



Public Utilities

October 31, 2016

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County Attorney

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Public Utilities

PO Box 1110
Tampa, FL 33601-1110
Phone: (813) 272-5977
Fax: (813) 272-5589

Mr. John Morris, P.G.
Department of Environmental Protection
Southwest District Office
13051 Telecom Parkway
Tampa, FL 33637

Re: **Southeast County Landfill
Leachate Treatment Plant (WACS Testsite #19864)
Quarterly Analytical Data Report
Third Quarter: July - September 2016**

Dear Mr. Morris:

In accordance with Part 9.1.1 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 the 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 19, August 30, and September 27, 2016.

The daily pH values recorded by plant personnel ranged from 7.76 to 8.76 pH units, and the monthly analytical samples ranged from 7.82 to 8.09 pH units. The values recorded during the monthly sampling events are in compliance with the State of Florida Secondary Drinking Water Standard (FAC Ch. 62-550.320) of 6.5–8.5 pH units.

Mr. John Morris, P.G.
October 31, 2016
Page 2

Of note, the analytical data continues to exhibit inconsistent concentrations of COD and CBOD. The inconsistent values appear to be related to the start-up of plant operations and subsequent changes in operations to fine tune the processes. However, as the new plant operator continues to make the proper adjustments, the pH, COD, and CBOD are anticipated to stabilize, and become more consistent with the historical data set.

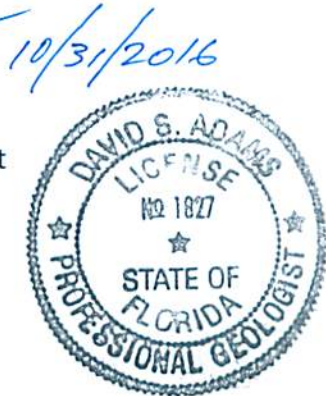
The monthly pH logs from the treatment plant are included within this submittal. Additionally, the effluent samples collected were analyzed by our contract laboratory, Advanced Environmental Laboratories, Inc., and the complete results are provided for your technical review. Should you have any questions or comments concerning the information provided in this submittal, please feel free to contact us at (813) 663-3222 or (813) 663-3221.

Respectfully,


Michael D. Townsel
Senior Hydrologist
Public Utilities Department
Environmental Services

10/31/2016


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



DSA/mdt

TSD\... \enviro\southeast\scanned reports-docs\Leachate plant\SELF2016-3rdQtrEffluent.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
Ron Cope, Hillsborough County EPC

Month	PH Calibration Log					
	JULY 2016					
Date	PH 4	PH 7	PH 10	INF PH	EFF PH	POND
1	4.02	7.00	10.01	7.75	8.18	8.30
2	4.37	7.01	10.10	7.84	8.42	
3						
4						
5	4.00	6.98	10.00	7.64	8.24	8.40
6	4.02	7.01	10.04	7.77	8.36	8.37
7	4.01	7.04	10.01	7.72	8.40	8.40
8	4.00	7.01	10.02	7.70	8.44	8.39
9	4.13	7.11	10.04	7.75	8.46	7.95
10						
11	4.00	7.02	10.01	7.69	8.42	8.34
12	4.00	7.01	10.05	7.63	8.38	8.25
13	4.00	7.00	10.09	7.81	8.57	8.42
14	4.02	7.02	10.02	7.70	8.46	8.37
15	4.00	7.01	10.04	7.74	8.40	8.56
16						8.47
17						
18	4.01	7.04	10.17	7.77	8.67	8.67
19	4.01	7.02	10.02	7.71	7.91	8.07
20	4.01	7.03	10.02	7.77	8.35	8.22
21	4.00	7.00	10.00	7.81	8.42	8.33
22	4.01	7.00	10.01	7.72	8.40	8.41
23	4.10	6.98	9.97	7.59	8.26	8.45
24						
25	4.00	6.96	9.93	7.53	8.12	8.02
26	4.01	7.01	10.01	7.64	8.42	8.31
27	4.00	7.00	10.00	7.61	8.29	8.46
28	4.05	7.09	10.03	7.61	8.15	8.36
29	4.01	7.03	10.01	7.70	8.36	
30						
31						

Month	PH Calibration Log					
	AUG 2016					
Date	PH 4	PH 7	PH 10	INF PH	EFF PH	POND
1	4.01	7.00	10.01	7.70	8.30	8.43
2	3.98	6.99	10.02	7.62	8.36	8.49
3	4.01	7.01	10.01	7.77	8.40	8.45
4	4.00	7.00	10.01	7.74	8.56	8.54
5	4.00	7.02	10.01	7.73	8.54	8.56
6						
7						
8	4.00	7.07	10.04	7.79	8.39	8.78
9	4.00	7.03	9.99	7.62	8.29	8.48
10	4.00	7.03	10.00	7.64	8.54	8.48
11	4.00	7.00	10.00	7.60	8.54	9.00
12	4.00	7.02	10.00	7.43	8.76	8.93
13	4.00	7.01	10.01	7.46	8.63	
14	4.02	7.02	10.03	7.61	8.52	
15	4.00	7.01	10.01	7.30	8.11	8.65
16	4.00	7.01	10.02	7.49	8.24	8.74
17	4.00	7.01	10.01	7.43	8.10	8.50
18	4.00	7.01	10.01	7.31	8.08	8.33
19	4.00	7.00	10.01	7.36	8.14	8.55
20	4.00	6.92	9.92	7.47	8.04	8.35
21	4.00					
22	4.00	7.00	10.01	7.41	7.84	8.64
23	4.00	7.00	10.01	7.47	7.95	8.65
24	4.00	7.00	10.02	7.49	7.94	8.56
25	4.00	7.02	10.01	7.55	7.95	8.38
26	4.01	7.00	10.00	7.63	7.99	8.39
27	4.00	7.04	9.99	7.40	7.92	8.04
28						
29	4.01	7.02	10.02	7.40	7.90	8.45
30	4.00	7.00	10.03	7.31	7.90	8.40
31	4.00	7.01	10.02	7.39	7.92	

Month	PH Calibration Log					
Date	PH 4	PH 7	PH 10	INF PH	EFF PH	POND
1						
2	4.00	7.00	10.02	7.17	7.77	No Spray
3						
4						
5	4.00	7.00	10.00	7.30	7.78	No Spray
6	4.00	7.01	10.01	7.16	7.76	8.40
7	4.00	7.01	10.01	7.29	7.90	8.61
8	4.00	7.00	10.01	7.30	7.85	8.56
9	4.01	7.00	10.01	7.22	7.84	8.39
10	4.00	7.00	10.00	7.12	7.80	8.28
11						
12	4.00	7.01	10.01	7.43	7.94	8.20
13	4.00	7.00	10.01	7.39	7.86	7.89
14	4.00	7.00	10.01	7.43	7.96	7.85
15	4.00	7.00	10.01	7.36	7.97	7.85
16	4.00	7.00	10.01	7.41	7.89	7.83
17	3.92	6.93	9.85	7.24	7.80	7.65
18						
19	4.00	7.00	10.02	7.47	7.97	8.04
20	4.00	7.01	10.01	7.49	7.99	8.03
21	4.00	7.00	10.01	7.48	8.10	8.04
22	4.00	7.00	10.00	7.52	8.00	8.10
23	4.00	7.00	10.02	7.69	8.14	8.17
24	3.95	6.99	10.00	7.44	8.20	8.03
25						
26	4.01	7.00	9.98	7.50	7.96	7.91
27	4.01	7.02	10.02	7.53	8.29	8.16
28	4.01	7.01	10.02	7.55	8.24	8.07
29	4.01	7.02	10.04	7.55	7.98	8.06
30	4.00	7.01	10.04	7.47	7.95	8.19
31						



Advanced Environmental Laboratories, Inc
9610 Princess Palm Ave Tampa, FL 33619
Payments: P.O. Box 551580 Jacksonville, FL 32255-1580

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

August 11, 2016

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

RE: Workorder: T1610216 SELF Plant Effluent

Dear David Adams:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, July 19, 2016. 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,

A handwritten signature in black ink that reads 'Heidi Brooks'.

Heidi Brooks
HBrooks@AELLab.com

Enclosures

Report ID: 435761 - 7268740

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SAMPLE SUMMARY

Workorder: T1610216 SELF Plant Effluent

Lab ID	Sample ID	Matrix	Date Collected	Date Received
T1610216001	Leachate Effluent	Water	7/19/2016 12:20	7/19/2016 13:52
T1610216002	Field Blank	Water	7/19/2016 12:10	7/19/2016 13:52

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ANALYTICAL RESULTS

Workorder: T1610216 SELF Plant Effluent

Lab ID: **T1610216001**
Sample ID: **Leachate Effluent**

Date Received: 07/19/16 13:52 Matrix: Water
Date Collected: 07/19/16 12:20

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	13683		umhos/cm	1			7/19/2016 12:20	
Dissolved Oxygen	3.35		mg/L	1			7/19/2016 12:20	
Temperature	34.17		°C	1			7/19/2016 12:20	
pH	8.04		SU	1			7/19/2016 12:20	
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water			Analytical Method: EPA 300.0					
Nitrate	160		mg/L	10	5.0	1.0	7/20/2016 15:08	T
Analysis Desc: COD,E410.4,Water			Analytical Method: EPA 410.4					
Chemical Oxygen Demand	840		mg/L	2	100	47	7/21/2016 14:30	T
Analysis Desc: Tot Dissolved Solids,SM2540C			Analytical Method: SM 2540 C					
Total Dissolved Solids	7300		mg/L	1	10	10	7/26/2016 10:08	T
Analysis Desc: TSS,SM2540D,Water			Analytical Method: SM 2540D					
Total Suspended Solids	110		mg/L	10	10	10	7/25/2016 09:06	T
Analysis Desc: BOD,SM5210B,Water			Analytical Method: SM 5210B					
Biochemical Oxygen Demand	280		mg/L	1	2.0	2.0	7/19/2016 18:09	T

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ANALYTICAL RESULTS

Workorder: T1610216 SELF Plant Effluent

Lab ID: **T1610216002**

Date Received: 07/19/16 13:52 Matrix: Water

Sample ID: **Field Blank**

Date Collected: 07/19/16 12:10

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water			Analytical Method: EPA 300.0					
Nitrate	0.10	U	mg/L	1	0.50	0.10	7/20/2016 15:25	T
Analysis Desc: COD,E410.4,Water			Analytical Method: EPA 410.4					
Chemical Oxygen Demand	24	U	mg/L	1	50	24	7/21/2016 14:30	T
Analysis Desc: Tot Dissolved Solids,SM2540C			Analytical Method: SM 2540 C					
Total Dissolved Solids	10	U	mg/L	1	10	10	7/26/2016 10:08	T
Analysis Desc: TSS,SM2540D,Water			Analytical Method: SM 2540D					
Total Suspended Solids	1.0	U	mg/L	1	1.0	1.0	7/25/2016 09:06	T
Analysis Desc: BOD,SM5210B,Water			Analytical Method: SM 5210B					
Biochemical Oxygen Demand	2.0	U	mg/L	1	2.0	2.0	7/19/2016 18:12	T

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ANALYTICAL RESULTS QUALIFIERS

Workorder: T1610216 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: T1610216 SELF Plant Effluent

QC Batch: WCAI/3982 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Prepared:
Associated Lab Samples: T1610216001, T1610216002

METHOD BLANK: 2098355

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

LABORATORY CONTROL SAMPLE: 2098356

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: 2098357 2098358 Original: T1610216002

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	6	500	490	490	98	99	90-110	1	10	

QC Batch: WCAI/4003 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Prepared:
Associated Lab Samples: T1610216001, T1610216002

METHOD BLANK: 2099642

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY			
Nitrate	mg/L	0.10	0.10 U

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QUALITY CONTROL DATA

Workorder: T1610216 SELF Plant Effluent

LABORATORY CONTROL SAMPLE: 2099643

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Nitrate	mg/L	2.5	2.6	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2101219 2101220 Original: T1610267001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	RPD	Qualifiers
WET CHEMISTRY											
Nitrate	mg/L	0.23	2.5	2.7	2.9	98	108	90-110	9	10	

QC Batch: WCAI/4007

Analysis Method: SM 2540D

QC Batch Method: SM 2540D

Prepared:

Associated Lab Samples: T1610216001, T1610216002

METHOD BLANK: 2099898

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

LABORATORY CONTROL SAMPLE: 2099899

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: 2099900

Original: T1610208002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Suspended Solids	mg/L	1.0U	1.0	0	10	

Report ID: 435761 - 7268740

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QUALITY CONTROL DATA

Workorder: T1610216 SELF Plant Effluent

QC Batch: WCAI/4010 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Prepared:
Associated Lab Samples: T1610216001, T1610216002

METHOD BLANK: 2099989

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

LABORATORY CONTROL SAMPLE: 2099990

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: 2103311 Original: T1610222001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD Qualifiers
WET CHEMISTRY					
Biochemical Oxygen Demand	mg/L	460	380	17	20

QC Batch: WCAI/4035 Analysis Method: SM 2540 C
QC Batch Method: SM 2540 C Prepared:
Associated Lab Samples: T1610216001, T1610216002

METHOD BLANK: 2101253

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

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QUALITY CONTROL DATA

Workorder: T1610216 SELF Plant Effluent

LABORATORY CONTROL SAMPLE: 2101254

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	660	640	97	75-125	

SAMPLE DUPLICATE: 2101255

Original: T1610216001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	7300	7100	3	10	

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: T1610216 SELF Plant Effluent

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T1610216001	Leachate Effluent			EPA 410.4	WCAt/3982
T1610216002	Field Blank			EPA 410.4	WCAt/3982
T1610216001	Leachate Effluent			EPA 300.0	WCAt/4003
T1610216002	Field Blank			EPA 300.0	WCAt/4003
T1610216001	Leachate Effluent			SM 2540D	WCAt/4007
T1610216002	Field Blank			SM 2540D	WCAt/4007
T1610216001	Leachate Effluent			SM 5210B	WCAt/4010
T1610216002	Field Blank			SM 5210B	WCAt/4010
T1610216001	Leachate Effluent			SM 2540 C	WCAt/4035
T1610216002	Field Blank			SM 2540 C	WCAt/4035
T1610216001	Leachate Effluent	Field Measurements	FLDt/	Field Measurements	FLDt/

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Environmental Laboratories, Inc.

	Relinquished by	Date	Time	Received by	Date	Time
1	<i>[Signature]</i>	7/19/16		<i>[Signature]</i>	7/19/16	1352
2						
3						
4						

Form FD 9000-24
GROUNDWATER SAMPLING LOG

SITE NAME: SELF Plant Effluent		SITE LOCATION:	
WELL NO: Leachate Effluent	SAMPLE ID: Leachate Effluent	DATE: 7/19/16	

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: J. Fuller / Z. Patterson				SAMPLER(S) SIGNATURE(S): <i>[Signature]</i>			SAMPLING INITIATED AT: 12:20		SAMPLING ENDED AT: 12:30	
PUMP OR TUBING DEPTH IN WELL (feet): N/A				TUBING MATERIAL CODE:			FIELD-FILTERED: Y ☒ N ☐		Filtration Equipment Type: _____	
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 coc for Analysis										
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)										
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; 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: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24
GROUNDWATER SAMPLING LOG

SITE NAME:		SITE LOCATION:	
WELL NO:	Field Blank	SAMPLE ID:	Field Blank
		DATE:	7/19/16

PURGING DATA

WELL DIAMETER (inches):	N/A	TUBING DIAMETER (inches):	N/A	WELL SCREEN INTERVAL DEPTH: — feet to — feet	STATIC DEPTH TO WATER (feet):	N/A	PURGE PUMP TYPE OR BAILER:	N/A	
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH — STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)									
= (— feet — — feet) X — gallons/foot = — gallons									
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)									
= — gallons + (— gallons/foot X — feet) + — gallons = — gallons									
INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	N/A	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	N/A	PURGING INITIATED AT:	N/A	PURGING ENDED AT:	N/A	TOTAL VOLUME PURGED (gallons):	N/A

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

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

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

SAMPLING DATA

[illegible]

REMARKS:

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: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

Revision Date: February 12, 2009

September 30, 2016

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

RE: Workorder: T1612743 SELF Plant Effluent

Dear David Adams:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, August 30, 2016. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. The analytical results for the samples contained in this report were submitted for analysis as outlined by the Chain of Custody and results pertain only to these samples.

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

Sincerely,



Heidi Brooks
HBrooks@AELLab.com

Enclosures

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SAMPLE SUMMARY

Workorder: T1612743 SELF Plant Effluent

Lab ID	Sample ID	Matrix	Date Collected	Date Received
T1612743001	Leachate	Water	8/30/2016 10:05	8/30/2016 13:12
T1612743002	Field Blank	Water	8/30/2016 09:45	8/30/2016 13:12

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ANALYTICAL RESULTS

Workorder: T1612743 SELF Plant Effluent

Lab ID: **T1612743001**
Sample ID: **Leachate**

Date Received: 08/30/16 13:12 Matrix: Water
Date Collected: 08/30/16 10:05

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	20279		umhos/cm	1			8/30/2016 10:05	
Dissolved Oxygen	4		mg/L	1			8/30/2016 10:05	
ORP-2580BW	40.1		mV	1			8/30/2016 10:05	
Temperature	31.51		°C	1			8/30/2016 10:05	
Turbidity	26.7		NTU	1			8/30/2016 10:05	
pH	7.82		SU	1			8/30/2016 10:05	
WET CHEMISTRY								
Analysis Desc: COD,E410.4,Water			Analytical Method: EPA 410.4					
Chemical Oxygen Demand	350		mg/L	1	50	24	8/31/2016 13:30	T
Analysis Desc: Tot Dissolved Solids,SM2540C			Analytical Method: SM 2540 C					
Total Dissolved Solids	9100		mg/L	1.25	12	12	9/1/2016 09:57	T
Analysis Desc: TSS,SM2540D,Water			Analytical Method: SM 2540D					
Total Suspended Solids	13		mg/L	1	1.0	1.0	9/2/2016 11:59	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water			Analytical Method: SM 4500NO3-F					
Nitrate	1.7		mg/L	5	1.0	0.88	8/31/2016 16:47	T
Analysis Desc: BOD,SM5210B,Water			Analytical Method: SM 5210B					
Biochemical Oxygen Demand	230		mg/L	1	2.0	2.0	8/31/2016 16:51	T

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ANALYTICAL RESULTS

Workorder: T1612743 SELF Plant Effluent

Lab ID: **T1612743002**

Date Received: 08/30/16 13:12 Matrix: Water

Sample ID: **Field Blank**

Date Collected: 08/30/16 09:45

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	8/31/2016 13:30	T
Analysis Desc: Tot Dissolved Solids,SM2540C			Analytical Method: SM 2540 C					
Total Dissolved Solids	12	U	mg/L	1.25	12	12	9/1/2016 09:57	T
Analysis Desc: TSS,SM2540D,Water			Analytical Method: SM 2540D					
Total Suspended Solids	1.0	U	mg/L	1	1.0	1.0	9/2/2016 11:59	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water			Analytical Method: SM 4500NO3-F					
Nitrate	0.18	U	mg/L	1	0.20	0.18	8/31/2016 15:58	T
Analysis Desc: BOD,SM5210B,Water			Analytical Method: SM 5210B					
Biochemical Oxygen Demand	2.0	U	mg/L	1	2.0	2.0	8/31/2016 16:46	T

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ANALYTICAL RESULTS QUALIFIERS

Workorder: T1612743 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: T1612743 SELF Plant Effluent

QC Batch: WCA/4584 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Prepared:
Associated Lab Samples: T1612743001, T1612743002

METHOD BLANK: 2131565

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

LABORATORY CONTROL SAMPLE: 2131566

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY					
Chemical Oxygen Demand	mg/L	500	470	95	90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2131568 2131569 Original: S1601187001

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	75	500	580	580	100	100	90-110	0	10	

QC Batch: WCA/4591 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Prepared:
Associated Lab Samples: T1612743001, T1612743002

METHOD BLANK: 2131958

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

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QUALITY CONTROL DATA

Workorder: T1612743 SELF Plant Effluent

LABORATORY CONTROL SAMPLE: 2131959

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Suspended Solids	mg/L	200	210	104	75-125	

SAMPLE DUPLICATE: 2131960

Original: T1612765001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Suspended Solids	mg/L	58	54	7	10	

SAMPLE DUPLICATE: 2131961

Original: T1612759001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Suspended Solids	mg/L	110	100	9	10	

QC Batch: WCA1/4593

Analysis Method: SM 2540 C

QC Batch Method: SM 2540 C

Prepared:

Associated Lab Samples: T1612743001, T1612743002

METHOD BLANK: 2131971

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

LABORATORY CONTROL SAMPLE: 2131972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	660	630	95	75-125	

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QUALITY CONTROL DATA

Workorder: T1612743 SELF Plant Effluent

SAMPLE DUPLICATE: 2131973 Original: T1612718001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD Qualifiers
WET CHEMISTRY					
Total Dissolved Solids	mg/L	70000	71000	1	10

SAMPLE DUPLICATE: 2131974 Original: T1612750002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	18000	18000	0	10	
QC Batch:	WCAI/4596		Analysis Method:	SM 5210B		
QC Batch Method:	SM 5210B		Prepared:			
Associated Lab Samples:	T1612743001, T1612743002					

METHOD BLANK: 2131985

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

LABORATORY CONTROL SAMPLE: 2131986

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: 2131987 Original: T1612794001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD Qualifiers
WET CHEMISTRY					
Biochemical Oxygen Demand	mg/L	170	140	15	20
QC Batch:	WCAI/4608		Analysis Method:	SM 4500NO3-F	
QC Batch Method:	SM 4500NO3-F		Prepared:		

Report ID: 442437 - 7496988

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QUALITY CONTROL DATA

Workorder: T1612743 SELF Plant Effluent

Associated Lab Samples: T1612743001, T1612743002

METHOD BLANK: 2132142

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

LABORATORY CONTROL SAMPLE: 2132143

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Nitrate	mg/L	1	1.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2132144 2132145 Original: T1612801001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Nitrate	mg/L	2.1	1	3.0	3.0	97	91	90-110	2	10	

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: T1612743 SELF Plant Effluent

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T1612743001	Leachate			EPA 410.4	WCAt/4584
T1612743002	Field Blank			EPA 410.4	WCAt/4584
T1612743001	Leachate			SM 2540D	WCAt/4591
T1612743002	Field Blank			SM 2540D	WCAt/4591
T1612743001	Leachate			SM 2540 C	WCAt/4593
T1612743002	Field Blank			SM 2540 C	WCAt/4593
T1612743001	Leachate			SM 5210B	WCAt/4596
T1612743002	Field Blank			SM 5210B	WCAt/4596
T1612743001	Leachate			SM 4500NO3-F	WCAt/4608
T1612743002	Field Blank			SM 4500NO3-F	WCAt/4608
T1612743001	Leachate	Field Measurements	FLDt/	Field Measurements	FLDt/

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TL12743

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

PWS ID: _____

Contact Person: _____ Phone: _____

Supplier of Water: _____

Site-Address: _____

SITE NAME: SELF PLANT EFF		SITE LOCATION:	
WELL NO: LEACHATE EFFLUENT	SAMPLE ID: LEACHATE EFFLUENT	DATE: 8/30/16	

[illegible]

SAMPLED BY (PRINT) / AFFILIATION: Z. PATTERSON				SAMPLER(S) SIGNATURE(S): 			SAMPLING INITIATED AT: 10:05		SAMPLING ENDED AT: 10:10	
PUMP OR TUBING DEPTH IN WELL (feet): N/A				TUBING MATERIAL CODE: T			FIELD-FILTERED: Y (N) Filtration Equipment Type:		FILTER SIZE: _____ μm	
FIELD DECONTAMINATION: PUMP Y N TUBING Y N (replaced)							DUPLICATE: Y (N)			
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)			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 COC 10:05 40.1										
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)										
SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; RFPF = Reverse Flow Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)										

Revision Date: March 1, 2014

SITE NAME:	SELF PLANT EFF.		SITE LOCATION:		
WELL NO:	FIELD BLANK	SAMPLE ID:	FIELD BLANK	DATE:	8/30/

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: — feet to — feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH — STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)				
$= (\text{feet}) \times \text{gallons/foot} = \text{gallons}$				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)				
$= \text{gallons} + (\text{gallons/foot} \times \text{feet}) + \text{gallons} = \text{gallons}$				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

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

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

SAMPLED BY (PRINT) / AFFILIATION: Z. PATTERSON				SAMPLER(S) SIGNATURE(S): <i>[Signature]</i>			SAMPLING INITIATED AT: 9:45		SAMPLING ENDED AT: 9:50	
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 (including wet ice)			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 CUC										
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)										
SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPF = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)										

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



Advanced Environmental Laboratories, Inc
9610 Princess Palm Ave Tampa, FL 33619
Payments: P.O. Box 551580 Jacksonville, FL 32255-1580

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

October 19, 2016

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

RE: Workorder: T1614334 SELF Plant Effluent

Dear David Adams:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, September 27, 2016. 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,

A handwritten signature in black ink that reads 'Heidi Brooks'.

Heidi Brooks
HBrooks@AELLab.com

Enclosures

Report ID: 447034 - 7584399

Page 1 of 12

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SAMPLE SUMMARY

Workorder: T1614334 SELF Plant Effluent

Lab ID	Sample ID	Matrix	Date Collected	Date Received
T1614334001	Leachate	Water	9/27/2016 11:00	9/27/2016 14:50
T1614334002	Field Blank	Water	9/27/2016 10:49	9/27/2016 14:50

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ANALYTICAL RESULTS

Workorder: T1614334 SELF Plant Effluent

Lab ID: **T1614334001**
Sample ID: **Leachate**

Date Received: 09/27/16 14:50 Matrix: Water
Date Collected: 09/27/16 11:00

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	18002		umhos/cm	1			9/27/2016 11:00	
Dissolved Oxygen	4.19		mg/L	1			9/27/2016 11:00	
ORP-2580BW	53.2		mV	1			9/27/2016 11:00	
Temperature	31.33		°C	1			9/27/2016 11:00	
pH	8.09		SU	1			9/27/2016 11:00	
WET CHEMISTRY								
Analysis Desc: COD,E410.4,Water			Analytical Method: EPA 410.4					
Chemical Oxygen Demand	700		mg/L	1	50	24	10/4/2016 15:42	T
Analysis Desc: Tot Dissolved Solids,SM2540C			Analytical Method: SM 2540 C					
Total Dissolved Solids	7600		mg/L	1	10	10	9/30/2016 13:06	A
Analysis Desc: TSS,SM2540D,Water			Analytical Method: SM 2540D					
Total Suspended Solids	42		mg/L	5	5.0	5.0	10/3/2016 08:09	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water			Analytical Method: SM 4500NO3-F					
Nitrate	6.7		mg/L	2	0.40	0.35	9/28/2016 16:15	T
Analysis Desc: BOD,SM5210B,Water			Analytical Method: SM 5210B					
Biochemical Oxygen Demand	15		mg/L	1	2.0	2.0	9/28/2016 16:10	T

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ANALYTICAL RESULTS

Workorder: T1614334 SELF Plant Effluent

Lab ID: **T1614334002**

Date Received: 09/27/16 14:50 Matrix: Water

Sample ID: **Field Blank**

Date Collected: 09/27/16 10:49

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	10/4/2016 15:42	T
Analysis Desc: Tot Dissolved Solids,SM2540C			Analytical Method: SM 2540 C					
Total Dissolved Solids	10	U	mg/L	1	10	10	9/30/2016 13:06	A
Analysis Desc: TSS,SM2540D,Water			Analytical Method: SM 2540D					
Total Suspended Solids	1.0	U	mg/L	1	1.0	1.0	10/3/2016 08:09	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water			Analytical Method: SM 4500NO3-F					
Nitrate	0.18	U	mg/L	1	0.20	0.18	9/28/2016 12:52	T
Analysis Desc: BOD,SM5210B,Water			Analytical Method: SM 5210B					
Biochemical Oxygen Demand	2.0	U	mg/L	1	2.0	2.0	9/28/2016 15:55	T

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ANALYTICAL RESULTS QUALIFIERS

Workorder: T1614334 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

- A DOH Certification #E53076(AEL-A)(FL NELAC Certification)
- T DOH Certification #E84589(AEL-T)(FL NELAC Certification)
- T^ Not Certified

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QUALITY CONTROL DATA

Workorder: T1614334 SELF Plant Effluent

QC Batch: WCAI/5004 Analysis Method: SM 4500NO3-F
QC Batch Method: SM 4500NO3-F Prepared:
Associated Lab Samples: T1614334002

METHOD BLANK: 2155689

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

LABORATORY CONTROL SAMPLE: 2155690

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: 2155691 2155692 Original: T1614374001

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	1.0	1.1	103	109	90-110	6	10	

QC Batch: WCAI/5007 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Prepared:
Associated Lab Samples: T1614334001, T1614334002

METHOD BLANK: 2155736

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

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QUALITY CONTROL DATA

Workorder: T1614334 SELF Plant Effluent

LABORATORY CONTROL SAMPLE: 2155737

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY Biochemical Oxygen Demand	mg/L	200	210	104	84.6-115.4	

SAMPLE DUPLICATE: 2155738

Original: T1614334002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY Biochemical Oxygen Demand	mg/L	2.0U	2.0	0	20	
QC Batch:	WCAI/5008		Analysis Method:	SM 4500NO3-F		
QC Batch Method:	SM 4500NO3-F		Prepared:			
Associated Lab Samples:	T1614334001					

METHOD BLANK: 2155744

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

LABORATORY CONTROL SAMPLE: 2155745

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2155746

2155747

Original: T1614449004

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	5	1	6.0	6.0	102	104	90-110	0	10	

Report ID: 447034 - 7584399

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CERTIFICATE OF ANALYSIS

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QUALITY CONTROL DATA

Workorder: T1614334 SELF Plant Effluent

QC Batch: WCAI/5044 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Prepared:
Associated Lab Samples: T1614334001, T1614334002

METHOD BLANK: 2158033

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

LABORATORY CONTROL SAMPLE: 2158034

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY					
Total Suspended Solids	mg/L	200	190	94	75-125

SAMPLE DUPLICATE: 2158035 Original: T1614315001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD Qualifiers
WET CHEMISTRY					
Total Suspended Solids	mg/L	1.0U	1.0	0	10

SAMPLE DUPLICATE: 2158036 Original: T1614351002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD Qualifiers
WET CHEMISTRY					
Total Suspended Solids	mg/L	1.0U	1.0	0	10

QC Batch: WCAI/5078 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Prepared:
Associated Lab Samples: T1614334001, T1614334002

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QUALITY CONTROL DATA

Workorder: T1614334 SELF Plant Effluent

METHOD BLANK: 2160056

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

LABORATORY CONTROL SAMPLE: 2160057

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY					
Chemical Oxygen Demand	mg/L	500	470	94	90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2160058 2160059 Original: T1614057001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	Max RPD Qualifiers
WET CHEMISTRY										
Chemical Oxygen Demand	mg/L	230	500	700	700	94	94	90-110	0	10

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2160062 2160063 Original: T1614774001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	Max RPD Qualifiers
WET CHEMISTRY										
Chemical Oxygen Demand	mg/L	31	500	470	470	89	89	90-110	0	10 J4

QC Batch: WCAa/1756

Analysis Method: SM 2540 C

QC Batch Method: SM 2540 C

Prepared:

Associated Lab Samples: T1614334001, T1614334002

METHOD BLANK: 2162092

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

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QUALITY CONTROL DATA

Workorder: T1614334 SELF Plant Effluent

LABORATORY CONTROL SAMPLE: 2162093

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	660	700	106	75-125	

SAMPLE DUPLICATE: 2162094

Original: T1614319001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	58	56	4	10	

SAMPLE DUPLICATE: 2162095

Original: T1614367002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	1000	1000	1	10	

QUALITY CONTROL DATA QUALIFIERS

Workorder: T1614334 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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: T1614334 SELF Plant Effluent

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T1614334002	Field Blank			SM 4500NO3-F	WCAI/5004
T1614334001	Leachate			SM 5210B	WCAI/5007
T1614334002	Field Blank			SM 5210B	WCAI/5007
T1614334001	Leachate			SM 4500NO3-F	WCAI/5008
T1614334001	Leachate			SM 2540D	WCAI/5044
T1614334002	Field Blank			SM 2540D	WCAI/5044
T1614334001	Leachate			EPA 410.4	WCAI/5078
T1614334002	Field Blank			EPA 410.4	WCAI/5078
T1614334001	Leachate			SM 2540 C	WCAa/1756
T1614334002	Field Blank			SM 2540 C	WCAa/1756
T1614334001	Leachate	Field Measurements	FLDI/	Field Measurements	FLDI/

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7764334

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

Received on Ice ☒ Yes ☐ No ☐ Temp taken from sample ☐ Temp from blank ☐ Where required, pH checked ☐ Temperature when received 40 (in degrees Celsius)

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-0A A: 3A M: 1A S: 1V

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

PWS ID: _____

Contact Person: _____ Phone: _____

Supplier of Water: _____

Site Address: _____

PURGING DATA

[illegible]

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
 TURNING 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

[illegible]

SEE COC FOR ANALYSIS

11:00 / 53.2

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: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

Revision Date: February 2009

Form FD 9000-24
GROUNDWATER SAMPLING LOG

SITE NAME: Southeast County landfill		SITE LOCATION:	
WELL NO: FIELD BLANK	SAMPLE ID: FIELD BLANK	DATE: 9/27/16	

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: - feet to - feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = (feet - feet) X gallons/foot = gallons				
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + (gallons/foot X feet) + gallons = gallons				
INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

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

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

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

SAMPLING DATA

[illegible]

SEE COC FOR ANALYSIS

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

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump;
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pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: $\pm 5\%$ Dissolved Oxygen: all readings $\leq 20\%$ saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or $\pm 10\%$ (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or $\pm 10\%$ (whichever is greater)

Revision Date: February 2009



**Advanced
Environmental Laboratories, Inc.**

6601 Southpoint Parkway
Jacksonville, Florida 32216
(904) 363-9350
FAX (904) 363-9354

QCBatch: **WCAt:5078**

Method: **EPA 410.4**

PrepMethod:

I. RECEIPT

No Exceptions were encountered.

II. HOLDING TIMES

Preparation: All holding times were met.

Analysis: All holding times were met.

III. PREPARATION

Sample preparation proceeded normally.

VI. 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 for T1614774001 were outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential low bias in this matrix. The affected sample is qualified to indicate matrix interference.

E. Serial Dilution: 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 Technical Director or his designee, as verified by the following signature, has authorized release of the data contained in this hard copy data package and in the computer-readable data submitted on diskette: