING	$\mathbb{Z}_{\mathcal{H}}$	<u> </u>		FILTERED: Y				
DEPTH IN	WELL (feet):	21.8	1	ATERIAL CC	DE: T			on Equipment Typ		FILTER SIZE.	μm	
FIELD DE	CONTAMINATIO	ON: PUMP	Y N	)	TUBING	Y Nore	eplaced)	DUPLICATE:	Y (	N		
-	-	R SPECIFICAT				ESERVATIO		INTENDE ANALYSIS AN				
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	RESERVATIN		OTAL VOL D IN FIELD (r	nL) pH	METHOE			LOW RATE	
								ORP: 11	:38 (30	100		
										- )		
REMARKS	REMARKS: SEE C.O.C. FOR SAMPLE ANALYSIS ORP: 11:32(47.4).11:34(42.5).11:3.6(36.5)											
MATERIAL		AG = Amber GI		lear Glass;	PE = Polye	ethylene;	PP = Polypropyle	ene; <b>S</b> = Sílicor	ne; T = Teflo	n; 0 = Other	(Specify)	
	G EQUIPMENT	RF	P = After Peris PP = Reverse	Flow Peristalti		SM = Straw	Bladder Pump; Method (Tubing	Gravity Drain);	Submersible O = Other (S			
VOTES: 1	. The above	do not consti	tute all of th	e informati	on require	d by Chapt	er 62-160, F.A	C.				

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

SITE	Southeast	County La	andfill		-	SITE LOCATION: Lithia, Florida							
				SAMPLEID									
						SING DA	ТА			-1/16	/		
WELL		TUBING			SCREEN I	INTERVAL	STATIC	DEPTH	PUR	GE PUMP T	(PE		
	R (inches): N		TER (inches):	N/A DEPTH	I: N/A ft to	N/A		ER (feet): N/A		AILER: N	Ά		
(only fill o	ut if applicable)												
FOLIDME				V/A feet –		et) X (	).16 V V T	gallons/foot =		gallon	3		
	ut if applicable)	UNGE: TEQU	IPINENT VOL										
INITIAL P	UMP OR TUBIN	IG	FINAL PLIN	= N/A gallor IP OR TUBING	s+(	V/A gallons/	foot X N/A	feet) +	VA gallons :	<u>= N/A</u> TOTAL VOL	gallons		
	WELL (feet):	N/A	1		I/A		d at: N/A	ENDED AT:	1		allons): 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 <u>or μ</u> S/cm	DISSOLVED OXYGEN (circle units) mg/L) or % saturation	TURBIDITY (NTUs)	COLO (describ			
4													
			2										
			1:rr	te									
		1-ert	4110										
											<u></u>		
							$\sim$	R					
								A					
			-			1							
							116	•					
	PACITY (Gallon		754 0.00	1" = 0.04; 1.2		; 2" = 0.16							
TUBING I	NSIDE DIA. CA	PACITY (Gal./F	(75'' = 0.02; (t.): $1/8'' = 0.02$	$1^{\prime\prime} = 0.04; 1.2$ 1.2006; 3/16'' = 0	<b>25" =</b> 0.06 .0014;	; 2" = 0.16 1/4" = 0.0026	; <b>3"</b> = 0.37; 5; <b>5/16"</b> = 0.				<b>12"</b> = 5.88 5/8" = 0.016		
PURGING	EQUIPMENT C	ODES: B	= Bailer; E	BP = Bladder Pum			Submersible Pur	mp; PP = Pe	ristaltic Pump;	0 = Ot	her (Specify)		
SAMPLED	) BY (PRINT) / A	FFILIATION:		SAMPLER(S) SIG		LING DA	IA	SAMPLING		SAMPLIN	2		
T.A	auilo		Faller	h	Ai				INITIATED AT: N/A ENDED AT: N/A				
PUMP OR				TUBING				FILTERED: Y		FILTER SI	ZE:μm		
	WELL (feet):		م. المعربين	MATERIAL CODE		V Arr	L	on Equipment Typ					
	PLE CONTAINE			_				DUPLICATE:		N			
SAMPLE	#	MATERIAL		PRESERVATIVE		ESERVATION	FINAL	INTENDE ANALYSIS AN	ID/OR EQU	MPLING JIPMENT	SAMPLE PUMP FLOW RATE		
ID CODE	CONTAINERS	CODE	VOLUIVIE	USED		D IN FIELD (m	L) pH	METHO		CODE	(mL per minute)		
							_						
REMARKS	SEE C.	O.C. FOI	R SAMP	LE ANAL	/SIS								
MATERIA	L CODES:	AG = Amber G	lass; CG =	Clear Glass; F	E = Polye	ethylene; F	P = Polypropyle	ene; S = Silicoi	ne; T = Teflo	on; 0 = 0	ther (Specify)		
SAMPLIN	G EQUIPMENT	CODES: A	PP = After Per	istaltic Pump; Elow Peristaltic P	B = Baile Pump:		Bladder Pump; lethod (Tubing)	ESP = Electric	O = Other (State)				
NOTES: 1	RFPP = Reverse Flow Peristaltic Pump;       SM = Straw Method (Tubing Gravity Drain);       O = Other (Specify)         OTES: 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)