Hsu, Benjamin

From: Townsel, Michael <TownselM@HillsboroughCounty.ORG>
Sent: Monday, October 30, 2017 2:01 PM
To: Morgan, Steve
Cc: Greenwell, Jeffry; Squitieri, Joe; Fuller, Josh; Aguilar, Tiffany; Byer, Kimberly; Ruiz, Larry; Pelley, Cindy; Gormley, Thomas; Cope, Ronald; ADaPT EDD; SWD_Waste; Moore, Clark B.
Subject: Southeast County Landfill - 3rd Quarter 2017 Plant Effluent ADR and Adapt
Attachments: SELF2017-3rdQtrEffluent.pdf; 41193_20170717_SWzdd.zip; 41193_20170817_SWzdd.zip; 41193_20170925_SWzdd.zip

Dear Mr. Morgan,

In accordance with Part 9.1.2 of the Southeast County Landfill Leachate Management Plan, attached please find an electronic copy of the 3rd Quarter 2017 Effluent Analytical Data Report. The AdaPT files for the three monthly reports are also provided, and I have copied Clark Moore and the AdaPT mailbox, as required. Should you have any questions or wish to discuss the information submitted, please do not hesitate to call me at (813) 663-3222.

Best Regards,

Michael D. Townsel
Senior Hydrogeologist
Public Utilities Department – Environmental Services

P: (813) 663-3222
E: townselm@HCFLGov.net
W: HCFLGov.net

Hillsborough County
332 N. Falkenburg Road, Tampa, FL 33619

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Hillsborough County Florida

PUBLIC UTILITIES
PO Box 1110 Tampa, FL 33601-1110

October 20, 2017

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

RE: **Southeast County Landfill**
Leachate Treatment Plant (WACS Testsite #19864)
Quarterly Analytical Data Report
Third Quarter (July – September, 2017)

Dear Mr. Morgan:

In accordance with Part 9.1.2 of the November 2015 Southeast County Landfill (SCLF) Leachate Management Plan (LMP), the Hillsborough County Public Utilities Department (County), is pleased to provide the quarterly laboratory analytical data for the sampling of effluent at the leachate treatment plant, located at the SCLF at 15960 County Road 672 in Lithia, Florida.

The referenced plan requires monthly sampling of the leachate treatment plant effluent and the daily recording of the plant pH values. Monthly effluent samples are collected by the County and analyzed for Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Total Suspended Solids (TSS), Total Dissolved Solids (TDS), Nitrate, and five (5) field parameters. County personnel collected effluent samples from the designated sampling port at the treatment plant on July 17, August 17, and September 25, 2017.

The daily pH values recorded by plant personnel ranged from 7.17 to 8.34 pH units, and the monthly analytical samples ranged from 7.47 to 7.99 pH units. These values are within the State of Florida Secondary Drinking Water Standard (SDWS), FAC Ch. 62-550.320 of 6.5 to 8.5 pH units. The monthly pH logs from the treatment plant are included within this submittal.

All effluent samples collected were analyzed by our contract laboratory, Advanced Environmental Laboratories, Inc., and the complete results are provided for your technical review. Should you have any questions or comments concerning the information provided in this submittal, please feel free to contact me at (813) 663-3222.

Respectfully,

Michael D. Townsel 10/20/2017
Senior Hydrologist
Public Utilities Department
Environmental Services

DSA/mdt
TSD\... \enviro\southeast\scanned reports-docs\Leachate plant\SELF2017-3rdQtrEffluent.pdf

xc: Kimberly Byer, Solid Waste Division Director, Public Works Dept.
Larry Ruiz, GM III SCLF, Public Works, Dept.
Tom Gormley, Plant Operator SCLF, Public Works Dept.
Cindy Pelley, GM II SCLF, Public Works Dept.
Jeffry Greenwell, GMIII, Public Utilities
Joe Squitieri, Environmental Manager, Public Utilities
Ron Cope, Hillsborough County EPC

PH Calibration Log

Month	JULY '17					
Date	PH 4	PH 7	PH 10	INF PH	EFF PH	POND
1	4.00	7.00	10.01	7.61	7.78	
2						
3	3.99	7.01	10.03	7.52	7.93	8.17
4						
5	4.00	7.01	10.00	7.67	8.02	8.16
6	4.00	7.00	10.00	7.63	7.97	8.12
7	4.00	7.00	10.00	7.62	8.07	8.22
8	4.00	7.00	10.01	7.75	7.80	8.06
9						
10	4.00	7.00	10.00	7.71	7.88	8.35
11	4.00	7.00	10.00	7.74	8.00	8.50
12	4.01	7.00	10.02	7.74	7.97	8.62
13	4.00	7.00	10.02	7.61	8.04	8.86
14	4.00	7.00	10.04	7.48	7.81	8.98
15	4.00	7.00	10.00	7.60	7.85	
16						
17	4.00	7.00	10.00	7.40	7.99	8.87
18	4.00	6.99	10.00	7.44	8.02	8.68
19	4.01	7.00	10.01	7.58	8.07	9.02
20	4.02	6.99	10.06	7.54	8.03	8.93
21	4.00	7.00	10.03	7.71	7.98	9.04
22	4.00	7.00	10.01	7.53	7.73	8.98
23						
24	4.00	7.00	10.00	7.52	7.84	8.83
25	4.00	7.00	10.02	7.47	7.75	8.96
26	4.00	7.00	10.00	7.47	7.80	8.87
27	4.00	7.00	10.02	7.70	7.97	No Spray
28	4.00	7.00	10.00	7.56	7.87	8.15
29	4.00	6.99	10.00	7.60	7.69	8.47
30						
31	4.00	7.00	10.00	7.86	7.87	No SPRAY

Month	AUG. 17	PH Calibration Log				
Date	PH 4	PH 7	PH 10	INF PH	EFF PH	POND
1	4.00	7.00	10.01	7.44	7.87	
2	4.00	7.00	10.00	7.32	7.99	8.10
3	4.00	7.00	10.00	7.60	7.70	7.97
4	4.00	7.00	10.00	7.30	7.86	8.10
5	4.00	6.99	10.01	7.36	7.70	
6	4.00	7.00	10.01	7.42	7.72	
7	4.00	7.01	10.00	7.50	7.73	8.50
8	4.00	7.00	10.00	7.45	7.54	8.47
9	4.00	7.00	10.00	7.31	7.39	8.46
10	4.00	7.00	10.00	7.43	7.61	8.55
11	4.00	7.00	10.00	7.44	7.82	8.14
12	4.00	7.00	10.00	7.53	7.65	8.75
13						
14	4.00	7.00	10.00	7.44	7.80	8.30
15	4.00	6.99	10.00	7.39	7.81	8.23
16	4.00	6.99	10.00	7.60	7.97	8.40
17	4.00	7.00	10.00	7.36	7.86	8.29
18	4.00	7.00	10.00	7.52	7.95	8.21
19	4.00	6.99	10.00	7.60	7.82	
20						
21	4.00	7.00	10.00	7.80	7.76	8.30
22	4.00	6.99	10.01	7.52	7.50	8.48
23	4.00	7.00	10.00	7.56	7.65	8.50
24	4.00	7.00	10.00	7.50	7.52	8.53
25	4.00	6.99	10.00	7.59	7.50	8.54
26	4.00	7.00	10.01	7.73	7.40	
27						
28	4.01	7.00	10.00	7.53	7.87	8.73
29	4.00	7.00	10.01	7.45	7.60	
30	4.01	7.04	10.02	7.59	7.69	
31	4.00	7.00	10.00	7.53	7.45	

Month	SEPT '17	PH Calibration Log				
Date	PH 4	PH 7	PH 10	INF PH	EFF PH	POND
1	4.00	7.00	10.01	7.56	7.53	
2	4.00	7.04	10.01	7.43	7.49	
3	4.00	7.00	10.00	7.27	7.54	
4	4.01	7.01	10.01	7.22	8.34	
5	4.00	7.00	10.00	7.31	7.69	8.35
6	4.00	7.00	10.00	7.23	7.58	8.14
7	4.00	7.00	10.00	7.18	7.48	8.10
8	4.00	6.99	10.00	7.33	7.34	
9						
10						
11						
12	4.00	7.00	10.00	7.33	7.43	
13	4.00	6.99	10.00	7.03	7.17	
14	4.00	7.00	10.00	7.07	7.33	
15	4.01	7.05	10.00	7.28	8.00	
16	4.01	7.00	10.00	7.23	7.71	
17	4.00	7.00	10.01	7.35	7.70	
18	4.00	7.00	10.00	7.34	7.67	
19	4.00	7.00	10.00	7.00	7.64	
20	4.00	7.00	10.00	7.25	7.64	
21	4.00	7.00	10.00	7.29	7.56	
22	4.01	6.97	10.06	7.18	7.53	
23	4.00	7.06	10.01	7.19	7.60	
24	4.01	7.00	10.01	7.25	7.58	
25	4.00	7.00	10.00	7.23	7.77	
26	4.00	7.00	10.01	7.37	7.21	
27	4.00	7.00	10.00	7.35	7.94	
28	4.00	7.00	10.00	7.32	7.57	
29	4.00	7.00	10.00	7.53	7.44	
30	4.00	7.00	10.01	7.69		
31	—	—	—	—	—	

Advanced Environmental Laboratories, Inc.

Advanced Environmental Laboratories, Inc
9610 Princess Palm Ave Tampa, FL 33619
Payments: P.O. Box 551580 Jacksonville, FL32255-1580
Phone: (813)630-9616
Fax: (813)630-4327

August 4, 2017

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

RE: Workorder: T1712024 SELF Plant Effluent

Dear David Adams:

Enclosed are the analytical results for sample(s) received by the laboratory on Monday, July 17, 2017. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. The analytical results for the samples contained in this report were submitted for analysis as outlined by the Chain of Custody and results pertain only to these samples.

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

Sincerely,

Heidi Parker - Project Manager
HParker@AELLab.com

Enclosures

Advanced Environmental Laboratories, Inc.

Advanced Environmental Laboratories, Inc
9610 Princess Palm Ave Tampa, FL 33619
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SAMPLE SUMMARY

Workorder: T1712024 SELF Plant Effluent

Lab ID	Sample ID	Matrix	Date Collected	Date Received
T1712024001	Leachate	Water	7/17/2017 10:50	7/17/2017 13:30
T1712024002	Field Blank	Water	7/17/2017 10:38	7/17/2017 13:30

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ANALYTICAL RESULTS

Workorder: T1712024 SELF Plant Effluent

Lab ID: **T1712024001** Date Received: 07/17/17 13:30 Matrix: Water

Sample ID: **Leachate** Date Collected: 07/17/17 10:50

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**14393**		**umhos/cm**	**1**			7/17/2017 10:50	
Dissolved Oxygen	**3.28**		**mg/L**	**1**			7/17/2017 10:50	
ORP-2580BW	**147.6**		**mV**	**1**			7/17/2017 10:50	
Temperature	**34.38**		**°C**	**1**			7/17/2017 10:50	
pH	**7.99**		**SU**	**1**			7/17/2017 10:50	
WET CHEMISTRY								
Analysis Desc: COD,E410.4,Water	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**4200**		**mg/L**	**5**	250	120	7/25/2017 13:54	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**7100**		**mg/L**	**1.25**	12	12	7/19/2017 13:13	T
Analysis Desc: TSS,SM2540D,Water	Analytical Method: SM 2540D							
Total Suspended Solids	**120**		**mg/L**	**10**	10	10	7/21/2017 10:04	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate	**0.18**	**U**	**mg/L**	**1**	0.20	0.18	7/18/2017 15:18	T
Analysis Desc: BOD,SM5210B,Water	Analytical Method: SM 5210B							
Biochemical Oxygen Demand	**230**		**mg/L**	**1**	2.0	2.0	7/17/2017 17:41	T

CERTIFICATE OF ANALYSIS

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ANALYTICAL RESULTS

Workorder: T1712024 SELF Plant Effluent

Lab ID: **T1712024002**
Sample ID: **Field Blank**

Date Received: 07/17/17 13:30 Matrix: Water
Date Collected: 07/17/17 10:38

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
WET CHEMISTRY								
Analysis Desc: COD,E410.4,Water	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**24**	**U**	**mg/L**	**1**	50	24	7/25/2017 13:54	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**12**	**U**	**mg/L**	**1.25**	12	12	7/19/2017 13:13	T
Analysis Desc: TSS,SM2540D,Water	Analytical Method: SM 2540D							
Total Suspended Solids	**0.50**	**U**	**mg/L**	**0.5**	0.50	0.50	7/21/2017 10:04	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate	**0.18**	**U**	**mg/L**	**1**	0.20	0.18	7/18/2017 15:19	T
Analysis Desc: BOD,SM5210B,Water	Analytical Method: SM 5210B							
Biochemical Oxygen Demand	**2.0**	**U**	**mg/L**	**1**	2.0	2.0	7/17/2017 17:44	T

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ANALYTICAL RESULTS QUALIFIERS

Workorder: T1712024 SELF Plant Effluent

PARAMETER QUALIFIERS

U	The compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

LAB QUALIFIERS

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

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QUALITY CONTROL DATA

Workorder: T1712024 SELF Plant Effluent

QC Batch: WCAt/9792 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Prepared:
Associated Lab Samples: T1712024001, T1712024002

METHOD BLANK: 2411025

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Biochemical Oxygen Demand	mg/L	2.0	2.0	U

LABORATORY CONTROL SAMPLE: 2411026

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Biochemical Oxygen Demand	mg/L	200	210	107	84.6-115.4	

SAMPLE DUPLICATE: 2411027 Original: T1711999002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Biochemical Oxygen Demand	mg/L	1000	990	3	20	

QC Batch: WCAt/9798 Analysis Method: SM 4500NO3-F
QC Batch Method: SM 4500NO3-F Prepared:
Associated Lab Samples: T1712024001, T1712024002

METHOD BLANK: 2411095

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Nitrate	mg/L	0.18	0.18	U

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QUALITY CONTROL DATA

Workorder: T1712024 SELF Plant Effluent

LABORATORY CONTROL SAMPLE: 2411096

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Nitrate	mg/L	1	0.99	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2411097 2411098 Original: F1700433002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Nitrate	mg/L	0.054	1	1.1	1.1	108	109	90-110	1	10	

QC Batch: WCAt/9807 Analysis Method: SM 2540 C
QC Batch Method: SM 2540 C Prepared:
Associated Lab Samples: T1712024001, T1712024002

METHOD BLANK: 2411874

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

LABORATORY CONTROL SAMPLE: 2411875

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	660	550	83	75-125	

SAMPLE DUPLICATE: 2411877 Original: T1711995001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	56000	57000	1	5	

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QUALITY CONTROL DATA

Workorder: T1712024 SELF Plant Effluent

QC Batch: WCAt/9846 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Prepared:
Associated Lab Samples: T1712024001, T1712024002

METHOD BLANK: 2414329

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Total Suspended Solids	mg/L	1.0	1.0	U

LABORATORY CONTROL SAMPLE: 2414330

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Suspended Solids	mg/L	200	200	99	75-125	

SAMPLE DUPLICATE: 2414332 Original: T1712021001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Suspended Solids	mg/L	140	150	8	10	

QC Batch: WCAt/9905 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Prepared:
Associated Lab Samples: T1712024001, T1712024002

METHOD BLANK: 2417274

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Chemical Oxygen Demand	mg/L	24	24	U

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QUALITY CONTROL DATA

Workorder: T1712024 SELF Plant Effluent

LABORATORY CONTROL SAMPLE: 2417275

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Chemical Oxygen Demand	mg/L	500	480	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2417277 2417278 Original: T1712007001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Chemical Oxygen Demand	mg/L	720	500	1300	1300	119	119	90-110	0	10	J4

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2417281 2417282 Original: T1712024002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Chemical Oxygen Demand	mg/L	0	500	490	490	98	99	90-110	0	10	

QUALITY CONTROL DATA QUALIFIERS

Workorder: T1712024 SELF Plant Effluent

QUALITY CONTROL PARAMETER QUALIFIERS

U The compound was analyzed for but not detected.

I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

J4 Estimated Result

CERTIFICATE OF ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: T1712024 SELF Plant Effluent

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T1712024001	Leachate			SM 5210B	WCAt/9792
T1712024002	Field Blank			SM 5210B	WCAt/9792
T1712024001	Leachate			SM 4500NO3-F	WCAt/9798
T1712024002	Field Blank			SM 4500NO3-F	WCAt/9798
T1712024001	Leachate			SM 2540 C	WCAt/9807
T1712024002	Field Blank			SM 2540 C	WCAt/9807
T1712024001	Leachate			SM 2540D	WCAt/9846
T1712024002	Field Blank			SM 2540D	WCAt/9846
T1712024001	Leachate			EPA 410.4	WCAt/9905
T1712024002	Field Blank			EPA 410.4	WCAt/9905
T1712024001	Leachate	Field Measurements	FLDt/	Field Measurements	FLDt/

T1712024

Advanced Environmental Laboratories, Inc.

☐ **Altamonte Springs:** 528 S. Northlake Blvd., Ste. 1016 • Altamonte Springs, FL 32701 • 407.937.1594 • Fax 407.937.1597
☐ **Gainesville:** 4965 SW 41st Blvd. • Gainesville, FL 32608 • 352.377.2349 • Fax 352.395.6639
☐ **Jacksonville:** 6681 Southpoint Pkwy. • Jacksonville, FL 32216 • 904.363.9350 • Fax 904.363.9354
☐ **Miramar:** 10200 USA Today Way, Miramar, FL 33025 • 954.889.2288 • Fax 954.889.2281
☐ **Tallahassee:** 1288 Cedar Center Drive, Tallahassee, FL 32301 • 850.219.6274 • Fax 850.219.6275
☐ **Tampa:** 9610 Princess Palm Ave. • Tampa, FL 33619 • 813.630.9616 • Fax 813.630.4327

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

Project Name: SELF Plant Effluent
P.O. Number/Project Number: N/A
Project Location: Southeast County Landfill
REMARKS/SPECIAL INSTRUCTIONS:

SAMPLE ID	SAMPLE DESCRIPTION	Grab Comp	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. COUNT	PRESERVATION	BOTTLE SIZE & TYPE	ANALYSIS REQUIRED: COD	BOD	TDS	TSS	Nitrate						LABORATORY I.D. NUMBER
	Leachate Effluent		7/17/17	1050	WW				X	X	X	X	X						001
	Field Blank		7/17/17	1038	DI				X	X	X	X	X						002

Matrix Code: WW = wastewater SW = surface water GW = ground water DW = drinking water O = oil A = air SO = soil SL = sludge
Preservation Code: I = ice H=(HCl) S = (H2SO4) N = (HNO3) T = (Sodium Thiosulfate)

Received on Ice ☐ Yes ☐ No ☑ Temp taken from sample ☐ Temp from blank ☑ Where required, pH checked Temperature when received 0.5 (in degrees celcius)

Form revised 09/19/2012 Device used for measuring Temp by unique identifier (circle IR temp gun used) J: 9A G: LT-1 LT-2 (T: 10A) A: 3A M: 1A S: 1V

	Relinquished by:	Date	Time	Received by:	Date	Time
1	[signature]	7/17/17	1330	[signature]	7/17/17	1330
2						
3						
4						

FOR DRINKING WATER USE (When PWS Information not otherwise supplied)
PWS ID:
Contact Person: Phone:
Supplier of Water:
Site Address:

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Southeast County Landfill - Plant	SITE LOCATION: Lithia, Florida	
WELL NO: Leachate Effluent	SAMPLE ID: Leachate Effluent	DATE: 7/17/17

PURGING DATA

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

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

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

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

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

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

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1050	N/A	N/A	N/A	N/A	7.99	34.38	14393	3.28	N/A	BROWN	LEACHATE

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

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: J. FULLER / A. LAFON	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1050	SAMPLING ENDED AT: 1054
PUMP OR TUBING DEPTH IN WELL (feet): N/A	TUBING MATERIAL CODE: N/A	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: — µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

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

REMARKS: **SEE C.O.C. FOR SAMPLE ANALYSIS** ORP: 1050 (147.6)

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

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

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

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

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Southeast County Landfill - Plant	SITE LOCATION: Lithia, Florida	
WELL NO: Field Blank	SAMPLE ID: Field Blank	DATE: 7/17/17

PURGING DATA

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

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

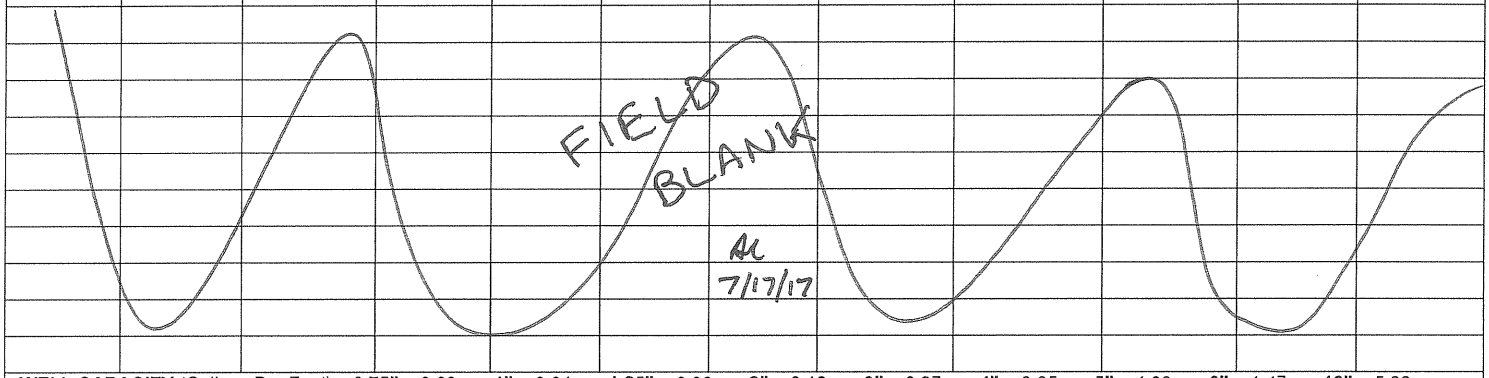
= (N/A feet – N/A feet) X N/A gallons/foot = N/A gallons

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

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

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

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



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

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: J. FULLER / A. LAFON	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1038	SAMPLING ENDED AT: 1042
PUMP OR TUBING DEPTH IN WELL (feet): N/A	TUBING MATERIAL CODE: N/A	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: — µm

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

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

REMARKS: **SEE C.O.C. FOR SAMPLE ANALYSIS** FIELD BLANK

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

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

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

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

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

Advanced Environmental Laboratories, Inc.

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

Queue: WCAt

Batch Number: 9905

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.

Analysis: All holding times were met.

III. Method

Analysis: EPA 410.4

Preparation: None

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

A. Calibration: All acceptance criteria were met.

B. Blanks: All acceptance criteria were met.

C. Duplicates: All acceptance criteria were met.

D. Spikes: The matrix spike recoveries of COD for T1712007001 were outside control criteria due to the presence of target analytes in the sample. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential high bias in this matrix. The affected sample is qualified to indicate matrix interference. MS recovery was 118.8% and MSD recovery was 118.6%, acceptable recoveries are 90-110%.

E. Serial Diluion: All acceptance criteria were met.

F. Samples: Sample analyses proceeded normally.

G. Other:

I certify that this data package is in compliance with the terms and conditions agreed to by Advanced Environmental Laboratories, Inc. and by the client, both technically and for completeness, except for the conditions detailed above. The Quality Assurance Officer, or designee, as verified by the following signature, has authorized release of the data contained in this data package:

Advanced Environmental Laboratories, Inc.

Advanced Environmental Laboratories, Inc
9610 Princess Palm Ave Tampa, FL 33619
Payments: P.O. Box 551580 Jacksonville, FL32255-1580
Phone: (813)630-9616
Fax: (813)630-4327

September 12, 2017

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

RE: Workorder: T1714149 SELF Plant Effluent

Dear David Adams:

Enclosed are the analytical results for sample(s) received by the laboratory on Thursday, August 17, 2017. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. The analytical results for the samples contained in this report were submitted for analysis as outlined by the Chain of Custody and results pertain only to these samples.

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

Sincerely,

Heidi Parker - Project Manager
HParker@AELLab.com

Enclosures

CERTIFICATE OF ANALYSIS

Advanced Environmental Laboratories, Inc.

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SAMPLE SUMMARY

Workorder: T1714149 SELF Plant Effluent

Lab ID	Sample ID	Matrix	Date Collected	Date Received
T1714149001	Leachate	Water	8/17/2017 10:48	8/17/2017 12:15
T1714149002	Field Blank	Water	8/17/2017 10:40	8/17/2017 12:15

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ANALYTICAL RESULTS

Workorder: T1714149 SELF Plant Effluent

Lab ID: **T1714149001** Date Received: 08/17/17 12:15 Matrix: Water

Sample ID: **Leachate** Date Collected: 08/17/17 10:48

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**14781**		**umhos/cm**	**1**			8/17/2017 10:48	
Dissolved Oxygen	**0.23**		**mg/L**	**1**			8/17/2017 10:48	
ORP-2580BW	**-31**		**mV**	**1**			8/17/2017 10:48	
Temperature	**34.21**		**°C**	**1**			8/17/2017 10:48	
pH	**7.7**		**SU**	**1**			8/17/2017 10:48	
WET CHEMISTRY								
Analysis Desc: COD,E410.4,Water	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**780**		**mg/L**	**1**	50	24	8/22/2017 16:51	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**7100**		**mg/L**	**1.25**	12	12	8/22/2017 13:32	T
Analysis Desc: TSS,SM2540D,Water	Analytical Method: SM 2540D							
Total Suspended Solids	**200**		**mg/L**	**10**	10	10	8/24/2017 10:01	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate	**0.18**	**U**	**mg/L**	**1**	0.20	0.18	8/18/2017 11:22	T
Analysis Desc: BOD,SM5210B,Water	Analytical Method: SM 5210B							
Biochemical Oxygen Demand	**280**		**mg/L**	**1**	2.0	2.0	8/18/2017 12:34	T

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ANALYTICAL RESULTS

Workorder: T1714149 SELF Plant Effluent

Lab ID: **T1714149002**
Sample ID: **Field Blank**

Date Received: 08/17/17 12:15 Matrix: Water
Date Collected: 08/17/17 10:40

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
WET CHEMISTRY								
Analysis Desc: COD,E410.4,Water	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**24**	**U**	**mg/L**	**1**	50	24	8/22/2017 16:51	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**12**	**U**	**mg/L**	**1.25**	12	12	8/22/2017 13:32	T
Analysis Desc: TSS,SM2540D,Water	Analytical Method: SM 2540D							
Total Suspended Solids	**0.50**	**U**	**mg/L**	**0.5**	0.50	0.50	8/24/2017 10:01	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate	**0.18**	**U**	**mg/L**	**1**	0.20	0.18	8/18/2017 11:03	T
Analysis Desc: BOD,SM5210B,Water	Analytical Method: SM 5210B							
Biochemical Oxygen Demand	**2.0**	**U**	**mg/L**	**1**	2.0	2.0	8/18/2017 12:50	T

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ANALYTICAL RESULTS QUALIFIERS

Workorder: T1714149 SELF Plant Effluent

PARAMETER QUALIFIERS

U	The compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

LAB QUALIFIERS

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

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QUALITY CONTROL DATA

Workorder: T1714149 SELF Plant Effluent

QC Batch: WCAt/10370 Analysis Method: SM 4500NO3-F
QC Batch Method: SM 4500NO3-F Prepared:
Associated Lab Samples: T1714149002

METHOD BLANK: 2440352

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Nitrate	mg/L	0.18	0.18	U

LABORATORY CONTROL SAMPLE: 2440353

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Nitrate	mg/L	1	1.0	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2441312 2441313 Original: T1714074001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Nitrate	mg/L	0.085	1	1.1	1.0	110	104	90-110	5	10	

QC Batch: WCAt/10385 Analysis Method: SM 4500NO3-F
QC Batch Method: SM 4500NO3-F Prepared:
Associated Lab Samples: T1714149001

METHOD BLANK: 2441314

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Nitrate	mg/L	0.18	0.18	U

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QUALITY CONTROL DATA

Workorder: T1714149 SELF Plant Effluent

LABORATORY CONTROL SAMPLE: 2441315

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Nitrate	mg/L	1	1.0	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2441316 2441317 Original: T1714133001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Nitrate	mg/L	2.6	1	3.7	3.6	106	102	90-110	1	10	

QC Batch: WCAt/10404 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Prepared:
Associated Lab Samples: T1714149001, T1714149002

METHOD BLANK: 2442275

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Biochemical Oxygen Demand	mg/L	2.0	2.0	U

LABORATORY CONTROL SAMPLE: 2442276

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Biochemical Oxygen Demand	mg/L	200	190	96	84.6-115.4	

SAMPLE DUPLICATE: 2442277 Original: T1714149001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						

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QUALITY CONTROL DATA

Workorder: T1714149 SELF Plant Effluent

SAMPLE DUPLICATE: 2442277 Original: T1714149001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Biochemical Oxygen Demand	mg/L	280	290	2	20	

QC Batch: WCAt/10449 Analysis Method: SM 2540 C
QC Batch Method: SM 2540 C Prepared:
Associated Lab Samples: T1714149001, T1714149002

METHOD BLANK: 2444220

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

LABORATORY CONTROL SAMPLE: 2444221

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	660	620	94	75-125	

SAMPLE DUPLICATE: 2444222 Original: T1714043001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	190	180	1	5	

SAMPLE DUPLICATE: 2444223 Original: T1714166001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	850	840	1	5	

QC Batch: WCAt/10464 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Prepared:
Associated Lab Samples: T1714149001, T1714149002

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QUALITY CONTROL DATA

Workorder: T1714149 SELF Plant Effluent

METHOD BLANK: 2444698

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Chemical Oxygen Demand	mg/L	24	24	U

LABORATORY CONTROL SAMPLE: 2444699

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Chemical Oxygen Demand	mg/L	500	480	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2444701 2444702 Original: T1713479001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Chemical Oxygen Demand	mg/L	55	500	550	550	98	99	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2444705 2444706 Original: T1714149002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Chemical Oxygen Demand	mg/L	21	500	490	500	98	99	90-110	1	10	

QC Batch: WCAt/10497 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Prepared:
Associated Lab Samples: T1714149001, T1714149002

METHOD BLANK: 2446380

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Total Suspended Solids	mg/L	0.50	0.50	U

CERTIFICATE OF ANALYSIS

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QUALITY CONTROL DATA

Workorder: T1714149 SELF Plant Effluent

LABORATORY CONTROL SAMPLE: 2446381

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Suspended Solids	mg/L	200	190	96	75-125	

SAMPLE DUPLICATE: 2446382 Original: T1714133002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Suspended Solids	mg/L	3600	3700	2	10	

SAMPLE DUPLICATE: 2446383 Original: T1714193002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Suspended Solids	mg/L	2000	2000	3	10	

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: T1714149 SELF Plant Effluent

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T1714149002	Field Blank			SM 4500NO3-F	WCAt/10370
T1714149001	Leachate			SM 4500NO3-F	WCAt/10385
T1714149001	Leachate			SM 5210B	WCAt/10404
T1714149002	Field Blank			SM 5210B	WCAt/10404
T1714149001	Leachate			SM 2540 C	WCAt/10449
T1714149002	Field Blank			SM 2540 C	WCAt/10449
T1714149001	Leachate			EPA 410.4	WCAt/10464
T1714149002	Field Blank			EPA 410.4	WCAt/10464
T1714149001	Leachate			SM 2540D	WCAt/10497
T1714149002	Field Blank			SM 2540D	WCAt/10497
T1714149001	Leachate	Field Measurements	FLDt/	Field Measurements	FLDt/

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T 7/14/17

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

Project Name: SELF Plant Effluent
P.O. Number/Project Number: N/A
Project Location: Southeast County Landfill
REMARKS/SPECIAL INSTRUCTIONS:

SAMPLE ID	SAMPLE DESCRIPTION	Grab Comp	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. COUNT	PRESERVATION	BOTTLE SIZE & TYPE	ANALYSIS REQUIRED: COD	BOD	TDS	TSS	Nitrate						LABORATORY I.D. NUMBER
	Leachate Effluent	G	8/17/17	1048	WW				X	X	X	X	X						001
	Field Blank	G	8/17/17	1040	DI				X	X	X	X	X						002

Matrix Code: WW = wastewater SW = surface water GW = ground water DW = drinking water O = oil A = air SO = soil SL = sludge
Preservation Code: I = ice H=(HCl) S = (H2SO4) N = (HNO3) T = (Sodium Thiosulfate)

Received on Ice ☑ Yes ☐ No ☑ Temp taken from sample ☐ Temp from blank ☐ Where required, pH checked Temperature when received 4.3 (in degrees celcius)

Form revised 09/19/2012

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

	Relinquished by:	Date	Time	Received by:	Date	Time
1	[signature]	8/17/17	12:15	[signature]	8/17/17	12:15
2						
3						
4						

FOR DRINKING WATER USE (When PWS Information not otherwise supplied)
PWS ID:
Contact Person: Phone:
Supplier of Water:
Site Address:

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Southeast County Landfill - Plant	SITE LOCATION: Lithia, Florida	
WELL NO: Leachate Effluent	SAMPLE ID: Leachate Effluent	DATE: 8/17/17

PURGING DATA

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

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

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

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

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

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

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1048	N/A	N/A	N/A	N/A	7.70	34.21	14781	0.23	N/A	BROWN	NASTY
								AL 8/17/17			

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

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: J. FULLER / A. LAFON	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1048	SAMPLING ENDED AT: 1052
PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE: N/A	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: — µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

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

REMARKS: **SEE C.O.C. FOR SAMPLE ANALYSIS** ORP: 1048 (-31.0)

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

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

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

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

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

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Southeast County Landfill - Plant	SITE LOCATION: Lithia, Florida	
WELL NO: Field Blank	SAMPLE ID: Field Blank	DATE: 8/17/17

PURGING DATA

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

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

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

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

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

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

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

FIELD BLANK

AL 8/17/17

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

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: J. FULLER / A. LAFON	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1040	SAMPLING ENDED AT: 1044
PUMP OR TUBING DEPTH IN WELL (feet): N/A	TUBING MATERIAL CODE: N/A	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: — µm
FIELD DECONTAMINATION: PUMP ~~Y~~ ~~N~~	TUBING ~~Y~~ ~~N (replaced)~~	DUPLICATE: Y (N)	

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

REMARKS: **SEE C.O.C. FOR SAMPLE ANALYSIS** FIELD BLANK

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

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

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

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

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

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October 16, 2017

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

RE: Workorder: T1716246 SELF Plant Effluent

Dear David Adams:

Enclosed are the analytical results for sample(s) received by the laboratory on Monday, September 25, 2017. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. The analytical results for the samples contained in this report were submitted for analysis as outlined by the Chain of Custody and results pertain only to these samples.

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

Sincerely,

Heidi Parker - Project Manager
HParker@AELLab.com

Enclosures

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SAMPLE SUMMARY

Workorder: T1716246 SELF Plant Effluent

Lab ID	Sample ID	Matrix	Date Collected	Date Received
T1716246001	Leachate	Water	9/25/2017 09:57	9/25/2017 11:14
T1716246002	Field Blank	Water	9/25/2017 09:50	9/25/2017 11:14

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ANALYTICAL RESULTS

Workorder: T1716246 SELF Plant Effluent

Lab ID: **T1716246001** Date Received: 09/25/17 11:14 Matrix: Water

Sample ID: **Leachate** Date Collected: 09/25/17 09:57

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**10499**		**umhos/cm**	**1**			9/25/174 09:57	....
Dissolved Oxygen	**5.67**		**mg/L**	**1**			9/25/174 09:57	....
ORP-2580BW	**180.3**		**mV**	**1**			9/25/174 09:57	....
Temperature	**29.69**		**°C**	**1**			9/25/174 09:57	....
pH	**7.47**		**SU**	**1**			9/25/174 09:57	....
WET CHEMISTRY								
Analysis Desc: COD,E410.4,Water	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**880**		**mg/L**	**10**	500	240	10/2/2017 14:58	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**5900**		**mg/L**	**1**	10	10	9/26/2017 09:06	T
Analysis Desc: TSS,SM2540D,Water	Analytical Method: SM 2540D							
Total Suspended Solids	**12**		**mg/L**	**2**	2.0	2.0	9/26/2017 09:06	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate	**120**		**mg/L**	**20**	4.0	3.5	9/26/2017 10:22	T
Analysis Desc: BOD,SM5210B,Water	Analytical Method: SM 5210B							
Biochemical Oxygen Demand	**4.0**		**mg/L**	**1**	2.0	2.0	9/26/2017 17:35	T

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ANALYTICAL RESULTS

Workorder: T1716246 SELF Plant Effluent

Lab ID: **T1716246002** Date Received: 09/25/17 11:14 Matrix: Water

Sample ID: **Field Blank** Date Collected: 09/25/17 09:50

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
WET CHEMISTRY								
Analysis Desc: COD,E410.4,Water	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**24**	**U**	**mg/L**	**1**	50	24	10/2/2017 14:58	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**10**	**U**	**mg/L**	**1**	10	10	9/26/2017 09:06	T
Analysis Desc: TSS,SM2540D,Water	Analytical Method: SM 2540D							
Total Suspended Solids	**0.50**	**U**	**mg/L**	**0.5**	0.50	0.50	9/26/2017 09:06	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate	**0.18**	**U**	**mg/L**	**1**	0.20	0.18	9/26/2017 10:23	T
Analysis Desc: BOD,SM5210B,Water	Analytical Method: SM 5210B							
Biochemical Oxygen Demand	**2.0**	**U**	**mg/L**	**1**	2.0	2.0	9/26/2017 17:38	T

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ANALYTICAL RESULTS QUALIFIERS

Workorder: T1716246 SELF Plant Effluent

PARAMETER QUALIFIERS

U	The compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

LAB QUALIFIERS

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

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QUALITY CONTROL DATA

Workorder: T1716246 SELF Plant Effluent

QC Batch: WCAt/11040 Analysis Method: SM 4500NO3-F
QC Batch Method: SM 4500NO3-F Prepared:
Associated Lab Samples: T1716246001, T1716246002

METHOD BLANK: 2476421

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Nitrate	mg/L	0.18	0.18	U

LABORATORY CONTROL SAMPLE: 2476422

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Nitrate	mg/L	1	1.0	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2476423 2476424 Original: T1716235001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Nitrate	mg/L	0	1	0.93	0.91	93	91	90-110	2	10	

QC Batch: WCAt/11047 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Prepared:
Associated Lab Samples: T1716246001, T1716246002

METHOD BLANK: 2476482

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Total Suspended Solids	mg/L	0.50	0.50	U

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QUALITY CONTROL DATA

Workorder: T1716246 SELF Plant Effluent

LABORATORY CONTROL SAMPLE: 2476483

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Suspended Solids	mg/L	200	180	92	75-125	

SAMPLE DUPLICATE: 2476484 Original: T1716209003

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Suspended Solids	mg/L	4200	4000	5	10	

QC Batch: WCAt/11050 Analysis Method: SM 2540 C

QC Batch Method: SM 2540 C Prepared:

Associated Lab Samples: T1716246001, T1716246002

METHOD BLANK: 2476502

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

LABORATORY CONTROL SAMPLE: 2476503

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	660	580	88	75-125	

SAMPLE DUPLICATE: 2476504 Original: T1716246002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	10U	10	0	5	

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QUALITY CONTROL DATA

Workorder: T1716246 SELF Plant Effluent

QC Batch: WCAt/11073 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Prepared:
Associated Lab Samples: T1716246001, T1716246002

METHOD BLANK: 2477685

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Biochemical Oxygen Demand	mg/L	2.0	2.0	U

LABORATORY CONTROL SAMPLE: 2477686

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Biochemical Oxygen Demand	mg/L	200	230	115	84.6-115.4	

SAMPLE DUPLICATE: 2477687 Original: T1716328001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Biochemical Oxygen Demand	mg/L	3000	2900	3	20	

QC Batch: WCAt/11161 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Prepared:
Associated Lab Samples: T1716246001, T1716246002

METHOD BLANK: 2484437

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Chemical Oxygen Demand	mg/L	24	24	U

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QUALITY CONTROL DATA

Workorder: T1716246 SELF Plant Effluent

LABORATORY CONTROL SAMPLE: 2484438

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Chemical Oxygen Demand	mg/L	500	480	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2484440 2484441 Original: S1701481007

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Chemical Oxygen Demand	mg/L	7	500	490	490	98	98	90-110	0	10	

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: T1716246 SELF Plant Effluent

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T1716246001	Leachate			SM 4500NO3-F	WCAt/11040
T1716246002	Field Blank			SM 4500NO3-F	WCAt/11040
T1716246001	Leachate			SM 2540D	WCAt/11047
T1716246002	Field Blank			SM 2540D	WCAt/11047
T1716246001	Leachate			SM 2540 C	WCAt/11050
T1716246002	Field Blank			SM 2540 C	WCAt/11050
T1716246001	Leachate			SM 5210B	WCAt/11073
T1716246002	Field Blank			SM 5210B	WCAt/11073
T1716246001	Leachate			EPA 410.4	WCAt/11161
T1716246002	Field Blank			EPA 410.4	WCAt/11161
T1716246001	Leachate	Field Measurements	FLDt/	Field Measurements	FLDt/

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T171641

Client Name: Hills. Co. Public Utilities	Project Name: SELF Plant Effluent	BOTTLE SIZE & TYPE	
Address: 332 North Falkenburg Rd.	P.O. Number/Project Number: N/A		
Tampa, Florida 33619	Project Location: Southeast County Landfill	ANALYSIS REQUIRED	COD, BOD, TDS, TSS, Nitrate
Phone: (813) 663-3222	REMARKS/SPECIAL INSTRUCTIONS:		
FAX: (813) 274-6801			
Contact: Michael Townsel			
Sampled By: Josh Fuller Tiffany Aguilar			
Turn Around Time: ☒ STANDARD ☐ RUSH			
Page: 1 of: 1			

SAMPLE ID	SAMPLE DESCRIPTION	Grab Comp	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. COUNT	PRESERVATION	COD	BOD	TDS	TSS	Nitrate	LABORATORY I.D. NUMBER
	Leachate Effluent		9/25/17	9:57	WW	5		X	X	X	X	X	01
	Field Blank		9/25/17	9:50	DI	5		X	X	X	X	X	02

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

Preservation Code: I = ice H=(HCl) S = (H2SO4) N = (HNO3) T = (Sodium Thiosulfate)

Received on Ice ☒ Yes ☐ No ☒ Temp taken from sample ☐ Temp from blank ☐ Where required, pH checked Temperature when received 9.0 (in degrees celcius)

Form revised 09/19/2012

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

	Relinquished by:	Date	Time	Received by:	Date	Time
1	Tiffany Aguilar	9/25/17	11:14		9/25/17	1114
2						
3						
4						

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

PWS ID:

Contact Person: Phone:

Supplier of Water:

Site Address:

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Southeast County Landfill - Plant	SITE LOCATION: Lithia, Florida	
WELL NO: Leachate Effluent	SAMPLE ID: Leachate Effluent	DATE: 9/25/17

PURGING DATA

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

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

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

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

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

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

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
9:57	N/A	N/A	N/A	N/A	7.47	29.69	10499	5.69	N/A	Brown	Similar to Effluent

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

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Josh Faller / Tiffany Aguilar	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 9:57	SAMPLING ENDED AT: 10:01
PUMP OR TUBING DEPTH IN WELL (feet): N/A	TUBING MATERIAL CODE: N/A	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

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

REMARKS: **SEE C.O.C. FOR SAMPLE ANALYSIS** ORP (957) 180.3

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

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

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

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

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

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Southeast County Landfill - Plant	SITE LOCATION: Lithia, Florida	
WELL NO: Field Blank	SAMPLE ID: Field Blank	DATE: 9/28/17

PURGING DATA

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

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

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

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

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

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

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

Field Blank
NA

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
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PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Josh Fuller Tiffany Aguilar	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 9:50	SAMPLING ENDED AT: 9:53
PUMP OR TUBING DEPTH IN WELL (feet): N/A	TUBING MATERIAL CODE: N/A	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: _____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

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

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

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

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

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

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