



**Hillsborough
County** Florida

PUBLIC UTILITIES

PO Box 1110
Tampa, FL 33601-1110

September 5, 2018

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
Second Quarter (April – June, 2018)**

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), has prepared this quarterly report to provide the 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.

Monthly sampling of the leachate treatment plant effluent and the daily recording of the plant pH was conducted as required by the referenced plan. County personnel collected effluent samples from the designated sampling port at the treatment plant on April 26, and May 23, 2018 for Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Total Suspended Solids (TSS), Total Dissolved Solids (TDS), Nitrate, and five (5) field parameters. On June 19, 2018, the County also collected the required semi-annual sample at the leachate treatment plant for primary and secondary drinking water standards and priority pollutant metals. All samples were analyzed by our contract laboratory, Advanced Environmental Laboratories, Inc. and review concludes the data is consistent over the period of record.

**BOARD OF COUNTY
COMMISSIONERS**

Victor D. Crist
Ken Hagan
Al Higginbotham
Pat Kemp
Lesley "Les" Miller, Jr.
Sandra L. Murman
Stacy R. White

COUNTY ADMINISTRATOR

Michael S. Merrill

COUNTY ATTORNEY

Christine M. Beck

INTERNAL AUDITOR

Peggy Caskey

**CHIEF DEVELOPMENT &
INFRASTRUCTURE SERVICES
ADMINISTRATOR**

Lucia E. Garsys

Mr. Steve Morgan

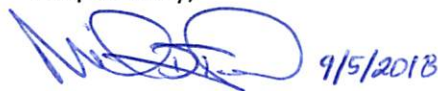
September 5, 2018

Page 2 of 2

Daily pH for the effluent was recorded by plant personnel and the logs are depicted as part of this submittal. Over this quarter, the pH ranged from 6.31 to 8.31 pH units and are not within the State of Florida Secondary Drinking Water Standard (SDWS), FAC Ch. 62-550.320 of 6.5 to 8.5 pH units. Monthly analytical samples collected from the effluent sample port recorded pH between 7.23 to 7.96 pH units and are within the SDWS.

Should you have any questions or comments concerning the information provided, please feel free to contact me at (813) 663-3222.

Respectfully,



Michael D. Townsel
Senior Hydrologist
Public Utilities Department
Environmental Services

ec: Justin Chamberlain, P.G., FDEP
Kimberly Byer, P.G., Public Works Dept.
Larry Ruiz, Public Works, Dept.
Ronald Wiesman, Public Works Dept.
Cindy Pelley, Public Works Dept.
Jeffrey Greenwell, P.E., Public Utilities Dept.
Ron Cope, Hillsborough County EPC

Month	PH Calibration Log					
Date	PH 4	PH 7	PH 10	INF PH	EFF PH	POND
1						
2	4.00	6.99	10.00	7.45	8.20	8.40
3	4.00	7.01	10.00	7.45	7.91	8.45
4	4.00	7.01	10.01	7.61	7.96	8.57
5	4.00	7.01	10.01	7.59	7.74	8.60/8.42
6	4.00	7.01	10.01	7.50	7.49	8.44
7	4.00	7.01	10.01	7.68	7.00	8.61
8						
9	4.00	7.00	10.01	7.56	6.70	8.78
10	4.00	7.01	9.99	7.65	6.50	8.40
11	4.00	7.01	10.00	7.68	6.31	8.38
12	4.00	7.02	10.01	7.66	6.47	8.47
13	4.00	7.01	10.00	7.71	6.35	8.77
14	3.99	7.01	10.01	7.76	6.96	8.84
15						
16	4.00	7.03	10.02	7.79	7.68	8.82
17	4.00	7.03	10.02	7.77	7.67	8.42
18	4.00	7.03	10.01	7.79	8.10	8.53
19	4.00	7.02	10.01	7.70	8.20	8.46
20	4.00	7.01	10.01	7.80	8.23	8.84
21	4.00	7.00	10.00	7.68	8.10	8.36
22						
23	4.00	7.01	10.01	7.71	8.18	8.94
24	4.00	7.00	10.01	7.79	8.26	8.50
25	3.99	7.01	10.00	7.60	8.29	8.50
26	3.99	7.02	10.01	7.54	8.11	8.35
27	4.00	7.02	10.02	7.68	8.18	8.41
28	3.99	7.00	10.00	7.59	8.19	8.53
29						
30	4.00	7.00	10.01	7.61	8.13	8.41
31						

Month	PH Calibration Log					
Date	PH 4	PH 7	PH 10	INF PH	EFF PH	POND
1		7.01	10.02	7.22		
2	4.00	7.01	10.04	7.69	8.03	8.44
3	3.99	7.01	10.00	7.54	7.94	8.74
4	4.00	7.01	10.00	7.64	7.95	8.49
5	4.00	7.00	10.00	7.66	7.86	8.52
6						
7	4.01	7.01	10.01	7.44	7.77	
8	4.00	7.00	9.99	7.33	7.66	8.58
9	4.00	6.97	10.00	7.47	7.77	8.64
10	4.00	6.99	10.01	7.52	7.64	8.71
11	4.00	7.00	10.01	7.58	7.93	8.65
12	4.00	7.00	10.01	7.63	7.87	8.74
13						
14	4.00	7.00	10.00	7.48	7.79	N/S
15	4.00	7.00	9.99	7.53	8.01	N/S
16	4.00	7.01	10.00	7.44	7.93	N/S
17	4.00	6.98	10.00	7.64	8.06	N/S
18	3.99	7.00	10.00	7.56	7.89	N/S
19	4.00	7.00	10.00	7.37	7.66	8.50
20	4.00	6.99	10.00	7.43	7.68	
21	4.03	7.00	10.02	7.30	7.60	N/S
22	4.00	7.08	10.04	7.12	7.47	N/S
23	4.00	6.99	9.99	7.22	7.44	N/S
24	4.01	7.02	10.00	7.19	7.15	N/S
25	3.99	7.01	10.01	7.30	7.44	
26	4.00	7.01	10.01	7.28	7.29	8.49
27	4.00	7.02	10.04	7.24	7.09	
28						
29	4.01	7.05	10.01	7.30	6.90	9.25
30	4.00	7.00	10.00	7.53	7.00	
31	4.00	7.00	10.01	7.50	6.98	

Month	PH Calibration Log					
	JUNE 18					
Date	PH 4	PH 7	PH 10	INF PH	EFF PH	POND
1	4.02	7.00	10.00	7.61	6.98	
2	4.00	7.00	10.01	7.51	6.79	8.02
3						
4	4.00	7.00	10.00	7.56	6.84	N/S
5	4.00	7.01	10.03	7.40	6.87	N/S
6	4.00	7.00	10.00	7.48	6.81	N/S
7	4.00	7.08	10.00	7.54	7.48	N/S
8	4.00	7.01	10.02	7.59	7.19	N/S
9	4.00	6.99	10.00	7.56	6.87	N/S
10						
11	4.01	7.00	10.00	7.64	6.94	N/S
12	4.00	7.00	10.01	7.42	6.60	N/S
13	4.00	6.99	10.00	7.52	7.01	N/S
14	4.00	7.00	10.01	7.59	6.84	N/S
15	4.01	7.00	10.01	7.65	6.82	N/S
16	4.00	6.99	10.00	7.69	7.54	N/S
17						
18	4.00	7.00	10.00	7.57	8.17	N/S
19	4.00	7.01	10.02	7.60	8.15	N/S
20	4.00	7.00	10.01	7.59	7.91	N/S
21	4.01	7.00	10.00	7.64	7.98	N/S
22	4.00	6.95	10.00	7.58	8.12	N/S
23						
24						
25	4.00	7.03	10.00	7.55	8.14	N/S
26	4.00	6.99	10.00	7.51	8.24	N/S
27	4.00	7.01	10.01	7.57	8.31	N/S
28	4.01	6.98	10.00	7.43	8.15	N/S
29	4.01	7.01	9.99	7.25	7.90	N/S
30	4.00	7.05	10.00	7.47	7.85	
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

June 1, 2018

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

RE: Workorder: T1807246 SELF Plant Effluent

Dear Michael Townsel:

Enclosed are the analytical results for sample(s) received by the laboratory on Thursday, April 26, 2018. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. The analytical results for the samples contained in this report were submitted for analysis as outlined by the Chain of Custody and results pertain only to these samples.

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

Sincerely,

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

Heidi Parker - Project Manager
HParker@AELLab.com

Enclosures

Report ID: 552758 - 784438

Page 1 of 12

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



SAMPLE SUMMARY

Workorder: T1807246 SELF Plant Effluent

Lab ID	Sample ID	Matrix	Date Collected	Date Received
T1807246001	Leachate Effluent	Water	4/26/2018 12:00	4/26/2018 13:20
T1807246002	Field Blank	Water	4/26/2018 11:45	4/26/2018 13:20

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: T1807246 SELF Plant Effluent

Lab ID: **T1807246001**
Sample ID: **Leachate Effluent**

Date Received: 04/26/18 13:20 Matrix: Water
Date Collected: 04/26/18 12:00

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	16141		umhos/cm	1			4/26/2018 12:00	....
Dissolved Oxygen	3.75		mg/L	1			4/26/2018 12:00	....
ORP-2580BW	147.8		mV	1			4/26/2018 12:00	....
Temperature	28		°C	1			4/26/2018 12:00	....
pH	7.96		SU	1			4/26/2018 12:00	....
WET CHEMISTRY								
Analysis Desc: COD,E410.4,Water			Analytical Method: EPA 410.4					
Chemical Oxygen Demand	830		mg/L	1	50	24	5/1/2018 13:49	T
Analysis Desc: Tot Dissolved Solids,SM2540C			Analytical Method: SM 2540 C					
Total Dissolved Solids	9300		mg/L	1	10	10	5/2/2018 08:30	T
Analysis Desc: TSS,SM2540D,Water			Analytical Method: SM 2540D					
Total Suspended Solids	2.8		mg/L	1	1.0	1.0	5/1/2018 16:17	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water			Analytical Method: SM 4500NO3-F					
Nitrate	57		mg/L	25	5.0	4.4	4/26/2018 17:52	T
Analysis Desc: BOD,SM5210B,Water			Analytical Method: SM 5210B					
Biochemical Oxygen Demand	2.0	U	mg/L	1	2.0	2.0	4/26/2018 15:23	T

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: T1807246 SELF Plant Effluent

Lab ID: **T1807246002**

Date Received: 04/26/18 13:20 Matrix: Water

Sample ID: **Field Blank**

Date Collected: 04/26/18 11:45

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	5/1/2018 13:49	T
Analysis Desc: Tot Dissolved Solids,SM2540C			Analytical Method: SM 2540 C					
Total Dissolved Solids	10	U	mg/L	1	10	10	5/2/2018 08:30	T
Analysis Desc: TSS,SM2540D,Water			Analytical Method: SM 2540D					
Total Suspended Solids	1.0	U	mg/L	1	1.0	1.0	5/1/2018 16:17	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water			Analytical Method: SM 4500NO3-F					
Nitrate	0.18	U,Q	mg/L	1	0.20	0.18	5/24/2018 15:06	T
Analysis Desc: BOD,SM5210B,Water			Analytical Method: SM 5210B					
Biochemical Oxygen Demand	2.0	U	mg/L	1	2.0	2.0	4/26/2018 15:26	T

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS QUALIFIERS

Workorder: T1807246 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.
- Q Missed Hold Time

LAB QUALIFIERS

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

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1807246 SELF Plant Effluent

QC Batch: WCAI/3241 Analysis Method: SM 4500NO3-F
QC Batch Method: SM 4500NO3-F Prepared:
Associated Lab Samples: T1807246001

METHOD BLANK: 2694387

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

LABORATORY CONTROL SAMPLE: 2694388

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY Nitrate	mg/L	1	1.1	110	90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2694389 2694390 Original: F1802182002

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	0.32	1	2.0	2.1	171	174	90-110	2	10	

QC Batch: WCAI/3258 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Prepared:
Associated Lab Samples: T1807246001, T1807246002

METHOD BLANK: 2695317

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

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1807246 SELF Plant Effluent

LABORATORY CONTROL SAMPLE: 2695318

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY Biochemical Oxygen Demand	mg/L	200	170	86	84.6-115.4	

SAMPLE DUPLICATE: 2695319

Original: T1807193001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY Biochemical Oxygen Demand	mg/L	2700	2100	26	20	J4

QC Batch: WCAI/3302

Analysis Method: EPA 410.4

QC Batch Method: EPA 410.4

Prepared:

Associated Lab Samples: T1807246001, T1807246002

METHOD BLANK: 2697191

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

LABORATORY CONTROL SAMPLE: 2697192

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY Chemical Oxygen Demand	mg/L	500	520	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2697194

2697195

Original: T1807089001

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	36	500	570	570	107	107	90-110	0	10	

Report ID: 552758 - 784438

Page 7 of 12

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1807246 SELF Plant Effluent

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2697198 2697199 Original: T1807318001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	RPD	Qualifiers
WET CHEMISTRY											
Chemical Oxygen Demand	mg/L	680	500	1200	1200	95	95	90-110	0	10	

QC Batch: WCAI/3314 Analysis Method: SM 2540D

QC Batch Method: SM 2540D Prepared:

Associated Lab Samples: T1807246001, T1807246002

METHOD BLANK: 2698029

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

LABORATORY CONTROL SAMPLE: 2698030

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Suspended Solids	mg/L	200	170	86	85-115	

SAMPLE DUPLICATE: 2698031 Original: T1807279001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Suspended Solids	mg/L	170	170	1	10	

QC Batch: WCAI/3325 Analysis Method: SM 2540 C

QC Batch Method: SM 2540 C Prepared:

Associated Lab Samples: T1807246001, T1807246002

METHOD BLANK: 2698641

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				

Report ID: 552758 - 784438

Page 8 of 12

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1807246 SELF Plant Effluent

METHOD BLANK: 2698641

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

LABORATORY CONTROL SAMPLE: 2698642

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY Total Dissolved Solids	mg/L	660	650	98	85-115

SAMPLE DUPLICATE: 2698643

Original: T1807174005

Parameter	Units	Original Result	DUP Result	RPD	Max RPD Qualifiers
WET CHEMISTRY Total Dissolved Solids	mg/L	320	350	9	10
QC Batch:	WCAI/3850		Analysis Method:	SM 4500NO3-F	
QC Batch Method:	SM 4500NO3-F		Prepared:		
Associated Lab Samples:	T1807246002				

METHOD BLANK: 2723090

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

LABORATORY CONTROL SAMPLE: 2723091

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY Nitrate	mg/L	1	1.1	110	90-110

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1807246 SELF Plant Effluent

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2723092 2723093 Original: T1808874003

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	4.1	1	2.1	2.1	-199	-202	90-110	1	10	

QUALITY CONTROL DATA QUALIFIERS

Workorder: T1807246 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
- Q Missed Hold Time

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: T1807246 SELF Plant Effluent

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T1807246001	Leachate Effluent			SM 4500NO3-F	WCA/t/3241
T1807246001	Leachate Effluent			SM 5210B	WCA/t/3258
T1807246002	Field Blank			SM 5210B	WCA/t/3258
T1807246001	Leachate Effluent			EPA 410.4	WCA/t/3302
T1807246002	Field Blank			EPA 410.4	WCA/t/3302
T1807246001	Leachate Effluent			SM 2540D	WCA/t/3314
T1807246002	Field Blank			SM 2540D	WCA/t/3314
T1807246001	Leachate Effluent			SM 2540 C	WCA/t/3325
T1807246002	Field Blank			SM 2540 C	WCA/t/3325
T1807246002	Field Blank			SM 4500NO3-F	WCA/t/3850
T1807246001	Leachate Effluent	Field Measurements	FLDt/	Field Measurements	FLDt/

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.





T/807245

Page 12 of 12

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: 4/26/18	

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) $= (\text{N/A feet} - \text{N/A feet}) \times \text{N/A gallons/foot} = \text{N/A gallons}$											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) $= \text{N/A gallons} + (\text{N/A gallons/foot} \times \text{N/A feet}) + \text{N/A gallons} = \text{N/A gallons}$											
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)
12:00	N/A	N/A	N/A	N/A	7.96	28.0	16141	3.75	N/A	lt Brown	effluent
OTA 4/26/16											
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: T. Aguilar J. Fuller				SAMPLER(S) SIGNATURE(S): 			SAMPLING INITIATED AT: 12:00		SAMPLING ENDED AT: 12:05	
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: 12100 (149.8)										
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)										
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPF = 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 $+10\%$ (whichever is greater)

SITE NAME: Southeast County Landfill - Plant		SITE LOCATION: Lithia, Florida	
WELL NO: Field Blank		DATE: 4/26/18	

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				

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
 TIRING 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

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



Project No.: T1807246
Client Name: Hillsborough County Public Utilities
ProjectID: SELF Plant Effluent

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: SM 4500NO3-F
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 recovery of Nitrite for F1802182002 was outside control criteria. Recoveries in the Laboratory Control Sample (LCS) and %RPD were acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential low bias in this matrix. The effected sample is qualified to indicate matrix interference.

The matrix spike recovery of Nitrate for F1802182002 was outside control criteria. Recoveries in the Laboratory Control Sample (LCS) and %RPD were acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential high bias in this matrix. The effected sample is qualified to indicate matrix interference.
E. Serial Diluion: All acceptance criteria were met.
F. Samples: Sample analyses proceeded normally.
G. Other:



Project No.: T1807246
Client Name: Hillsborough County Public Utilities
ProjectID: SELF Plant Effluent

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: SM 5210B
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: The relative percent difference (RPD) for the following analyte(s) in the replicate matrix spike analyses of T1807193001 was outside control criteria: BOD. Failing RPD indicates inconsistency in the parent sample matrix. All recoveries in the associated LCS were within acceptable limits, indicating the analytical batch was in control. No further corrective action was needed.
D. Spikes: All acceptance criteria were met.
E. Serial Dilution: All acceptance criteria were met.
F. Samples: Sample analyses proceeded normally.
G. Other:



Project No.: T1807246
Client Name: Hillsborough County Public Utilities
ProjectID: SELF Plant Effluent

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: T1807246002 was ran out of hold for nitrate. The nitrate was ran out of a preserved bottle for a more accurate result

III. Method

Analysis: SM 4500NO3-F
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 recovery of Nitrite for T1808886001 and T1808874003 was outside control criteria. Recoveries in the Laboratory Control Sample (LCS) and %RPD were acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential low bias in this matrix. The effected sample is qualified to indicate matrix interference.
E. Serial Diluion: All acceptance criteria were met.
F. Samples: Sample analyses proceeded normally.
G. Other:



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

June 12, 2018

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

RE: Workorder: T1808881 SELF Plant Effluent

Dear Michael Townsel:

Enclosed are the analytical results for sample(s) received by the laboratory on Wednesday, May 23, 2018. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. The analytical results for the samples contained in this report were submitted for analysis as outlined by the Chain of Custody and results pertain only to these samples.

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

Sincerely,

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

Heidi Parker - Project Manager
HParker@AELLab.com

Enclosures

Report ID: 557904 - 835160

Page 1 of 11

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



SAMPLE SUMMARY

Workorder: T1808881 SELF Plant Effluent

Lab ID	Sample ID	Matrix	Date Collected	Date Received
T1808881001	Leachate Effluent	Water	5/23/2018 10:46	5/23/2018 12:00
T1808881002	Field Blank	Water	5/23/2018 10:38	5/23/2018 12:00

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: T1808881 SELF Plant Effluent

Lab ID: **T1808881001**
Sample ID: **Leachate Effluent**

Date Received: 05/23/18 12:00 Matrix: Water
Date Collected: 05/23/18 10:46

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	15983		umhos/cm	1			5/23/2018 10:46	....
Dissolved Oxygen	3.97		mg/L	1			5/23/2018 10:46	....
ORP-2580BW	172		mV	1			5/23/2018 10:46	....
Temperature	28.7		°C	1			5/23/2018 10:46	....
pH	7.23		SU	1			5/23/2018 10:46	....
WET CHEMISTRY								
Analysis Desc: COD,E410.4,Water			Analytical Method: EPA 410.4					
Chemical Oxygen Demand	2000		mg/L	10	500	240	5/29/2018 16:42	T
Analysis Desc: Tot Dissolved Solids,SM2540C			Analytical Method: SM 2540 C					
Total Dissolved Solids	8300		mg/L	1	10	10	5/29/2018 09:47	T
Analysis Desc: TSS,SM2540D,Water			Analytical Method: SM 2540D					
Total Suspended Solids	16		mg/L	1	1.0	1.0	5/29/2018 10:40	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water			Analytical Method: SM 4500NO3-F					
Nitrate	240		mg/L	25	5.0	4.4	5/23/2018 15:26	T
Analysis Desc: BOD,SM5210B,Water			Analytical Method: SM 5210B					
Biochemical Oxygen Demand	44		mg/L	1	2.0	2.0	5/23/2018 15:34	T

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: T1808881 SELF Plant Effluent

Lab ID: **T1808881002**

Date Received: 05/23/18 12:00 Matrix: Water

Sample ID: **Field Blank**

Date Collected: 05/23/18 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	5/29/2018 16:42	T
Analysis Desc: Tot Dissolved Solids,SM2540C			Analytical Method: SM 2540 C					
Total Dissolved Solids	10	U	mg/L	1	10	10	5/29/2018 09:47	T
Analysis Desc: TSS,SM2540D,Water			Analytical Method: SM 2540D					
Total Suspended Solids	1.0	U	mg/L	1	1.0	1.0	5/29/2018 10:40	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water			Analytical Method: SM 4500NO3-F					
Nitrate	0.18	U	mg/L	1	0.20	0.18	5/23/2018 15:43	T
Analysis Desc: BOD,SM5210B,Water			Analytical Method: SM 5210B					
Biochemical Oxygen Demand	2.0	U	mg/L	1	2.0	2.0	5/23/2018 15:37	T

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS QUALIFIERS

Workorder: T1808881 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

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1808881 SELF Plant Effluent

QC Batch: WCAI/3820 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Prepared:
Associated Lab Samples: T1808881001, T1808881002

METHOD BLANK: 2722364

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

LABORATORY CONTROL SAMPLE: 2722365

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY					
Biochemical Oxygen Demand	mg/L	200	180	92	84.6-115.4

SAMPLE DUPLICATE: 2722366

Original: T1808747001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD Qualifiers
WET CHEMISTRY					
Biochemical Oxygen Demand	mg/L	1800	1900	9	20

QC Batch: WCAI/3846 Analysis Method: SM 4500NO3-F
QC Batch Method: SM 4500NO3-F Prepared:
Associated Lab Samples: T1808881001, T1808881002

METHOD BLANK: 2723019

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

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1808881 SELF Plant Effluent

LABORATORY CONTROL SAMPLE: 2723020

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY					
Nitrate	mg/L	1	1.1	110	90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2723021 2723022 Original: T1808899009

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	1.7	1	2.8	2.8	109	108	90-110	0	10

QC Batch: WCAI/3889

Analysis Method: SM 2540D

QC Batch Method: SM 2540D

Prepared:

Associated Lab Samples: T1808881001, T1808881002

METHOD BLANK: 2724943

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

LABORATORY CONTROL SAMPLE: 2724944

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY					
Total Suspended Solids	mg/L	200	190	93	85-115

SAMPLE DUPLICATE: 2724945 Original: T1809012001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD Qualifiers
WET CHEMISTRY					
Total Suspended Solids	mg/L	170	180	8	10

Report ID: 557904 - 835160

Page 7 of 11

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1808881 SELF Plant Effluent

QC Batch: WCAI/3902 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Prepared:
Associated Lab Samples: T1808881001, T1808881002

METHOD BLANK: 2725179

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

LABORATORY CONTROL SAMPLE: 2725180

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY					
Chemical Oxygen Demand	mg/L	500	520	104	90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2725182 2725183 Original: T1808881002

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	2	500	500	500	100	100	90-110	0	10	

QC Batch: WCAI/3915 Analysis Method: SM 2540 C
QC Batch Method: SM 2540 C Prepared:
Associated Lab Samples: T1808881001, T1808881002

METHOD BLANK: 2725878

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

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1808881 SELF Plant Effluent

LABORATORY CONTROL SAMPLE: 2725879

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY					
Total Dissolved Solids	mg/L	660	630	95	85-115

SAMPLE DUPLICATE: 2725880

Original: T1808843004

Parameter	Units	Original Result	DUP Result	RPD	Max RPD Qualifiers
WET CHEMISTRY					
Total Dissolved Solids	mg/L	230	250	7	10

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

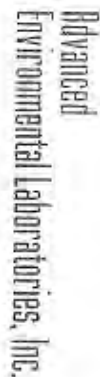
Workorder: T1808881 SELF Plant Effluent

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T1808881001	Leachate Effluent			SM 5210B	WCAI/3820
T1808881002	Field Blank			SM 5210B	WCAI/3820
T1808881001	Leachate Effluent			SM 4500NO3-F	WCAI/3846
T1808881002	Field Blank			SM 4500NO3-F	WCAI/3846
T1808881001	Leachate Effluent			SM 2540D	WCAI/3889
T1808881002	Field Blank			SM 2540D	WCAI/3889
T1808881001	Leachate Effluent			EPA 410.4	WCAI/3902
T1808881002	Field Blank			EPA 410.4	WCAI/3902
T1808881001	Leachate Effluent			SM 2540 C	WCAI/3915
T1808881002	Field Blank			SM 2540 C	WCAI/3915
T1808881001	Leachate Effluent	Field Measurements	FLDI/	Field Measurements	FLDI/

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.





7180881

TLE
E &
PE

BO	SIZE	TY
1	1/2	1
2	3/4	2
3	1	3
4	1 1/2	4
5	2	5
6	2 1/2	6
7	3	7
8	3 1/2	8
9	4	9
10	4 1/2	10
11	5	11
12	5 1/2	12
13	6	13
14	6 1/2	14
15	7	15
16	7 1/2	16
17	8	17
18	8 1/2	18
19	9	19
20	9 1/2	20
21	10	21
22	10 1/2	22
23	11	23
24	11 1/2	24
25	12	25
26	12 1/2	26
27	13	27
28	13 1/2	28
29	14	29
30	14 1/2	30
31	15	31
32	15 1/2	32
33	16	33
34	16 1/2	34
35	17	35
36	17 1/2	36
37	18	37
38	18 1/2	38
39	19	39
40	19 1/2	40
41	20	41
42	20 1/2	42
43	21	43
44	21 1/2	44
45	22	45
46	22 1/2	46
47	23	47
48	23 1/2	48
49	24	49
50	24 1/2	50
51	25	51
52	25 1/2	52
53	26	53
54	26 1/2	54
55	27	55
56	27 1/2	56
57	28	57
58	28 1/2	58
59	29	59
60	29 1/2	60
61	30	61
62	30 1/2	62
63	31	63
64	31 1/2	64
65	32	65
66	32 1/2	66
67	33	67
68	33 1/2	68
69	34	69
70	34 1/2	70
71	35	71
72	35 1/2	72
73	36	73
74	36 1/2	74
75	37	75
76	37 1/2	76
77	38	77
78	38 1/2	78
79	39	79
80	39 1/2	80
81	40	81
82	40 1/2	82
83	41	83
84	41 1/2	84
85	42	85
86	42 1/2	86
87	43	87
88	43 1/2	88
89	44	89
90	44 1/2	90
91	45	91
92	45 1/2	92
93	46	93
94	46 1/2	94
95	47	95
96	47 1/2	96
97	48	97
98	48 1/2	98
99	49	99
100	49 1/2	100

ED

WIRE

RE

SIS

ALYS

ANA

LABORATORY I.D. NUMBER

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

Where required, pH checked ☐ Temperature within received ☒ ☒ (in domestic collection)

Device used for measuring Temp by unique identifier (circle 1B temp gun used)

Date _____ Time _____

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

PWS ID:

Contact Person

Phone

Supplier of Water

Ciba A.H. 1990

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: 5/23/18	

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)

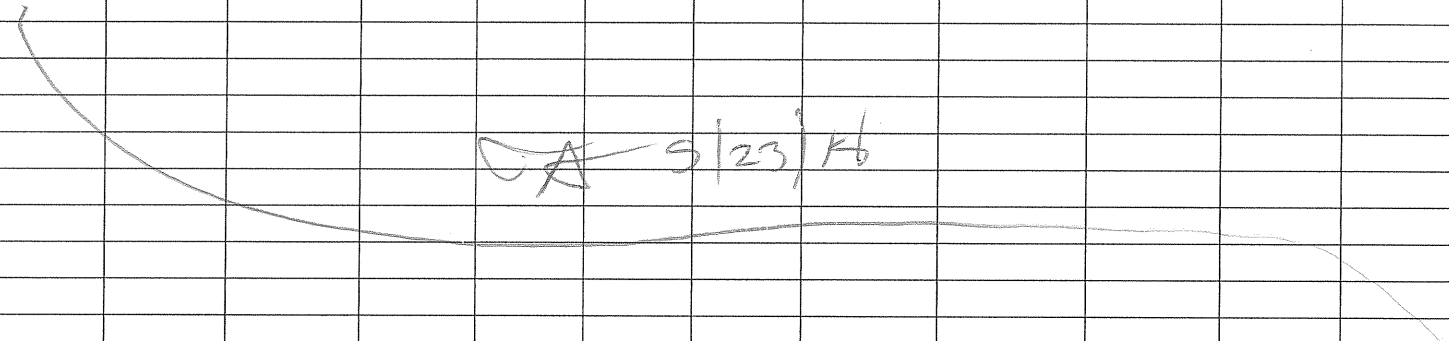
$$= (\text{N/A} \text{ feet} - \text{N/A} \text{ feet}) \times \text{N/A} \text{ gallons/foot} = \text{N/A} \text{ gallons}$$

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME

(only fill out if applicable)

$$= \text{N/A gallons} + (\text{N/A gallons/foot} \times \text{N/A feet}) + \text{N/A gallons} = \text{N/A gallons}$$

INITIAL PUMP OR TUBING	FINAL PUMP OR TUBING	PURGING	PURGING	TOTAL VOLUME
DEPTH IN WELL (feet): N/A	DEPTH IN WELL (feet): N/A	INITIATED AT: N/A	ENDED AT: N/A	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)
10.46	N/A	N/A	N/A	N/A	7.23	28.7	15983	3.97	N/A	Brown	Effluent
 CA 9/23/K6											

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

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

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: T. Aguilar / J. Fuller	SAMPLER(S) SIGNATURE(S): 	SAMPLING INITIATED AT: 10:46	SAMPLING ENDED AT: 10:51
---	---	------------------------------	--------------------------

PUMP OR TUBING	TUBING	FIELD-FILTERED: Y (N)	FILTER SIZE: _____ μm
DEPTH IN WELL (feet): N/A	MATERIAL CODE: N/A	Filtration Equipment Type:	

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

[illegible]

REMARKS: SEE C.O.C. FOR SAMPLE ANALYSIS ORP: 10.46 (172.0)

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:** $\pm 5\%$ **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)

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: 5/23/18			

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 5/23/18																							
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016																							
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)																							

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: T. Aguilar J. Fuller				SAMPLER(S) SIGNATURE(S): 				SAMPLING INITIATED AT: 10:38		SAMPLING ENDED AT: 10:40	
PUMP OR TUBING DEPTH IN WELL (feet): N/A				TUBING MATERIAL CODE: N/A		FIELD-FILTERED: Y ☒ N ☐ Filtration Equipment Type: N			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		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											
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
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 6, 2018

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

RE: Workorder: T1810350 SELF Plant Effluent Semi

Dear Michael Townsel:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, June 19, 2018. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. The analytical results for the samples contained in this report were submitted for analysis as outlined by the Chain of Custody and results pertain only to these samples.

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

Sincerely,

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

Heidi Parker - Project Manager
HParker@AELLab.com

Enclosures

Report ID: 562768

Page 1 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



SAMPLE SUMMARY

Workorder: T1810350 SELF Plant Effluent Semi

Lab ID	Sample ID	Matrix	Date Collected	Date Received
T1810350001	Leachate Effluent (SemiAnnual)	Water	6/19/2018 09:40	6/19/2018 14:35
T1810350002	Field Blank	Water	6/19/2018 09:18	6/19/2018 14:35

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: T1810350 SELF Plant Effluent Semi

Lab ID: **T1810350001**

Date Received: 06/19/18 14:35 Matrix: Water

Sample ID: **Leachate Effluent (SemiAnnual)**

Date Collected: 06/19/18 09:40

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	14346		umhos/cm	1			6/19/2018 09:40	....
Dissolved Oxygen	3.07		mg/L	1			6/19/2018 09:40	....
ORP-2580BW	79.9		mV	1			6/19/2018 09:40	....
Temperature	31.3		°C	1			6/19/2018 09:40	....
pH	7.65		SU	1			6/19/2018 09:40	....

METALS

Analysis Desc: E200.7 Analysis,Waters			Preparation Method: EPA 200.7					
Analytical Method: EPA 200.7								
Aluminum	54	I	ug/L	1	600	25	6/22/2018 21:57	T
Barium	57		ug/L	1	2.0	1.5	6/22/2018 21:57	T
Beryllium	0.18	U	ug/L	1	0.60	0.18	6/22/2018 21:57	T
Chromium	4.0		ug/L	1	2.5	2.0	6/22/2018 21:57	T
Iron	5500		ug/L	1	100	21	6/22/2018 21:57	T
Nickel	10		ug/L	1	9.0	4.4	6/22/2018 21:57	T
Sodium	2600		mg/L	1000	200	170	7/3/2018 17:02	T
Zinc	21		ug/L	1	10	7.4	6/22/2018 21:57	T

Analysis Desc: E200.8 Analysis,Waters			Preparation Method: EPA 200.8					
Analytical Method: EPA 200.8								
Antimony	3.1		ug/L	1	0.70	0.11	6/26/2018 15:25	J
Arsenic	6.9		ug/L	1	1.0	0.077	6/26/2018 15:25	J
Cadmium	0.064	U	ug/L	1	0.50	0.064	6/26/2018 15:25	J
Copper	12		ug/L	1	0.80	0.35	6/26/2018 15:25	J
Lead	0.52	I	ug/L	1	0.70	0.24	6/26/2018 15:25	J
Manganese	590		ug/L	1	4.0	0.55	6/26/2018 15:25	J
Selenium	0.66	I	ug/L	1	5.0	0.58	6/26/2018 15:25	J
Silver	5.3		ug/L	1	0.50	0.10	6/26/2018 15:25	J
Thallium	0.057	U	ug/L	1	0.20	0.057	6/26/2018 15:25	J
Uranium	1.1		ug/L	1	0.20	0.070	6/26/2018 15:25	J

Analysis Desc: EPA 245.1 Analysis,Water				Preparation Method: EPA 245.1				
				Analytical Method: EPA 245.1				
Mercury	0.050	U	ug/L	1	0.10	0.050	6/20/2018 15:28	T

SEMIVOLATILES

Report ID: 562768

Page 3 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: T1810350 SELF Plant Effluent Semi

Lab ID: **T1810350001**

Date Received: 06/19/18 14:35 Matrix: Water

Sample ID: **Leachate Effluent (SemiAnnual)**

Date Collected: 06/19/18 09:40

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: E504.1 Analysis, Water		Preparation Method: EPA 504.1						
		Analytical Method: EPA 504.1						
1,2-Dibromo-3-Chloropropane	0.0059	U	ug/L	1	0.020	0.0059	6/27/2018 20:42	J
Ethylene Dibromide (EDB)	0.0061	U	ug/L	1	0.020	0.0061	6/27/2018 20:42	J
Tetrachloro-m-xylene (S)	81		%	1	64-150		6/27/2018 20:42	
Analysis Desc: E508 Analysis, Water		Preparation Method: EPA 508						
		Analytical Method: EPA 508						
Chlordane (technical)	0.53	U	ug/L	10	2.0	0.53	6/26/2018 15:33	J
Endrin	0.069	U	ug/L	10	0.20	0.069	6/26/2018 15:33	J
Heptachlor	0.060	U	ug/L	10	0.20	0.060	6/26/2018 15:33	J
Heptachlor Epoxide	0.052	U	ug/L	10	0.20	0.052	6/26/2018 15:33	J
Hexachlorobenzene	0.063	U	ug/L	10	0.20	0.063	6/26/2018 15:33	J
Hexachlorocyclopentadiene	0.12	U	ug/L	10	0.20	0.12	6/26/2018 15:33	J
Methoxychlor	0.068	U	ug/L	10	0.20	0.068	6/26/2018 15:33	J
PCBs	1.1	U	ug/L	10	2.0	1.1	6/26/2018 15:33	J
Toxaphene	1.2	U	ug/L	10	2.0	1.2	6/26/2018 15:33	J
gamma-BHC (Lindane)	0.071	U	ug/L	10	0.20	0.071	6/26/2018 15:33	J
Tetrachloro-m-xylene (S)	0	2	%	10	70-130		6/26/2018 15:33	
Decachlorobiphenyl (S)	0	2	%	10	70-130		6/26/2018 15:33	
Analysis Desc: E515.3 Analysis, Water		Preparation Method: EPA 515.3						
		Analytical Method: EPA 515.3						
2,4-D	1.5	U	ug/L	1	5.0	1.5	6/26/2018 15:51	J
Dalapon	1.0	U	ug/L	1	5.0	1.0	6/26/2018 15:51	J
Dinoseb	0.86	U	ug/L	1	2.5	0.86	6/26/2018 15:51	J
Pentachlorophenol	0.069	U	ug/L	1	0.50	0.069	6/26/2018 15:51	J
Picloram	0.23	U	ug/L	1	0.50	0.23	6/26/2018 15:51	J
Silvex (2,4,5-TP)	0.32	U	ug/L	1	1.0	0.32	6/26/2018 15:51	J
2,4-Dichlorophenylacetic acid (S)	146	J4	%	1	70-130		6/26/2018 15:51	
Analysis Desc: E525.2 Analysis, Water		Preparation Method: EPA 525.2						
		Analytical Method: EPA 525.2						
Alachlor	0.35	U	ug/L	1	0.67	0.35	6/28/2018 15:45	J
Atrazine	0.21	U	ug/L	1	0.67	0.21	6/28/2018 15:45	J
Benzo[a]pyrene	0.13	U	ug/L	1	0.67	0.13	6/28/2018 15:45	J
Di(2-ethylhexyl) adipate	1.3	U	ug/L	1	1.3	1.3	6/28/2018 15:45	J
Simazine	0.25	U	ug/L	1	0.67	0.25	6/28/2018 15:45	J

Report ID: 562768

Page 4 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: T1810350 SELF Plant Effluent Semi

Lab ID: **T1810350001**

Date Received: 06/19/18 14:35 Matrix: Water

Sample ID: **Leachate Effluent (SemiAnnual)**

Date Collected: 06/19/18 09:40

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
bis(2-Ethylhexyl) phthalate	2.0	U	ug/L	1	2.7	2.0	6/28/2018 15:45	J
p-Terphenyl-d14 (S)	93		%	1	70-130		6/28/2018 15:45	
Analysis Desc: E531.1 Analysis, Water		Analytical Method: EPA 531.1						
Carbofuran	0.28	U	ug/L	1	2.5	0.28	6/29/2018 13:02	J
Oxamyl	0.57	U	ug/L	1	2.5	0.57	6/29/2018 13:02	J
Analysis Desc: E547 Analysis, Water		Analytical Method: EPA 547						
Glyphosate	6.5	U	ug/L	1	50	6.5	6/26/2018 17:35	J
Analysis Desc: E548.1 Analysis, Water		Preparation Method: EPA 548.1						
		Analytical Method: EPA 548.1						
Endothall	1.8	U	ug/L	1	5.0	1.8	6/25/2018 12:56	J
Analysis Desc: E549.2 Analysis, Water		Preparation Method: EPA 549.2						
		Analytical Method: EPA 549.2						
Diquat	7.6	U	ug/L	1	71	7.6	6/25/2018 13:51	J
Analysis Desc: 552.2 Analysis, Water, HAA		Preparation Method: EPA 552.2						
		Analytical Method: EPA 552.2						
Bromoacetic Acid	66.12		ug/L	10	10	5.4	6/29/2018 10:43	T
Chloroacetic Acid	99.37		ug/L	10	10	5.0	6/29/2018 10:43	T
Dibromoacetic Acid	400.11		ug/L	10	10	5.4	6/29/2018 10:43	T
Dichloroacetic Acid	8.1	U	ug/L	10	10	8.1	6/29/2018 10:43	T
Total Haloacetic Acids (HAA5)	565.60		ug/L	10	10	9.1	6/29/2018 10:43	T
Trichloroacetic Acid	9.1	U	ug/L	10	10	9.1	6/29/2018 10:43	T
2,3-Dibromopropionic Acid (S)	61	J1	%	10	70-130		6/29/2018 10:43	
Analysis Desc: 8081A Pesticide Analysis, Water		Preparation Method: SW-846 3510C						
		Analytical Method: EPA 8081						
4,4'-DDD	0.017	U	ug/L	10	0.20	0.017	6/26/2018 17:17	J
4,4'-DDE	0.038	U	ug/L	10	0.20	0.038	6/26/2018 17:17	J
4,4'-DDT	0.022	U	ug/L	10	0.20	0.022	6/26/2018 17:17	J
Aldrin	0.019	U	ug/L	10	0.20	0.019	6/26/2018 17:17	J
Dieldrin	0.011	U	ug/L	10	0.20	0.011	6/26/2018 17:17	J
Endosulfan I	0.031	U	ug/L	10	0.20	0.031	6/26/2018 17:17	J
Endosulfan II	0.027	U	ug/L	10	0.20	0.027	6/26/2018 17:17	J
Endosulfan Sulfate	0.032	U	ug/L	10	0.20	0.032	6/26/2018 17:17	J
Endrin Aldehyde	0.026	U	ug/L	10	0.20	0.026	6/26/2018 17:17	J

Report ID: 562768

Page 5 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: T1810350 SELF Plant Effluent Semi

Lab ID: **T1810350001**

Date Received: 06/19/18 14:35 Matrix: Water

Sample ID: **Leachate Effluent (SemiAnnual)**

Date Collected: 06/19/18 09:40

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
alpha-BHC	0.031	U	ug/L	10	0.20	0.031	6/26/2018 17:17	J
beta-BHC	0.019	U	ug/L	10	0.20	0.019	6/26/2018 17:17	J
delta-BHC	0.0088	U	ug/L	10	0.20	0.0088	6/26/2018 17:17	J
Tetrachloro-m-xylene (S)	0	1	%	10	44-124		6/26/2018 17:17	
Decachlorobiphenyl (S)	0	1	%	10	48-137		6/26/2018 17:17	

Analysis Desc: 8082A PCB Analysis,
Water

Preparation Method: SW-846 3510C

Analytical Method: SW-846 8082A

Aroclor 1016 (PCB-1016)	0.66	U	ug/L	10	2.0	0.66	6/26/2018 17:17	J
Aroclor 1221 (PCB-1221)	1.1	U	ug/L	10	2.0	1.1	6/26/2018 17:17	J
Aroclor 1232 (PCB-1232)	0.99	U	ug/L	10	2.0	0.99	6/26/2018 17:17	J
Aroclor 1242 (PCB-1242)	0.98	U	ug/L	10	2.0	0.98	6/26/2018 17:17	J
Aroclor 1248 (PCB-1248)	0.68	U	ug/L	10	2.0	0.68	6/26/2018 17:17	J
Aroclor 1254 (PCB-1254)	0.52	U	ug/L	10	2.0	0.52	6/26/2018 17:17	J
Aroclor 1260 (PCB-1260)	0.81	U	ug/L	10	2.0	0.81	6/26/2018 17:17	J
Tetrachloro-m-xylene (S)	0	1	%	10	61-119		6/26/2018 17:17	
Decachlorobiphenyl (S)	0	1	%	10	44-136		6/26/2018 17:17	

Analysis Desc: 8270C Analysis, Water

Preparation Method: SW-846 3510C

Analytical Method: SW-846 8270C

1,2-Diphenylhydrazine	0.98	U	ug/L	1	5.1	0.98	6/26/2018 13:31	J
1,3-Dichlorobenzene	1.0	U	ug/L	1	5.1	1.0	6/26/2018 13:31	J
2,4,6-Trichlorophenol	1.5	U	ug/L	1	5.1	1.5	6/26/2018 13:31	J
2,4-Dichlorophenol	0.92	U	ug/L	1	5.1	0.92	6/26/2018 13:31	J
2,4-Dimethylphenol	2.7	U	ug/L	1	5.1	2.7	6/26/2018 13:31	J
2,4-Dinitrophenol	1.1	U	ug/L	1	10	1.1	6/26/2018 13:31	J
2,4-Dinitrotoluene (2,4-DNT)	1.9	U	ug/L	1	5.1	1.9	6/26/2018 13:31	J
2,6-Dinitrotoluene (2,6-DNT)	2.0	U	ug/L	1	5.1	2.0	6/26/2018 13:31	J
2-Chloronaphthalene	1.7	U	ug/L	1	5.1	1.7	6/26/2018 13:31	J
2-Chlorophenol	1.5	U	ug/L	1	5.1	1.5	6/26/2018 13:31	J
2-Methyl-4,6-dinitrophenol	1.2	U	ug/L	1	5.1	1.2	6/26/2018 13:31	J
2-Nitrophenol	0.64	U	ug/L	1	5.1	0.64	6/26/2018 13:31	J
3,3'-Dichlorobenzidine	1.3	U	ug/L	1	5.1	1.3	6/26/2018 13:31	J
4-Bromophenyl Phenyl Ether	1.2	U	ug/L	1	5.1	1.2	6/26/2018 13:31	J
4-Chloro-3-methylphenol	0.64	U	ug/L	1	5.1	0.64	6/26/2018 13:31	J
4-Chlorophenyl Phenyl Ether	1.7	U	ug/L	1	5.1	1.7	6/26/2018 13:31	J
4-Nitrophenol	2.9	U	ug/L	1	5.1	2.9	6/26/2018 13:31	J
Acenaphthene	0.041	U	ug/L	1	0.20	0.041	6/26/2018 13:31	J
Acenaphthylene	0.043	U	ug/L	1	0.20	0.043	6/26/2018 13:31	J
Anthracene	0.036	U	ug/L	1	0.20	0.036	6/26/2018 13:31	J

Report ID: 562768

Page 6 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: T1810350 SELF Plant Effluent Semi

Lab ID: **T1810350001**
Sample ID: **Leachate Effluent (SemiAnnual)**

Date Received: 06/19/18 14:35 Matrix: Water
Date Collected: 06/19/18 09:40

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Benidine	1.2	U	ug/L	1	5.1	1.2	6/26/2018 13:31	J
Benzo[a]anthracene	0.013	U	ug/L	1	0.20	0.013	6/26/2018 13:31	J
Benzo[b]fluoranthene	0.013	U	ug/L	1	0.10	0.013	6/26/2018 13:31	J
Benzo[g,h,i]perylene	0.048	U	ug/L	1	0.20	0.048	6/26/2018 13:31	J
Benzo[k]fluoranthene	0.049	U	ug/L	1	0.20	0.049	6/26/2018 13:31	J
Butyl benzyl phthalate	1.1	U	ug/L	1	5.1	1.1	6/26/2018 13:31	J
Chrysene	0.034	U	ug/L	1	0.20	0.034	6/26/2018 13:31	J
Di-n-Butyl Phthalate	0.89	U	ug/L	1	5.1	0.89	6/26/2018 13:31	J
Di-n-octyl Phthalate	1.2	U	ug/L	1	5.1	1.2	6/26/2018 13:31	J
Dibenzo[a,h]anthracene	0.024	U	ug/L	1	0.20	0.024	6/26/2018 13:31	J
Diethyl phthalate	2.1	U	ug/L	1	5.1	2.1	6/26/2018 13:31	J
Dimethyl phthalate	1.8	U	ug/L	1	10	1.8	6/26/2018 13:31	J
Fluoranthene	0.038	U	ug/L	1	0.20	0.038	6/26/2018 13:31	J
Fluorene	0.039	U	ug/L	1	0.20	0.039	6/26/2018 13:31	J
Hexachlorobutadiene	1.3	U	ug/L	1	5.1	1.3	6/26/2018 13:31	J
Hexachloroethane	1.3	U	ug/L	1	5.1	1.3	6/26/2018 13:31	J
Indeno(1,2,3-cd)pyrene	0.011	U	ug/L	1	0.20	0.011	6/26/2018 13:31	J
Isophorone	1.2	U	ug/L	1	5.1	1.2	6/26/2018 13:31	J
N-Nitrosodi-n-propylamine	2.3	U	ug/L	1	5.1	2.3	6/26/2018 13:31	J
N-Nitrosodimethylamine	0.95	U	ug/L	1	5.1	0.95	6/26/2018 13:31	J
N-Nitrosodiphenylamine	2.1	U	ug/L	1	5.1	2.1	6/26/2018 13:31	J
Naphthalene	0.049	U	ug/L	1	0.20	0.049	6/26/2018 13:31	J
Nitrobenzene	1.2	U	ug/L	1	5.1	1.2	6/26/2018 13:31	J
Phenanthrene	0.041	U	ug/L	1	0.20	0.041	6/26/2018 13:31	J
Phenol	0.56	U	ug/L	1	5.1	0.56	6/26/2018 13:31	J
Pyrene	0.036	U	ug/L	1	0.20	0.036	6/26/2018 13:31	J
bis(2-Chloroethoxy)methane	1.3	U	ug/L	1	5.1	1.3	6/26/2018 13:31	J
bis(2-Chloroethyl)Ether	1.5	U	ug/L	1	5.1	1.5	6/26/2018 13:31	J
bis(2-Chloroisopropyl) Ether	1.5	U	ug/L	1	5.1	1.5	6/26/2018 13:31	J
bis(2-Ethylhexyl) phthalate	2.0	U	ug/L	1	5.1	2.0	6/26/2018 13:31	J
2-Fluorophenol (S)	57		%	1	31-134		6/26/2018 13:31	
Phenol-d6 (S)	47		%	1	24-120		6/26/2018 13:31	
Nitrobenzene-d5 (S)	90		%	1	38-139		6/26/2018 13:31	
2-Fluorobiphenyl (S)	83		%	1	42-138		6/26/2018 13:31	
2,4,6-Tribromophenol (S)	129		%	1	48-147		6/26/2018 13:31	
p-Terphenyl-d14 (S)	80		%	1	61-154		6/26/2018 13:31	

VOLATILES

Analysis Desc: 524.2 Analysis, Water

Analytical Method: EPA 524.2

1,1,1-Trichloroethane	0.39	U	ug/L	1	0.50	0.39	6/26/2018 22:34	M
-----------------------	------	---	------	---	------	------	-----------------	---

Report ID: 562768

Page 7 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: T1810350 SELF Plant Effluent Semi

Lab ID: **T1810350001**
Sample ID: **Leachate Effluent (SemiAnnual)**

Date Received: 06/19/18 14:35 Matrix: Water
Date Collected: 06/19/18 09:40

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,1,2-Trichloroethane	0.12	U	ug/L	1	0.50	0.12	6/26/2018 22:34	M
1,1-Dichloroethylene	0.18	U	ug/L	1	0.50	0.18	6/26/2018 22:34	M
1,2,4-Trichlorobenzene	0.28	U	ug/L	1	0.50	0.28	6/26/2018 22:34	M
1,2-Dichlorobenzene	0.46	U	ug/L	1	0.50	0.46	6/26/2018 22:34	M
1,2-Dichloroethane	0.36	U	ug/L	1	0.50	0.36	6/26/2018 22:34	M
1,2-Dichloropropane	0.26	U	ug/L	1	0.50	0.26	6/26/2018 22:34	M
1,4-Dichlorobenzene	0.26	U	ug/L	1	0.50	0.26	6/26/2018 22:34	M
Benzene	0.17	U	ug/L	1	0.50	0.17	6/26/2018 22:34	M
Bromodichloromethane	17.20		ug/L	1	0.50	0.14	6/26/2018 21:43	M
Bromoform	718.70	L	ug/L	1	0.50	0.26	6/26/2018 21:43	M
Carbon Tetrachloride	0.23	U	ug/L	1	0.50	0.23	6/26/2018 22:34	M
Chlorobenzene	0.12	U	ug/L	1	0.50	0.12	6/26/2018 22:34	M
Chloroform	5.20		ug/L	1	0.50	0.39	6/26/2018 21:43	M
Dibromochloromethane	144.90		ug/L	1	0.50	0.32	6/26/2018 21:43	M
Ethylbenzene	0.17	U	ug/L	1	0.50	0.17	6/26/2018 22:34	M
Methylene Chloride	0.44	U	ug/L	1	0.50	0.44	6/26/2018 22:34	M
Styrene	0.39	U	ug/L	1	0.50	0.39	6/26/2018 22:34	M
Tetrachloroethylene (PCE)	0.24	U	ug/L	1	0.50	0.24	6/26/2018 22:34	M
Toluene	0.22	U	ug/L	1	0.50	0.22	6/26/2018 22:34	M
Total Trihalomethanes	886.00		ug/L	1	0.50	0.14	6/26/2018 21:43	M
Trichloroethene	0.28	U	ug/L	1	0.50	0.28	6/26/2018 22:34	M
Vinyl Chloride	0.20	U	ug/L	1	0.50	0.20	6/26/2018 22:34	M
Xylene (Total)	0.28	U	ug/L	1	0.50	0.28	6/26/2018 22:34	M
cis-1,2-Dichloroethylene	0.32	U	ug/L	1	0.50	0.32	6/26/2018 22:34	M
trans-1,2-Dichloroethylene	0.28	U	ug/L	1	0.50	0.28	6/26/2018 22:34	M
1,2-Dichloroethane-d4 (S)	95		%	1	80-120		6/26/2018 22:34	
1,2-Dichloroethane-d4 (S)	94		%	1	80-120		6/26/2018 21:43	
Toluene-d8 (S)	95		%	1	81-118		6/26/2018 22:34	
Toluene-d8 (S)	98		%	1	81-118		6/26/2018 21:43	
Bromofluorobenzene (S)	112		%	1	86-115		6/26/2018 22:34	
Bromofluorobenzene (S)	101		%	1	86-115		6/26/2018 21:43	

Analysis Desc: 8260B Analysis, Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B

1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	6/20/2018 20:48	T
1,1-Dichloroethane	0.86	U	ug/L	1	1.0	0.86	6/20/2018 20:48	T
2-Chloroethyl Vinyl Ether	0.58	U	ug/L	1	1.0	0.58	6/20/2018 20:48	T
Acrolein (Propenal)	3.5	U	ug/L	1	4.0	3.5	6/20/2018 20:48	T
Acrylonitrile	1.9	U	ug/L	1	5.0	1.9	6/20/2018 20:48	T
Bromomethane	0.97	U	ug/L	1	1.0	0.97	6/20/2018 20:48	T

Report ID: 562768

Page 8 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: T1810350 SELF Plant Effluent Semi

Lab ID: **T1810350001**

Date Received: 06/19/18 14:35 Matrix: Water

Sample ID: **Leachate Effluent (SemiAnnual)**

Date Collected: 06/19/18 09:40

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Chloroethane	0.38	U	ug/L	1	1.0	0.38	6/20/2018 20:48	T
Chloromethane	0.53	U	ug/L	1	1.0	0.53	6/20/2018 20:48	T
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	6/20/2018 20:48	T
1,2-Dichloroethane-d4 (S)	99		%	1	70-128		6/20/2018 20:48	
Toluene-d8 (S)	102		%	1	77-119		6/20/2018 20:48	
Bromofluorobenzene (S)	109		%	1	86-123		6/20/2018 20:48	

WET CHEMISTRY

Analysis Desc: IC,E300.0,Water		Analytical Method: EPA 300.0						
Chloride	3500		mg/L	500	2500	500	7/5/2018 15:09	T
Fluoride	10	U	mg/L	100	50	10	7/2/2018 15:21	T
Sulfate	790		mg/L	100	500	100	7/2/2018 15:21	T
Analysis Desc: Color,SM2120B,Water		Analytical Method: SM 2120 B						
pH for Color Analysis	7.6		SU	2	5.0	0.10	6/20/2018 10:30	T
Color	170		PCU	2	10	5.5	6/20/2018 10:30	T
Analysis Desc: Odor,SM2150B,Water		Analytical Method: SM 2150 B						
Odor	10		TON @ 40°C	1	1.0	1.0	6/19/2018 16:00	T
Analysis Desc: Tot Dissolved Solids,SM2540C		Analytical Method: SM 2540 C						
Total Dissolved Solids	7600		mg/L	1	10	10	6/25/2018 09:02	T
Analysis Desc: Hexavalent Chromium,SM3500-CR D,Water		Analytical Method: SM 3500-CR D						
Hexavalent Chromium	0.0025	U	mg/L	1	0.040	0.0025	6/19/2018 16:30	T
Analysis Desc: Cyanide, SM4500-E, Water		Analytical Method: SM 4500-CN-E						
Cyanide	0.0048	U	mg/L	1	0.010	0.0048	6/27/2018 16:52	T
Analysis Desc: .PH,SM4500H+B, Water		Analytical Method: SM 4500H+B						
pH	7.6	Q	SU	1			6/21/2018 13:00	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water		Analytical Method: SM 4500NO3-F						
Nitrate	0.18	U	mg/L	1	0.20	0.18	6/19/2018 16:12	T
Nitrite	0.18	U	mg/L	1	0.20	0.18	6/19/2018 16:12	T

Report ID: 562768

Page 9 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: T1810350 SELF Plant Effluent Semi

Lab ID: **T1810350001** Date Received: 06/19/18 14:35 Matrix: Water
Sample ID: **Leachate Effluent (SemiAnnual)** Date Collected: 06/19/18 09:40

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: SURFACT-MBAS,SM5540C,Aqueous Analytical Method: SM 5540 C								
MBAS,as LAS,mol.wt.348	0.16	I	mg/L	1	0.20	0.040	6/21/2018 09:04	G

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: T1810350 SELF Plant Effluent Semi

Lab ID: **T1810350002**

Date Received: 06/19/18 14:35 Matrix: Water

Sample ID: **Field Blank**

Date Collected: 06/19/18 09:18

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: E200.7 Analysis,Waters			Preparation Method: EPA 200.7					
			Analytical Method: EPA 200.7					
Aluminum	25	U	ug/L	1	600	25	6/22/2018 22:19	T
Barium	1.5	U	ug/L	1	2.0	1.5	6/22/2018 22:19	T
Beryllium	0.18	U	ug/L	1	0.60	0.18	6/22/2018 22:19	T
Chromium	2.0	U	ug/L	1	2.5	2.0	6/22/2018 22:19	T
Iron	21	U	ug/L	1	100	21	6/22/2018 22:19	T
Nickel	4.4	U	ug/L	1	9.0	4.4	6/22/2018 22:19	T
Sodium	0.17	U	mg/L	1	0.20	0.17	7/3/2018 16:54	T
Zinc	7.4	U	ug/L	1	10	7.4	6/22/2018 22:19	T
Analysis Desc: E200.8 Analysis,Waters			Preparation Method: EPA 200.8					
			Analytical Method: EPA 200.8					
Antimony	0.11	U	ug/L	1	0.70	0.11	6/26/2018 15:32	J
Arsenic	0.077	U	ug/L	1	1.0	0.077	6/26/2018 15:32	J
Cadmium	0.064	U	ug/L	1	0.50	0.064	6/26/2018 15:32	J
Copper	0.35	U	ug/L	1	0.80	0.35	6/26/2018 15:32	J
Lead	0.24	U	ug/L	1	0.70	0.24	6/26/2018 15:32	J
Manganese	0.55	U	ug/L	1	4.0	0.55	6/26/2018 15:32	J
Selenium	0.58	U	ug/L	1	5.0	0.58	6/26/2018 15:32	J
Silver	0.13	I	ug/L	1	0.50	0.10	6/26/2018 15:32	J
Thallium	0.057	U	ug/L	1	0.20	0.057	6/26/2018 15:32	J
Uranium	0.070	U	ug/L	1	0.20	0.070	6/26/2018 15:32	J
Analysis Desc: EPA 245.1 Analysis,Water			Preparation Method: EPA 245.1					
			Analytical Method: EPA 245.1					
Mercury	0.050	U	ug/L	1	0.10	0.050	6/20/2018 15:46	T
SEMIVOLATILES								
Analysis Desc: E504.1 Analysis, Water			Preparation Method: EPA 504.1					
			Analytical Method: EPA 504.1					
1,2-Dibromo-3-Chloropropane	0.0060	U	ug/L	1	0.020	0.0060	6/27/2018 21:09	J
Ethylene Dibromide (EDB)	0.0062	U	ug/L	1	0.020	0.0062	6/27/2018 21:09	J
Tetrachloro-m-xylene (S)	144		%	1	64-150		6/27/2018 21:09	
Analysis Desc: E508 Analysis, Water			Preparation Method: EPA 508					
			Analytical Method: EPA 508					

Report ID: 562768

Page 11 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: T1810350 SELF Plant Effluent Semi

Lab ID: **T1810350002**

Date Received: 06/19/18 14:35 Matrix: Water

Sample ID: **Field Blank**

Date Collected: 06/19/18 09:18

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Chlordane (technical)	0.053	U	ug/L	1	0.20	0.053	6/22/2018 16:12	J
Endrin	0.0069	U	ug/L	1	0.020	0.0069	6/22/2018 16:12	J
Heptachlor	0.0060	U	ug/L	1	0.020	0.0060	6/22/2018 16:12	J
Heptachlor Epoxide	0.0052	U	ug/L	1	0.020	0.0052	6/22/2018 16:12	J
Hexachlorobenzene	0.0063	U	ug/L	1	0.020	0.0063	6/22/2018 16:12	J
Hexachlorocyclopentadiene	0.012	U	ug/L	1	0.020	0.012	6/22/2018 16:12	J
Methoxychlor	0.0068	U	ug/L	1	0.020	0.0068	6/22/2018 16:12	J
PCBs	0.11	U	ug/L	1	0.20	0.11	6/22/2018 16:12	J
Toxaphene	0.12	U	ug/L	1	0.20	0.12	6/22/2018 16:12	J
gamma-BHC (Lindane)	0.0071	U	ug/L	1	0.020	0.0071	6/22/2018 16:12	J
Tetrachloro-m-xylene (S)	113		%	1	70-130		6/22/2018 16:12	
Decachlorobiphenyl (S)	83		%	1	70-130		6/22/2018 16:12	

Analysis Desc: E515.3 Analysis, Water Preparation Method: EPA 515.3

Analytical Method: EPA 515.3

2,4-D	1.5	U	ug/L	1	5.0	1.5	6/26/2018 16:23	J
Dalapon	1.0	U	ug/L	1	5.0	1.0	6/26/2018 16:23	J
Dinoseb	0.86	U	ug/L	1	2.5	0.86	6/26/2018 16:23	J
Pentachlorophenol	0.069	U	ug/L	1	0.50	0.069	6/26/2018 16:23	J
Picloram	0.23	U	ug/L	1	0.50	0.23	6/26/2018 16:23	J
Silvex (2,4,5-TP)	0.32	U	ug/L	1	1.0	0.32	6/26/2018 16:23	J
2,4-Dichlorophenylacetic acid (S)	113		%	1	70-130		6/26/2018 16:23	

Analysis Desc: E525.2 Analysis, Water Preparation Method: EPA 525.2

Analytical Method: EPA 525.2

Alachlor	0.26	U	ug/L	1	0.50	0.26	6/28/2018 16:10	J
Atrazine	0.16	U	ug/L	1	0.50	0.16	6/28/2018 16:10	J
Benzo[a]pyrene	0.096	U	ug/L	1	0.50	0.096	6/28/2018 16:10	J
Di(2-ethylhexyl) adipate	0.95	U	ug/L	1	1.0	0.95	6/28/2018 16:10	J
Simazine	0.19	U	ug/L	1	0.50	0.19	6/28/2018 16:10	J
bis(2-Ethylhexyl) phthalate	1.5	U	ug/L	1	2.0	1.5	6/28/2018 16:10	J
p-Terphenyl-d14 (S)	90		%	1	70-130		6/28/2018 16:10	

Analysis Desc: E531.1 Analysis, Water Analytical Method: EPA 531.1

Carbofuran	0.28	U	ug/L	1	2.5	0.28	6/29/2018 13:39	J
Oxamyl	0.57	U	ug/L	1	2.5	0.57	6/29/2018 13:39	J

Analysis Desc: E547 Analysis, Water Analytical Method: EPA 547

Glyphosate	6.5	U	ug/L	1	50	6.5	6/26/2018 17:57	J
------------	-----	---	------	---	----	-----	-----------------	---

Report ID: 562768

Page 12 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: T1810350 SELF Plant Effluent Semi

Lab ID: **T1810350002**

Date Received: 06/19/18 14:35 Matrix: Water

Sample ID: **Field Blank**

Date Collected: 06/19/18 09:18

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: E548.1 Analysis, Water		Preparation Method: EPA 548.1						
		Analytical Method: EPA 548.1						
Endothall	1.8	U	ug/L	1	5.0	1.8	6/25/2018 13:10	J
Analysis Desc: E549.2 Analysis, Water		Preparation Method: EPA 549.2						
		Analytical Method: EPA 549.2						
Diquat	7.6	U	ug/L	1	71	7.6	6/25/2018 14:02	J
Analysis Desc: 552.2 Analysis, Water, HAA		Preparation Method: EPA 552.2						
		Analytical Method: EPA 552.2						
Bromoacetic Acid	0.54	U	ug/L	1	1.0	0.54	6/28/2018 20:18	T
Chloroacetic Acid	0.50	U	ug/L	1	1.0	0.50	6/28/2018 20:18	T
Dibromoacetic Acid	0.54	U	ug/L	1	1.0	0.54	6/28/2018 20:18	T
Dichloroacetic Acid	0.81	U	ug/L	1	1.0	0.81	6/28/2018 20:18	T
Total Haloacetic Acids (HAA5)	0.91	U	ug/L	1	1.0	0.91	6/28/2018 20:18	T
Trichloroacetic Acid	0.91	U	ug/L	1	1.0	0.91	6/28/2018 20:18	T
2,3-Dibromopropionic Acid (S)	94		%	1	70-130		6/28/2018 20:18	
Analysis Desc: 8081A Pesticide Analysis, Water		Preparation Method: SW-846 3510C						
		Analytical Method: EPA 8081						
4,4'-DDD	0.0017	U	ug/L	1	0.020	0.0017	6/21/2018 17:30	J
4,4'-DDE	0.0038	U	ug/L	1	0.020	0.0038	6/21/2018 17:30	J
4,4'-DDT	0.0022	U	ug/L	1	0.020	0.0022	6/21/2018 17:30	J
Aldrin	0.0019	U	ug/L	1	0.020	0.0019	6/21/2018 17:30	J
Dieldrin	0.0011	U	ug/L	1	0.020	0.0011	6/21/2018 17:30	J
Endosulfan I	0.0031	U	ug/L	1	0.020	0.0031	6/21/2018 17:30	J
Endosulfan II	0.0027	U	ug/L	1	0.020	0.0027	6/21/2018 17:30	J
Endosulfan Sulfate	0.0032	U	ug/L	1	0.020	0.0032	6/21/2018 17:30	J
Endrin Aldehyde	0.0026	U	ug/L	1	0.020	0.0026	6/21/2018 17:30	J
alpha-BHC	0.0031	U	ug/L	1	0.020	0.0031	6/21/2018 17:30	J
beta-BHC	0.0019	U	ug/L	1	0.020	0.0019	6/21/2018 17:30	J
delta-BHC	0.00088	U	ug/L	1	0.020	0.00088	6/21/2018 17:30	J
Tetrachloro-m-xylene (S)	89	J4	%	1	44-124		6/21/2018 17:30	
Decachlorobiphenyl (S)	73	J4	%	1	48-137		6/21/2018 17:30	
Analysis Desc: 8082A PCB Analysis, Water		Preparation Method: SW-846 3510C						
		Analytical Method: SW-846 8082A						
Aroclor 1016 (PCB-1016)	0.066	U	ug/L	1	0.20	0.066	6/21/2018 17:30	J

Report ID: 562768

Page 13 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: T1810350 SELF Plant Effluent Semi

Lab ID: **T1810350002**

Date Received: 06/19/18 14:35 Matrix: Water

Sample ID: **Field Blank**

Date Collected: 06/19/18 09:18

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Aroclor 1221 (PCB-1221)	0.11	U	ug/L	1	0.20	0.11	6/21/2018 17:30	J
Aroclor 1232 (PCB-1232)	0.099	U	ug/L	1	0.20	0.099	6/21/2018 17:30	J
Aroclor 1242 (PCB-1242)	0.098	U	ug/L	1	0.20	0.098	6/21/2018 17:30	J
Aroclor 1248 (PCB-1248)	0.068	U	ug/L	1	0.20	0.068	6/21/2018 17:30	J
Aroclor 1254 (PCB-1254)	0.052	U	ug/L	1	0.20	0.052	6/21/2018 17:30	J
Aroclor 1260 (PCB-1260)	0.081	U	ug/L	1	0.20	0.081	6/21/2018 17:30	J
Tetrachloro-m-xylene (S)	89		%	1	61-119		6/21/2018 17:30	
Decachlorobiphenyl (S)	73		%	1	44-136		6/21/2018 17:30	

Analysis Desc: 8260B Analysis, Water

Preparation Method: SW-846 5030B

Analytical Method: SW-846 8260B

1,1,2,2-Tetrachloroethane	0.20	U	ug/L	1	1.0	0.20	6/20/2018 21:15	T
1,1-Dichloroethane	0.86	U	ug/L	1	1.0	0.86	6/20/2018 21:15	T
2-Chloroethyl Vinyl Ether	0.58	U	ug/L	1	1.0	0.58	6/20/2018 21:15	T
Acrolein (Propenal)	3.5	U	ug/L	1	4.0	3.5	6/20/2018 21:15	T
Acrylonitrile	1.9	U	ug/L	1	5.0	1.9	6/20/2018 21:15	T
Bromomethane	0.97	U	ug/L	1	1.0	0.97	6/20/2018 21:15	T
Chloroethane	0.38	U	ug/L	1	1.0	0.38	6/20/2018 21:15	T
Chloromethane	0.53	U	ug/L	1	1.0	0.53	6/20/2018 21:15	T
trans-1,3-Dichloropropylene	0.20	U	ug/L	1	1.0	0.20	6/20/2018 21:15	T
1,2-Dichloroethane-d4 (S)	99		%	1	70-128		6/20/2018 21:15	
Toluene-d8 (S)	99		%	1	77-119		6/20/2018 21:15	
Bromofluorobenzene (S)	110		%	1	86-123		6/20/2018 21:15	

Analysis Desc: 8270C Analysis, Water

Preparation Method: SW-846 3510C

Analytical Method: SW-846 8270C

1,2-Diphenylhydrazine	0.97	U	ug/L	1	5.1	0.97	6/26/2018 14:13	J
1,3-Dichlorobenzene	1.0	U	ug/L	1	5.1	1.0	6/26/2018 14:13	J
2,4,6-Trichlorophenol	1.4	U	ug/L	1	5.1	1.4	6/26/2018 14:13	J
2,4-Dichlorophenol	0.91	U	ug/L	1	5.1	0.91	6/26/2018 14:13	J
2,4-Dimethylphenol	2.6	U	ug/L	1	5.1	2.6	6/26/2018 14:13	J
2,4-Dinitrophenol	1.1	U	ug/L	1	10	1.1	6/26/2018 14:13	J
2,4-Dinitrotoluene (2,4-DNT)	1.9	U	ug/L	1	5.1	1.9	6/26/2018 14:13	J
2,6-Dinitrotoluene (2,6-DNT)	2.0	U	ug/L	1	5.1	2.0	6/26/2018 14:13	J
2-Chloronaphthalene	1.7	U	ug/L	1	5.1	1.7	6/26/2018 14:13	J
2-Chlorophenol	1.5	U	ug/L	1	5.1	1.5	6/26/2018 14:13	J
2-Methyl-4,6-dinitrophenol	1.2	U	ug/L	1	5.1	1.2	6/26/2018 14:13	J
2-Nitrophenol	0.64	U	ug/L	1	5.1	0.64	6/26/2018 14:13	J
3,3'-Dichlorobenzidine	1.3	U	ug/L	1	5.1	1.3	6/26/2018 14:13	J
4-Bromophenyl Phenyl Ether	1.1	U	ug/L	1	5.1	1.1	6/26/2018 14:13	J

Report ID: 562768

Page 14 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: T1810350 SELF Plant Effluent Semi

Lab ID: **T1810350002**

Date Received: 06/19/18 14:35 Matrix: Water

Sample ID: **Field Blank**

Date Collected: 06/19/18 09:18

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
4-Chloro-3-methylphenol	0.64	U	ug/L	1	5.1	0.64	6/26/2018 14:13	J
4-Chlorophenyl Phenyl Ether	1.7	U	ug/L	1	5.1	1.7	6/26/2018 14:13	J
4-Nitrophenol	2.9	U	ug/L	1	5.1	2.9	6/26/2018 14:13	J
Acenaphthene	0.040	U	ug/L	1	0.20	0.040	6/26/2018 14:13	J
Acenaphthylene	0.042	U	ug/L	1	0.20	0.042	6/26/2018 14:13	J
Anthracene	0.036	U	ug/L	1	0.20	0.036	6/26/2018 14:13	J
Benzidine	1.2	U	ug/L	1	5.1	1.2	6/26/2018 14:13	J
Benzo[a]anthracene	0.012	U	ug/L	1	0.20	0.012	6/26/2018 14:13	J
Benzo[b]fluoranthene	0.013	U	ug/L	1	0.10	0.013	6/26/2018 14:13	J
Benzo[g,h,i]perylene	0.048	U	ug/L	1	0.20	0.048	6/26/2018 14:13	J
Benzo[k]fluoranthene	0.049	U	ug/L	1	0.20	0.049	6/26/2018 14:13	J
Butyl benzyl phthalate	1.1	U	ug/L	1	5.1	1.1	6/26/2018 14:13	J
Chrysene	0.033	U	ug/L	1	0.20	0.033	6/26/2018 14:13	J
Di-n-Butyl Phthalate	0.89	U	ug/L	1	5.1	0.89	6/26/2018 14:13	J
Di-n-octyl Phthalate	1.2	U	ug/L	1	5.1	1.2	6/26/2018 14:13	J
Dibenzo[a,h]anthracene	0.024	U	ug/L	1	0.20	0.024	6/26/2018 14:13	J
Diethyl phthalate	2.1	U	ug/L	1	5.1	2.1	6/26/2018 14:13	J
Dimethyl phthalate	1.8	U	ug/L	1	10	1.8	6/26/2018 14:13	J
Fluoranthene	0.037	U	ug/L	1	0.20	0.037	6/26/2018 14:13	J
Fluorene	0.039	U	ug/L	1	0.20	0.039	6/26/2018 14:13	J
Hexachlorobutadiene	1.3	U	ug/L	1	5.1	1.3	6/26/2018 14:13	J
Hexachloroethane	1.3	U	ug/L	1	5.1	1.3	6/26/2018 14:13	J
Indeno(1,2,3-cd)pyrene	0.011	U	ug/L	1	0.20	0.011	6/26/2018 14:13	J
Isophorone	1.1	U	ug/L	1	5.1	1.1	6/26/2018 14:13	J
N-Nitrosodi-n-propylamine	2.3	U	ug/L	1	5.1	2.3	6/26/2018 14:13	J
N-Nitrosodimethylamine	0.94	U	ug/L	1	5.1	0.94	6/26/2018 14:13	J
N-Nitrosodiphenylamine	2.1	U	ug/L	1	5.1	2.1	6/26/2018 14:13	J
Naphthalene	0.048	U	ug/L	1	0.20	0.048	6/26/2018 14:13	J
Nitrobenzene	1.2	U	ug/L	1	5.1	1.2	6/26/2018 14:13	J
Phenanthrene	0.040	U	ug/L	1	0.20	0.040	6/26/2018 14:13	J
Phenol	0.55	U	ug/L	1	5.1	0.55	6/26/2018 14:13	J
Pyrene	0.036	U	ug/L	1	0.20	0.036	6/26/2018 14:13	J
bis(2-Chloroethoxy)methane	1.2	U	ug/L	1	5.1	1.2	6/26/2018 14:13	J
bis(2-Chloroethyl)Ether	1.5	U	ug/L	1	5.1	1.5	6/26/2018 14:13	J
bis(2-Chloroisopropyl) Ether	1.4	U	ug/L	1	5.1	1.4	6/26/2018 14:13	J
bis(2-Ethylhexyl) phthalate	2.0	U	ug/L	1	5.1	2.0	6/26/2018 14:13	J
2-Fluorophenol (S)	71		%	1	31-134		6/26/2018 14:13	
Phenol-d6 (S)	50		%	1	24-120		6/26/2018 14:13	
Nitrobenzene-d5 (S)	112		%	1	38-139		6/26/2018 14:13	
2-Fluorobiphenyl (S)	110		%	1	42-138		6/26/2018 14:13	

Report ID: 562768

Page 15 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: T1810350 SELF Plant Effluent Semi

Lab ID: **T1810350002**

Date Received: 06/19/18 14:35 Matrix: Water

Sample ID: **Field Blank**

Date Collected: 06/19/18 09:18

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
2,4,6-Tribromophenol (S)	94		%	1	48-147		6/26/2018 14:13	
p-Terphenyl-d14 (S)	110		%	1	61-154		6/26/2018 14:13	

VOLATILES

Analysis Desc: 524.2 Analysis, Water

Analytical Method: EPA 524.2

1,1,1-Trichloroethane	0.39	U	ug/L	1	0.50	0.39	6/26/2018 22:09	M
1,1,2-Trichloroethane	0.12	U	ug/L	1	0.50	0.12	6/26/2018 22:09	M
1,1-Dichloroethylene	0.18	U	ug/L	1	0.50	0.18	6/26/2018 22:09	M
1,2,4-Trichlorobenzene	0.28	U	ug/L	1	0.50	0.28	6/26/2018 22:09	M
1,2-Dichlorobenzene	0.46	U	ug/L	1	0.50	0.46	6/26/2018 22:09	M
1,2-Dichloroethane	0.36	U	ug/L	1	0.50	0.36	6/26/2018 22:09	M
1,2-Dichloropropane	0.26	U	ug/L	1	0.50	0.26	6/26/2018 22:09	M
1,4-Dichlorobenzene	0.26	U	ug/L	1	0.50	0.26	6/26/2018 22:09	M
Benzene	0.17	U	ug/L	1	0.50	0.17	6/26/2018 22:09	M
Bromodichloromethane	0.14	U	ug/L	1	0.50	0.14	6/26/2018 22:09	M
Bromoform	6.82	J4	ug/L	1	0.50	0.26	6/26/2018 22:09	M
Carbon Tetrachloride	0.23	U	ug/L	1	0.50	0.23	6/26/2018 22:09	M
Chlorobenzene	0.12	U	ug/L	1	0.50	0.12	6/26/2018 22:09	M
Chloroform	0.39	U	ug/L	1	0.50	0.39	6/26/2018 22:09	M
Dibromochloromethane	0.32	U	ug/L	1	0.50	0.32	6/26/2018 22:09	M
Ethylbenzene	0.17	U	ug/L	1	0.50	0.17	6/26/2018 22:09	M
Methylene Chloride	0.44	U	ug/L	1	0.50	0.44	6/26/2018 22:09	M
Styrene	0.39	U	ug/L	1	0.50	0.39	6/26/2018 22:09	M
Tetrachloroethylene (PCE)	0.24	U	ug/L	1	0.50	0.24	6/26/2018 22:09	M
Toluene	0.22	U	ug/L	1	0.50	0.22	6/26/2018 22:09	M
Total Trihalomethanes	6.82		ug/L	1	0.50	0.14	6/26/2018 22:09	M
Trichloroethene	0.28	U	ug/L	1	0.50	0.28	6/26/2018 22:09	M
Vinyl Chloride	0.20	U	ug/L	1	0.50	0.20	6/26/2018 22:09	M
Xylene (Total)	0.28	U	ug/L	1	0.50	0.28	6/26/2018 22:09	M
cis-1,2-Dichloroethylene	0.32	U	ug/L	1	0.50	0.32	6/26/2018 22:09	M
trans-1,2-Dichloroethylene	0.28	U	ug/L	1	0.50	0.28	6/26/2018 22:09	M
1,2-Dichloroethane-d4 (S)	94		%	1	80-120		6/26/2018 22:09	
1,2-Dichloroethane-d4 (S)	94		%	1	80-120		6/26/2018 22:09	
Toluene-d8 (S)	101		%	1	81-118		6/26/2018 22:09	
Toluene-d8 (S)	101		%	1	81-118		6/26/2018 22:09	
Bromofluorobenzene (S)	110		%	1	86-115		6/26/2018 22:09	
Bromofluorobenzene (S)	110		%	1	86-115		6/26/2018 22:09	

WET CHEMISTRY

Report ID: 562768

Page 16 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS

Workorder: T1810350 SELF Plant Effluent Semi

Lab ID: **T1810350002**

Date Received: 06/19/18 14:35 Matrix: Water

Sample ID: **Field Blank**

Date Collected: 06/19/18 09:18

Sample Description:

Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Analysis Desc: IC,E300.0,Water		Analytical Method: EPA 300.0						
Chloride	1.0	U	mg/L	1	5.0	1.0	7/2/2018 15:21	T
Fluoride	0.10	U	mg/L	1	0.50	0.10	7/2/2018 15:21	T
Sulfate	1.0	U	mg/L	1	5.0	1.0	7/2/2018 15:21	T
Analysis Desc: Color,SM2120B,Water		Analytical Method: SM 2120 B						
Color	10		PCU	1	5.0	2.7	6/20/2018 10:30	T
pH for Color Analysis	5.1		SU	1	5.0	0.10	6/20/2018 10:30	T
Analysis Desc: Odor,SM2150B,Water		Analytical Method: SM 2150 B						
Odor	1.0	U	TON @ 40°C	1	1.0	1.0	6/19/2018 16:00	T
Analysis Desc: Tot Dissolved Solids,SM2540C		Analytical Method: SM 2540 C						
Total Dissolved Solids	10	U	mg/L	1	10	10	6/25/2018 09:02	T
Analysis Desc: Hexavalent Chromium,SM3500-CR D,Water		Analytical Method: SM 3500-CR D						
Hexavalent Chromium	0.0025	U	mg/L	1	0.040	0.0025	6/19/2018 16:30	T
Analysis Desc: Cyanide, SM4500-E, Water		Analytical Method: SM 4500-CN-E						
Cyanide	0.0048	U	mg/L	1	0.010	0.0048	6/20/2018 13:55	T
Analysis Desc: .PH,SM4500H+B, Water		Analytical Method: SM 4500H+B						
pH	5.1	Q	SU	1			6/21/2018 13:00	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water		Analytical Method: SM 4500NO3-F						
Nitrate	0.18	U	mg/L	1	0.20	0.18	6/19/2018 16:13	T
Nitrite	0.18	U	mg/L	1	0.20	0.18	6/19/2018 16:13	T
Analysis Desc: SURFACT-MBAS,SM5540C,Aqueous		Analytical Method: SM 5540 C						
MBAS,as LAS,mol.wt.348	0.040	U	mg/L	1	0.20	0.040	6/21/2018 09:04	G

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



ANALYTICAL RESULTS QUALIFIERS

Workorder: T1810350 SELF Plant Effluent Semi

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.
- [2] Surrogate diluted out.
- [1] Surrogate diluted out.
- Q Missed Hold Time
- J1 Surrogate Failure
- J4 Estimated Result
- L Off-scale high. Actual value could be more than the value given.

LAB QUALIFIERS

- G DOH Certification #E82001(AEL-G)(FL NELAC Certification)
- J DOH Certification #E82574(AEL-JAX)(FL NELAC Certification)
- J^ Not Certified
- M DOH Certification #E82535(AEL-M)(FL NELAC Certification)
- M^ Not Certified
- T DOH Certification #E84589(AEL-T)(FL NELAC Certification)
- T^ Not Certified

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

QC Batch: WCAI/4321 Analysis Method: SM 4500NO3-F
QC Batch Method: SM 4500NO3-F Prepared:
Associated Lab Samples: T1810350001, T1810350002

METHOD BLANK: 2747953

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

LABORATORY CONTROL SAMPLE: 2747954

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY					
Nitrate	mg/L	1	1.1	108	90-110
Nitrite	mg/L	1	1.1	107	90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2747955 2747956 Original: T1810293001

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	1.1	1.1	107	110	90-110	3	10	
Nitrite	mg/L	0	1	1.1	1.1	106	106	90-110	0	10	

QC Batch: WCAI/4333 Analysis Method: SM 2150 B
QC Batch Method: SM 2150 B Prepared:
Associated Lab Samples: T1810350001, T1810350002

SAMPLE DUPLICATE: 2749410 Original: T1810350002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD Qualifiers
WET CHEMISTRY					
Odor	TON @	1.0U	1.0	0	

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

QC Batch: WCAI/4334 Analysis Method: SM 3500-CR D
QC Batch Method: SM 3500-CR D Prepared:
Associated Lab Samples: T1810350001, T1810350002

METHOD BLANK: 2749418

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY Hexavalent Chromium	mg/L	0.0025	0.0025 U

LABORATORY CONTROL SAMPLE: 2749437

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY Hexavalent Chromium	mg/L	0.1	0.093	93	90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2749420 2749421 Original: T1810350002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY Hexavalent Chromium	mg/L	0.001	0.1	0.094	0.095	94	95	85-115	1	20	

QC Batch: WCAI/4335 Analysis Method: SM 2120 B
QC Batch Method: SM 2120 B Prepared:
Associated Lab Samples: T1810350001, T1810350002

METHOD BLANK: 2749457

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY pH for Color Analysis	SU	0.10	0.10 U
Color	PCU	2.7	2.7 U

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

METHOD BLANK: 2749462

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY			
pH for Color Analysis	SU	0.10	0.10 U
Color	PCU	2.7	2.7 U

LABORATORY CONTROL SAMPLE: 2749459

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY					
pH for Color Analysis	SU		0.10		
Color	PCU	30	32	106	90-110

SAMPLE DUPLICATE: 2749548

Original: T1810350002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD Qualifiers
WET CHEMISTRY					
pH for Color Analysis	SU	5.1	5.1	0	10
Color	PCU	10	8.9	14	20

QC Batch: WCAI/4347

Analysis Method: SM 4500-CN-E

QC Batch Method: SM 4500-CN-E

Prepared:

Associated Lab Samples: T1810350002

METHOD BLANK: 2749857

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY			
Cyanide	mg/L	0.0048	0.0048 U

LABORATORY CONTROL SAMPLE & LCSD: 2749858

2749859

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD Qualifiers
WET CHEMISTRY									
Cyanide	mg/L	0.02	0.019	0.020	97	100	90-110	3	10

Report ID: 562768

Page 21 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

QC Batch: EXTj/1806 Analysis Method: EPA 548.1
QC Batch Method: EPA 548.1 Prepared: 06/20/2018 13:00
Associated Lab Samples: T1810350001, T1810350002

METHOD BLANK: 2750227

Parameter	Units	Blank Result	Reporting Limit Qualifiers
SEMIVOLATILES			
Endothall	ug/L	1.8	1.8 U

LABORATORY CONTROL SAMPLE & LCSD: 2750228 2750229

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD Qualifiers
SEMIVOLATILES									
Endothall	ug/L	50	45	49	91	98	63-131	7	30

MATRIX SPIKE SAMPLE: 2750230 Original: M1802423001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits Qualifiers
SEMIVOLATILES						
Endothall	ug/L	0	50	6.6	13	63-131

QC Batch: DGMt/1882 Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 Prepared: 06/20/2018 10:30
Associated Lab Samples: T1810350001, T1810350002

METHOD BLANK: 2750525

Parameter	Units	Blank Result	Reporting Limit Qualifiers
METALS			
Mercury	ug/L	0.050	0.050 U

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

LABORATORY CONTROL SAMPLE: 2750526

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
METALS						
Mercury	ug/L	1	0.92	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2750527 2750528 Original: T1810350001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	RPD	Qualifiers
METALS											
Mercury	ug/L	0	1	0.85	0.84	85	84	70-130	0	20	

QC Batch: MSVt/2059

Analysis Method: SW-846 8260B

QC Batch Method: SW-846 5030B

Prepared: 06/20/2018 13:45

Associated Lab Samples: T1810350001, T1810350002

METHOD BLANK: 2751163

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
VOLATILES				
Chloromethane	ug/L	0.53	0.53	U
Bromomethane	ug/L	0.97	0.97	U
Chloroethane	ug/L	0.38	0.38	U
Acrolein (Propenal)	ug/L	3.5	3.5	U
Acrylonitrile	ug/L	1.9	1.9	U
1,1-Dichloroethane	ug/L	0.86	0.86	U
2-Chloroethyl Vinyl Ether	ug/L	0.58	0.58	U
trans-1,3-Dichloropropylene	ug/L	0.20	0.20	U
1,1,2,2-Tetrachloroethane	ug/L	0.20	0.20	U
1,2-Dichloroethane-d4 (S)	%	99	70-128	
Toluene-d8 (S)	%	100	77-119	
Bromofluorobenzene (S)	%	107	86-123	

LABORATORY CONTROL SAMPLE: 2751164

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
VOLATILES						

Report ID: 562768

Page 23 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

LABORATORY CONTROL SAMPLE: 2751164

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloromethane	ug/L	20	18	90		
Bromomethane	ug/L	20	20	101		
Chloroethane	ug/L	20	17	86		
Acrolein (Propenal)	ug/L	100	85	85		
Acrylonitrile	ug/L	20	16	82		
1,1-Dichloroethane	ug/L	20	17	84		
2-Chloroethyl Vinyl Ether	ug/L	20	14	69		
trans-1,3-Dichloropropylene	ug/L	20	17	87		
1,1,2,2-Tetrachloroethane	ug/L	20	17	86		
1,2-Dichloroethane-d4 (S)	%			98	70-128	
Toluene-d8 (S)	%			100	77-119	
Bromofluorobenzene (S)	%			98	86-123	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2751165 2751166 Original: T1810350002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	RPD	Qualifiers
VOLATILES											
Chloromethane	ug/L	0	20	16	19	82	97		17		
Bromomethane	ug/L	0	20	19	22	96	111		15		
Chloroethane	ug/L	0	20	15	19	77	93		18		
Acrolein (Propenal)	ug/L	0	100	79	96	79	96		19		
Acrylonitrile	ug/L	0	20	15	18	76	92		19		
1,1-Dichloroethane	ug/L	0	20	16	19	80	94		16		
2-Chloroethyl Vinyl Ether	ug/L	0	20	0.58	0.58U	0	0		0		
trans-1,3-Dichloropropylene	ug/L	0	20	16	19	82	96		17		
1,1,2,2-Tetrachloroethane	ug/L	0	20	16	19	81	96		17		
1,2-Dichloroethane-d4 (S)	%	99				101	98	70-128	3		
Toluene-d8 (S)	%	99				99	100	77-119	0		
Bromofluorobenzene (S)	%	110				100	103	86-123	3		

QC Batch: EXTj/1814

Analysis Method: EPA 549.2

QC Batch Method: EPA 549.2

Prepared: 06/21/2018 14:00

Associated Lab Samples: T1810350001, T1810350002

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

METHOD BLANK: 2752169

Parameter	Units	Blank Result	Reporting Limit Qualifiers
SEMIVOLATILES			
Diquat	ug/L	7.6	7.6 U

LABORATORY CONTROL SAMPLE & LCSD: 2752170 2752171

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD Qualifiers
SEMIVOLATILES									
Diquat	ug/L	290	440	260	153	92	70-130	50	30

MATRIX SPIKE SAMPLE: 2752172 Original: M1802423001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
SEMIVOLATILES							
Diquat	ug/L	0	290	600	208	70-130	

QC Batch: EXTj/1818

Analysis Method: SW-846 8270C

QC Batch Method: SW-846 3510C

Prepared: 06/21/2018 17:30

Associated Lab Samples: T1810350001, T1810350002

METHOD BLANK: 2752477

Parameter	Units	Blank Result	Reporting Limit Qualifiers
SEMIVOLATILES			
Phenol	ug/L	0.54	0.54 U
2-Chlorophenol	ug/L	1.5	1.5 U
2-Nitrophenol	ug/L	0.63	0.63 U
2,4-Dimethylphenol	ug/L	2.6	2.6 U
2,4-Dichlorophenol	ug/L	0.90	0.90 U
4-Chloro-3-methylphenol	ug/L	0.63	0.63 U
2,4,6-Trichlorophenol	ug/L	1.4	1.4 U
2,4-Dinitrophenol	ug/L	1.1	1.1 U
4-Nitrophenol	ug/L	2.9	2.9 U
2-Methyl-4,6-dinitrophenol	ug/L	1.2	1.2 U
N-Nitrosodimethylamine	ug/L	0.93	0.93 U

Report ID: 562768

Page 25 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

METHOD BLANK: 2752477

Parameter	Units	Blank Result	Reporting Limit Qualifiers
bis(2-Chloroethyl)Ether	ug/L	1.5	1.5 U
1,3-Dichlorobenzene	ug/L	1.0	1.0 U
bis(2-Chloroisopropyl) Ether	ug/L	1.4	1.4 U
N-Nitrosodi-n-propylamine	ug/L	2.2	2.2 U
Hexachloroethane	ug/L	1.2	1.2 U
Nitrobenzene	ug/L	1.1	1.1 U
Isophorone	ug/L	1.1	1.1 U
bis(2-Chloroethoxy)methane	ug/L	1.2	1.2 U
Naphthalene	ug/L	0.048	0.048 U
Hexachlorobutadiene	ug/L	1.3	1.3 U
2-Chloronaphthalene	ug/L	1.7	1.7 U
Dimethyl phthalate	ug/L	1.8	1.8 U
2,6-Dinitrotoluene (2,6-DNT)	ug/L	2.0	2.0 U
Acenaphthylene	ug/L	0.042	0.042 U
Acenaphthene	ug/L	0.040	0.040 U
2,4-Dinitrotoluene (2,4-DNT)	ug/L	1.8	1.8 U
Diethyl phthalate	ug/L	2.1	2.1 U
Fluorene	ug/L	0.038	0.038 U
4-Chlorophenyl Phenyl Ether	ug/L	1.6	1.6 U
1,2-Diphenylhydrazine	ug/L	0.96	0.96 U
4-Bromophenyl Phenyl Ether	ug/L	1.1	1.1 U
Phenanthrene	ug/L	0.040	0.040 U
Anthracene	ug/L	0.035	0.035 U
Di-n-Butyl Phthalate	ug/L	0.88	0.88 U
Fluoranthene	ug/L	0.037	0.037 U
Benzidine	ug/L	1.2	1.2 U
Pyrene	ug/L	0.036	0.036 U
Butyl benzyl phthalate	ug/L	1.1	1.1 U
Benzo[a]anthracene	ug/L	0.012	0.012 U
3,3'-Dichlorobenzidine	ug/L	1.3	1.3 U
Chrysene	ug/L	0.033	0.033 U
bis(2-Ethylhexyl) phthalate	ug/L	2.0	2.0 U
Di-n-octyl Phthalate	ug/L	1.2	1.2 U
Benzo[b]fluoranthene	ug/L	0.012	0.012 U
Benzo[k]fluoranthene	ug/L	0.048	0.048 U
Indeno(1,2,3-cd)pyrene	ug/L	0.011	0.011 U
Dibenzo[a,h]anthracene	ug/L	0.024	0.024 U
Benzo[g,h,i]perylene	ug/L	0.048	0.048 U
N-Nitrosodiphenylamine	ug/L	2.1	2.1 U
2-Fluorophenol (S)	%	105	31-134
Phenol-d6 (S)	%	97	24-120
Nitrobenzene-d5 (S)	%	117	38-139
2-Fluorobiphenyl (S)	%	110	42-138
2,4,6-Tribromophenol (S)	%	82	48-147
p-Terphenyl-d14 (S)	%	122	61-154

Report ID: 562768

Page 26 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

METHOD BLANK: 2752477

LABORATORY CONTROL SAMPLE: 2752478

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
SEMIVOLATILES					
N-Nitrosodimethylamine	ug/L	40	40	100	
bis(2-Chloroethyl)Ether	ug/L	40	48	121	
2-Chlorophenol	ug/L	40	39	97	
1,3-Dichlorobenzene	ug/L	40	33	82	
bis(2-Chloroisopropyl) Ether	ug/L	40	49	123	
N-Nitrosodi-n-propylamine	ug/L	40	50	126	
Hexachloroethane	ug/L	40	41	102	21-115
Isophorone	ug/L	40	52	130	
2-Nitrophenol	ug/L	40	42	104	
2,4-Dimethylphenol	ug/L	40	52	130	
bis(2-Chloroethoxy)methane	ug/L	40	52	131	
2,4-Dichlorophenol	ug/L	40	45	114	47-121
Naphthalene	ug/L	40	41	102	
Hexachlorobutadiene	ug/L	40	48	119	22-124
2-Chloronaphthalene	ug/L	40	38	94	
Dimethyl phthalate	ug/L	40	49	123	
2,6-Dinitrotoluene (2,6-DNT)	ug/L	40	50	126	
Acenaphthylene	ug/L	40	48	119	
Acenaphthene	ug/L	40	43	108	47-122
2,4-Dinitrophenol	ug/L	40	46	115	
2,4-Dinitrotoluene (2,4-DNT)	ug/L	40	49	123	57-128
4-Nitrophenol	ug/L	40	54	135	
Diethyl phthalate	ug/L	40	48	120	
Fluorene	ug/L	40	48	121	52-124
4-Chlorophenyl Phenyl Ether	ug/L	40	54	135	
2-Methyl-4,6-dinitrophenol	ug/L	40	61	152	
N-Nitrosodiphenylamine	ug/L	40	36	91	
1,2-Diphenylhydrazine	ug/L	40	51	126	
4-Bromophenyl Phenyl Ether	ug/L	40	47	117	
Phenanthrene	ug/L	40	41	103	
Anthracene	ug/L	40	42	106	
Di-n-Butyl Phthalate	ug/L	40	45	112	
Fluoranthene	ug/L	40	46	115	57-128
Pyrene	ug/L	40	45	112	
Butyl benzyl phthalate	ug/L	40	44	110	

Report ID: 562768

Page 27 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

LABORATORY CONTROL SAMPLE: 2752478

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzo[a]anthracene	ug/L	40	42	106		
Chrysene	ug/L	40	45	113		
bis(2-Ethylhexyl) phthalate	ug/L	40	45	113	55-135	
Di-n-octyl Phthalate	ug/L	40	47	116		
Benzo[b]fluoranthene	ug/L	40	41	102		
Benzo[k]fluoranthene	ug/L	40	47	118		
Indeno(1,2,3-cd)pyrene	ug/L	40	46	116		
Dibenzo[a,h]anthracene	ug/L	40	46	115		
Benzo[g,h,i]perylene	ug/L	40	47	118		
Benzidine	ug/L	40	22	55		
3,3'-Dichlorobenzidine	ug/L	40	40	99		
2-Fluorophenol (S)	%			107	31-134	
Phenol-d6 (S)	%			106	24-120	
Nitrobenzene-d5 (S)	%			135	38-139	
2-Fluorobiphenyl (S)	%			129	42-138	
2,4,6-Tribromophenol (S)	%			105	48-147	
p-Terphenyl-d14 (S)	%			125	61-154	

LABORATORY CONTROL SAMPLE: 2752478

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
SEMIVOLATILES						
Phenol	ug/L	40	38	95	19-106	
Nitrobenzene	ug/L	40	42	104	45-121	
4-Chloro-3-methylphenol	ug/L	40	50	125	52-119	
2,4,6-Trichlorophenol	ug/L	40	53	133	50-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2752479 2752480 Original: J1806714001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	Qualifiers
SEMIVOLATILES										
N-Nitrosodimethylamine	ug/L			2900	2600				11	
Phenol	ug/L			3400	3100				9	20
bis(2-Chloroethyl)Ether	ug/L			3700	3500				7	
2-Chlorophenol	ug/L			3400	3400				1	
1,3-Dichlorobenzene	ug/L			3400	3000				11	
bis(2-Chloroisopropyl) Ether	ug/L			3500	3200				8	
N-Nitrosodi-n-propylamine	ug/L			3800	3500				6	
Hexachloroethane	ug/L	0	4000	3000	2900	76	72	21-115	6	20

Report ID: 562768

Page 28 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2752479 2752480 Original: J1806714001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Nitrobenzene	ug/L	0	4000	3600	3300	89	84	45-121	6	20	
Isophorone	ug/L			3700	3500				8		
2-Nitrophenol	ug/L			3900	3600				6		
2,4-Dimethylphenol	ug/L			4200	3900				6		
bis(2-Chloroethoxy)methane	ug/L			3700	3600				4		
2,4-Dichlorophenol	ug/L			4100	3800				8	20	
Naphthalene	ug/L			3200	3000				4		
Hexachlorobutadiene	ug/L	0	4000	3600	3500	90	88	22-124	3	20	
4-Chloro-3-methylphenol	ug/L			4400	4000				10	20	
2,4,6-Trichlorophenol	ug/L	0	4000	4600	4100	116	102	50-125	12	20	
2-Chloronaphthalene	ug/L			4100	3900				7		
Dimethyl phthalate	ug/L			4700	4400				6		
2,6-Dinitrotoluene (2,6-DNT)	ug/L			4800	4300				11		
Acenaphthylene	ug/L			4300	4000				5		
Acenaphthene	ug/L			3900	3700				5	20	
2,4-Dinitrophenol	ug/L			3800	3700				3		
2,4-Dinitrotoluene (2,4-DNT)	ug/L	0	4000	5000	4600	125	114	57-128	9	20	
4-Nitrophenol	ug/L			4100	4000				2		
Diethyl phthalate	ug/L			5000	4300				14		
Fluorene	ug/L			4100	3900				5	20	
4-Chlorophenyl Phenyl Ether	ug/L			4800	4100				14		
2-Methyl-4,6-dinitrophenol	ug/L			4400	4300				2		
N-Nitrosodiphenylamine	ug/L			3500	3500				2		
1,2-Diphenylhydrazine	ug/L			4500	4400				2		
4-Bromophenyl Phenyl Ether	ug/L			4300	4600				6		
Phenanthrene	ug/L			3500	3700				4		
Anthracene	ug/L			3500	3700				4		
Di-n-Butyl Phthalate	ug/L			4300	4300				1		
Fluoranthene	ug/L			3400	3500				3	20	
Pyrene	ug/L			4000	4000				1		
Butyl benzyl phthalate	ug/L			4400	4100				6		
Benzo[a]anthracene	ug/L			3300	3400				3		
Chrysene	ug/L			3500	3600				3		
bis(2-Ethylhexyl) phthalate	ug/L			4700	4200				12	20	
Di-n-octyl Phthalate	ug/L			4600	4400				4		
Benzo[b]fluoranthene	ug/L			3500	3500				0		
Benzo[k]fluoranthene	ug/L			2900	2800				1		
Indeno(1,2,3-cd)pyrene	ug/L			3600	3700				5		
Dibenzo[a,h]anthracene	ug/L			3100	3200				2		
Benzo[g,h,i]perylene	ug/L			3300	3300				1		

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2752479 2752480 Original: J1806714001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	RPD	Qualifiers
Benzidine	ug/L			1800	1800					3	
3,3'-Dichlorobenzidine	ug/L			3500	3400					4	
2-Fluorophenol (S)	%	84				83	77	35-115		7	
Phenol-d6 (S)	%	89				82	76	33-122		8	
Nitrobenzene-d5 (S)	%	76				94	88	37-122		7	
2-Fluorobiphenyl (S)	%	94				104	94	44-115		11	
2,4,6-Tribromophenol (S)	%	111				116	110	39-132		5	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2752479 2752480 Original: J1806714001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	RPD	Qualifiers
p-Terphenyl-d14 (S)	%	105				117	109	54-127		7	

QC Batch: EXTj/1821

Analysis Method: EPA 508

QC Batch Method: EPA 508

Prepared: 06/21/2018 15:00

Associated Lab Samples: T1810350001, T1810350002

METHOD BLANK: 2753243

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
SEMIVOLATILES				
Hexachlorocyclopentadiene	ug/L	0.012	0.012	U
Hexachlorobenzene	ug/L	0.0063	0.0063	U
gamma-BHC (Lindane)	ug/L	0.0071	0.0071	U
Heptachlor	ug/L	0.0060	0.0060	U
Heptachlor Epoxide	ug/L	0.0052	0.0052	U
Endrin	ug/L	0.0069	0.0069	U
Methoxychlor	ug/L	0.0068	0.0068	U
PCBs	ug/L	0.11	0.11	U
Chlordane (technical)	ug/L	0.053	0.053	U
Toxaphene	ug/L	0.12	0.12	U
Tetrachloro-m-xylene (S)	%	126	70-130	
Decachlorobiphenyl (S)	%	108	70-130	

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

LABORATORY CONTROL SAMPLE & LCSD: 2753244 2753245

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
SEMIVOLATILES										
Hexachlorocyclopentadiene	ug/L	0.1	0.077	0.078	77	78	70-130	1	20	
Hexachlorobenzene	ug/L	0.1	0.076	0.076	76	76	70-130	1	20	
gamma-BHC (Lindane)	ug/L	0.1	0.071	0.072	71	72	70-130	0	20	
Heptachlor	ug/L	0.1	0.084	0.084	84	84	70-130	0	20	
Heptachlor Epoxide	ug/L	0.1	0.088	0.089	88	89	70-130	1	20	
Endrin	ug/L	0.1	0.095	0.094	95	94	70-130	1	20	
Methoxychlor	ug/L	0.1	0.094	0.094	94	94	70-130	1	20	
PCBs	ug/L		0.11	0.11U				0	20	
Chlordane (technical)	ug/L		0.053	0.053U				0	20	
Toxaphene	ug/L		0.12	0.12U				0	20	
Tetrachloro-m-xylene (S)	%				133	133	70-130	0		
Decachlorobiphenyl (S)	%				120	117	70-130	3		

MATRIX SPIKE SAMPLE: 2753246

Original: T1810350002

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
SEMIVOLATILES							
Hexachlorocyclopentadiene	ug/L	0	0.1	0.063	63	65-135	
Hexachlorobenzene	ug/L	0	0.1	0.076	76	65-135	
gamma-BHC (Lindane)	ug/L	0	0.1	0.078	78	65-135	
Heptachlor	ug/L	0	0.1	0.091	91	65-135	
Heptachlor Epoxide	ug/L	0	0.1	0.099	99	65-135	
Endrin	ug/L	0	0.1	0.072	72	65-135	
Methoxychlor	ug/L	0	0.1	0.10	104	65-135	
PCBs	ug/L			0.11			
Chlordane (technical)	ug/L			0.053			
Toxaphene	ug/L			0.12			
Tetrachloro-m-xylene (S)	%	113			119	70-130	
Decachlorobiphenyl (S)	%	83			87	70-130	

QC Batch: EXTj/1821

Analysis Method: EPA 508

QC Batch Method: EPA 508

Prepared: 06/22/2018 09:00

Associated Lab Samples: T1810350001, T1810350002

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

METHOD BLANK: 2753243

Parameter	Units	Blank Result	Reporting Limit Qualifiers
SEMIVOLATILES			
Hexachlorocyclopentadiene	ug/L	0.012	0.012 U
Hexachlorobenzene	ug/L	0.0063	0.0063 U
gamma-BHC (Lindane)	ug/L	0.0071	0.0071 U
Heptachlor	ug/L	0.0060	0.0060 U
Heptachlor Epoxide	ug/L	0.0052	0.0052 U
Endrin	ug/L	0.0069	0.0069 U
Methoxychlor	ug/L	0.0068	0.0068 U
PCBs	ug/L	0.11	0.11 U
Chlordane (technical)	ug/L	0.053	0.053 U
Toxaphene	ug/L	0.12	0.12 U
Tetrachloro-m-xylene (S)	%	126	70-130
Decachlorobiphenyl (S)	%	108	70-130

LABORATORY CONTROL SAMPLE & LCSD: 2753244 2753245

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
SEMIVOLATILES										
Hexachlorocyclopentadiene	ug/L	0.1	0.077	0.078	77	78	70-130	1	20	
Hexachlorobenzene	ug/L	0.1	0.076	0.076	76	76	70-130	1	20	
gamma-BHC (Lindane)	ug/L	0.1	0.071	0.072	71	72	70-130	0	20	
Heptachlor	ug/L	0.1	0.084	0.084	84	84	70-130	0	20	
Heptachlor Epoxide	ug/L	0.1	0.088	0.089	88	89	70-130	1	20	
Endrin	ug/L	0.1	0.095	0.094	95	94	70-130	1	20	
Methoxychlor	ug/L	0.1	0.094	0.094	94	94	70-130	1	20	
PCBs	ug/L		0.11	0.11U				0	20	
Chlordane (technical)	ug/L		0.053	0.053U				0	20	
Toxaphene	ug/L		0.12	0.12U				0	20	
Tetrachloro-m-xylene (S)	%				133	133	70-130	0		
Decachlorobiphenyl (S)	%				120	117	70-130	3		

MATRIX SPIKE SAMPLE: 2753246

Original: T1810350002

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
SEMIVOLATILES							
Hexachlorocyclopentadiene	ug/L	0	0.1	0.063	63	65-135	
Hexachlorobenzene	ug/L	0	0.1	0.076	76	65-135	

Report ID: 562768

Page 32 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

MATRIX SPIKE SAMPLE: 2753246

Original: T1810350002

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
gamma-BHC (Lindane)	ug/L	0	0.1	0.078	78	65-135	
Heptachlor	ug/L	0	0.1	0.091	91	65-135	
Heptachlor Epoxide	ug/L	0	0.1	0.099	99	65-135	
Endrin	ug/L	0	0.1	0.072	72	65-135	
Methoxychlor	ug/L	0	0.1	0.10	104	65-135	
PCBs	ug/L			0.11			
Chlordane (technical)	ug/L			0.053			
Toxaphene	ug/L			0.12			
Tetrachloro-m-xylene (S)	%	113			119	70-130	
Decachlorobiphenyl (S)	%	83			87	70-130	

QC Batch: EXTj/1822

Analysis Method: EPA 8081

QC Batch Method: SW-846 3510C

Prepared: 06/21/2018 12:00

Associated Lab Samples: T1810350001, T1810350002

METHOD BLANK: 2753322

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
SEMIVOLATILES				
alpha-BHC	ug/L	0.0030	0.0030	U
beta-BHC	ug/L	0.0019	0.0019	U
delta-BHC	ug/L	0.00086	0.00086	U
Aldrin	ug/L	0.0019	0.0019	U
Endosulfan I	ug/L	0.0031	0.0031	U
4,4'-DDE	ug/L	0.0037	0.0037	U
Dieldrin	ug/L	0.0011	0.0011	U
4,4'-DDD	ug/L	0.0016	0.0016	U
Endosulfan II	ug/L	0.0026	0.0026	U
Endrin Aldehyde	ug/L	0.0025	0.0025	U
4,4'-DDT	ug/L	0.0021	0.0021	U
Endosulfan Sulfate	ug/L	0.0032	0.0032	U
Tetrachloro-m-xylene (S)	%	91	44-124	
Decachlorobiphenyl (S)	%	64	48-137	

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

LABORATORY CONTROL SAMPLE & LCSD: 2753323 2753324

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
SEMIVOLATILES										
alpha-BHC	ug/L	0.1	0.078	0.088	78	88	54-138	11	30	
beta-BHC	ug/L	0.1	0.082	0.091	82	91	56-136	10	30	
delta-BHC	ug/L	0.1	0.056	0.061	56	61	52-142	9	30	
Aldrin	ug/L	0.1	0.076	0.085	76	85	45-134	11	30	
Endosulfan I	ug/L	0.1	0.089	0.096	89	96	62-126	8	30	
4,4'-DDE	ug/L	0.1	0.082	0.090	82	90	57-135	9	30	
Dieldrin	ug/L	0.1	0.085	0.092	85	92	60-136	7	30	
4,4'-DDD	ug/L	0.1	0.084	0.090	84	90	56-143	7	30	
Endosulfan II	ug/L	0.1	0.086	0.091	86	91	52-135	6	30	
Endrin Aldehyde	ug/L	0.1	0.084	0.086	84	86	51-132	3	30	
4,4'-DDT	ug/L	0.1	0.079	0.086	79	86	51-143	8	30	
Endosulfan Sulfate	ug/L	0.1	0.084	0.088	85	88	62-133	4	30	
Tetrachloro-m-xylene (S)	%				78	91	44-124	16		
Decachlorobiphenyl (S)	%				80	86	48-137	7		

MATRIX SPIKE SAMPLE: 2753325

Original: T1810350002

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
SEMIVOLATILES							
alpha-BHC	ug/L	0	0.2	0.17	85	54-138	
beta-BHC	ug/L	0	0.2	0.18	90	56-136	
delta-BHC	ug/L	0	0.2	0.12	62	52-142	
Aldrin	ug/L	0	0.2	0.15	76	45-134	
Endosulfan I	ug/L	0	0.2	0.19	95	62-126	
4,4'-DDE	ug/L	0	0.2	0.19	96	57-135	
Dieldrin	ug/L	0	0.2	0.15	77	60-136	
4,4'-DDD	ug/L	0	0.2	0.17	85	56-143	
Endosulfan II	ug/L	0	0.2	0.18	90	52-135	
Endrin Aldehyde	ug/L	0	0.2	0.20	101	51-132	
4,4'-DDT	ug/L	0	0.2	0.18	88	51-143	
Endosulfan Sulfate	ug/L	0	0.2	0.16	81	62-133	
Tetrachloro-m-xylene (S)	%	89			75	44-124	
Decachlorobiphenyl (S)	%	73			63	48-137	

QC Batch: EXTj/1823

Analysis Method: SW-846 8082A

QC Batch Method: SW-846 3510C

Prepared: 06/21/2018 12:00

Associated Lab Samples: T1810350001, T1810350002

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

METHOD BLANK: 2753343

Parameter	Units	Blank Result	Reporting Limit Qualifiers
SEMIVOLATILES			
Aroclor 1016 (PCB-1016)	ug/L	0.065	0.065 U
Aroclor 1221 (PCB-1221)	ug/L	0.11	0.11 U
Aroclor 1232 (PCB-1232)	ug/L	0.097	0.097 U
Aroclor 1242 (PCB-1242)	ug/L	0.096	0.096 U
Aroclor 1248 (PCB-1248)	ug/L	0.067	0.067 U
Aroclor 1254 (PCB-1254)	ug/L	0.051	0.051 U
Aroclor 1260 (PCB-1260)	ug/L	0.080	0.080 U
Tetrachloro-m-xylene (S)	%	91	61-119
Decachlorobiphenyl (S)	%	64	44-136

LABORATORY CONTROL SAMPLE & LCSD: 2753344 2753345

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD Qualifiers
SEMIVOLATILES									
Aroclor 1016 (PCB-1016)	ug/L	1	0.79	0.77	79	77	38-156	2	30
Aroclor 1221 (PCB-1221)	ug/L		0.11	0.11U				0	30
Aroclor 1232 (PCB-1232)	ug/L		0.097	0.097U				0	30
Aroclor 1242 (PCB-1242)	ug/L		0.096	0.096U				0	30
Aroclor 1248 (PCB-1248)	ug/L		0.067	0.067U				0	30
Aroclor 1254 (PCB-1254)	ug/L		0.051	0.051U				0	30
Aroclor 1260 (PCB-1260)	ug/L	1	0.91	0.88	91	88	45-134	4	30
Tetrachloro-m-xylene (S)	%				77	78	61-119	2	
Decachlorobiphenyl (S)	%				91	85	44-136	7	

MATRIX SPIKE SAMPLE: 2753346 Original: T1810350002

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits Qualifiers
SEMIVOLATILES						
Aroclor 1016 (PCB-1016)	ug/L	0	2	2.0	102	38-156
Aroclor 1221 (PCB-1221)	ug/L			0.22		
Aroclor 1232 (PCB-1232)	ug/L			0.19		
Aroclor 1242 (PCB-1242)	ug/L			0.19		
Aroclor 1248 (PCB-1248)	ug/L			0.13		
Aroclor 1254 (PCB-1254)	ug/L			0.10		
Aroclor 1260 (PCB-1260)	ug/L	0	2	1.8	91	45-134
Tetrachloro-m-xylene (S)	%	89			74	61-119

Report ID: 562768

Page 35 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

MATRIX SPIKE SAMPLE: 2753346

Original: T1810350002

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Decachlorobiphenyl (S)	%	73			68	44-136	

QC Batch: DGM/1888

Analysis Method: EPA 200.7

QC Batch Method: EPA 200.7

Prepared: 06/22/2018 11:00

Associated Lab Samples: T1810350001, T1810350002

METHOD BLANK: 2753433

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
METALS				
Aluminum	ug/L	25	25	U
Beryllium	ug/L	0.18	0.18	U
Chromium	ug/L	2.0	2.0	U
Iron	ug/L	21	21	U
Sodium	mg/L	0.17	0.17	U
Nickel	ug/L	4.4	4.4	U
Zinc	ug/L	7.4	7.4	U

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
METALS				
Barium	ug/L	1.5	1.5	U

LABORATORY CONTROL SAMPLE: 2753434

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
METALS						
Aluminum	ug/L	25000	25000	100	85-115	
Barium	ug/L	400	390	98	85-115	
Beryllium	ug/L	400	400	101	85-115	
Chromium	ug/L	400	390	99	85-115	
Iron	ug/L	25000	26000	102	85-115	
Sodium	mg/L	50	52	103	85-115	
Nickel	ug/L	400	370	93	85-115	
Zinc	ug/L	400	380	94	85-115	

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2753435 2753436 Original: T1810310001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
METALS											
Aluminum	ug/L	52	25000	21000	21000	82	84	70-130	2	20	
Barium	ug/L	11	400	330	340	80	82	70-130	2	20	
Beryllium	ug/L	0	400	330	330	82	83	70-130	2	20	
Chromium	ug/L	0	400	320	330	80	82	70-130	2	20	
Iron	ug/L	3800	25000	25000	25000	82	85	70-130	2	20	
Sodium	mg/L	58	50	91	93	67	71	70-130	2	20	
Nickel	ug/L	6.3	400	310	320	77	79	70-130	2	20	
Zinc	ug/L	7	400	320	330	79	81	70-130	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2753437 2753438 Original: T1810498001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
METALS											
Aluminum	ug/L	630	25000	23000	25000	90	96	70-130	6	20	
Barium	ug/L	21	400	370	400	87	94	70-130	7	20	
Beryllium	ug/L	0.013	400	360	390	91	98	70-130	7	20	
Chromium	ug/L	0.75	400	350	380	89	95	70-130	7	20	
Iron	ug/L	3100	25000	26000	28000	91	98	70-130	6	20	
Sodium	mg/L	30	50	74	79	88	98	70-130	7	20	
Nickel	ug/L	0	400	340	360	84	89	70-130	6	20	
Zinc	ug/L	56	400	390	420	83	90	70-130	7	20	

QC Batch: MSV/2063

Analysis Method: SW-846 8260B

QC Batch Method: SW-846 5030B

Prepared: 06/21/2018 18:00

METHOD BLANK: 2753440

Parameter	Units	Blank Result	Reporting Limit Qualifiers
1,2-Dichloroethane-d4 (S)	%	104	70-128
Toluene-d8 (S)	%	101	77-119
Bromofluorobenzene (S)	%	103	86-123

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

LABORATORY CONTROL SAMPLE: 2753441

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%			100	70-128	
Toluene-d8 (S)	%			100	77-119	
Bromofluorobenzene (S)	%			100	86-123	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2753442 2753443 Original: G1805237001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	RPD	Qualifiers
1,2-Dichloroethane-d4 (S)	%	105				103	100	70-128	2		
Toluene-d8 (S)	%	102				101	101	77-119	0		
Bromofluorobenzene (S)	%	108				100	103	86-123	3		

QC Batch: WCAI/4428

Analysis Method: SM 2540 C

QC Batch Method: SM 2540 C

Prepared:

Associated Lab Samples: T1810350001, T1810350002

METHOD BLANK: 2753609

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

LABORATORY CONTROL SAMPLE: 2753610

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	660	600	92	85-115	

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

SAMPLE DUPLICATE: 2753611

Original: T1810445001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	330	330	1	10	
QC Batch:	DGMj/1725		Analysis Method:	EPA 200.8		
QC Batch Method:	EPA 200.8		Prepared:	06/26/2018 03:30		
Associated Lab Samples:	T1810350001, T1810350002					

METHOD BLANK: 2754378

Parameter	Units	Blank Result	Reporting Limit Qualifiers
METALS			
Manganese	ug/L	0.55	0.55 U
Copper	ug/L	0.35	0.35 U
Arsenic	ug/L	0.077	0.077 U
Selenium	ug/L	0.58	0.58 U
Silver	ug/L	0.10	0.10 U
Cadmium	ug/L	0.064	0.064 U
Antimony	ug/L	0.11	0.11 U
Thallium	ug/L	0.057	0.057 U
Lead	ug/L	0.24	0.24 U
Uranium	ug/L	0.070	0.070 U

LABORATORY CONTROL SAMPLE: 2754379

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
METALS					
Manganese	ug/L	100	92	92	85-115
Copper	ug/L	100	92	92	85-115
Arsenic	ug/L	100	93	93	85-115
Selenium	ug/L	100	96	96	85-115
Silver	ug/L	100	85	85	85-115
Cadmium	ug/L	100	94	94	85-115
Antimony	ug/L	100	91	91	85-115
Thallium	ug/L	100	94	94	85-115
Lead	ug/L	100	91	91	85-115
Uranium	ug/L	100	100	104	85-115

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2754380 2754381 Original: J1806907001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
METALS											
Manganese	ug/L	0.091	100	91	93	91	93	70-130	2	20	
Copper	ug/L	0.65	100	90	91	90	90	70-130	1	20	
Arsenic	ug/L	0.0093	100	92	94	92	94	70-130	2	20	
Selenium	ug/L	0	100	92	97	92	97	70-130	5	20	
Silver	ug/L	0.081	100	75	80	75	80	70-130	7	20	
Cadmium	ug/L	0	100	93	95	93	95	70-130	3	20	
Antimony	ug/L	0.062	100	93	95	93	95	70-130	2	20	
Thallium	ug/L	0	100	95	92	95	92	70-130	3	20	
Lead	ug/L	0.019	100	94	81	94	81	70-130	15	20	
Uranium	ug/L	0	100	110	100	108	105	70-130	3	20	

QC Batch: GCSJ/1592

Analysis Method: EPA 515.3

QC Batch Method: EPA 515.3

Prepared: 06/26/2018 09:00

Associated Lab Samples: T1810350001, T1810350002

METHOD BLANK: 2755169

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
SEMIVOLATILES				
Dalapon	ug/L	1.0	1.0	U
2,4-D	ug/L	1.5	1.5	U
Pentachlorophenol	ug/L	0.069	0.069	U
Silvex (2,4,5-TP)	ug/L	0.32	0.32	U
Picloram	ug/L	0.23	0.23	U
Dinoseb	ug/L	0.86	0.86	U
2,4-Dichlorophenylacetic acid (S)	%	129	70-130	

LABORATORY CONTROL SAMPLE & LCSD: 2755170 2755171

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
SEMIVOLATILES										
Dalapon	ug/L	25	28	26	110	105	70-130	5	30	
2,4-D	ug/L	12	16	15	129	123	70-130	5	30	
Pentachlorophenol	ug/L	2.5	3.0	3.0	122	120	70-130	2	30	
Silvex (2,4,5-TP)	ug/L	5	6.2	6.1	124	122	70-130	2	30	

Report ID: 562768

Page 40 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

LABORATORY CONTROL SAMPLE & LCSD: 2755170 2755171

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Picloram	ug/L	2.5	3.7	3.6	147	143	70-130	3	30	
Dinoseb	ug/L	12	14	14	110	109	70-130	1	30	
2,4-Dichlorophenylacetic acid (S)	%				129	135	70-130	5		J1

MATRIX SPIKE SAMPLE: 2755172 Original: M1802423001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
SEMIVOLATILES							
Dalapon	ug/L	0	25	27	107	70-130	
2,4-D	ug/L	0	12	15	121	70-130	
Pentachlorophenol	ug/L	0	2.5	2.9	118	70-130	
Silvex (2,4,5-TP)	ug/L	0	5	6.0	120	70-130	
Picloram	ug/L	0	2.5	3.7	146	70-130	
Dinoseb	ug/L	0	12	13	107	70-130	
2,4-Dichlorophenylacetic acid (S)	%	131			146	70-130	J4

QC Batch: WCAg/2491 Analysis Method: SM 5540 C

QC Batch Method: SM 5540 C Prepared:

Associated Lab Samples: T1810350001, T1810350002

METHOD BLANK: 2755453

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
MBAS,as LAS,mol.wt.348	mg/L	0.040	0.040	U

LABORATORY CONTROL SAMPLE: 2758204

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
MBAS,as LAS,mol.wt.348	mg/L	2	1.7	87	75-125	

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

LABORATORY CONTROL SAMPLE: 2758205

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
MBAS,as LAS,mol.wt.348	mg/L	2	1.7	87	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2755455 2755456 Original: T1810352001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
MBAS,as LAS,mol.wt.348	mg/L	0.059	1	1.1	1.1	106	107	75-125	0	20	

QC Batch: HPLj/1064 Analysis Method: EPA 547

QC Batch Method: EPA 547

Prepared:

Associated Lab Samples: T1810350001, T1810350002

METHOD BLANK: 2756379

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
SEMIVOLATILES				
Glyphosate	ug/L	6.5	6.5	U

LABORATORY CONTROL SAMPLE & LCSD: 2756380 2756381

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
SEMIVOLATILES										
Glyphosate	ug/L	200	240	230	119	115	70-130	3	30	

MATRIX SPIKE SAMPLE: 2756382 Original: M1802423001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
SEMIVOLATILES							
Glyphosate	ug/L	0	200	89	45	70-130	

Report ID: 562768

Page 42 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

QC Batch: WCAI/4499 Analysis Method: SM 4500-CN-E
QC Batch Method: SM 4500-CN-E Prepared:
Associated Lab Samples: T1810350001

METHOD BLANK: 2756979

Parameter	Units	Blank Result	Reporting Limit Qualifiers
WET CHEMISTRY Cyanide	mg/L	0.0048	0.0048 U

LABORATORY CONTROL SAMPLE: 2756980

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
WET CHEMISTRY Cyanide	mg/L	0.04	0.041	103	90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2756981 2756982 Original: J1806725001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY Cyanide	mg/L	0	0.04	0.044	0.039	109	97	90-110	12	10	

QC Batch: GCS/1331 Analysis Method: EPA 552.2
QC Batch Method: EPA 552.2 Prepared: 06/27/2018 09:15
Associated Lab Samples: T1810350001, T1810350002

METHOD BLANK: 2757469

Parameter	Units	Blank Result	Reporting Limit Qualifiers
SEMIVOLATILES			
Chloroacetic Acid	ug/L	0.50	0.50 U
Bromoacetic Acid	ug/L	0.54	0.54 U
Dichloroacetic Acid	ug/L	0.81	0.81 U
Trichloroacetic Acid	ug/L	0.91	0.91 U
Dibromoacetic Acid	ug/L	0.54	0.54 U

Report ID: 562768

Page 43 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

METHOD BLANK: 2757469

Parameter	Units	Blank Result	Reporting Limit Qualifiers
Total Haloacetic Acids (HAA5)	ug/L	0.91	0.91 U
2,3-Dibromopropionic Acid (S)	%	77	70-130

LABORATORY CONTROL SAMPLE & LCSD: 2757470 2757471

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD Qualifiers
SEMIVOLATILES									
Chloroacetic Acid	ug/L	20	23.08	25.60	115	128	70-130	10	30
Bromoacetic Acid	ug/L	20	24.21	22.87	121	114	70-130	6	30
Dichloroacetic Acid	ug/L	20	22.77	25.09	114	125	70-130	10	30
Trichloroacetic Acid	ug/L	20	17.70	19.36	88	97	70-130	9	30
Dibromoacetic Acid	ug/L	20	20.20	21.82	101	109	70-130	8	30
Total Haloacetic Acids (HAA5)	ug/L		107.96	114.73				6	30
2,3-Dibromopropionic Acid (S)	%				81	80	70-130	2	30

MATRIX SPIKE SAMPLE: 2757473 Original: T1810310001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits Qualifiers
SEMIVOLATILES						
Chloroacetic Acid	ug/L	0	20	25.01	125	70-130
Bromoacetic Acid	ug/L	0	20	25.05	125	70-130
Dichloroacetic Acid	ug/L	0	20	23.82	119	70-130
Trichloroacetic Acid	ug/L	0	20	20.24	101	70-130
Dibromoacetic Acid	ug/L	0	20	21.84	109	70-130
Total Haloacetic Acids (HAA5)	ug/L			115.96		
2,3-Dibromopropionic Acid (S)	%	89			86	70-130

QC Batch: MSVm/1928 Analysis Method: EPA 524.2
QC Batch Method: EPA 524.2 Prepared:
Associated Lab Samples: T1810350001, T1810350002

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

METHOD BLANK: 2757504

Parameter	Units	Blank Result	Reporting Limit Qualifiers
VOLATILES			
Vinyl Chloride	ug/L	0.20	0.20 U
1,1-Dichloroethylene	ug/L	0.18	0.18 U
Methylene Chloride	ug/L	0.44	0.44 U
trans-1,2-Dichloroethylene	ug/L	0.28	0.28 U
cis-1,2-Dichloroethylene	ug/L	0.32	0.32 U
1,2-Dichloroethane	ug/L	0.36	0.36 U
1,1,1-Trichloroethane	ug/L	0.39	0.39 U
Carbon Tetrachloride	ug/L	0.23	0.23 U
Benzene	ug/L	0.17	0.17 U
1,2-Dichloropropane	ug/L	0.26	0.26 U
Trichloroethene	ug/L	0.28	0.28 U
1,1,2-Trichloroethane	ug/L	0.12	0.12 U
Toluene	ug/L	0.22	0.22 U
Tetrachloroethylene (PCE)	ug/L	0.24	0.24 U
Chlorobenzene	ug/L	0.12	0.12 U
Ethylbenzene	ug/L	0.17	0.17 U
Styrene	ug/L	0.39	0.39 U
1,4-Dichlorobenzene	ug/L	0.26	0.26 U
1,2-Dichlorobenzene	ug/L	0.46	0.46 U
1,2,4-Trichlorobenzene	ug/L	0.28	0.28 U
Xylene (Total)	ug/L	0.28	0.28 U
1,2-Dichloroethane-d4 (S)	%	95	80-120
Toluene-d8 (S)	%	100	81-118
Bromofluorobenzene (S)	%	107	86-115

LABORATORY CONTROL SAMPLE & LCSD: 2757505 2757506

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD Qualifiers
VOLATILES									
Vinyl Chloride	ug/L	20	16	16	81	81	70-130	1	30
1,1-Dichloroethylene	ug/L	20	23	24	116	118	70-130	1	30
Methylene Chloride	ug/L	20	17	18	86	92	70-130	7	30
trans-1,2-Dichloroethylene	ug/L	20	23	22	117	112	70-130	4	30
cis-1,2-Dichloroethylene	ug/L	20	24	22	118	108	70-130	8	30
1,2-Dichloroethane	ug/L	20	22	21	109	107	70-130	2	30
1,1,1-Trichloroethane	ug/L	20	21	23	106	116	70-130	9	30
Carbon Tetrachloride	ug/L	20	19	21	97	107	70-130	10	30
Benzene	ug/L	20	22	22	111	111	70-130	0	30
1,2-Dichloropropane	ug/L	20	21	21	107	105	70-130	2	30
Trichloroethene	ug/L	20	18	20	89	98	70-130	10	30

Report ID: 562768

Page 45 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

LABORATORY CONTROL SAMPLE & LCSD: 2757505 2757506

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
1,1,2-Trichloroethane	ug/L	20	22	19	110	97	70-130	12	30	
Toluene	ug/L	20	20	19	99	96	70-130	2	30	
Tetrachloroethylene (PCE)	ug/L	20	18	18	90	90	70-130	0	30	
Chlorobenzene	ug/L	20	21	21	103	103	70-130	0	30	
Ethylbenzene	ug/L	20	20	19	101	97	70-130	3	30	
Styrene	ug/L	20	19	17	94	87	70-130	8	30	
1,4-Dichlorobenzene	ug/L	20	19	21	96	104	70-130	8	30	
1,2-Dichlorobenzene	ug/L	20	21	22	105	111	70-130	6	30	
1,2,4-Trichlorobenzene	ug/L	20	17	20	86	99	70-130	14	30	
Xylene (Total)	ug/L	60	61	62	101	103	70-130	2	30	
1,2-Dichloroethane-d4 (S)	%				105	99	80-120	6		
Toluene-d8 (S)	%				100	100	81-118	0		
Bromofluorobenzene (S)	%				90	94	86-115	4		

MATRIX SPIKE SAMPLE: 2757507

Original: T1810058002

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
VOLATILES							
Vinyl Chloride	ug/L	0	20	15	74	70-130	
1,1-Dichloroethylene	ug/L	0	20	21	105	70-130	
Methylene Chloride	ug/L	0	20	19	93	70-130	
trans-1,2-Dichloroethylene	ug/L	0	20	22	110	70-130	
cis-1,2-Dichloroethylene	ug/L	0	20	19	94	70-130	
1,2-Dichloroethane	ug/L	0	20	21	104	70-130	
1,1,1-Trichloroethane	ug/L	0	20	21	104	70-130	
Carbon Tetrachloride	ug/L	0	20	23	117	70-130	
Benzene	ug/L	0	20	18	92	70-130	
1,2-Dichloropropane	ug/L	0	20	18	91	70-130	
Trichloroethene	ug/L	0	20	17	83	70-130	
1,1,2-Trichloroethane	ug/L	0	20	18	88	70-130	
Toluene	ug/L	0	20	18	89	70-130	
Tetrachloroethylene (PCE)	ug/L	0	20	15	75	70-130	
Chlorobenzene	ug/L	0	20	18	92	70-130	
Ethylbenzene	ug/L	0	20	18	89	70-130	
Styrene	ug/L	0	20	16	78	70-130	
1,4-Dichlorobenzene	ug/L	0	20	18	88	70-130	
1,2-Dichlorobenzene	ug/L	0	20	19	96	70-130	
1,2,4-Trichlorobenzene	ug/L	0	20	18	88	70-130	
Xylene (Total)	ug/L	0	60	53	89	70-130	
1,2-Dichloroethane-d4 (S)	%	102			97	80-120	

Report ID: 562768

Page 46 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

MATRIX SPIKE SAMPLE: 2757507

Original: T1810058002

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%	100			102	81-118	
Bromofluorobenzene (S)	%	99			92	86-115	

QC Batch: EXTj1848

Analysis Method: EPA 504.1

QC Batch Method: EPA 504.1

Prepared: 06/27/2018 15:45

Associated Lab Samples: T1810350001, T1810350002

METHOD BLANK: 2757738

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
SEMIVOLATILES				
Ethylene Dibromide (EDB)	ug/L	0.0062	0.0062	U
1,2-Dibromo-3-Chloropropane	ug/L	0.0060	0.0060	U
Tetrachloro-m-xylene (S)	%	68	64-150	

LABORATORY CONTROL SAMPLE & LCSD: 2757739

2757740

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
SEMIVOLATILES										
Ethylene Dibromide (EDB)	ug/L	0.25	0.28	0.30	113	121	70-130	6	30	
1,2-Dibromo-3-Chloropropane	ug/L	0.25	0.29	0.29	117	117	70-130	1	30	
Tetrachloro-m-xylene (S)	%				110	134	64-150	20		

MATRIX SPIKE SAMPLE: 2757741

Original: J1806968001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
SEMIVOLATILES							
Ethylene Dibromide (EDB)	ug/L	0	0.24	0.29	118	70-130	
1,2-Dibromo-3-Chloropropane	ug/L	0	0.24	0.31	127	70-130	
Tetrachloro-m-xylene (S)	%				113	64-150	

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

QC Batch: EXTj/1849 Analysis Method: EPA 525.2
QC Batch Method: EPA 525.2 Prepared: 06/27/2018 14:00
Associated Lab Samples: T1810350001, T1810350002

METHOD BLANK: 2758502

Parameter	Units	Blank Result	Reporting Limit Qualifiers
SEMIVOLATILES			
Simazine	ug/L	0.19	0.19 U
Atrazine	ug/L	0.16	0.16 U
Alachlor	ug/L	0.26	0.26 U
Di(2-ethylhexyl) adipate	ug/L	0.95	0.95 U
bis(2-Ethylhexyl) phthalate	ug/L	1.5	1.5 U
Benzo[a]pyrene	ug/L	0.096	0.096 U
p-Terphenyl-d14 (S)	%	89	70-130

LABORATORY CONTROL SAMPLE & LCSD: 2758503 2758504

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD Qualifiers
SEMIVOLATILES									
Simazine	ug/L	2	1.5	1.5	77	75	70-130	2	30
Atrazine	ug/L	2	1.9	1.9	96	96	70-130	0	30
Alachlor	ug/L	2	2.8	2.8	140	139	70-130	1	30
Di(2-ethylhexyl) adipate	ug/L	2	2.4	2.7	121	134	70-130	10	30
bis(2-Ethylhexyl) phthalate	ug/L	2	2.4	2.6	120	132	70-130	10	30
Benzo[a]pyrene	ug/L	2	1.9	2.1	95	106	70-130	11	30
p-Terphenyl-d14 (S)	%				86	87	70-130	0	

MATRIX SPIKE SAMPLE: 2758505 Original: T1810116001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits Qualifiers
SEMIVOLATILES						
Simazine	ug/L	0	2.2	1.5	68	70-130
Atrazine	ug/L	0	2.2	1.9	87	70-130
Alachlor	ug/L	0	2.2	3.0	138	70-130
Di(2-ethylhexyl) adipate	ug/L	0	2.2	2.9	132	70-130
bis(2-Ethylhexyl) phthalate	ug/L	0	2.2	2.9	130	70-130
Benzo[a]pyrene	ug/L	0	2.2	2.3	103	70-130
p-Terphenyl-d14 (S)	%				88	70-130

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

MATRIX SPIKE SAMPLE: 2759933

Original: J1807058002

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
SEMIVOLATILES							
Simazine	ug/L	0	2	1.7	83	70-130	
Atrazine	ug/L	0	2	2.0	98	70-130	
Alachlor	ug/L	0	2	2.7	136	70-130	
Di(2-ethylhexyl) adipate	ug/L	0	2	2.7	136	70-130	
bis(2-Ethylhexyl) phthalate	ug/L	0.3	2	2.7	134	70-130	
Benzo[a]pyrene	ug/L	0	2	1.9	97	70-130	
p-Terphenyl-d14 (S)	%	93			91	70-130	

QC Batch: EXTj/1849

Analysis Method: EPA 525.2

QC Batch Method: EPA 525.2

Prepared: 06/28/2018 09:00

Associated Lab Samples: T1810350001, T1810350002

METHOD BLANK: 2758502

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
SEMIVOLATILES				
Simazine	ug/L	0.19	0.19	U
Atrazine	ug/L	0.16	0.16	U
Alachlor	ug/L	0.26	0.26	U
Di(2-ethylhexyl) adipate	ug/L	0.95	0.95	U
bis(2-Ethylhexyl) phthalate	ug/L	1.5	1.5	U
Benzo[a]pyrene	ug/L	0.096	0.096	U
p-Terphenyl-d14 (S)	%	89	70-130	

LABORATORY CONTROL SAMPLE & LCSD: 2758503 2758504

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
SEMIVOLATILES										
Simazine	ug/L	2	1.5	1.5	77	75	70-130	2	30	
Atrazine	ug/L	2	1.9	1.9	96	96	70-130	0	30	
Alachlor	ug/L	2	2.8	2.8	140	139	70-130	1	30	
Di(2-ethylhexyl) adipate	ug/L	2	2.4	2.7	121	134	70-130	10	30	
bis(2-Ethylhexyl) phthalate	ug/L	2	2.4	2.6	120	132	70-130	10	30	
Benzo[a]pyrene	ug/L	2	1.9	2.1	95	106	70-130	11	30	
p-Terphenyl-d14 (S)	%				86	87	70-130	0		

Report ID: 562768

Page 49 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

MATRIX SPIKE SAMPLE: 2758505 Original: T1810116001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
SEMIVOLATILES							
Simazine	ug/L	0	2.2	1.5	68	70-130	
Atrazine	ug/L	0	2.2	1.9	87	70-130	
Alachlor	ug/L	0	2.2	3.0	138	70-130	
Di(2-ethylhexyl) adipate	ug/L	0	2.2	2.9	132	70-130	
bis(2-Ethylhexyl) phthalate	ug/L	0	2.2	2.9	130	70-130	
Benzo[a]pyrene	ug/L	0	2.2	2.3	103	70-130	
p-Terphenyl-d14 (S)	%				88	70-130	

MATRIX SPIKE SAMPLE: 2759933 Original: J1807058002

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
SEMIVOLATILES							
Simazine	ug/L	0	2	1.7	83	70-130	
Atrazine	ug/L	0	2	2.0	98	70-130	
Alachlor	ug/L	0	2	2.7	136	70-130	
Di(2-ethylhexyl) adipate	ug/L	0	2	2.7	136	70-130	
bis(2-Ethylhexyl) phthalate	ug/L	0.3	2	2.7	134	70-130	
Benzo[a]pyrene	ug/L	0	2	1.9	97	70-130	
p-Terphenyl-d14 (S)	%	93			91	70-130	

QC Batch: HPLj/1065 Analysis Method: EPA 531.1

QC Batch Method: EPA 531.1 Prepared:

Associated Lab Samples: T1810350001, T1810350002

METHOD BLANK: 2759372

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
SEMIVOLATILES				
Oxamyl	ug/L	0.57	0.57	U
Carbofuran	ug/L	0.28	0.28	U

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

LABORATORY CONTROL SAMPLE & LCSD: 2759373 2759374

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
SEMIVOLATILES										
Oxamyl	ug/L	20	22	17	110	87	80-120	23	20	
Carbofuran	ug/L	20	19	18	97	92	80-120	6	20	

MATRIX SPIKE SAMPLE: 2759375 Original: T1810116001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
SEMIVOLATILES							
Oxamyl	ug/L	0	20	20	101	80-120	
Carbofuran	ug/L	0	20	16	80	80-120	

QC Batch: MSVm/1966

Analysis Method: EPA 524.2

QC Batch Method: EPA 524.2

Prepared:

Associated Lab Samples: T1810350001, T1810350002

METHOD BLANK: 2762766

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
VOLATILES				
Chloroform	ug/L	0.39	0.39	U
Bromodichloromethane	ug/L	0.14	0.14	U
Dibromochloromethane	ug/L	0.32	0.32	U
Bromoform	ug/L	0.26	0.26	U
Total Trihalomethanes	ug/L	0.14	0.14	U
1,2-Dichloroethane-d4 (S)	%	101	80-120	
Toluene-d8 (S)	%	87	81-118	
Bromofluorobenzene (S)	%	115	86-115	

LABORATORY CONTROL SAMPLE & LCSD: 2762767 2762768

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
VOLATILES										
Chloroform	ug/L	20	22.37	21.36	112	107	70-130	5	30	
Bromodichloromethane	ug/L	20	17.10	16.86	86	84	70-130	1	30	

Report ID: 562768

Page 51 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

LABORATORY CONTROL SAMPLE & LCSD: 2762767 2762768

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	19.01	17.17	95	86	70-130	10	30	
Bromoform	ug/L	20	23.93	19.60	120	98	70-130	20	30	
Total Trihalomethanes	ug/L		82.41	74.99				9		
1,2-Dichloroethane-d4 (S)	%				95	92	80-120	4		
Toluene-d8 (S)	%				103	104	81-118	2		
Bromofluorobenzene (S)	%				103	108	86-115	5		

MATRIX SPIKE SAMPLE: 2762769 Original: J1807008001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
VOLATILES							
Chloroform	ug/L	31.04	20	52.66	108	70-130	
Bromodichloromethane	ug/L	16.11	20	31.48	77	70-130	
Dibromochloromethane	ug/L	11.36	20	25.95	73	70-130	
Bromoform	ug/L	0	20	21.73	109	70-130	
Total Trihalomethanes	ug/L			131.82			
1,2-Dichloroethane-d4 (S)	%				106	80-120	
Toluene-d8 (S)	%				107	81-118	
Bromofluorobenzene (S)	%				104	86-115	

QC Batch: WCAI/4619 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Prepared:

Associated Lab Samples: T1810350001, T1810350002

METHOD BLANK: 2764255

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Fluoride	mg/L	0.10	0.10	U
Chloride	mg/L	1.0	1.0	U
Sulfate	mg/L	1.0	1.0	U

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

LABORATORY CONTROL SAMPLE: 2763876

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Fluoride	mg/L	2.5	2.6	102	90-110	
Chloride	mg/L	25	26	103	90-110	
Sulfate	mg/L	25	26	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2763877 2763878 Original: T1810498001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Fluoride	mg/L	0.54	2.5	3.0	3.0	97	96	90-110	1	10	
Chloride	mg/L	14	25	37	37	95	94	90-110	1	10	
Sulfate	mg/L	120	25	130	130	59	57	90-110	0	10	

QC Batch: WCAI/4661

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Prepared:

Associated Lab Samples: T1810350001

METHOD BLANK: 2766012

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Chloride	mg/L	1.0	1.0 U	

LABORATORY CONTROL SAMPLE: 2766013

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Chloride	mg/L	25	26	103	90-110	

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA

Workorder: T1810350 SELF Plant Effluent Semi

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2766016 2766017 Original: T1810667004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	Max RPD	RPD	Qualifiers
WET CHEMISTRY Chloride	mg/L	6.9	25	32	32	102	102	90-110	0	10	

QUALITY CONTROL DATA QUALIFIERS

Workorder: T1810350 SELF Plant Effluent Semi

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.
- J1 Surrogate Failure
- J4 Estimated Result

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: T1810350 SELF Plant Effluent Semi

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T1810350001	Leachate Effluent (SemiAnnual)			SM 4500NO3-F	WCAt/4321
T1810350002	Field Blank			SM 4500NO3-F	WCAt/4321
T1810350001	Leachate Effluent (SemiAnnual)			SM 2150 B	WCAt/4333
T1810350002	Field Blank			SM 2150 B	WCAt/4333
T1810350001	Leachate Effluent (SemiAnnual)			SM 3500-CR D	WCAt/4334
T1810350002	Field Blank			SM 3500-CR D	WCAt/4334
T1810350001	Leachate Effluent (SemiAnnual)			SM 2120 B	WCAt/4335
T1810350002	Field Blank			SM 2120 B	WCAt/4335
T1810350002	Field Blank			SM 4500-CN-E	WCAt/4347
T1810350001	Leachate Effluent (SemiAnnual)	EPA 548.1	EXTj/1806	EPA 548.1	MSSj/1341
T1810350002	Field Blank	EPA 548.1	EXTj/1806	EPA 548.1	MSSj/1341
T1810350001	Leachate Effluent (SemiAnnual)			SM 4500H+B	WCAt/4360
T1810350002	Field Blank			SM 4500H+B	WCAt/4360
T1810350001	Leachate Effluent (SemiAnnual)	EPA 245.1	DGMt/1882	EPA 245.1	CVAI/1245
T1810350002	Field Blank	EPA 245.1	DGMt/1882	EPA 245.1	CVAI/1245
T1810350001	Leachate Effluent (SemiAnnual)	SW-846 5030B	MSVt/2059	SW-846 8260B	MSVt/2060
T1810350002	Field Blank	SW-846 5030B	MSVt/2059	SW-846 8260B	MSVt/2060
T1810350001	Leachate Effluent (SemiAnnual)	EPA 549.2	EXTj/1814	EPA 549.2	HPLj/1063
T1810350002	Field Blank	EPA 549.2	EXTj/1814	EPA 549.2	HPLj/1063

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: T1810350 SELF Plant Effluent Semi

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T1810350001	Leachate Effluent (SemiAnnual)	SW-846 3510C	EXTj/1818	SW-846 8270C	MSSj/1338
T1810350002	Field Blank	SW-846 3510C	EXTj/1818	SW-846 8270C	MSSj/1338
T1810350001	Leachate Effluent (SemiAnnual)	EPA 508	EXTj/1821	EPA 508	GCSj/1590
T1810350002	Field Blank	EPA 508	EXTj/1821	EPA 508	GCSj/1590
T1810350001	Leachate Effluent (SemiAnnual)	SW-846 3510C	EXTj/1822	EPA 8081	GCSj/1587
T1810350002	Field Blank	SW-846 3510C	EXTj/1822	EPA 8081	GCSj/1587
T1810350001	Leachate Effluent (SemiAnnual)	SW-846 3510C	EXTj/1823	SW-846 8082A	GCSj/1588
T1810350002	Field Blank	SW-846 3510C	EXTj/1823	SW-846 8082A	GCSj/1588
T1810350001	Leachate Effluent (SemiAnnual)	EPA 200.7	DGMt/1888	EPA 200.7	ICPt/1558
T1810350002	Field Blank	EPA 200.7	DGMt/1888	EPA 200.7	ICPt/1558
T1810350001	Leachate Effluent (SemiAnnual)			SM 2540 C	WCAt/4428
T1810350002	Field Blank			SM 2540 C	WCAt/4428
T1810350001	Leachate Effluent (SemiAnnual)	EPA 200.8	DGMj/1725	EPA 200.8	ICMj/1212
T1810350002	Field Blank	EPA 200.8	DGMj/1725	EPA 200.8	ICMj/1212
T1810350001	Leachate Effluent (SemiAnnual)	EPA 515.3	GCSj/1592	EPA 515.3	GCSj/1601
T1810350002	Field Blank	EPA 515.3	GCSj/1592	EPA 515.3	GCSj/1601
T1810350001	Leachate Effluent (SemiAnnual)			SM 5540 C	WCAg/2491
T1810350002	Field Blank			SM 5540 C	WCAg/2491
T1810350001	Leachate Effluent (SemiAnnual)			EPA 547	HPLj/1064
T1810350002	Field Blank			EPA 547	HPLj/1064

Report ID: 562768

Page 56 of 58

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

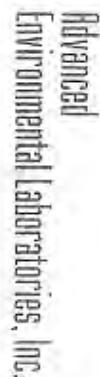
Workorder: T1810350 SELF Plant Effluent Semi

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T1810350001	Leachate Effluent (SemiAnnual)			SM 4500-CN-E	WCAt/4499
T1810350001	Leachate Effluent (SemiAnnual)	EPA 552.2	GCS1/1331	EPA 552.2	GCS1/1332
T1810350002	Field Blank	EPA 552.2	GCS1/1331	EPA 552.2	GCS1/1332
T1810350001	Leachate Effluent (SemiAnnual)			EPA 524.2	MSVm/1928
T1810350002	Field Blank			EPA 524.2	MSVm/1928
T1810350001	Leachate Effluent (SemiAnnual)	EPA 504.1	EXTj/1848	EPA 504.1	GCSj/1608
T1810350002	Field Blank	EPA 504.1	EXTj/1848	EPA 504.1	GCSj/1608
T1810350001	Leachate Effluent (SemiAnnual)	EPA 525.2	EXTj/1849	EPA 525.2	MSSj/1350
T1810350002	Field Blank	EPA 525.2	EXTj/1849	EPA 525.2	MSSj/1350
T1810350001	Leachate Effluent (SemiAnnual)			EPA 531.1	HPLj/1065
T1810350002	Field Blank			EPA 531.1	HPLj/1065
T1810350001	Leachate Effluent (SemiAnnual)			EPA 524.2	MSVm/1966
T1810350002	Field Blank			EPA 524.2	MSVm/1966
T1810350001	Leachate Effluent (SemiAnnual)			EPA 300.0	WCAt/4619
T1810350002	Field Blank			EPA 300.0	WCAt/4619
T1810350001	Leachate Effluent (SemiAnnual)			EPA 300.0	WCAt/4661
T1810350001	Leachate Effluent (SemiAnnual)	Field Measurements	FLDt/	Field Measurements	FLDt/

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Advanced Environmental Laboratories, Inc.





- ☐ Altamonte Springs: 528 S. Northlake Blvd., Ste. 1016 • Altamonte Springs, FL 32701 • 407.937.1594 • Fax 407.937.1597
- ☐ Gainesville: 4966 SW 41st Blvd. • Gainesville, FL 32608 • 352.377.2349 • Fax 352.385.6639
- ☐ Jacksonville: 6681 Southpoint Pkwy. • Jacksonville, FL 32216 • 904.363.9350 • Fax 904.363.9354
- ☐ Miramar: 10200 SW 104th Way, Miramar, FL 33025 • 954.889.2288 • Fax 954.889.2261
- ☐ 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

71810350

Project Name: SELF Plant Effluent Sem

P.O. Number/Project Number	N/A
----------------------------	-----

Project Location: Southeast County Landfill

REMARKS/SPECIAL INSTRUCTIONS

[illegible]

1

10

11

LABORATORY I.D. NUMBER

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

☐ Where required, pH checked _____ Temperature when received 6.5 (in degrees celcius)

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
-------	---------	------	-------	-------	-------	-------

Date	Time
------	------

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

Phone:

1

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: 6/19/18	

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) $= (\text{N/A feet} - \text{N/A feet}) \times \text{N/A gallons/foot} = \text{N/A gallons}$											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) $= \text{N/A gallons} + (\text{N/A gallons/foot} \times \text{N/A feet}) + \text{N/A gallons} = \text{N/A gallons}$											
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)
9:40	N/A	N/A	N/A	N/A	7.65	31.3	14346	3.07	N/A	Tan	Effluent
OTA 6/14/16											
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: <i>T. Aguilar J. Fulk</i>				SAMPLER(S) SIGNATURE(S): <i>[Signature]</i>			SAMPLING INITIATED AT: <i>9:40</i>		SAMPLING ENDED AT: <i>9:55</i>	
PUMP OR TUBING DEPTH IN WELL (feet): <i>N/A</i>				TUBING MATERIAL CODE: <i>N/A</i>			FIELD-FILTERED: Y <i>(N)</i> Filtration Equipment Type:		FILTER SIZE: _____ µm	
FIELD DECONTAMINATION: PUMP Y <i>(N)</i> TUBING Y <i>(N replaced)</i>							DUPLICATE: Y <i>(N)</i>			
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: <i>9:40(79.9)</i>										
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)

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: 6/19/18	

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) $= (\text{N/A feet} - \text{N/A feet}) \times \text{N/A gallons/foot} = \text{N/A gallons}$											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) $= \text{N/A gallons} + (\text{N/A gallons/foot} \times \text{N/A feet}) + \text{N/A gallons} = \text{N/A gallons}$											
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 6/19/18 OJA											
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" = 0.0008; 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: <i>T. Aguilar J. Fuler</i>				SAMPLER(S) SIGNATURE(S): <i>[Signature]</i>			SAMPLING INITIATED AT: <i>9:18</i>	SAMPLING ENDED AT: <i>9:28</i>	
PUMP OR TUBING DEPTH IN WELL (feet): <i>N/A</i>				TUBING MATERIAL CODE: <i>N/A</i>		FIELD-FILTERED: Y (<i>N</i>) Filtration Equipment Type:	FILTER SIZE: _____ μm		
FIELD DECONTAMINATION: PUMP Y (<i>N</i>) TUBING Y (<i>N(replaced)</i>)						DUPLICATE: Y (<i>N</i>)			
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									
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 $+ 10\%$ (whichever is greater)



Project No.: T1810350
Client Name: Hillsborough County Public Utilities
ProjectID: SELF Plant Effluent Semi

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 8081
Preparation: SW-846 3510C

IV. Preparation

All samples in batch GCSj:1587 were Florisil cleaned as per EPA method 3620C.

V. Analysis

A. Calibration: All acceptance criteria were met.
B. Blanks: All acceptance criteria were met.
C. Surrogates: The control criteria for the following surrogates in T1810350001 and 002 are not applicable: Tetrachloro-m-xylene and Decachlorobiphenyl. The analysis of 001 sample required a dilution, which resulted in surrogate concentrations below the Practical Quantitation Limit (PQL). No further corrective action was required.
D. Spikes: All acceptance criteria were met.
E. Internal Standard:
F. Samples: Sample T1810350001 was Copper cleaned as per EPA method 3660b to remove matrix interferences.

The field sample T1810350001 required a dilution prior to analysis. The chromatograms indicated the presence of non-target background components that prevented adequate resolution of the target analytes. Cleanup of the sample extract was performed as per method criteria, but did not eliminate enough of the background components to prevent dilution.

G. Other:



Project No.: T1810350
Client Name: Hillsborough County Public Utilities
ProjectID: SELF Plant Effluent Semi

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: SW-846 8082A
Preparation: SW-846 3510C

IV. Preparation

All samples in batch GCSj:1588 were Florisil cleaned as per EPA method 3620C.

V. Analysis

A. Calibration: All acceptance criteria were met.
B. Blanks: All acceptance criteria were met.
C. Surrogates: The control criteria for the following surrogates in T1810350001 are not applicable: Tetrachloro-m-xylene and Decachlorobiphenyl. The analysis of the sample required a dilution, which resulted in surrogate concentrations below the Practical Quantitation Limit (PQL). No further corrective action was required.
D. Spikes: All acceptance criteria were met.
E. Internal Standard:
F. Samples: Samples J1806757001-3 were acid cleaned as per EPA method 3665a to remove matrix interferences.

Sample T1810350001 was Copper cleaned as per EPA method 3660b to remove matrix interferences.

The field sample T1810350001 required a dilution prior to analysis. The chromatograms indicated the presence of non-target background components that prevented adequate resolution of the target analytes. Cleanup of the sample extract was performed as per method criteria, but did not eliminate enough of the background components to prevent dilution.

G. Other:



Project No.: T1810350
Client Name: Hillsborough County Public Utilities
ProjectID: SELF Plant Effluent Semi

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 508
Preparation: EPA 508

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

A. Calibration: The upper control criterion was exceeded for target analyte Endrin in the closing bracketing Continuing Calibration Verification (CCV) standard associated with samples M1802423001 and T1810350001, indicating increased sensitivity. The client samples reported did not contain the analytes in question. Since the apparent problem equates to a potential high bias, the data quality is not affected. No further corrective action was required.

B. Blanks: All acceptance criteria were met.

C. Surrogates: The control criteria were exceeded for surrogate Tetrachloro-m-xylene in Laboratory Control Sample 2753244 (LCS) (at 133% (Limits 70-130%)) and Laboratory Control Sample Duplicate 2753245 (LCSD) (at 133% (Limits 70-130%)). The associated QC analysis recoveries of target compounds were in control, indicating the analysis was in control. The surrogate outliers were flagged accordingly.

The control criteria for the following surrogates in T1810350001 are not applicable: Tetrachloro-m-xylene and Decachlorobiphenyl. The analysis of the sample required a dilution, which resulted in surrogate concentrations below the Practical Quantitation Limit (PQL). No further corrective action was required.

D. Spikes: The control criteria for matrix spike 2753246 (MS) recovery of Hexachlorocyclopentadiene for T1810350002 are not applicable (at 63% (Limits 70-130%)) due to sample matrix interferences. The presence of non-target background components prevented adequate resolution of the target analyte. The LCS and LCSD met QC criteria for all spiking analytes - indicating that the analytical batch was in control. No further corrective action was required.

E. Internal Standard:

F. Samples: Sample T1810350001 was Copper cleaned as per EPA method 3660b to remove matrix interferences.

The field sample T1810350001 required a dilution prior to analysis. The chromatograms indicated the presence of non-target background components that prevented adequate resolution of the target analytes. Cleanup of the sample extract was performed as per



Advanced
Environmental Laboratories, Inc.

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

method criteria, but did not eliminate enough of the background components to prevent dilution.

G. Other:



Project No.: T1810350
Client Name: Hillsborough County Public Utilities
ProjectID: SELF Plant Effluent Semi

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 515.3
Preparation: EPA 515.3

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

A. Calibration: The upper control criterion was exceeded for Picloram in the opening and closing Continuing Calibration Verification (CCV) standards associated with GCSj:1601. The client samples analyzed in this batch did not contain the analyte in question. Since the apparent problem equates to a potential high bias, the data quality is not affected. No further corrective action was required.

B. Blanks: All acceptance criteria were met.

C. Surrogates: The control criteria were exceeded for surrogate 2,4-Dichlorophenylacetic acid in Laboratory Control Sample Duplicate 2755171 (LCSD). The associated QC analysis recoveries of target compounds were in control (with the exception of Picloram), indicating the analysis was in control. The surrogate outlier was flagged accordingly.

The upper control criterion was exceeded for surrogate 2,4-Dichlorophenylacetic acid in sample M1802423001 (at 131% (Limits 70-130%)), T1810117001 (at 136% (Limits 70-130%)), T1810350001 (at 146% (Limits 70-130%)), and the matrix spike 2755172 (MS) (at 146% (Limits 70-130%)). The error associated with an elevated recovery equates to a high bias. There were no target analytes detected in the aforementioned field samples; therefore, the elevated surrogate yields had no adverse effects on the data. The data were qualified to indicate potential matrix interference.

D. Spikes: The spike recovery for Picloram exceeded the upper control criterion in the Laboratory Control Sample 2755170 (LCS) (at 147%), Laboratory Control Sample Duplicate 2755171 (LCSD) at (at 143%), and Matrix Spike 2755172 (MS) (at 146%) (Limits 70-130%). The error associated with elevated recovery equates to a high bias. The quality of the data is not affected. No further corrective action was required.

E. Internal Standard: All acceptance criteria were met.

F. Samples: Sample analyses proceeded normally.

G. Other:



Project No.: T1810350
Client Name: Hillsborough County Public Utilities
ProjectID: SELF Plant Effluent Semi

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 552.2
Preparation: EPA 552.2

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

A. Calibration: All acceptance criteria were met.
B. Blanks: All acceptance criteria were met.
C. Surrogates: T1810350001:
The lower control criterion for 2,3-dibromopropionic acid was exceeded due to suspected matrix interference. The sample was dark yellow and the extractionist noted a heavy emulsion. The sample was also analyzed at a dilution. The affected surrogate was qualified.
D. Spikes: All acceptance criteria were met.
E. Internal Standard: All acceptance criteria were met.
F. Samples: Sample analyses proceeded normally.
G. Other:



Project No.: T1810350
Client Name: Hillsborough County Public Utilities
ProjectID: SELF Plant Effluent Semi

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 549.2
Preparation: EPA 549.2

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

A. Calibration: All acceptance criteria were met.
B. Blanks: All acceptance criteria were met.
C. Surrogates: All acceptance criteria were met.
D. Spikes: The spike recovery of Diquat for the Laboratory Control Sample (LCS) was outside the upper control criterion with a recovery of 153% versus 130%. The analyte in question was not detected in the associated client samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was required.

The matrix spike (MS) recoveries of Diquat for 2752172 were outside control criteria because of matrix interference. The chromatogram indicated the presence of non-target background components that prevented adequate resolution of the target analytes. The results are qualified to indicate matrix interference.

The relative percent difference (RPD) for Diquat in the Laboratory Control Sample (LCS) and the Laboratory Control Sample Suplicate (LCSD) was outside control criteria. No hits for Diquat were detected in any of the client samples. No further corrective action was needed.

E. Internal Standard: All acceptance criteria were met.
F. Samples: Sample analyses proceeded normally.
G. Other:



Project No.: T1810350
Client Name: Hillsborough County Public Utilities
ProjectID: SELF Plant Effluent Semi

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 547
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. Surrogates: All acceptance criteria were met.
D. Spikes: The matrix spike (MS) recoveries of Glyphosate for MS2756379 were outside control criteria with a percent recovery of 45% versus 70%. Recoveries in the Laboratory Control Sample (LCS) and the Laboratory Control Sample Duplicate (MSD) were acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential low bias in this matrix. The offending analytes were not detected in the client sample. No further corrective action is required.
E. Internal Standard: All acceptance criteria were met.
F. Samples: Sample analyses proceeded normally.
G. Other:



Project No.: T1810350
Client Name: Hillsborough County Public Utilities
ProjectID: SELF Plant Effluent Semi

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 531.1
Preparation: None

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

- A. Calibration: The upper control criterion was exceeded for Aldicarb in the opening Continuing Calibration Verification (CCV). The client samples analyzed in this batch did not contain the analytes in question. Since the apparent problem equates to a potential high bias, the data quality is not affected. No further corrective action was required.
- B. Blanks: All acceptance criteria were met.
- C. Surrogates: All acceptance criteria were met.
- D. Spikes: The relative percent difference (RPD) for the following Oxamyl in the Laboratory Control Sample (LCS) and the Laboratory Control Sample Duplicate (LCSD) failed high (23% versus 20%). All spike recoveries for the LCS and LCSD were within acceptable limits and there were no hits in the client sample. No further corrective action was required.
- E. Internal Standard: All acceptance criteria were met.
- F. Samples: Sample analyses proceeded normally.
- G. Other:



Project No.: T1810350
Client Name: Hillsborough County Public Utilities
ProjectID: SELF Plant Effluent Semi

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: SW-846 8270C
Preparation: SW-846 3510C

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

- A. Calibration: The upper control criterion was exceeded for several target analytes in Continuing Calibration Verification (CCV) standards for analytical batch 1338, indicating increased sensitivity. The client samples reported in this batch did not contain the analytes in question. Since the apparent problem equates to a potential high bias, the data quality is not affected. No further corrective action was required.
- B. Blanks: All acceptance criteria were met.
- C. Surrogates: The control criteria for all the surrogates in J1806692001, 002, and J1806745001 are not applicable. The analysis of these samples required a dilution, which results in undetected surrogate concentrations. No further corrective action was required.
- D. Spikes: The spike recoveries of 4-Chloro-3-Methylphenol and 2,4,6-Trichlorophenol for the Laboratory Control Sample (LCS) was outside the upper control criterion. The analytes in question were not detected in the associated client samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was required.
- E. Internal Standard: All acceptance criteria were met.
- F. Samples: The samples J1806692001 and 002 were diluted prior to instrumental analysis. The extracts were highly colored and viscous which indicated the need to perform a dilution prior to injection into the instrument.

All Navy samples were analyzed at the lowest possible dilution due to background components greater than 60% of the curve's maximum.

The following samples were analyzed at dilution due to high non-target background components: J1806692001, 002, and J1806745001. This was necessary to allow for accurate detection of all internal standards, surrogates and analytes.

G. Other:



Project No.: T1810350
Client Name: Hillsborough County Public Utilities
ProjectID: SELF Plant Effluent Semi

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 548.1
Preparation: EPA 548.1

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

A. Calibration: All acceptance criteria were met.
B. Blanks: All acceptance criteria were met.
C. Surrogates: All acceptance criteria were met.
D. Spikes: The matrix spike recovery of Endothall for sample M1802423001 was outside control criteria (13% versus a criterion of 63%). Recovery in the Laboratory Control Sample (LCS) and Duplicate Laboratory Control Sample (LCSD) were acceptable, which indicates the analytical batch was in control. No further corrective action was appropriate.
E. Internal Standard: The data were reported as is.
F. Samples: Sample analyses proceeded normally.
G. Other:



Project No.: T1810350
Client Name: Hillsborough County Public Utilities
ProjectID: SELF Plant Effluent Semi

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 525.2
Preparation: EPA 525.2

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

A. Calibration: All acceptance criteria were met.
B. Blanks: All acceptance criteria were met.
C. Surrogates: All acceptance criteria were met.
D. Spikes: The spike recoveries of Alachlor for the Laboratory Control Sample-140% and Duplicate-139% (LCS and LCSD) were outside the upper control criterion (130%). The analyte in question was not detected in the associated client samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was required.

The laboratory control sample duplicate (LCSD) recovery of Di(2-ethylhexyl) adipate-134% and bis(2-Ethylhexyl)phthalate-132% were outside the upper control criteria (130%). Recoveries of these analytes in the Laboratory Control Sample (LCS) and the Relative percent difference (%RPD) were acceptable, which indicates the analytical batch was in control. Since the LCSD is only used to calculate the %RPD, no further action required.

The upper control criterion (130%) was exceeded for the following analytes in the matrix spike for T1810116001 and/or the matrix spike for J1807058002, respectively: Alachlor (138%/136%), bis(2-Ethylhexyl)phthalate(130%/134%), and Di(2-ethylhexyl) adipate (132%/136%). The analytes in question were not detected in the associated client samples. The error associated with elevated recovery equates to a high bias. The quality of the data is not affected. No further corrective action was required.

The matrix spike (MS) recovery of Simazine (68%) for T1810116001 was outside the lower control criteria (70%). Recoveries in the Laboratory Control Sample and Duplicate (LCS and LCSD) were acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential low bias in this matrix. The offending analyte was qualified with a J4 to indicate matrix interference.

E. Internal Standard: The data were reported as is.
F. Samples: Sample analyses proceeded normally.



Advanced
Environmental Laboratories, Inc.

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

G. Other:

Project No.: T1810350
Client Name: Hillsborough County Public Utilities
ProjectID: SELF Plant Effluent Semi

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 524.2
Preparation: SW-846 5710B

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

A. Calibration: All acceptance criteria were met.
B. Blanks: All acceptance criteria were met.
C. Surrogates: All acceptance criteria were met.
D. Spikes: All acceptance criteria were met.
E. Internal Standard: All acceptance criteria were met.
F. Samples: Bromoform in sample T1810350001 was reported with an "L" qualifier for a value reported above calibration limits due to the fact that the presence of the analyte was not detected until after the sample was past the holding time. Subsequently, sample T1810350002 has a value for Bromoform reported at 6.82 ug/L which is most likely due to carry-over from sample T1810350001, and is "J" qualified as an estimated value.

G. Other:



Project No.: T1810350
Client Name: Hillsborough County Public Utilities
ProjectID: SELF Plant Effluent Semi

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.
Analysis: All holding times were met.

III. Method

Analysis: SM 4500-CN-E
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 relative percent difference (RPD=12) for the following analyte(s) in the replicate matrix spike analyses of J1806725001 was outside control criteria: Cyanide. Failing RPD indicates inconsistency in the parent sample matrix. All spike recoveries in the MS, MSD and associated LCS were within acceptable limits, indicating the analytical batch was in control. The effected sample is qualified to indicate matrix interference.
E. Serial Diluion: All acceptance criteria were met.
F. Samples: Sample analyses proceeded normally.
G. Other:



Project No.: T1810350
Client Name: Hillsborough County Public Utilities
ProjectID: SELF Plant Effluent Semi

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 300.0
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 (MS) recoveries of Sulfate for T1810498001 were outside control criteria. Recovery in the Laboratory Control Sample (LCS) and %RPD was acceptable, which indicates the analytical batch was in control. The matrix spike outliers suggest a potential low bias in this matrix for these analytes. The affected sample is qualified to indicate matrix interference. Acceptable criteria is 90-110%.
E. Serial Dilution: All acceptance criteria were met.
F. Samples: Sample analyses proceeded normally.
G. Other:



Queue: ICPT

Batch Number: 1558

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 200.7

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 (MS) recoveries of Na for T1810310001 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:



July 06, 2018

Mr. Michael Cammarata
Advanced Environmental Laboratories, Incorporated
9610 Princess Palm Avenue
Tampa, Florida 33619

Re: Dioxin Subcontract - Tampa
Work Order: 13471
SDG: T1810350

Dear Mr. Cammarata:

Cape Fear Analytical LLC (CFA) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 22, 2018. This original data report has been prepared and reviewed in accordance with CFA's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at 910-795-0421.

Sincerely,

Andrea Scarpello
Project Manager

Enclosures

Chain of Custody

Thursday, June 21, 2018 12:34:57 PM
Page 1 of 1

Advanced Env.

SAMPLE RECEIPT CHECKLIST

Cape Fear Analytical

Client: AELI	Work Order: 13471
Shipping Company: FedEx	Date/Time Received: 22 JUN 8 @ 0945

Suspected Hazard Information	Yes	NA	No
Shipped as DOT Hazardous?			☒
Samples identified as Foreign Soil?			☒

DOE Site Sample Packages	Yes	NA	No*
Screened <0.5 mR/hr?		☒	☒
Samples < 2x background?		☒	☒

* Notify RSO of any responses in this column immediately.

Air Sample Receipt Specifics	Yes	NA	No
Air sample in shipment?			☒

Air Witness: **NA**

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	☒			Circle Applicable: seals broken damaged container leaking container other(describe)
2 Chain of Custody documents included with shipment?	☒			
3 Samples requiring cold preservation within 0-6°C?	☒			Preservation Method: ice bags blue ice dry ice none other (describe) 4.5°C - 0.1°C = 4.4°C
4 Aqueous samples found to have visible solids?			☒	Sample IDs, containers affected:
5 Samples requiring chemical preservation at proper pH?		☒		Sample IDs, containers affected and pH observed: If preservative added, Lot#: pH=7
6 Samples requiring preservation have no residual chlorine?	☒			Sample IDs, containers affected: If preservative added, Lot#:
7 Samples received within holding time?	☒			Sample IDs, tests affected:
8 Sample IDs on COC match IDs on containers?	☒			Sample IDs, containers affected:
9 Date & time of COC match date & time on containers?	☒			Sample IDs, containers affected:
10 Number of containers received match number indicated on COC?	☒			List type and number of containers / Sample IDs, containers affected: #2 - 1 Lamber
11 COC form is properly signed in relinquished/received sections?	☒			

Comments:

Checklist performed by: Initials: **AS**Date: **22 JUN 8**

CF-UD-F-7

High Resolution Dioxins and Furans Analysis

Case Narrative

HDOX Case Narrative
Advanced Environmental Laboratories, Incorporated (AELI)
SDG T1810350
Work Order 13471

Method/Analysis Information

Product: TCDD only by SW846 Method 8290A in Liquids
Analytical Method: SW846 8290A
Extraction Method: SW846 3520C
Analytical Batch Number: 37963
Clean Up Batch Number: 37962
Extraction Batch Number: 37961

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 8290A:

Sample ID	Client ID
12021542	Method Blank (MB)
12021543	Laboratory Control Sample (LCS)
12021544	Laboratory Control Sample Duplicate (LCSD)
13471001	Leachate Effluent (SemiAnnual)
13471002	Field Blank

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by Cape Fear Analytical LLC (CFA) as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with CF-OA-E-002 REV# 15.

Raw data reports are processed and reviewed by the analyst using the TargetLynx software package.

Calibration Information

Initial Calibration

All initial calibration requirements have been met for this sample delivery group (SDG).

Continuing Calibration Verification (CCV) Requirements

All associated calibration verification standard(s) (CCV) met the acceptance criteria.

Quality Control (QC) Information

Certification Statement

The test results presented in this document are certified to meet all requirements of the 2009 TNI Standard.

Method Blank (MB) Statement

The MB(s) analyzed with this SDG met the acceptance criteria.

Surrogate Recoveries

All surrogate recoveries were within the established acceptance criteria for this SDG.

Laboratory Control Sample (LCS) Recovery

The LCS spike recoveries met the acceptance limits.

Laboratory Control Sample Duplicate (LCSD) Recovery

The LCSD spike recoveries met the acceptance limits.

LCS/LCSD Relative Percent Difference (RPD) Statement

The RPD(s) between the LCS and LCSD met the acceptance limits.

QC Sample Designation

A matrix spike and matrix spike duplicate analysis was not required for this SDG.

Technical Information

Holding Time Specifications

CFA assigns holding times based on the associated methodology, which assigns the date and time from sample collection. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

Preparation/Analytical Method Verification

All procedures were performed as stated in the SOP.

Sample Dilutions

The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis

Re-extractions or re-analyses were not required in this SDG.

Miscellaneous Information

Nonconformance (NCR) Documentation

A NCR was not required for this SDG.

Manual Integrations

Certain standards and QC samples required manual integrations to correctly position the baseline as set in the calibration standard injections. Where manual integrations were performed, copies of all manual integration peak profiles are included in the raw data section of this fraction. Manual integrations were required for data files in this SDG.

System Configuration

This analysis was performed on the following instrument configuration:

Instrument ID	Instrument	System Configuration	Column ID	Column Description
HRP763_1	Primary Dioxin Analysis	Dioxin Analysis	DB-5MS	60m x 0.25mm, 0.25um

Electronic Packaging Comment

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted: Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative will include the data validator's signature and title. The signature page also includes the data qualifiers used in the fractional package. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Sample Data Summary

Cape Fear Analytical, LLC

3306 Kitty Hawk Road Suite 120, Wilmington, NC 28405 - (910) 795-0421 - www.capefearanalytical.com

Qualifier Definition Report for

AELI001 Advanced Environmental Laboratories, Incorporated

Client SDG: T1810350 CFA Work Order: 13471

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- J Value is estimated
- K Estimated Maximum Possible Concentration
- U Analyte was analyzed for, but not detected above the specified detection limit.
- DL Indicates that sample is diluted.
- RA Indicates that sample is re-analyzed without re-extraction.
- RE Indicates that sample is re-extracted.

Review/Validation

Cape Fear Analytical requires all analytical data to be verified by a qualified data reviewer.

The following data validator verified the information presented in this case narrative:

Signature: 

Name: Erin Suhrie

Date: 06 JUL 2018

Title: Data Validator

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 1

SDG Number:	T1810350	Client:	AELI001	Project:	AELI00716
Lab Sample ID:	13471001	Date Collected:	06/19/2018 09:40	Matrix:	WATER
Client Sample:	8290 TCDD Water	Date Received:	06/22/2018 09:45		
Client ID:	Leachate Effluent (SemiAnnual)			Prep Basis:	As Received
Batch ID:	37963	Method:	SW846 8290A		
Run Date:	06/29/2018 06:42	Analyst:	CLP	Instrument:	HRP763
Data File:	b28jun18a_3-8			Dilution:	1
Prep Batch:	37961	Prep Method:	SW846 3520C		
Prep Date:	26-JUN-18	Prep Aliquot:	966.5 mL		

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	0.567		pg/L	0.567	10.3

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1460	2070	pg/L	70.4	(40%-135%)

Comments:

U Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 1

SDG Number: T1810350
Lab Sample ID: 13471002
Client Sample: 8290 TCDD Water
Client ID: Field Blank
Batch ID: 37963
Run Date: 06/29/2018 07:31
Data File: b28jun18a_3-9
Prep Batch: 37961
Prep Date: 26-JUN-18

Client: AELI001
Date Collected: 06/19/2018 09:18
Date Received: 06/22/2018 09:45

Method: SW846 8290A
Analyst: CLP

Prep Method: SW846 3520C
Prep Aliquot: 984.9 mL

Project: AELI00716
Matrix: WATER

Prep Basis: As Received

Instrument: HRP763
Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	0.506		pg/L	0.506	10.2

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1650	2030	pg/L	81.1	(40%-135%)

Comments:

U Analyte was analyzed for, but not detected above the specified detection limit.

Quality Control Summary

**Hi-Res Dioxins/Furans
Surrogate Recovery Report**

SDG Number: T1810350

Matrix Type: LIQUID

Sample ID	Client ID	Surrogate	QUAL	Recovery (%)	Acceptance Limits
12021543	LCS for batch 37961	13C-2,3,7,8-TCDD		78.2	(40%-135%)
12021544	LCSD for batch 37961	13C-2,3,7,8-TCDD		77.8	(40%-135%)
12021542	MB for batch 37961	13C-2,3,7,8-TCDD		68.5	(40%-135%)
13471001	Leachate Effluent (SemiAnnual)	13C-2,3,7,8-TCDD		70.4	(40%-135%)
13471002	Field Blank	13C-2,3,7,8-TCDD		81.1	(40%-135%)

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

D Sample Diluted

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

Page 1 of 2

SDG Number: T1810350

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 37961

Matrix: WATER

Lab Sample ID: 12021543

Instrument: HRP763

Analysis Date: 06/29/2018 01:03

Dilution: 1

Analyst: CLP

Prep Batch ID:37961

Batch ID: 37963

CAS No.		Parmname	Amount Added pg/L	Spike Conc. pg/L	Recovery %	Acceptance Limits
1746-01-6	LCS	2,3,7,8-TCDD	200	214	107	70-130

Hi-Res Dioxins/Furans
Quality Control Summary
Spike Recovery Report

Page 2 of 2

SDG Number: T1810350 Sample Type: Laboratory Control Sample Duplicate
Client ID: LCSD for batch 37961 Matrix: WATER
Lab Sample ID: 12021544
Instrument: HRP763 Analysis Date: 06/29/2018 01:51 Dilution: 1
Analyst: CLP Prep Batch ID: 37961
Batch ID: 37963

CAS No.	Parmname	Amount Added pg/L	Spike Conc. pg/L	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
1746-01-6	LCSD 2,3,7,8-TCDD	200	216	108	70-130	0.790	0-20

Method Blank Summary

Page 1 of 1

SDG Number: T1810350
Client ID: MB for batch 37961
Lab Sample ID: 12021542
Column:

Client: AELI001
Instrument ID: HRP763
Prep Date: 26-JUN-18

Matrix: WATER
Data File: b28jun18a_3-3
Analyzed: 06/29/18 02:39

This method blank applies to the following samples and quality control samples:

Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01 LCS for batch 37961	12021543	b28jun18a_3-1	06/29/18	0103
02 LCSD for batch 37961	12021544	b28jun18a_3-2	06/29/18	0151
03 Leachate Effluent (SemiAnnual)	13471001	b28jun18a_3-8	06/29/18	0642
04 Field Blank	13471002	b28jun18a_3-9	06/29/18	0731

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 1

SDG Number: T1810350
Lab Sample ID: 12021542
Client Sample: QC for batch 37961
Client ID: MB for batch 37961
Batch ID: 37963
Run Date: 06/29/2018 02:39
Data File: b28jun18a_3-3
Prep Batch: 37961
Prep Date: 26-JUN-18

Client: AELI001

Method: SW846 8290A
Analyst: CLP

Prep Method: SW846 3520C
Prep Aliquot: 1000 mL

Project: AELI00716
Matrix: WATER

Prep Basis: As Received

Instrument: HRP763
Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD	U	0.544		pg/L	0.544	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1370	2000	pg/L	68.5	(40%-135%)

Comments:

- J** Value is estimated
K Estimated Maximum Possible Concentration
U Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 1

SDG Number: T1810350
Lab Sample ID: 12021543
Client Sample: QC for batch 37961
Client ID: LCS for batch 37961
Batch ID: 37963
Run Date: 06/29/2018 01:03
Data File: b28jun18a_3-1
Prep Batch: 37961
Prep Date: 26-JUN-18

Client: AELI001

Method: SW846 8290A
Analyst: CLP

Prep Method: SW846 3520C
Prep Aliquot: 1000 mL

Project: AELI00716
Matrix: WATER

Prep Basis: As Received

Instrument: HRP763
Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		214		pg/L	0.972	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1560	2000	pg/L	78.2	(40%-135%)

Comments:

U Analyte was analyzed for, but not detected above the specified detection limit.

**Hi-Res Dioxins/Furans
Certificate of Analysis
Sample Summary**

Page 1 of 1

SDG Number: T1810350
Lab Sample ID: 12021544
Client Sample: QC for batch 37961
Client ID: LCSD for batch 37961
Batch ID: 37963
Run Date: 06/29/2018 01:51
Data File: b28jun18a_3-2
Prep Batch: 37961
Prep Date: 26-JUN-18

Client: AELI001

Method: SW846 8290A
Analyst: CLP

Prep Method: SW846 3520C
Prep Aliquot: 1000 mL

Project: AELI00716
Matrix: WATER

Prep Basis: As Received

Instrument: HRP763
Dilution: 1

CAS No.	Parmname	Qual	Result	EMPC	Units	EDL	PQL
1746-01-6	2,3,7,8-TCDD		216		pg/L	0.790	10.0

Surrogate/Tracer recovery	Qual	Result	Nominal	Units	Recovery%	Acceptable Limits
13C-2,3,7,8-TCDD		1560	2000	pg/L	77.8	(40%-135%)

Comments:

U Analyte was analyzed for, but not detected above the specified detection limit.



Report Date: July 3, 2018

Advanced Environmental Labs
9610 Princess Palm Ave
Tampa, FL 33619

Field Custody: Client
Client/Field ID: T1810350001
Leachate Effluent
Sample Collection: 06-19-18/0940
Lab ID No: 18.6815
Lab Custody Date: 06-22-18/1610
Sample description: Water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	6.9 ± 1.2	6-27-18/2331	EPA 00-02	1.1
Combined Radium (Radium-226 + Radium 228)	pCi/l	3.5 U ± 1.9	Calc	Calc	3.5
Radium-226	pCi/l	2.4 I ± 1.6	7-2-18/1143	EPA 903.0	2.2
Radium-228	pCi/l	3.5 U ± 1.9	7-2-18/1515	EPA Ra-05	3.5

Alpha Standard: Th-230

U = indicates that the compound was analyzed for but not detected.

I = the reported value is between the laboratory detection limit and the laboratory practical quantitation limit

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed.
Contact person: Jim Hayes (813) 229-2879.



Report Date: July 3, 2018

Advanced Environmental Labs
9610 Princess Palm Ave
Tampa, FL 33619

Field Custody: Client
Client/Field ID: T1810350002
Field Blank
Sample Collection: 06-19-18/0918
Lab ID No: 18.6816
Lab Custody Date: 06-22-18/1610
Sample description: Water

CERTIFICATE OF ANALYSIS

Parameter	Units	Results	Analysis Date	Method	Detection Limit
Gross Alpha	pCi/l	0.9 U $\pm$ 0.6	6-28-18/0709	EPA 900.0	0.9
Combined Radium (Radium-226 + Radium 228)	pCi/l	0.7 U $\pm$ 0.4	Calc	Calc	0.7
Radium-226	pCi/l	0.5 U $\pm$ 0.3	7-2-18/1143	EPA 903.0	0.5
Radium-228	pCi/l	0.7 U $\pm$ 0.4	7-2-18/1515	EPA Ra-05	0.7

Alpha Standard: Th-230

U = indicates that the compound was analyzed for but not detected.

I = the reported value is between the laboratory detection limit and the laboratory practical quantitation limit

James W. Hayes
Laboratory Manager

Test results meet all requirements of the NELAC standards. Statement of estimated uncertainty available upon request. Test results refer only to sample(s) listed.
Contact person: Jim Hayes (813) 229-2879.

18.6815-16

7-6

Thursday, June 21, 2018 5:07:29 PM
Page 1 of 1