

ATTACHMENT E

LABORATORY REPORTS AND CHAINS OF CUSTODY

January 17, 2018

Fangmei Zhang
SCS
7700 N. Kendall Dr
Suite 300
Miami, FL 33156

RE: LOG# 1854997
Project ID: Ludlam
COC# 1854997

Dear Fangmei Zhang:

Enclosed are the analytical results for sample(s) received by the laboratory on Thursday, January 11, 2018. Results reported herein conform to the most current NELAC standards, where applicable, unless indicated by * in the body of the report. The enclosed Chain of Custody is a component of this package and should be retained with the package and incorporated therein.

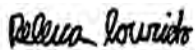
Results for all solid matrices are reported in dry weight unless otherwise noted. Results for all liquid matrices are reported as received in the laboratory unless otherwise noted. Results relate only to the samples received. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

Samples are disposed of after 30 days of their receipt by the laboratory unless extended storage is requested in writing. The laboratory maintains the right to charge storage fees for archived samples. This report will be archived for 5 years after which time it will be destroyed without further notice, unless prior arrangements have been made.

Certain analyses are subcontracted to outside NELAC certified laboratories, please see the Project Summary section of this report for NELAC certification numbers of laboratories used. A Statement of Qualifiers is available upon request.

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

Sincerely,



Rebecca Lourido for
Kacia Baldwin
V.P. of Operations

SAMPLE ANALYTE COUNT

Workorder: 1854997

Project ID: Ludlam

Lab ID	Sample ID	Method	Analytes Reported
1854997001	MW-37E	EPA 8270/PAH SIM	21
1854997002	MW-37W	EPA 8270/PAH SIM	21
1854997003	MW-36	EPA 8270/PAH SIM	21
1854997004	MW-48	EPA 8270/PAH SIM	21
1854997005	MW-38	EPA 8270/PAH SIM	21
1854997006	MW-45	EPA 8270/PAH SIM	21

FDOH# E86546

CERTIFICATE OF ANALYSIS

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SAMPLE SUMMARY

Workorder: 1854997

Project ID: Ludlam

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1854997001	MW-37E	Aqueous Liquid	1/11/2017 14:25	1/11/2018 18:45
1854997002	MW-37W	Aqueous Liquid	1/11/2017 13:15	1/11/2018 18:45
1854997003	MW-36	Aqueous Liquid	1/11/2017 14:22	1/11/2018 18:45
1854997004	MW-48	Aqueous Liquid	1/11/2017 11:35	1/11/2018 18:45
1854997005	MW-38	Aqueous Liquid	1/11/2017 13:04	1/11/2018 18:45
1854997006	MW-45	Aqueous Liquid	1/11/2017 11:46	1/11/2018 18:45

FDOH# E86546

CERTIFICATE OF ANALYSIS

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ANALYTICAL RESULTS

Workorder: 1854997

Project ID: Ludlam

Lab ID: **1854997001**

Date Received: 1/11/2018 18:45

Matrix: Aqueous Liquid

Sample ID: **MW-37E**

Date Collected: 1/11/2017 14:25

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/12/2018 14:13	BFM	1/15/2018 19:30	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/12/2018 14:13	BFM	1/15/2018 19:30	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 19:30	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 19:30	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 19:30	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 19:30	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/12/2018 14:13	BFM	1/15/2018 19:30	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/12/2018 14:13	BFM	1/15/2018 19:30	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/12/2018 14:13	BFM	1/15/2018 19:30	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/12/2018 14:13	BFM	1/15/2018 19:30	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 19:30	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/12/2018 14:13	BFM	1/15/2018 19:30	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 19:30	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 19:30	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/12/2018 14:13	BFM	1/15/2018 19:30	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/12/2018 14:13	BFM	1/15/2018 19:30	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 19:30	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 19:30	VS	
Nitrobenzene-d5 (S)	54	%	30-110		1	1/12/2018 14:13	BFM	1/15/2018 19:30	VS	
2-Fluorobiphenyl (S)	64	%	30-110		1	1/12/2018 14:13	BFM	1/15/2018 19:30	VS	
p-Terphenyl-d14 (S)	216	%	30-140		1	1/12/2018 14:13	BFM	1/15/2018 19:30	VS	J2

ANALYTICAL RESULTS

Workorder: 1854997

Project ID: Ludlam

Lab ID: **1854997002**

Date Received: 1/11/2018 18:45

Matrix: Aqueous Liquid

Sample ID: **MW-37W**

Date Collected: 1/11/2017 13:15

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/12/2018 14:13	BFM	1/15/2018 19:53	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/12/2018 14:13	BFM	1/15/2018 19:53	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 19:53	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 19:53	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 19:53	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 19:53	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/12/2018 14:13	BFM	1/15/2018 19:53	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/12/2018 14:13	BFM	1/15/2018 19:53	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/12/2018 14:13	BFM	1/15/2018 19:53	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/12/2018 14:13	BFM	1/15/2018 19:53	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 19:53	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/12/2018 14:13	BFM	1/15/2018 19:53	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 19:53	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 19:53	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/12/2018 14:13	BFM	1/15/2018 19:53	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/12/2018 14:13	BFM	1/15/2018 19:53	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 19:53	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 19:53	VS	
Nitrobenzene-d5 (S)	57	%	30-110		1	1/12/2018 14:13	BFM	1/15/2018 19:53	VS	
2-Fluorobiphenyl (S)	66	%	30-110		1	1/12/2018 14:13	BFM	1/15/2018 19:53	VS	
p-Terphenyl-d14 (S)	112	%	30-140		1	1/12/2018 14:13	BFM	1/15/2018 19:53	VS	

ANALYTICAL RESULTS

Workorder: 1854997

Project ID: Ludlam

Lab ID: **1854997003**

Date Received: 1/11/2018 18:45

Matrix: Aqueous Liquid

Sample ID: **MW-36**

Date Collected: 1/11/2017 14:22

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/12/2018 14:13	BFM	1/15/2018 20:16	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/12/2018 14:13	BFM	1/15/2018 20:16	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 20:16	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 20:16	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 20:16	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 20:16	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/12/2018 14:13	BFM	1/15/2018 20:16	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/12/2018 14:13	BFM	1/15/2018 20:16	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/12/2018 14:13	BFM	1/15/2018 20:16	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/12/2018 14:13	BFM	1/15/2018 20:16	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 20:16	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/12/2018 14:13	BFM	1/15/2018 20:16	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 20:16	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 20:16	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/12/2018 14:13	BFM	1/15/2018 20:16	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/12/2018 14:13	BFM	1/15/2018 20:16	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 20:16	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/12/2018 14:13	BFM	1/15/2018 20:16	VS	
Nitrobenzene-d5 (S)	54	%	30-110		1	1/12/2018 14:13	BFM	1/15/2018 20:16	VS	
2-Fluorobiphenyl (S)	64	%	30-110		1	1/12/2018 14:13	BFM	1/15/2018 20:16	VS	
p-Terphenyl-d14 (S)	106	%	30-140		1	1/12/2018 14:13	BFM	1/15/2018 20:16	VS	

ANALYTICAL RESULTS

Workorder: 1854997

Project ID: Ludlam

Lab ID: **1854997004**

Date Received: 1/11/2018 18:45

Matrix: Aqueous Liquid

Sample ID: **MW-48**

Date Collected: 1/11/2017 11:35

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/15/2018 15:01	BFM	1/16/2018 12:45	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/15/2018 15:01	BFM	1/16/2018 12:45	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 12:45	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 12:45	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 12:45	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 12:45	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/15/2018 15:01	BFM	1/16/2018 12:45	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/15/2018 15:01	BFM	1/16/2018 12:45	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/15/2018 15:01	BFM	1/16/2018 12:45	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/15/2018 15:01	BFM	1/16/2018 12:45	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 12:45	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/15/2018 15:01	BFM	1/16/2018 12:45	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 12:45	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 12:45	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/15/2018 15:01	BFM	1/16/2018 12:45	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/15/2018 15:01	BFM	1/16/2018 12:45	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 12:45	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 12:45	VS	
Nitrobenzene-d5 (S)	62	%	30-110		1	1/15/2018 15:01	BFM	1/16/2018 12:45	VS	
2-Fluorobiphenyl (S)	56	%	30-110		1	1/15/2018 15:01	BFM	1/16/2018 12:45	VS	
p-Terphenyl-d14 (S)	98	%	30-140		1	1/15/2018 15:01	BFM	1/16/2018 12:45	VS	

ANALYTICAL RESULTS

Workorder: 1854997

Project ID: Ludlam

Lab ID: **1854997005**

Date Received: 1/11/2018 18:45

Matrix: Aqueous Liquid

Sample ID: **MW-38**

Date Collected: 1/11/2017 13:04

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/15/2018 15:01	BFM	1/16/2018 14:19	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/15/2018 15:01	BFM	1/16/2018 14:19	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 14:19	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 14:19	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 14:19	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 14:19	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/15/2018 15:01	BFM	1/16/2018 14:19	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/15/2018 15:01	BFM	1/16/2018 14:19	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/15/2018 15:01	BFM	1/16/2018 14:19	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/15/2018 15:01	BFM	1/16/2018 14:19	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 14:19	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/15/2018 15:01	BFM	1/16/2018 14:19	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 14:19	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 14:19	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/15/2018 15:01	BFM	1/16/2018 14:19	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/15/2018 15:01	BFM	1/16/2018 14:19	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 14:19	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 14:19	VS	
Nitrobenzene-d5 (S)	65	%	30-110		1	1/15/2018 15:01	BFM	1/16/2018 14:19	VS	
2-Fluorobiphenyl (S)	60	%	30-110		1	1/15/2018 15:01	BFM	1/16/2018 14:19	VS	
p-Terphenyl-d14 (S)	98	%	30-140		1	1/15/2018 15:01	BFM	1/16/2018 14:19	VS	

ANALYTICAL RESULTS

Workorder: 1854997

Project ID: Ludlam

Lab ID: **1854997006**

Date Received: 1/11/2018 18:45

Matrix: Aqueous Liquid

Sample ID: **MW-45**

Date Collected: 1/11/2017 11:46

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/15/2018 15:01	BFM	1/16/2018 13:32	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/15/2018 15:01	BFM	1/16/2018 13:32	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 13:32	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 13:32	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 13:32	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 13:32	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/15/2018 15:01	BFM	1/16/2018 13:32	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/15/2018 15:01	BFM	1/16/2018 13:32	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/15/2018 15:01	BFM	1/16/2018 13:32	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/15/2018 15:01	BFM	1/16/2018 13:32	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 13:32	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/15/2018 15:01	BFM	1/16/2018 13:32	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 13:32	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 13:32	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/15/2018 15:01	BFM	1/16/2018 13:32	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/15/2018 15:01	BFM	1/16/2018 13:32	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 13:32	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/15/2018 15:01	BFM	1/16/2018 13:32	VS	
Nitrobenzene-d5 (S)	66	%	30-110		1	1/15/2018 15:01	BFM	1/16/2018 13:32	VS	
2-Fluorobiphenyl (S)	63	%	30-110		1	1/15/2018 15:01	BFM	1/16/2018 13:32	VS	
p-Terphenyl-d14 (S)	95	%	30-140		1	1/15/2018 15:01	BFM	1/16/2018 13:32	VS	

ANALYTICAL RESULTS QUALIFIERS

Workorder: 1854997

Project ID: Ludlam

PARAMETER QUALIFIERS

J2 Surrogate recovery was outside defined limits due to matrix interference.

PROJECT COMMENTS

1854997 A reported value of U indicates that the compound was analyzed for but not detected above the MDL. A value flagged with an "i" flag indicates that the reported value is between the laboratory method detection limit and the practical quantitation limit.

QUALITY CONTROL DATA

Workorder: 1854997

Project ID: Ludlam

QC Batch:	XXX/10667	Analysis Method:		EPA 8270/PAH SIM		
QC Batch Method:	EPA 3510C SIM					
Associated Lab Samples:	1854976001	1854976002	1854976003	1854976004	1854976005	1854982001
	1854982002	1854982003	1854982004	1854982005	1854982006	1854982007
	1854997001	1854997002	1854997003			

METHOD BLANK: 133583

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Semivolatiles by EPA 8270C				
Nitrobenzene-d5 (S)	%	59	30-110	
2-Fluorobiphenyl (S)	%	68	30-110	
p-Terphenyl-d14 (S)	%	91	30-140	
Naphthalene	ug/L	U	0.050	
2-Methylnaphthalene	ug/L	U	0.050	
1-Methylnaphthalene	ug/L	U	0.050	
Acenaphthylene	ug/L	U	0.025	
Acenaphthene	ug/L	U	0.025	
Fluorene	ug/L	U	0.025	
Phenanthrene	ug/L	U	0.025	
Anthracene	ug/L	U	0.025	
Fluoranthene	ug/L	U	0.025	
Pyrene	ug/L	U	0.025	
Benzo(a)anthracene	ug/L	U	0.025	
Chrysene	ug/L	U	0.025	
Benzo(b)fluoranthene	ug/L	U	0.015	
Benzo(k)fluoranthene	ug/L	U	0.015	
Benzo(a)pyrene	ug/L	U	0.015	
Dibenzo(a,h)anthracene	ug/L	U	0.0051	
Indeno(1,2,3-cd)pyrene	ug/L	U	0.015	
Benzo(g,h,i)perylene	ug/L	U	0.015	

LABORATORY CONTROL SAMPLE & LCSD: 133584 133585

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Semivolatiles by EPA 8270C										
Nitrobenzene-d5 (S)	%				71	70	30-110	2	40	
2-Fluorobiphenyl (S)	%				71	70	30-110	0.4	40	
p-Terphenyl-d14 (S)	%				82	84	30-140	3	40	
Naphthalene	ug/L	0.993	0.697	0.681	70	69	30-140	2	40	
2-Methylnaphthalene	ug/L	0.991	0.719	0.712	73	72	30-140	1	40	
1-Methylnaphthalene	ug/L	1	0.726	0.714	72	71	30-140	2	40	
Acenaphthylene	ug/L	0.984	0.765	0.773	78	79	30-120	1	40	

Report ID: 1854997 - 2059221
1/17/2018

Page 11 of 15

FDOH# E86546

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QUALITY CONTROL DATA

Workorder: 1854997

Project ID: Ludlam

LABORATORY CONTROL SAMPLE & LCSD: 133584 133585										
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Acenaphthene	ug/L	0.994	0.753	0.766	76	77	30-120	2	40	
Fluorene	ug/L	0.986	0.801	0.814	81	83	30-140	2	40	
Phenanthrene	ug/L	0.996	0.794	0.825	80	83	30-120	4	40	
Anthracene	ug/L	1	0.825	0.789	83	79	30-140	4	40	
Fluoranthene	ug/L	0.991	0.773	0.899	78	91	30-120	15	40	
Pyrene	ug/L	0.981	0.820	0.828	84	84	40-140	1	40	
Benzo(a)anthracene	ug/L	1	0.911	0.927	91	92	30-120	2	40	
Chrysene	ug/L	1	0.737	0.770	74	77	30-140	4	40	
Benzo(b)fluoranthene	ug/L	1	1.01	1.07	101	107	30-140	6	40	
Benzo(k)fluoranthene	ug/L	1	0.861	0.930	86	93	30-140	8	40	
Benzo(a)pyrene	ug/L	1	0.808	0.832	81	83	30-140	3	40	
Dibenzo(a,h)anthracene	ug/L	1	0.912	0.975	91	98	30-140	7	40	
Indeno(1,2,3-cd)pyrene	ug/L	1	1.17	1.23	117	123	30-140	5	40	
Benzo(g,h,i)perylene	ug/L	1	0.888	0.933	89	93	30-120	5	40	

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QUALITY CONTROL DATA

Workorder: 1854997

Project ID: Ludlam

QC Batch:	XXX/10671	Analysis Method:	EPA 8270/PAH SIM		
QC Batch Method:	EPA 3510C SIM				
Associated Lab Samples:	1854997004 1855004004	1854997005	1854997006	1855004001	1855004002 1855004003

METHOD BLANK: 133615

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Semivolatiles by EPA 8270C				
Nitrobenzene-d5 (S)	%	50	30-110	
2-Fluorobiphenyl (S)	%	71	30-110	
p-Terphenyl-d14 (S)	%	76	30-140	
Naphthalene	ug/L	U	0.050	
2-Methylnaphthalene	ug/L	U	0.050	
1-Methylnaphthalene	ug/L	U	0.050	
Acenaphthylene	ug/L	U	0.025	
Acenaphthene	ug/L	U	0.025	
Fluorene	ug/L	U	0.025	
Phenanthrene	ug/L	U	0.025	
Anthracene	ug/L	U	0.025	
Fluoranthene	ug/L	U	0.025	
Pyrene	ug/L	U	0.025	
Benzo(a)anthracene	ug/L	U	0.025	
Chrysene	ug/L	U	0.025	
Benzo(b)fluoranthene	ug/L	U	0.015	
Benzo(k)fluoranthene	ug/L	U	0.015	
Benzo(a)pyrene	ug/L	U	0.015	
Dibenzo(a,h)anthracene	ug/L	U	0.0051	
Indeno(1,2,3-cd)pyrene	ug/L	U	0.015	
Benzo(g,h,i)perylene	ug/L	U	0.015	

LABORATORY CONTROL SAMPLE & LCSD: 133616 133617

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Semivolatiles by EPA 8270C										
Nitrobenzene-d5 (S)	%				46	47	30-110	3	40	
2-Fluorobiphenyl (S)	%				67	66	30-110	2	40	
p-Terphenyl-d14 (S)	%				71	78	30-140	10	40	
Naphthalene	ug/L	0.993	0.549	0.572	55	58	30-140	4	40	
2-Methylnaphthalene	ug/L	0.991	0.563	0.576	57	58	30-140	2	40	
1-Methylnaphthalene	ug/L	1	0.599	0.601	60	60	30-140	0.3	40	
Acenaphthylene	ug/L	0.984	0.609	0.620	62	63	30-120	2	40	
Acenaphthene	ug/L	0.994	0.659	0.668	66	67	30-120	1	40	

Report ID: 1854997 - 2059221
1/17/2018

Page 13 of 15

FDOH# E86546

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QUALITY CONTROL DATA

Workorder: 1854997

Project ID: Ludlam

LABORATORY CONTROL SAMPLE & LCSD: 133616 133617

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Fluorene	ug/L	0.986	0.617	0.611	63	62	30-140	1	40	
Phenanthrene	ug/L	0.996	0.678	0.691	68	69	30-120	2	40	
Anthracene	ug/L	1	0.650	0.640	65	64	30-140	2	40	
Fluoranthene	ug/L	0.991	0.664	0.598	67	60	30-120	10	40	
Pyrene	ug/L	0.981	0.623	0.687	64	70	40-140	10	40	
Benzo(a)anthracene	ug/L	1	0.835	0.829	83	83	30-120	0.7	40	
Chrysene	ug/L	1	0.593	0.589	59	59	30-140	0.7	40	
Benzo(b)fluoranthene	ug/L	1	0.654	0.605	65	60	30-140	8	40	
Benzo(k)fluoranthene	ug/L	1	0.509	0.522	51	52	30-140	3	40	
Benzo(a)pyrene	ug/L	1	0.598	0.567	60	57	30-140	5	40	
Dibenzo(a,h)anthracene	ug/L	1	0.714	0.692	71	69	30-140	3	40	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.969	0.916	97	92	30-140	6	40	
Benzo(g,h,i)perylene	ug/L	1	0.636	0.598	63	60	30-120	6	40	

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 1854997

Project ID: Ludlam

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1854997001	MW-37E	EPA 3510C SIM	XXX/10667	EPA 8270/PAH SIM	XMS/5678
1854997002	MW-37W	EPA 3510C SIM	XXX/10667	EPA 8270/PAH SIM	XMS/5678
1854997003	MW-36	EPA 3510C SIM	XXX/10667	EPA 8270/PAH SIM	XMS/5678
1854997004	MW-48	EPA 3510C SIM	XXX/10671	EPA 8270/PAH SIM	XMS/5678
1854997005	MW-38	EPA 3510C SIM	XXX/10671	EPA 8270/PAH SIM	XMS/5678
1854997006	MW-45	EPA 3510C SIM	XXX/10671	EPA 8270/PAH SIM	XMS/5678

Company Name <u>Scs Engineers</u>						LAB ANALYSIS												Requested Turnaround Time	
Address <u>7700 N KEN COWIE DRIVE SUITE 300</u>						Pres Codes Parameters Field Filtered (Y/N)												Note: Rush requests subject to acceptance by the laboratory	
City <u>Miami</u> State <u>FL</u> Zip <u>33156</u>																		☒ Standard	
Sampling Site Address _____																		☐ Expedited	
Attn: <u>Fangmeizhang</u> Email <u>Fzhang@scs.com</u>																		Due <u> </u> / <u> </u> / <u> </u>	
Project Name <u>Wd10m</u> Project # _____																		Comments	
Sampler Name/Signature <u>Open</u>																			
#	Sample Label (Client ID)	Collected Date	Collected Time	Matrix Code*	# of Cont														
1	MW-37E	11/11/18	1425	GW	1														
2	MW-37W		1315		1														
3	MW-36		1422		1														
4	MW-48		1135		1														
5	MW-38		1307		1														
6	MW-45		1146		1														
7																			
8																			
9																			
0																			

Matrix Codes*				Pres Codes		Relinquished by	Date	Time	Received by	Date	Time
S	Soil/Solid Sediment	SW	Surface Water	A-	none		11/11/18	1535		11/11/18	1535
GW	Ground Water	SL	Sludge	B-	HNO ₃						
WW	Waste Water	O	Other (Please Specify)	C-	H ₂ SO ₄						
DW	Drinking Water			D-	NaOH						
				E-	HCl						
QA/QC level with report None <u> </u> 1 <u> </u> 2 <u> </u> 3 <u> </u> See price guide for applicable fees							11/11/18	1700		11/11/18	1700
FDEP Dry Cleaning ☐ FDEP UST Pre-Approval ☐ SFWMMD ☐ ADaPT ☐ DOT ☐						Temp Control:					

SAMPLE RECEIPT CONFIRMATION SHEET

Client Information

SDG:	1854997	Req:	1446
Client:	SCS	Project:	FANGMEI Z
Level:	1	Date Rec'd:	1/11/2018 6:45:00 PM
Rec'd via:	courier		

Cooler Check

ID	Temp	# of samples	Security Tape		Method of Receipt	Comments
			Present	Intact		
	2.4	6	☐	☐		

Checked By: CF

Sample Verification

Loose Caps?	No	All Samples on COC accounted For?	Yes
Broken Containers?	No	All Samples on COC?	Yes
pH Verified?	No	Written on Internal COC?	No
pH Strip Lot #		Sample Vol. Suff. For Analysis?	Yes
Acid Preserved Samples Lot #		Samples Rec'd W/ Hold Time?	Yes
Base Preserved Samples Lot #		Are All Samples to be Analyzed?	Yes
Samples Received From	courier	Correct Sample Containers?	Yes
Soil Origin (Domestic/Foreign)		COC Comments written on COC?	No
Site Location/Project on COC?	Yes	Samplers Initials on COC?	Yes
Client Project # on COC?	No	Sample Date/Time Indicated?	Yes
Project Mgr. Indicated on COC	Yes	TAT Requested:	STD
COC relinquished/Dated by Client?	Yes	Client Requests Verbal Results?	No
COC Received/Dated by JEL	Yes		
JEL to Conduct ALL Analyses?	Yes		

Subcontract Analysis

Parameter	Via	Lab Name	Comments
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January 18, 2018

Fangmei Zhang
SCS
7700 N. Kendall Dr
Suite 300
Miami, FL 33156

RE: LOG# 1855021
Project ID: Ludlam 09217186.02
COC# 1855021

Dear Fangmei Zhang:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, January 12, 2018. Results reported herein conform to the most current NELAC standards, where applicable, unless indicated by * in the body of the report. The enclosed Chain of Custody is a component of this package and should be retained with the package and incorporated therein.

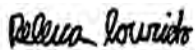
Results for all solid matrices are reported in dry weight unless otherwise noted. Results for all liquid matrices are reported as received in the laboratory unless otherwise noted. Results relate only to the samples received. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

Samples are disposed of after 30 days of their receipt by the laboratory unless extended storage is requested in writing. The laboratory maintains the right to charge storage fees for archived samples. This report will be archived for 5 years after which time it will be destroyed without further notice, unless prior arrangements have been made.

Certain analyses are subcontracted to outside NELAC certified laboratories, please see the Project Summary section of this report for NELAC certification numbers of laboratories used. A Statement of Qualifiers is available upon request.

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

Sincerely,



Rebecca Lourido for
Kacia Baldwin
V.P. of Operations

SAMPLE ANALYTE COUNT

Workorder: 1855021

Project ID: Ludlam 09217186.02

Lab ID	Sample ID	Method	Analytes Reported
1855021001	MW-35	EPA 8270/PAH SIM	21
1855021002	MW-33	EPA 350.1 (non-distilled)	1
		EPA 8270/PAH SIM	21
1855021003	MW-29	EPA 8270/PAH SIM	21

FDOH# E86546

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SAMPLE SUMMARY

Workorder: 1855021

Project ID: Ludlam 09217186.02

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1855021001	MW-35	Aqueous Liquid	1/11/2018 15:45	1/12/2018 16:23
1855021002	MW-33	Aqueous Liquid	1/11/2018 16:31	1/12/2018 16:23
1855021003	MW-29	Aqueous Liquid	1/11/2018 17:15	1/12/2018 16:23

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ANALYTICAL RESULTS

Workorder: 1855021

Project ID: Ludlam 09217186.02

Lab ID: **1855021001**

Date Received: 1/12/2018 16:23

Matrix: Aqueous Liquid

Sample ID: **MW-35**

Date Collected: 1/11/2018 15:45

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/16/2018 13:59	BFM	1/17/2018 18:02	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/16/2018 13:59	BFM	1/17/2018 18:02	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:02	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:02	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:02	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:02	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/16/2018 13:59	BFM	1/17/2018 18:02	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/16/2018 13:59	BFM	1/17/2018 18:02	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/16/2018 13:59	BFM	1/17/2018 18:02	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/16/2018 13:59	BFM	1/17/2018 18:02	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:02	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/16/2018 13:59	BFM	1/17/2018 18:02	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:02	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:02	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/16/2018 13:59	BFM	1/17/2018 18:02	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/16/2018 13:59	BFM	1/17/2018 18:02	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:02	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:02	VS	
Nitrobenzene-d5 (S)	62	%	30-110		1	1/16/2018 13:59	BFM	1/17/2018 18:02	VS	
2-Fluorobiphenyl (S)	83	%	30-110		1	1/16/2018 13:59	BFM	1/17/2018 18:02	VS	
p-Terphenyl-d14 (S)	119	%	30-140		1	1/16/2018 13:59	BFM	1/17/2018 18:02	VS	

ANALYTICAL RESULTS

Workorder: 1855021

Project ID: Ludlam 09217186.02

Lab ID: **1855021002** Date Received: 1/12/2018 16:23 Matrix: Aqueous Liquid
Sample ID: **MW-33** Date Collected: 1/11/2018 16:31

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
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Analysis Desc: EPA 350.1 Ammonia (W)

Preparation Method: Wet Chem Prep

Analytical Method: EPA 350.1 (non-distilled)

Ammonia (N)	U	mg/L	0.10	0.0500	1	1/16/2018 09:47	SW	1/16/2018 11:28	SW
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Semivolatiles by EPA 8270C

Analysis Desc: PAH List by 8270C SIM (W)

Preparation Method: EPA 3510C SIM

Analytical Method: EPA 8270/PAH SIM

1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/16/2018 13:59	BFM	1/17/2018 18:26	VS
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/16/2018 13:59	BFM	1/17/2018 18:26	VS
Acenaphthene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:26	VS
Acenaphthylene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:26	VS
Anthracene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:26	VS
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:26	VS
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/16/2018 13:59	BFM	1/17/2018 18:26	VS
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/16/2018 13:59	BFM	1/17/2018 18:26	VS
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/16/2018 13:59	BFM	1/17/2018 18:26	VS
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/16/2018 13:59	BFM	1/17/2018 18:26	VS
Chrysene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:26	VS
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/16/2018 13:59	BFM	1/17/2018 18:26	VS
Fluoranthene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:26	VS
Fluorene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:26	VS
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/16/2018 13:59	BFM	1/17/2018 18:26	VS
Naphthalene	U	ug/L	0.093	0.047	1	1/16/2018 13:59	BFM	1/17/2018 18:26	VS
Phenanthrene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:26	VS
Pyrene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:26	VS
Nitrobenzene-d5 (S)	65	%	30-110		1	1/16/2018 13:59	BFM	1/17/2018 18:26	VS
2-Fluorobiphenyl (S)	76	%	30-110		1	1/16/2018 13:59	BFM	1/17/2018 18:26	VS
p-Terphenyl-d14 (S)	133	%	30-140		1	1/16/2018 13:59	BFM	1/17/2018 18:26	VS

ANALYTICAL RESULTS

Workorder: 1855021

Project ID: Ludlam 09217186.02

Lab ID: **1855021003**

Date Received: 1/12/2018 16:23

Matrix: Aqueous Liquid

Sample ID: **MW-29**

Date Collected: 1/11/2018 17:15

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/16/2018 13:59	BFM	1/17/2018 18:49	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/16/2018 13:59	BFM	1/17/2018 18:49	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:49	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:49	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:49	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:49	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/16/2018 13:59	BFM	1/17/2018 18:49	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/16/2018 13:59	BFM	1/17/2018 18:49	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/16/2018 13:59	BFM	1/17/2018 18:49	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/16/2018 13:59	BFM	1/17/2018 18:49	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:49	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/16/2018 13:59	BFM	1/17/2018 18:49	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:49	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:49	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/16/2018 13:59	BFM	1/17/2018 18:49	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/16/2018 13:59	BFM	1/17/2018 18:49	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:49	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/16/2018 13:59	BFM	1/17/2018 18:49	VS	
Nitrobenzene-d5 (S)	65	%	30-110		1	1/16/2018 13:59	BFM	1/17/2018 18:49	VS	
2-Fluorobiphenyl (S)	91	%	30-110		1	1/16/2018 13:59	BFM	1/17/2018 18:49	VS	
p-Terphenyl-d14 (S)	122	%	30-140		1	1/16/2018 13:59	BFM	1/17/2018 18:49	VS	

ANALYTICAL RESULTS QUALIFIERS

Workorder: 1855021

Project ID: Ludlam 09217186.02

PARAMETER QUALIFIERS

PROJECT COMMENTS

1855021	A reported value of U indicates that the compound was analyzed for but not detected above the MDL. A value flagged with an "i" flag indicates that the reported value is between the laboratory method detection limit and the practical quantitation limit.
---------	--

FDOH# E86546

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QUALITY CONTROL DATA

Workorder: 1855021

Project ID: Ludlam 09217186.02

QC Batch:	XXX/10674	Analysis Method:	EPA 8270/PAH SIM		
QC Batch Method:	EPA 3510C SIM				
Associated Lab Samples:	1855021001	1855021002	1855021003	1855025001	1855025002
	1855025004	1855025005	1855025006	1855025007	1855025008

METHOD BLANK: 133666

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Semivolatiles by EPA 8270C				
Nitrobenzene-d5 (S)	%	68	30-110	
2-Fluorobiphenyl (S)	%	67	30-110	
p-Terphenyl-d14 (S)	%	102	30-140	
Naphthalene	ug/L	U	0.050	
2-Methylnaphthalene	ug/L	U	0.050	
1-Methylnaphthalene	ug/L	U	0.050	
Acenaphthylene	ug/L	U	0.025	
Acenaphthene	ug/L	U	0.025	
Fluorene	ug/L	U	0.025	
Phenanthrene	ug/L	U	0.025	
Anthracene	ug/L	U	0.025	
Fluoranthene	ug/L	U	0.025	
Pyrene	ug/L	U	0.025	
Benzo(a)anthracene	ug/L	U	0.025	
Chrysene	ug/L	U	0.025	
Benzo(b)fluoranthene	ug/L	U	0.015	
Benzo(k)fluoranthene	ug/L	U	0.015	
Benzo(a)pyrene	ug/L	U	0.015	
Dibenzo(a,h)anthracene	ug/L	U	0.0051	
Indeno(1,2,3-cd)pyrene	ug/L	U	0.015	
Benzo(g,h,i)perylene	ug/L	U	0.015	

LABORATORY CONTROL SAMPLE & LCSD: 133667 133668

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Semivolatiles by EPA 8270C										
Nitrobenzene-d5 (S)	%				71	73	30-110	2	40	
2-Fluorobiphenyl (S)	%				70	69	30-110	2	40	
p-Terphenyl-d14 (S)	%				91	93	30-140	2	40	
Naphthalene	ug/L	0.993	0.694	0.713	70	72	30-140	3	40	
2-Methylnaphthalene	ug/L	0.991	0.710	0.682	72	69	30-140	4	40	
1-Methylnaphthalene	ug/L	1	0.722	0.688	72	69	30-140	5	40	
Acenaphthylene	ug/L	0.984	0.784	0.763	80	78	30-120	3	40	
Acenaphthene	ug/L	0.994	0.765	0.760	77	76	30-120	0.7	40	

Report ID: 1855021 - 2060643
1/18/2018

Page 8 of 11

FDOH# E86546

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QUALITY CONTROL DATA

Workorder: 1855021

Project ID: Ludlam 09217186.02

LABORATORY CONTROL SAMPLE & LCSD: 133667 133668										
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Fluorene	ug/L	0.986	0.846	0.904	86	92	30-140	7	40	
Phenanthrene	ug/L	0.996	0.858	0.825	86	83	30-120	4	40	
Anthracene	ug/L	1	0.906	0.875	91	88	30-140	3	40	
Fluoranthene	ug/L	0.991	0.979	0.860	99	87	30-120	13	40	
Pyrene	ug/L	0.981	0.865	0.857	88	87	40-140	0.9	40	
Benzo(a)anthracene	ug/L	1	1.06	0.945	105	94	30-120	11	40	
Chrysene	ug/L	1	0.845	0.787	85	79	30-140	7	40	
Benzo(b)fluoranthene	ug/L	1	0.994	0.931	99	93	30-140	7	40	
Benzo(k)fluoranthene	ug/L	1	0.910	0.842	91	84	30-140	8	40	
Benzo(a)pyrene	ug/L	1	0.912	0.848	91	85	30-140	7	40	
Dibenzo(a,h)anthracene	ug/L	1	0.906	0.874	91	87	30-140	4	40	
Indeno(1,2,3-cd)pyrene	ug/L	1	1.06	1.01	106	101	30-140	5	40	
Benzo(g,h,i)perylene	ug/L	1	0.888	0.904	89	90	30-120	2	40	

FDOH# E86546

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QUALITY CONTROL DATA

Workorder: 1855021

Project ID: Ludlam 09217186.02

QC Batch:	WXX/5324	Analysis Method:	EPA 350.1 (non-distilled)			
QC Batch Method:	Wet Chem Prep					
Associated Lab Samples:	1854918001	1854918002	1854975002	1854975003	1854975004	1854975005
	1855021002					

METHOD BLANK: 133669

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Ammonia (N)	mg/L	U	0.050	

LABORATORY CONTROL SAMPLE & LCSD: 133670 133671

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Ammonia (N)	mg/L	0.5	0.48	0.48	95.8	95.1	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 133672 133673 Original: 1854918001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Ammonia (N)	mg/L	0.067	0.5	0.53	0.52	92.3	90	90-110	1.9	20	

SAMPLE DUPLICATE: 133674 Original: 1854918001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Ammonia (N)	mg/L	0.067	0.062i	7.8	20	

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 1855021

Project ID: Ludlam 09217186.02

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1855021001	MW-35	EPA 3510C SIM	XXX/10674	EPA 8270/PAH SIM	XMS/5680
1855021002	MW-33	EPA 3510C SIM	XXX/10674	EPA 8270/PAH SIM	XMS/5680
1855021003	MW-29	EPA 3510C SIM	XXX/10674	EPA 8270/PAH SIM	XMS/5680
1855021002	MW-33	Wet Chem Prep	WXX/5324	EPA 350.1 (non-distilled)	WET/5962

FDOH# E86546

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Company Name <u>SLC Engineers</u>						LAB ANALYSIS												Requested Turnaround Time	
Address <u>7700 N Kendall Drive, Suite 300</u>						Parameters Field Filtered (Y/N)												Note: Rush requests subject to acceptance by the laboratory	
City <u>Miami</u> State <u>FL</u> Zip <u>33156</u>																		☒ Standard ☐ Expedited	
Sampling Site Address																		Due <u> </u> / <u> </u> / <u> </u>	
Attn: <u>Fangmei Zhang</u> Email																		Comments	
Project Name <u>Ludlum</u> Project # <u>09212186.02</u>																			
Sampler Name/Signature <u>[Signature]</u>																			
#	Sample Label (Client ID)	Collected Date	Collected Time	Matrix Code*	# of Cont														
1	MW-35	1/11	1545			X												Sample date	
2	MW-33	↓ ①	1631			X	X											1/11/18 per	
3	MW-29	↓	1715			X												email. of 1/5/18	
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Matrix Codes*				Pres Codes		Relinquished by		Date	Time	Received by		Date	Time
S	Soil/Solid Sediment	SW	Surface Water	A- none	I- Ice	Relinquished by Received by		1/12/18	1:20	Received by Received by		1/12/18	1:20
GW	Ground Water	SL	Sludge	B- HNO ₃	O- Other			1/12/18	2:50			1/12/18	14:50
WW	Waste Water	O	Other (Please Specify)	C- H ₂ SO ₄	M- MeOH			1.12.18	16:23			1.12.18	16:23
DW	Drinking Water			D- NaOH	N- Na ₂ S ₂ O ₃								
				E- HCl	Z- ZnAc								
QA/QC level with report None <u> </u> 1 <u> </u> 2 <u> </u> 3 <u> </u> See price guide for applicable fees				Temp Control:									
FDEP Dry Cleaning ☐ FDEP UST Pre-Approval ☐ SFWMD ☐ ADaPT ☐ DOT ☐				4.3 °C									

Sample Receiving

From: Zhang, Fangmei
Sent: Monday, January 15, 2018 9:43 AM
To: Sample Receiving
Cc: Pezzotti, Anthony
Subject: RE: Attached COC

Yes.

Anthony will send you the complete COCs.

Fangmei Zhang, PhD, P.E.
SCS Engineers –Miami, FL
(305) 412-8185 x 2053 (W)
(786) 792-5364 (D)
(786) 999-5521 (C)
fzhang@scsengineers.com

From: Sample Receiving [mailto:samlereceiving@jupiterlabs.com]
Sent: Monday, January 15, 2018 9:18 AM
To: Zhang, Fangmei <FZhang@scsengineers.com>
Subject: Attached COC

Good Morning!

I just wanted to clarify that on the attached COC all samples were collected on 1/11/18?

Best Regards,

Sample Custodian | Sample Receiving | www.jupiterlabs.com | 561-575-0030 (ext. 112)

NELAP . DoD ELAP . ISO 17025 . WMBE

SAMPLE RECEIPT CONFIRMATION SHEET

Client Information

SDG:	1855021	Req:	1446
Client:	SCS	Project:	FANGMEI Z
Level:	1	Date Rec'd:	1/12/2018 4:23:00 PM
Rec'd via:	courier		

Cooler Check

ID	Temp	# of samples	Security Tape		Method of Receipt	Comments
			Present	Intact		
	4.3	3	☐	☐		

Checked By: CF

Sample Verification

Loose Caps?	No	All Samples on COC accounted For?	Yes
Broken Containers?	No	All Samples on COC?	Yes
pH Verified?	Yes	Written on Internal COC?	No
pH Strip Lot #	HC601354	Sample Vol. Suff. For Analysis?	Yes
Acid Preserved Samples Lot #	NA	Samples Rec'd W/I Hold Time?	Yes
Base Preserved Samples Lot #		Are All Samples to be Analyzed?	Yes
Samples Received From	courier	Correct Sample Containers?	Yes
Soil Origin (Domestic/Foreign		COC Comments written on COC?	No
Site Location/Project on COC?	Yes	Samplers Initials on COC?	Yes
Client Project # on COC?	Yes	Sample Date/Time Indicated?	Yes
Project Mgr. Indicated on COC	Yes	TAT Requested:	STD
COC relinquished/Dated by Client?	Yes	Client Requests Verbal Results?	No
COC Received/Dated by JEL	Yes		
JEL to Conduct ALL Analyses?	Yes		

Subcontract Analysis

Parameter	Via	Lab Name	Comments
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January 18, 2018

Fangmei Zhang
SCS
7700 N. Kendall Dr
Suite 300
Miami, FL 33156

RE: LOG# 1855051
Project ID: Ludlam
COC# 1855051

Dear Fangmei Zhang:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, January 16, 2018. Results reported herein conform to the most current NELAC standards, where applicable, unless indicated by * in the body of the report. The enclosed Chain of Custody is a component of this package and should be retained with the package and incorporated therein.

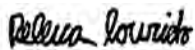
Results for all solid matrices are reported in dry weight unless otherwise noted. Results for all liquid matrices are reported as received in the laboratory unless otherwise noted. Results relate only to the samples received. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

Samples are disposed of after 30 days of their receipt by the laboratory unless extended storage is requested in writing. The laboratory maintains the right to charge storage fees for archived samples. This report will be archived for 5 years after which time it will be destroyed without further notice, unless prior arrangements have been made.

Certain analyses are subcontracted to outside NELAC certified laboratories, please see the Project Summary section of this report for NELAC certification numbers of laboratories used. A Statement of Qualifiers is available upon request.

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

Sincerely,



Rebecca Lourido for
Kacia Baldwin
V.P. of Operations

SAMPLE ANALYTE COUNT

Workorder: 1855051

Project ID: Ludlam

Lab ID	Sample ID	Method	Analytes Reported
1855051001	MW-49-2	EPA 200.8 (Total)	1
1855051002	MW-47	EPA 200.8 (Total)	1
1855051003	MW-46	EPA 200.8 (Total)	1
		EPA 8270/PAH SIM	21
1855051004	MW-43	EPA 8270/PAH SIM	21

FDOH# E86546

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SAMPLE SUMMARY

Workorder: 1855051

Project ID: Ludlam

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1855051001	MW-49-2	Aqueous Liquid	1/16/2018 11:15	1/16/2018 18:20
1855051002	MW-47	Aqueous Liquid	1/16/2018 12:59	1/16/2018 18:20
1855051003	MW-46	Aqueous Liquid	1/16/2018 13:55	1/16/2018 18:20
1855051004	MW-43	Aqueous Liquid	1/16/2018 15:15	1/16/2018 18:20

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ANALYTICAL RESULTS

Workorder: 1855051

Project ID: Ludlam

Lab ID: **1855051001**

Date Received: 1/16/2018 18:20

Matrix: Aqueous Liquid

Sample ID: **MW-49-2**

Date Collected: 1/16/2018 11:15

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Analysis Desc: EPA 200.8 Metals (W)					Preparation Method: EPA 200.2 mod.					
					Analytical Method: EPA 200.8 (Total)					
Arsenic	1.2i	ug/L	2.0	0.65	4	1/17/2018 08:48	ZS	1/17/2018 11:52	ZS	

ANALYTICAL RESULTS

Workorder: 1855051

Project ID: Ludlam

Lab ID: **1855051002**

Date Received: 1/16/2018 18:20

Matrix: Aqueous Liquid

Sample ID: **MW-47**

Date Collected: 1/16/2018 12:59

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Analysis Desc: EPA 200.8 Metals (W)					Preparation Method: EPA 200.2 mod.					
					Analytical Method: EPA 200.8 (Total)					
Arsenic		U ug/L	2.0	0.65	4	1/17/2018 08:48	ZS	1/17/2018 11:57	ZS	

ANALYTICAL RESULTS

Workorder: 1855051

Project ID: Ludlam

Lab ID: **1855051003**

Date Received: 1/16/2018 18:20

Matrix: Aqueous Liquid

Sample ID: **MW-46**

Date Collected: 1/16/2018 13:55

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.094	0.047	1	1/17/2018 09:00	BFM	1/17/2018 19:12	VS	
2-Methylnaphthalene	U	ug/L	0.094	0.047	1	1/17/2018 09:00	BFM	1/17/2018 19:12	VS	
Acenaphthene	U	ug/L	0.047	0.024	1	1/17/2018 09:00	BFM	1/17/2018 19:12	VS	
Acenaphthylene	U	ug/L	0.047	0.024	1	1/17/2018 09:00	BFM	1/17/2018 19:12	VS	
Anthracene	U	ug/L	0.047	0.024	1	1/17/2018 09:00	BFM	1/17/2018 19:12	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.024	1	1/17/2018 09:00	BFM	1/17/2018 19:12	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/17/2018 09:00	BFM	1/17/2018 19:12	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/17/2018 09:00	BFM	1/17/2018 19:12	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/17/2018 09:00	BFM	1/17/2018 19:12	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/17/2018 09:00	BFM	1/17/2018 19:12	VS	
Chrysene	U	ug/L	0.047	0.024	1	1/17/2018 09:00	BFM	1/17/2018 19:12	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/17/2018 09:00	BFM	1/17/2018 19:12	VS	
Fluoranthene	U	ug/L	0.047	0.024	1	1/17/2018 09:00	BFM	1/17/2018 19:12	VS	
Fluorene	U	ug/L	0.047	0.024	1	1/17/2018 09:00	BFM	1/17/2018 19:12	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/17/2018 09:00	BFM	1/17/2018 19:12	VS	
Naphthalene	U	ug/L	0.094	0.047	1	1/17/2018 09:00	BFM	1/17/2018 19:12	VS	
Phenanthrene	U	ug/L	0.047	0.024	1	1/17/2018 09:00	BFM	1/17/2018 19:12	VS	
Pyrene	U	ug/L	0.047	0.024	1	1/17/2018 09:00	BFM	1/17/2018 19:12	VS	
Nitrobenzene-d5 (S)	39	%	30-110		1	1/17/2018 09:00	BFM	1/17/2018 19:12	VS	
2-Fluorobiphenyl (S)	55	%	30-110		1	1/17/2018 09:00	BFM	1/17/2018 19:12	VS	
p-Terphenyl-d14 (S)	71	%	30-140		1	1/17/2018 09:00	BFM	1/17/2018 19:12	VS	
Analysis Desc: EPA 200.8 Metals (W)					Preparation Method: EPA 200.2 mod.					
					Analytical Method: EPA 200.8 (Total)					
Arsenic	U	ug/L	2.0	0.65	4	1/17/2018 08:48	ZS	1/17/2018 12:02	ZS	

ANALYTICAL RESULTS

Workorder: 1855051

Project ID: Ludlam

Lab ID: **1855051004**

Date Received: 1/16/2018 18:20

Matrix: Aqueous Liquid

Sample ID: **MW-43**

Date Collected: 1/16/2018 15:15

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.094	0.047	1	1/17/2018 09:00	BFM	1/17/2018 19:36	VS	
2-Methylnaphthalene	U	ug/L	0.094	0.047	1	1/17/2018 09:00	BFM	1/17/2018 19:36	VS	
Acenaphthene	U	ug/L	0.047	0.024	1	1/17/2018 09:00	BFM	1/17/2018 19:36	VS	
Acenaphthylene	U	ug/L	0.047	0.024	1	1/17/2018 09:00	BFM	1/17/2018 19:36	VS	
Anthracene	U	ug/L	0.047	0.024	1	1/17/2018 09:00	BFM	1/17/2018 19:36	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.024	1	1/17/2018 09:00	BFM	1/17/2018 19:36	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/17/2018 09:00	BFM	1/17/2018 19:36	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/17/2018 09:00	BFM	1/17/2018 19:36	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/17/2018 09:00	BFM	1/17/2018 19:36	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/17/2018 09:00	BFM	1/17/2018 19:36	VS	
Chrysene	U	ug/L	0.047	0.024	1	1/17/2018 09:00	BFM	1/17/2018 19:36	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/17/2018 09:00	BFM	1/17/2018 19:36	VS	
Fluoranthene	U	ug/L	0.047	0.024	1	1/17/2018 09:00	BFM	1/17/2018 19:36	VS	
Fluorene	U	ug/L	0.047	0.024	1	1/17/2018 09:00	BFM	1/17/2018 19:36	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/17/2018 09:00	BFM	1/17/2018 19:36	VS	
Naphthalene	U	ug/L	0.094	0.047	1	1/17/2018 09:00	BFM	1/17/2018 19:36	VS	
Phenanthrene	U	ug/L	0.047	0.024	1	1/17/2018 09:00	BFM	1/17/2018 19:36	VS	
Pyrene	U	ug/L	0.047	0.024	1	1/17/2018 09:00	BFM	1/17/2018 19:36	VS	
Nitrobenzene-d5 (S)	35	%	30-110		1	1/17/2018 09:00	BFM	1/17/2018 19:36	VS	
2-Fluorobiphenyl (S)	49	%	30-110		1	1/17/2018 09:00	BFM	1/17/2018 19:36	VS	
p-Terphenyl-d14 (S)	65	%	30-140		1	1/17/2018 09:00	BFM	1/17/2018 19:36	VS	

ANALYTICAL RESULTS QUALIFIERS

Workorder: 1855051

Project ID: Ludlam

PARAMETER QUALIFIERS

PROJECT COMMENTS

1855051	A reported value of U indicates that the compound was analyzed for but not detected above the MDL. A value flagged with an "i" flag indicates that the reported value is between the laboratory method detection limit and the practical quantitation limit.
---------	--

FDOH# E86546

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QUALITY CONTROL DATA

Workorder: 1855051

Project ID: Ludlam

QC Batch:	XXX/10674	Analysis Method:	EPA 8270/PAH SIM			
QC Batch Method:	EPA 3510C SIM					
Associated Lab Samples:	1855021001	1855021002	1855021003	1855025001	1855025002	1855025003
	1855025004	1855025005	1855025006	1855025007	1855025008	1855051003
	1855051004					

METHOD BLANK: 133666

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Semivolatiles by EPA 8270C				
Nitrobenzene-d5 (S)	%	68	30-110	
2-Fluorobiphenyl (S)	%	67	30-110	
p-Terphenyl-d14 (S)	%	102	30-140	
Naphthalene	ug/L	U	0.050	
2-Methylnaphthalene	ug/L	U	0.050	
1-Methylnaphthalene	ug/L	U	0.050	
Acenaphthylene	ug/L	U	0.025	
Acenaphthene	ug/L	U	0.025	
Fluorene	ug/L	U	0.025	
Phenanthrene	ug/L	U	0.025	
Anthracene	ug/L	U	0.025	
Fluoranthene	ug/L	U	0.025	
Pyrene	ug/L	U	0.025	
Benzo(a)anthracene	ug/L	U	0.025	
Chrysene	ug/L	U	0.025	
Benzo(b)fluoranthene	ug/L	U	0.015	
Benzo(k)fluoranthene	ug/L	U	0.015	
Benzo(a)pyrene	ug/L	U	0.015	
Dibenzo(a,h)anthracene	ug/L	U	0.0051	
Indeno(1,2,3-cd)pyrene	ug/L	U	0.015	
Benzo(g,h,i)perylene	ug/L	U	0.015	

LABORATORY CONTROL SAMPLE & LCSD: 133667 133668

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Semivolatiles by EPA 8270C										
Nitrobenzene-d5 (S)	%				71	73	30-110	2	40	
2-Fluorobiphenyl (S)	%				70	69	30-110	2	40	
p-Terphenyl-d14 (S)	%				91	93	30-140	2	40	
Naphthalene	ug/L	0.993	0.694	0.713	70	72	30-140	3	40	
2-Methylnaphthalene	ug/L	0.991	0.710	0.682	72	69	30-140	4	40	
1-Methylnaphthalene	ug/L	1	0.722	0.688	72	69	30-140	5	40	
Acenaphthylene	ug/L	0.984	0.784	0.763	80	78	30-120	3	40	

Report ID: 1855051 - 2060649
1/18/2018

Page 9 of 14

FDOH# E86546

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QUALITY CONTROL DATA

Workorder: 1855051

Project ID: Ludlam

LABORATORY CONTROL SAMPLE & LCSD: 133667 133668

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Acenaphthene	ug/L	0.994	0.765	0.760	77	76	30-120	0.7	40	
Fluorene	ug/L	0.986	0.846	0.904	86	92	30-140	7	40	
Phenanthrene	ug/L	0.996	0.858	0.825	86	83	30-120	4	40	
Anthracene	ug/L	1	0.906	0.875	91	88	30-140	3	40	
Fluoranthene	ug/L	0.991	0.979	0.860	99	87	30-120	13	40	
Pyrene	ug/L	0.981	0.865	0.857	88	87	40-140	0.9	40	
Benzo(a)anthracene	ug/L	1	1.06	0.945	105	94	30-120	11	40	
Chrysene	ug/L	1	0.845	0.787	85	79	30-140	7	40	
Benzo(b)fluoranthene	ug/L	1	0.994	0.931	99	93	30-140	7	40	
Benzo(k)fluoranthene	ug/L	1	0.910	0.842	91	84	30-140	8	40	
Benzo(a)pyrene	ug/L	1	0.912	0.848	91	85	30-140	7	40	
Dibenzo(a,h)anthracene	ug/L	1	0.906	0.874	91	87	30-140	4	40	
Indeno(1,2,3-cd)pyrene	ug/L	1	1.06	1.01	106	101	30-140	5	40	
Benzo(g,h,i)perylene	ug/L	1	0.888	0.904	89	90	30-120	2	40	

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QUALITY CONTROL DATA

Workorder: 1855051

Project ID: Ludlam

QC Batch:	MXX/9354	Analysis Method:	EPA 200.8 (Total)			
QC Batch Method:	EPA 200.2 mod.					
Associated Lab Samples:	1854921005	1854921012	1854921023	1854921029	1854921052	1854921054
	1854921071	1854921076	1854921078	1854921084	1855051001	1855051002
	1855051003					

METHOD BLANK: 133813

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Arsenic	ug/L	U	0.16	

LABORATORY CONTROL SAMPLE & LCSD: 133814 133815

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Arsenic	ug/L	50	55	54	109	108	85-115	1.83	20	

MATRIX SPIKE SAMPLE: 133817 Original: 1854921084

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	21	50	80	119	70-130	

MATRIX SPIKE SAMPLE: 133819 Original: 1855051003

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	0	50	59	117	70-130	

SAMPLE DUPLICATE: 133816 Original: 1854921084

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Arsenic	ug/L	21	25	4.65	20	

QUALITY CONTROL DATA

Workorder: 1855051

Project ID: Ludlam

SAMPLE DUPLICATE: 133818

Original: 1855051003

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Arsenic	ug/L	0	U	200	20	P1

FDOH# E86546

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QUALITY CONTROL DATA QUALIFIERS

Workorder: 1855051

Project ID: Ludlam

QUALITY CONTROL PARAMETER QUALIFIERS

P1 RPD value not applicable for sample concentrations less than 5 times the PQL.

FDOH# E86546

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 1855051

Project ID: Ludlam

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1855051003	MW-46	EPA 3510C SIM	XXX/10674	EPA 8270/PAH SIM	XMS/5680
1855051004	MW-43	EPA 3510C SIM	XXX/10674	EPA 8270/PAH SIM	XMS/5680
1855051001	MW-49-2	EPA 200.2 mod.	MXX/9354	EPA 200.8 (Total)	MMS/8386
1855051002	MW-47	EPA 200.2 mod.	MXX/9354	EPA 200.8 (Total)	MMS/8386
1855051003	MW-46	EPA 200.2 mod.	MXX/9354	EPA 200.8 (Total)	MMS/8386

Jupiter

Environmental Laboratories, Inc.

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150 S. Old Dixie Highway, Jupiter, FL 33458
(561) 575-0030 • FAX (561) 575-4118 • clientservices@jupiterlabs.com

J.E.L. Log # 1855057

P.O. # _____

Quote # _____

Company Name <u>SCS Engineers</u>						LAB ANALYSIS												Requested Turnaround Time Note: Rush requests subject to acceptance by the laboratory ___ Standard ___ Expedited Due ___/___/___ Comments	
Site Address <u>Between NW 7th and SW 8th St</u>						Pres Codes	Parameters	Total Arsenic	PAH	Field Filtered (Y/N)									
City <u>Miami</u> State <u>FL</u> Zip _____																			
Sampling Site Address _____																			
Attn: <u>Fangmei Zhang</u> Email <u>Fzhang@scsengineers.com</u>																			
Project Name <u>Ludlow</u> Project # _____																			
Sampler Name/Signature <u>John Mana</u>																			
#	Sample Label (Client ID)	Collected Date	Collected Time	Matrix Code*	# of Cont														
1	MW-49-2	1/16/18	11:15	GW	1	X													
2	MW-47	1/16/18	12:59	GW	1	X													
3	MW-46	1/16/18	13:55	GW	2	X	X												
4	MW-43	1/16/18	15:15	GW	1		X												
5																			
6																			
7																			
8																			
9																			
0																			

Matrix Codes*		Pres Codes		Relinquished by <u>John Mana</u>	Date	Time	Received by	Date	Time
S Soil/Solid Sediment	SW Surface Water	A- none	I- Ice		1/16/18	15:30	<u>[Signature]</u>	1/16/18	15:30
GW Ground Water	SL Sludge	B- HNO ₃	O- Other	1/16/18	16:47	<u>[Signature]</u>	1/16/18	16:47	
WW Waste Water	O Other (Please Specify)	C- H ₂ SO ₄	M- MeOH	1/16/18	18:20	<u>Kr</u>	1/16/18	18:20	
DW Drinking Water		D- NaOH	N- Na ₂ O ₂						
		E- HC	Z- ZnAc						

QA/QC level with report None ___ 1 ___ 2 ___ 3 ___ See price guide for applicable fees							
FDEP Dry Cleaning ☐		FDEP UST Pre-Approval ☐		Temp Control:			
SFWMD ☐		ADAPT ☐		DOT ☐	4.1 °C		

855057

SAMPLE RECEIPT CONFIRMATION SHEET

Client Information

SDG:	1855051	Req:	1446
Client:	SCS	Project:	FANGMEI Z
Level:	1	Date Rec'd:	1/16/2018 6:20:00 PM
Rec'd via:	courier		

Cooler Check

Security Tape

ID	Temp	# of samples	Present	Intact	Method of Receipt	Comments
	4.1	4	☐	☐		

Checked By: CF

Sample Verification

Loose Caps?	No	All Samples on COC accounted For?	Yes
Broken Containers?	No	All Samples on COC?	Yes
pH Verified?	Yes	Written on Internal COC?	No
pH Strip Lot #	HC601354	Sample Vol. Suff. For Analysis?	Yes
Acid Preserved Samples Lot #	15127	Samples Rec'd W/I Hold Time?	Yes
Base Preserved Samples Lot #		Are All Samples to be Analyzed?	Yes
Samples Received From	courier	Correct Sample Containers?	Yes
Soil Origin (Domestic/Foreign)		COC Comments written on COC?	No
Site Location/Project on COC?	Yes	Samplers Initials on COC?	Yes
Client Project # on COC?	Yes	Sample Date/Time Indicated?	Yes
Project Mgr. Indicated on COC	Yes	TAT Requested:	STD
COC relinquished/Dated by Client?	Yes	Client Requests Verbal Results?	No
COC Received/Dated by JEL	Yes		
JEL to Conduct ALL Analyses?	Yes		

Subcontract Analysis

Parameter	Via	Lab Name	Comments
-----------	-----	----------	----------

January 25, 2018

Fangmei Zhang
SCS
7700 N. Kendall Dr
Suite 300
Miami, FL 33156

RE: LOG# 1855053
Project ID: Ludlam 09215186.02
COC# 1855053

Dear Fangmei Zhang:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, January 16, 2018. Results reported herein conform to the most current NELAC standards, where applicable, unless indicated by * in the body of the report. The enclosed Chain of Custody is a component of this package and should be retained with the package and incorporated therein.

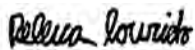
Results for all solid matrices are reported in dry weight unless otherwise noted. Results for all liquid matrices are reported as received in the laboratory unless otherwise noted. Results relate only to the samples received. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

Samples are disposed of after 30 days of their receipt by the laboratory unless extended storage is requested in writing. The laboratory maintains the right to charge storage fees for archived samples. This report will be archived for 5 years after which time it will be destroyed without further notice, unless prior arrangements have been made.

Certain analyses are subcontracted to outside NELAC certified laboratories, please see the Project Summary section of this report for NELAC certification numbers of laboratories used. A Statement of Qualifiers is available upon request.

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

Sincerely,



Rebecca Lourido for
Kacia Baldwin
V.P. of Operations

Report ID: 1855053
1/25/2018

Page 1 of 24

FDOH# E86546

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SAMPLE ANALYTE COUNT

Workorder: 1855053

Project ID: Ludlam 09215186.02

Lab ID	Sample ID	Method	Analytes Reported
1855053001	SB-7R (0-0.5)	EPA 6020	5
		EPA 8260C	76
		EPA 8310 List by 8270C SIM (S)	21
		FL-PRO (GC)	3
		SM 2540G	1
1855053002	SB-7R (0.5-2)	EPA 6020	5
		EPA 8260C	76
		EPA 8310 List by 8270C SIM (S)	21
		FL-PRO (GC)	3
		SM 2540G	1

FDOH# E86546

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SAMPLE SUMMARY

Workorder: 1855053

Project ID: Ludlam 09215186.02

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1855053001	SB-7R (0-0.5)	Soil/Solid	1/16/2018 10:45	1/16/2018 18:20
1855053002	SB-7R (0.5-2)	Soil/Solid	1/16/2018 10:50	1/16/2018 18:20
1855053003	SB-7R (2-4)	Soil/Solid	1/16/2018 10:55	1/16/2018 18:20
1855053004	SB-7R (4-6)	Soil/Solid	1/16/2018 11:00	1/16/2018 18:20

FDOH# E86546

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ANALYTICAL RESULTS

Workorder: 1855053

Project ID: Ludlam 09215186.02

Lab ID: **1855053001** Date Received: 1/16/2018 18:20 Matrix: Soil/Solid
Sample ID: **SB-7R (0-0.5)** Date Collected: 1/16/2018 10:45

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (S)					Preparation Method: EPA 3545					
					Analytical Method: EPA 8310 List by 8270C SIM (S)					
1-Methylnaphthalene	U	mg/Kg	0.480	0.120	1	1/17/2018 10:10	BFM	1/17/2018 19:59	VS	
2-Methylnaphthalene	U	mg/Kg	0.480	0.120	1	1/17/2018 10:10	BFM	1/17/2018 19:59	VS	
Acenaphthene	U	mg/Kg	0.240	0.060	1	1/17/2018 10:10	BFM	1/17/2018 19:59	VS	
Acenaphthylene	U	mg/Kg	0.240	0.060	1	1/17/2018 10:10	BFM	1/17/2018 19:59	VS	
Anthracene	U	mg/Kg	0.240	0.060	1	1/17/2018 10:10	BFM	1/17/2018 19:59	VS	
Benzo(a)anthracene	0.156	mg/Kg	0.144	0.036	1	1/17/2018 10:10	BFM	1/17/2018 19:59	VS	
Benzo(a)pyrene	0.144	mg/Kg	0.144	0.022	1	1/17/2018 10:10	BFM	1/17/2018 19:59	VS	
Benzo(b)fluoranthene	0.231	mg/Kg	0.144	0.031	1	1/17/2018 10:10	BFM	1/17/2018 19:59	VS	
Benzo(g,h,i)perylene	0.132i	mg/Kg	0.144	0.036	1	1/17/2018 10:10	BFM	1/17/2018 19:59	VS	
Benzo(k)fluoranthene	0.081i	mg/Kg	0.144	0.036	1	1/17/2018 10:10	BFM	1/17/2018 19:59	VS	
Chrysene	0.143i	mg/Kg	0.144	0.036	1	1/17/2018 10:10	BFM	1/17/2018 19:59	VS	
Dibenzo(a,h)anthracene	0.022i	mg/Kg	0.144	0.0086	1	1/17/2018 10:10	BFM	1/17/2018 19:59	VS	
Nitrobenzene-d5 (S)	64	%	20-150		1	1/17/2018 10:10	BFM	1/17/2018 19:59	VS	
Fluoranthene	0.159i	mg/Kg	0.240	0.060	1	1/17/2018 10:10	BFM	1/17/2018 19:59	VS	
Fluorene	U	mg/Kg	0.240	0.060	1	1/17/2018 10:10	BFM	1/17/2018 19:59	VS	
Indeno(1,2,3-cd)pyrene	0.189	mg/Kg	0.144	0.036	1	1/17/2018 10:10	BFM	1/17/2018 19:59	VS	
Naphthalene	U	mg/Kg	0.480	0.120	1	1/17/2018 10:10	BFM	1/17/2018 19:59	VS	
Phenanthrene	U	mg/Kg	0.240	0.060	1	1/17/2018 10:10	BFM	1/17/2018 19:59	VS	
Pyrene	0.234i	mg/Kg	0.240	0.060	1	1/17/2018 10:10	BFM	1/17/2018 19:59	VS	
2-Fluorobiphenyl (S)	84	%	30-150		1	1/17/2018 10:10	BFM	1/17/2018 19:59	VS	
p-Terphenyl-d14 (S)	92	%	15-150		1	1/17/2018 10:10	BFM	1/17/2018 19:59	VS	

Volatiles by GC/MS

Analysis Desc: EPA 8260C Full Scan (S)					Preparation Method: EPA 5035					
					Analytical Method: EPA 8260C					
1,1,1,2-Tetrachloroethane	U	mg/Kg	0.0015	0.00046	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
1,1,1-Trichloroethane	U	mg/Kg	0.0015	0.00043	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
1,1,1,2,2-Tetrachloroethane	U	mg/Kg	0.0015	0.00037	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Dibromofluoromethane (S)	100	%	60-135		1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
1,1,2-Trichloroethane	U	mg/Kg	0.0015	0.00039	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Toluene d8 (S)	97	%	60-135		1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
1,1-Dichloroethane	U	mg/Kg	0.0015	0.00060	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
4-Bromofluorobenzene (S)	93	%	60-135		1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
1,1-Dichloroethene	U	mg/Kg	0.0015	0.00070	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
1,1-Dichloropropene	U	mg/Kg	0.0015	0.00036	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
1,2,3-Trichlorobenzene	U	mg/Kg	0.00077	0.00011	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
1,2,3-Trichloropropane	U	mg/Kg	0.0023	0.00093	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
1,2,4-Trichlorobenzene	U	mg/Kg	0.0015	0.00017	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	

Report ID: 1855053
1/25/2018

Page 4 of 24

FDOH# E86546

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ANALYTICAL RESULTS

Workorder: 1855053

Project ID: Ludlam 09215186.02

Lab ID: **1855053001**

Date Received: 1/16/2018 18:20

Matrix: Soil/Solid

Sample ID: **SB-7R (0-0.5)**

Date Collected: 1/16/2018 10:45

Parameters	Results Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
1,2,4-Trimethylbenzene	U mg/Kg	0.0015	0.00058	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
1,2-DBCP	U mg/Kg	0.0015	0.00016	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
1,2-Dibromoethane (EDB)	U mg/Kg	0.0015	0.00037	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
1,2-Dichlorobenzene	U mg/Kg	0.0015	0.00022	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
1,2-Dichloroethane	U mg/Kg	0.0015	0.00065	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
1,2-Dichloropropane	U mg/Kg	0.0015	0.00046	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
1,3,5-Trimethylbenzene	U mg/Kg	0.0015	0.00016	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
1,3-Dichlorobenzene	U mg/Kg	0.0015	0.00024	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
1,3-Dichloropropane	U mg/Kg	0.0015	0.00035	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
1,4-Dichlorobenzene	U mg/Kg	0.0015	0.00026	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
2,2-Dichloropropane	U mg/Kg	0.0015	0.00041	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
2-Chlorotoluene	U mg/Kg	0.0015	0.00029	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
2-Hexanone	U mg/Kg	0.0023	0.00089	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
4-Chlorotoluene	U mg/Kg	0.0015	0.00025	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
4-Isopropyltoluene	U mg/Kg	0.0015	0.00019	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
4-methyl-2-pentanone	U mg/Kg	0.0015	0.00042	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Acetone	U mg/Kg	0.0077	0.0024	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Acrolein	U mg/Kg	0.0077	0.0036	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Acrylonitrile	U mg/Kg	0.015	0.0058	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Benzene	U mg/Kg	0.0015	0.00036	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Bromobenzene	U mg/Kg	0.0015	0.00029	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Bromochloromethane	U mg/Kg	0.0023	0.00086	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Bromodichloromethane	U mg/Kg	0.0015	0.00028	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Bromoform	U mg/Kg	0.0015	0.00058	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Bromomethane	U mg/Kg	0.0023	0.0012	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Carbon disulfide	U mg/Kg	0.0015	0.00056	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Carbon tetrachloride	U mg/Kg	0.0015	0.00042	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Chlorobenzene	U mg/Kg	0.0015	0.00033	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Chloroethane	U mg/Kg	0.0015	0.00045	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Chloroform	U mg/Kg	0.012	0.0051	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Chloromethane	U mg/Kg	0.0015	0.00053	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Dibromochloromethane	U mg/Kg	0.0015	0.00044	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Dibromomethane	U mg/Kg	0.0015	0.00088	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Dichlorodifluoromethane	U mg/Kg	0.0015	0.00029	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
cis-1,3-Dichloropropene	U mg/Kg	0.0015	0.00043	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Ethyl methacrylate	U mg/Kg	0.0015	0.00028	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Ethylbenzene	U mg/Kg	0.0015	0.00026	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Hexachlorobutadiene	U mg/Kg	0.0015	0.00017	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Iodomethane	U mg/Kg	0.0015	0.00033	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Isopropylbenzene (Cumene)	U mg/Kg	0.0015	0.00026	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Methyl ethyl ketone (MEK)	U mg/Kg	0.0077	0.0011	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Methylene chloride	U mg/Kg	0.0077	0.0039	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Naphthalene	U mg/Kg	0.0077	0.0039	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	

Report ID: 1855053
1/25/2018

Page 5 of 24

FDOH# E86546

CERTIFICATE OF ANALYSIS

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ANALYTICAL RESULTS

Workorder: 1855053

Project ID: Ludlam 09215186.02

Lab ID: **1855053001** Date Received: 1/16/2018 18:20 Matrix: Soil/Solid
Sample ID: **SB-7R (0-0.5)** Date Collected: 1/16/2018 10:45

Parameters	Results Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Styrene	U mg/Kg	0.0015	0.00024	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Tetrachloroethene	U mg/Kg	0.0015	0.00035	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Toluene	U mg/Kg	0.0015	0.00031	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Trichloroethene	U mg/Kg	0.0015	0.00060	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Trichlorofluoromethane	U mg/Kg	0.0015	0.00058	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Vinyl acetate	U mg/Kg	0.0015	0.00063	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Vinyl chloride	U mg/Kg	0.0015	0.00076	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
Xylenes- Total	U mg/Kg	0.0015	0.00077	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
cis-1,2-Dichloroethene	U mg/Kg	0.0015	0.00034	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
cis-1,4-Dichloro-2-butene	U mg/Kg	0.0015	0.00072	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
m & p-xylene	U mg/Kg	0.0015	0.00050	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
n-Butylbenzene	U mg/Kg	0.0015	0.00020	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
n-propylbenzene	U mg/Kg	0.0015	0.00023	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
o-Xylene	U mg/Kg	0.0015	0.00027	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
sec-Butylbenzene	U mg/Kg	0.0015	0.00018	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
t-1,4-Dichloro-2-butene	U mg/Kg	0.015	0.0055	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
tert-Butyl methyl ether (MTBE)	U mg/Kg	0.0023	0.00086	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
tert-Butylbenzene	U mg/Kg	0.0015	0.00022	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
trans-1,2-Dichloroethene	U mg/Kg	0.0015	0.00069	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	
trans-1,3-Dichloropropene	U mg/Kg	0.0015	0.00034	1	1/23/2018 08:58	JSJ	1/23/2018 15:37	JSJ	

Wet Chemistry

Analysis Desc: 2540G Percent Solids (Dryweight)				Analytical Method: SM 2540G					
Percent Solids (Dryweight)	96.8 %	0.1	1				1/17/2018 13:08	BFM	

Semivolatiles by GC

Analysis Desc: Florida PRO by GC (S)				Preparation Method: EPA 3545					
				Analytical Method: FL-PRO (GC)					
Florida Pro Total	45.7i mg/Kg	60.0	30.0	5	1/17/2018 10:08	BFM	1/17/2018 17:34	VS	
o-Terphenyl (S)	60 %	50-150		5	1/17/2018 10:08	BFM	1/17/2018 17:34	VS	
n-Triacontane-d62 (S)	67 %	50-150		5	1/17/2018 10:08	BFM	1/17/2018 17:34	VS	

Analysis Desc: EPA 6020 Metals SCAN by ICP/MS (S)				Preparation Method: EPA 3050B					
				Analytical Method: EPA 6020					
Chromium	8.5 mg/Kg	1.1	0.23	2	1/18/2018 16:46	ZS	1/19/2018 15:06	ZS	
Copper	7.8 mg/Kg	0.85	0.17	2	1/18/2018 16:46	ZS	1/19/2018 15:06	ZS	
Arsenic	1.4 mg/Kg	0.52	0.085	2	1/18/2018 16:46	ZS	1/19/2018 15:06	ZS	
Cadmium	U mg/Kg	0.52	0.095	2	1/18/2018 16:46	ZS	1/19/2018 15:06	ZS	
Lead	14 mg/Kg	0.52	0.081	2	1/18/2018 16:46	ZS	1/19/2018 15:06	ZS	

ANALYTICAL RESULTS

Workorder: 1855053

Project ID: Ludlam 09215186.02

Lab ID: **1855053002**

Date Received: 1/16/2018 18:20

Matrix: Soil/Solid

Sample ID: **SB-7R (0.5-2)**

Date Collected: 1/16/2018 10:50

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (S)					Preparation Method: EPA 3545					
					Analytical Method: EPA 8310 List by 8270C SIM (S)					
1-Methylnaphthalene	U	mg/Kg	0.920	0.230	1	1/17/2018 10:10	BFM	1/17/2018 20:22	VS	
2-Methylnaphthalene	U	mg/Kg	0.920	0.230	1	1/17/2018 10:10	BFM	1/17/2018 20:22	VS	
Acenaphthene	U	mg/Kg	0.460	0.115	1	1/17/2018 10:10	BFM	1/17/2018 20:22	VS	
Acenaphthylene	U	mg/Kg	0.460	0.115	1	1/17/2018 10:10	BFM	1/17/2018 20:22	VS	
Anthracene	U	mg/Kg	0.460	0.115	1	1/17/2018 10:10	BFM	1/17/2018 20:22	VS	
Benzo(a)anthracene	U	mg/Kg	0.276	0.069	1	1/17/2018 10:10	BFM	1/17/2018 20:22	VS	
Benzo(a)pyrene	U	mg/Kg	0.276	0.042	1	1/17/2018 10:10	BFM	1/17/2018 20:22	VS	
Benzo(b)fluoranthene	U	mg/Kg	0.276	0.060	1	1/17/2018 10:10	BFM	1/17/2018 20:22	VS	
Benzo(g,h,i)perylene	U	mg/Kg	0.276	0.069	1	1/17/2018 10:10	BFM	1/17/2018 20:22	VS	
Benzo(k)fluoranthene	U	mg/Kg	0.276	0.069	1	1/17/2018 10:10	BFM	1/17/2018 20:22	VS	
Chrysene	U	mg/Kg	0.276	0.069	1	1/17/2018 10:10	BFM	1/17/2018 20:22	VS	
Dibenzo(a,h)anthracene	U	mg/Kg	0.276	0.017	1	1/17/2018 10:10	BFM	1/17/2018 20:22	VS	
Nitrobenzene-d5 (S)	64	%	20-150		1	1/17/2018 10:10	BFM	1/17/2018 20:22	VS	
Fluoranthene	U	mg/Kg	0.460	0.115	1	1/17/2018 10:10	BFM	1/17/2018 20:22	VS	
Fluorene	U	mg/Kg	0.460	0.115	1	1/17/2018 10:10	BFM	1/17/2018 20:22	VS	
Indeno(1,2,3-cd)pyrene	U	mg/Kg	0.276	0.069	1	1/17/2018 10:10	BFM	1/17/2018 20:22	VS	
Naphthalene	U	mg/Kg	0.920	0.230	1	1/17/2018 10:10	BFM	1/17/2018 20:22	VS	
Phenanthrene	U	mg/Kg	0.460	0.115	1	1/17/2018 10:10	BFM	1/17/2018 20:22	VS	
Pyrene	U	mg/Kg	0.460	0.115	1	1/17/2018 10:10	BFM	1/17/2018 20:22	VS	
2-Fluorobiphenyl (S)	93	%	30-150		1	1/17/2018 10:10	BFM	1/17/2018 20:22	VS	
p-Terphenyl-d14 (S)	94	%	15-150		1	1/17/2018 10:10	BFM	1/17/2018 20:22	VS	

Volatiles by GC/MS

Analysis Desc: EPA 8260C Full Scan (S)					Preparation Method: EPA 5035					
					Analytical Method: EPA 8260C					
1,1,1,2-Tetrachloroethane	U	mg/Kg	0.0019	0.00056	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
1,1,1-Trichloroethane	U	mg/Kg	0.0019	0.00051	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
1,1,1,2,2-Tetrachloroethane	U	mg/Kg	0.0019	0.00045	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Dibromofluoromethane (S)	98	%	60-135		1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
1,1,2-Trichloroethane	U	mg/Kg	0.0019	0.00048	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Toluene d8 (S)	97	%	60-135		1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
1,1-Dichloroethane	U	mg/Kg	0.0019	0.00073	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
4-Bromofluorobenzene (S)	93	%	60-135		1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
1,1-Dichloroethene	U	mg/Kg	0.0019	0.00084	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
1,1-Dichloropropene	U	mg/Kg	0.0019	0.00044	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
1,2,3-Trichlorobenzene	U	mg/Kg	0.00093	0.00013	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
1,2,3-Trichloropropane	U	mg/Kg	0.0028	0.0011	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
1,2,4-Trichlorobenzene	U	mg/Kg	0.0019	0.00021	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	

Report ID: 1855053
1/25/2018

Page 7 of 24

FDOH# E86546

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ANALYTICAL RESULTS

Workorder: 1855053

Project ID: Ludlam 09215186.02

Lab ID: **1855053002**

Date Received: 1/16/2018 18:20

Matrix: Soil/Solid

Sample ID: **SB-7R (0.5-2)**

Date Collected: 1/16/2018 10:50

Parameters	Results Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
1,2,4-Trimethylbenzene	U mg/Kg	0.0019	0.00070	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
1,2-DBCP	U mg/Kg	0.0019	0.00020	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
1,2-Dibromoethane (EDB)	U mg/Kg	0.0019	0.00045	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
1,2-Dichlorobenzene	U mg/Kg	0.0019	0.00027	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
1,2-Dichloroethane	U mg/Kg	0.0019	0.00078	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
1,2-Dichloropropane	U mg/Kg	0.0019	0.00056	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
1,3,5-Trimethylbenzene	U mg/Kg	0.0019	0.00020	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
1,3-Dichlorobenzene	U mg/Kg	0.0019	0.00029	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
1,3-Dichloropropane	U mg/Kg	0.0019	0.00042	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
1,4-Dichlorobenzene	U mg/Kg	0.0019	0.00032	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
2,2-Dichloropropane	U mg/Kg	0.0019	0.00050	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
2-Chlorotoluene	U mg/Kg	0.0019	0.00035	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
2-Hexanone	U mg/Kg	0.0028	0.0011	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
4-Chlorotoluene	U mg/Kg	0.0019	0.00030	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
4-Isopropyltoluene	U mg/Kg	0.0019	0.00022	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
4-methyl-2-pentanone	U mg/Kg	0.0019	0.00050	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Acetone	U mg/Kg	0.0093	0.0029	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Acrolein	U mg/Kg	0.0093	0.0044	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Acrylonitrile	U mg/Kg	0.019	0.0070	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Benzene	U mg/Kg	0.0019	0.00043	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Bromobenzene	U mg/Kg	0.0019	0.00035	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Bromochloromethane	U mg/Kg	0.0028	0.0010	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Bromodichloromethane	U mg/Kg	0.0019	0.00034	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Bromoform	U mg/Kg	0.0019	0.00070	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Bromomethane	U mg/Kg	0.0028	0.0014	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Carbon disulfide	U mg/Kg	0.0019	0.00067	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Carbon tetrachloride	U mg/Kg	0.0019	0.00050	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Chlorobenzene	U mg/Kg	0.0019	0.00040	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Chloroethane	U mg/Kg	0.0019	0.00054	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Chloroform	U mg/Kg	0.014	0.0062	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Chloromethane	U mg/Kg	0.0019	0.00064	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Dibromochloromethane	U mg/Kg	0.0019	0.00053	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Dibromomethane	U mg/Kg	0.0019	0.0011	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Dichlorodifluoromethane	U mg/Kg	0.0019	0.00035	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
cis-1,3-Dichloropropene	U mg/Kg	0.0019	0.00052	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Ethyl methacrylate	U mg/Kg	0.0019	0.00034	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Ethylbenzene	U mg/Kg	0.0019	0.00031	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Hexachlorobutadiene	U mg/Kg	0.0019	0.00021	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Iodomethane	U mg/Kg	0.0019	0.00040	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Isopropylbenzene (Cumene)	U mg/Kg	0.0019	0.00031	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Methyl ethyl ketone (MEK)	U mg/Kg	0.0093	0.0014	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Methylene chloride	U mg/Kg	0.0093	0.0047	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Naphthalene	U mg/Kg	0.0093	0.0047	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	

Report ID: 1855053
1/25/2018

Page 8 of 24

FDOH# E86546

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ANALYTICAL RESULTS

Workorder: 1855053

Project ID: Ludlam 09215186.02

Lab ID: **1855053002**

Date Received: 1/16/2018 18:20

Matrix: Soil/Solid

Sample ID: **SB-7R (0.5-2)**

Date Collected: 1/16/2018 10:50

Parameters	Results Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Styrene	U mg/Kg	0.0019	0.00029	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Tetrachloroethene	U mg/Kg	0.0019	0.00042	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Toluene	U mg/Kg	0.0019	0.00037	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Trichloroethene	U mg/Kg	0.0019	0.00073	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Trichlorofluoromethane	U mg/Kg	0.0019	0.00070	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Vinyl acetate	U mg/Kg	0.0019	0.00077	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Vinyl chloride	U mg/Kg	0.0019	0.00092	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
Xylenes- Total	U mg/Kg	0.0019	0.00092	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
cis-1,2-Dichloroethene	U mg/Kg	0.0019	0.00041	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
cis-1,4-Dichloro-2-butene	U mg/Kg	0.0019	0.00087	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
m & p-xylene	U mg/Kg	0.0019	0.00060	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
n-Butylbenzene	U mg/Kg	0.0019	0.00024	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
n-propylbenzene	U mg/Kg	0.0019	0.00028	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
o-Xylene	U mg/Kg	0.0019	0.00033	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
sec-Butylbenzene	U mg/Kg	0.0019	0.00021	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
t-1,4-Dichloro-2-butene	U mg/Kg	0.019	0.0066	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
tert-Butyl methyl ether (MTBE)	U mg/Kg	0.0028	0.0010	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
tert-Butylbenzene	U mg/Kg	0.0019	0.00027	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
trans-1,2-Dichloroethene	U mg/Kg	0.0019	0.00083	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	
trans-1,3-Dichloropropene	U mg/Kg	0.0019	0.00041	1	1/23/2018 08:58	JSJ	1/23/2018 16:03	JSJ	

Wet Chemistry

Analysis Desc: 2540G Percent Solids (Dryweight)				Analytical Method: SM 2540G					
Percent Solids (Dryweight)	77.5 %	0.1	1				1/17/2018 13:08	BFM	

Semivolatiles by GC

Analysis Desc: Florida PRO by GC (S)				Preparation Method: EPA 3545					
				Analytical Method: FL-PRO (GC)					
Florida Pro Total	U mg/Kg	23.0	11.5	1	1/17/2018 10:08	BFM	1/17/2018 18:49	VS	
o-Terphenyl (S)	71 %	50-150		1	1/17/2018 10:08	BFM	1/17/2018 18:49	VS	
n-Triacontane-d62 (S)	87 %	50-150		1	1/17/2018 10:08	BFM	1/17/2018 18:49	VS	

Analysis Desc: EPA 6020 Metals SCAN by ICP/MS (S)				Preparation Method: EPA 3050B					
				Analytical Method: EPA 6020					
Chromium	3.2 mg/Kg	1.4	0.28	2	1/18/2018 16:46	ZS	1/19/2018 15:11	ZS	
Copper	11 mg/Kg	1.1	0.21	2	1/18/2018 16:46	ZS	1/19/2018 15:11	ZS	
Arsenic	1.9 mg/Kg	0.65	0.11	2	1/18/2018 16:46	ZS	1/19/2018 15:11	ZS	
Cadmium	U mg/Kg	0.65	0.12	2	1/18/2018 16:46	ZS	1/19/2018 15:11	ZS	
Lead	64 mg/Kg	0.65	0.10	2	1/18/2018 16:46	ZS	1/19/2018 15:11	ZS	

Report ID: 1855053
1/25/2018

Page 9 of 24

FDOH# E86546

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ANALYTICAL RESULTS QUALIFIERS

Workorder: 1855053

Project ID: Ludlam 09215186.02

PARAMETER QUALIFIERS

PROJECT COMMENTS

1855053	A reported value of U indicates that the compound was analyzed for but not detected above the MDL. A value flagged with an "i" flag indicates that the reported value is between the laboratory method detection limit and the practical quantitation limit.
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QUALITY CONTROL DATA

Workorder: 1855053

Project ID: Ludlam 09215186.02

QC Batch:	XXX/10676	Analysis Method:	EPA 8310 List by 8270C SIM (S)			
QC Batch Method:	EPA 3545					
Associated Lab Samples:	1855023005	1855023006	1855023007	1855023008	1855053001	1855053002

METHOD BLANK: 133750

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Semivolatiles by EPA 8270C				
Nitrobenzene-d5 (S)	%	67	20-150	
2-Fluorobiphenyl (S)	%	97	30-150	
p-Terphenyl-d14 (S)	%	105	15-150	
Naphthalene	mg/Kg	U	0.100	
2-Methylnaphthalene	mg/Kg	U	0.100	
1-Methylnaphthalene	mg/Kg	U	0.100	
Acenaphthylene	mg/Kg	U	0.050	
Acenaphthene	mg/Kg	U	0.050	
Fluorene	mg/Kg	U	0.050	
Phenanthrene	mg/Kg	U	0.050	
Anthracene	mg/Kg	U	0.050	
Fluoranthene	mg/Kg	U	0.050	
Pyrene	mg/Kg	U	0.050	
Benzo(a)anthracene	mg/Kg	U	0.030	
Chrysene	mg/Kg	U	0.030	
Benzo(b)fluoranthene	mg/Kg	U	0.026	
Benzo(k)fluoranthene	mg/Kg	U	0.030	
Benzo(a)pyrene	mg/Kg	U	0.018	
Dibenzo(a,h)anthracene	mg/Kg	U	0.0072	
Indeno(1,2,3-cd)pyrene	mg/Kg	U	0.030	
Benzo(g,h,i)perylene	mg/Kg	U	0.030	

LABORATORY CONTROL SAMPLE & LCSD: 133751 133752

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Semivolatiles by EPA 8270C										
Nitrobenzene-d5 (S)	%				71	73	20-150	2	40	
2-Fluorobiphenyl (S)	%				95	105	30-150	10	40	
p-Terphenyl-d14 (S)	%				94	100	15-150	7	40	
Naphthalene	mg/Kg	1.99	1.89	2.03	95	102	40-150	7	40	
2-Methylnaphthalene	mg/Kg	1.98	1.90	2.03	96	102	40-150	7	40	
1-Methylnaphthalene	mg/Kg	2.01	1.98	2.16	99	107	40-150	9	40	
Acenaphthylene	mg/Kg	1.97	1.77	1.90	90	96	40-150	7	40	
Acenaphthene	mg/Kg	1.99	1.98	2.14	100	108	35-150	8	40	
Fluorene	mg/Kg	1.97	1.75	2.01	89	102	40-150	14	40	

Report ID: 1855053
1/25/2018

Page 11 of 24

FDOH# E86546

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QUALITY CONTROL DATA

Workorder: 1855053

Project ID: Ludlam 09215186.02

LABORATORY CONTROL SAMPLE & LCSD: 133751

133752

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Phenanthrene	mg/Kg	1.99	2.01	2.20	101	110	40-150	9	40	
Anthracene	mg/Kg	2	1.93	2.07	97	103	40-150	7	40	
Fluoranthene	mg/Kg	1.98	1.77	1.77	89	89	40-150	0	40	
Pyrene	mg/Kg	1.96	1.76	1.86	90	95	40-150	6	40	
Benzo(a)anthracene	mg/Kg	2.01	1.70	1.86	85	93	40-150	9	40	
Chrysene	mg/Kg	2	1.72	1.88	86	94	40-150	9	40	
Benzo(b)fluoranthene	mg/Kg	2.01	1.82	1.93	90	96	40-150	6	40	
Benzo(k)fluoranthene	mg/Kg	2	1.57	1.73	79	87	40-150	10	40	
Benzo(a)pyrene	mg/Kg	2	1.63	1.71	81	85	40-150	5	40	
Dibenzo(a,h)anthracene	mg/Kg	2	1.85	1.97	93	99	40-150	6	40	
Indeno(1,2,3-cd)pyrene	mg/Kg	2	2.40	2.52	120	126	40-150	5	40	
Benzo(g,h,i)perylene	mg/Kg	2.01	1.82	1.92	91	96	40-150	5	40	

MATRIX SPIKE SAMPLE: 133753

Original: 1855023005

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Semivolatiles by EPA 8270C							
Nitrobenzene-d5 (S)	%				79	20-150	
2-Fluorobiphenyl (S)	%				102	30-150	
p-Terphenyl-d14 (S)	%				98	15-150	
Naphthalene	mg/Kg	0	2.31	2.31	100	40-150	
2-Methylnaphthalene	mg/Kg	0	2.31	2.36	102	40-150	
1-Methylnaphthalene	mg/Kg	0	2.34	2.46	105	40-150	
Acenaphthylene	mg/Kg	0	2.29	2.21	97	40-150	
Acenaphthene	mg/Kg	0	2.31	2.42	104	35-150	
Fluorene	mg/Kg	0	2.3	2.27	99	40-150	
Phenanthrene	mg/Kg	0.079	2.32	2.42	101	40-150	
Anthracene	mg/Kg	0	2.33	2.29	99	40-150	
Fluoranthene	mg/Kg	0.229	2.31	2.15	83	40-150	
Pyrene	mg/Kg	0.222	2.28	2.34	93	40-150	
Benzo(a)anthracene	mg/Kg	0.138	2.34	2.28	92	40-150	
Chrysene	mg/Kg	0.169	2.33	2.17	86	40-150	
Benzo(b)fluoranthene	mg/Kg	0.23	2.34	2.49	97	40-150	
Benzo(k)fluoranthene	mg/Kg	0.092	2.33	2.07	85	40-150	
Benzo(a)pyrene	mg/Kg	0.128	2.33	2.1	85	40-150	
Dibenzo(a,h)anthracene	mg/Kg	0.027	2.33	2.18	93	40-150	
Indeno(1,2,3-cd)pyrene	mg/Kg	0.169	2.33	2.99	121	40-150	
Benzo(g,h,i)perylene	mg/Kg	0.122	2.33	2.23	90	40-150	

Report ID: 1855053
1/25/2018

Page 12 of 24

FDOH# E86546

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QUALITY CONTROL DATA

Workorder: 1855053

Project ID: Ludlam 09215186.02

SAMPLE DUPLICATE: 133754

Original: 1855023006

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Semivolatiles by EPA 8270C						
Nitrobenzene-d5 (S)	%	1680		2	40	
2-Fluorobiphenyl (S)	%	2060		11	40	
p-Terphenyl-d14 (S)	%	2340		5	40	
Naphthalene	mg/Kg	0	U	0	40	
2-Methylnaphthalene	mg/Kg	0	U	0	40	
1-Methylnaphthalene	mg/Kg	0	U	0	40	
Acenaphthylene	mg/Kg	0	U	0	40	
Acenaphthene	mg/Kg	0	U	0	40	
Fluorene	mg/Kg	0	U	0	40	
Phenanthrene	mg/Kg	0	U	0	40	
Anthracene	mg/Kg	0	U	0	40	
Fluoranthene	mg/Kg	0	U	0	40	
Pyrene	mg/Kg	0	U	0	40	
Benzo(a)anthracene	mg/Kg	0	U	0	40	
Chrysene	mg/Kg	0	U	0	40	
Benzo(b)fluoranthene	mg/Kg	0	U	0	40	
Benzo(k)fluoranthene	mg/Kg	0	U	0	40	
Benzo(a)pyrene	mg/Kg	0	U	0	40	
Dibenzo(a,h)anthracene	mg/Kg	0	U	0	40	
Indeno(1,2,3-cd)pyrene	mg/Kg	0	U	0	40	
Benzo(g,h,i)perylene	mg/Kg	0	U	0	40	

QUALITY CONTROL DATA

Workorder: 1855053

Project ID: Ludlam 09215186.02

QC Batch: XXX/10677 Analysis Method: FL-PRO (GC)
QC Batch Method: EPA 3545
Associated Lab Samples: 1855053001 1855053002

METHOD BLANK: 133755

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Semivolatiles by GC				
o-Terphenyl (S)	%	69	50-150	
n-Triacontane-d62 (S)	%	87	50-150	
Florida Pro Total	mg/Kg	U	5.00	

LABORATORY CONTROL SAMPLE & LCSD: 133756 133757

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Semivolatiles by GC										
o-Terphenyl (S)	%				74	71	50-150	6	20	
n-Triacontane-d62 (S)	%				98	89	50-150	10	20	
Florida Pro Total	mg/Kg	34	22.9	21.4	67	63	63-143	7	20	

MATRIX SPIKE SAMPLE: 133834 Original: 1855053001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Semivolatiles by GC							
o-Terphenyl (S)	%				51	50-150	
n-Triacontane-d62 (S)	%				65	50-150	
Florida Pro Total	mg/Kg	44.2	39.7	47.1	7	51-215	

SAMPLE DUPLICATE: 133835 Original: 1855053002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Semivolatiles by GC						
o-Terphenyl (S)	%	2.53		8	20	
n-Triacontane-d62 (S)	%	3.04		5	20	
Florida Pro Total	mg/Kg	8.77	U	0.8	20	

Report ID: 1855053
1/25/2018

Page 14 of 24

FDOH# E86546
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QUALITY CONTROL DATA

Workorder: 1855053

Project ID: Ludlam 09215186.02

QC Batch:	MXX/9358	Analysis Method:	EPA 6020		
QC Batch Method:	EPA 3050B				
Associated Lab Samples:	1855053001	1855053002	1855078001	1855078002	1855078003
	1855078005	1855078006	1855078007	1855078008	1855078009
	1855078011	1855078012	1855078013	1855078014	1855078015
	1855078017	1855091002			1855078016

METHOD BLANK: 133972

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Chromium	mg/Kg	U	0.11	
Copper	mg/Kg	U	0.082	
Arsenic	mg/Kg	U	0.041	
Cadmium	mg/Kg	U	0.046	
Lead	mg/Kg	U	0.039	

LABORATORY CONTROL SAMPLE & LCSD: 133973 133974

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Chromium	mg/Kg	10	9.9	9.8	99.4	98.4	80-120	1.02	20	
Copper	mg/Kg	10	10	9.9	99.7	99.2	80-120	1.01	20	
Arsenic	mg/Kg	10	9.9	9.9	99.4	98.9	80-120	0	20	
Cadmium	mg/Kg	10	11	10	106	99.7	80-120	9.52	20	
Lead	mg/Kg	10	11	10	109	105	80-120	9.52	20	

MATRIX SPIKE SAMPLE: 133976 Original: 1855078017

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chromium	mg/Kg	8.5	20	30	105	75-125	
Copper	mg/Kg	4.5	20	25	100	75-125	
Arsenic	mg/Kg	7.5	20	27	96.1	75-125	
Cadmium	mg/Kg	0	20	19	95.7	75-125	
Lead	mg/Kg	160	20	170	84.5	75-125	

QUALITY CONTROL DATA

Workorder: 1855053

Project ID: Ludlam 09215186.02

SAMPLE DUPLICATE: 133975

Original: 1855078017

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Chromium	mg/Kg	8.5	9.3	2.33	20	
Copper	mg/Kg	4.5	5.0	4.35	20	
Arsenic	mg/Kg	7.5	8.1	1.32	20	
Cadmium	mg/Kg	0	U	0	20	
Lead	mg/Kg	160	170	0	20	

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QUALITY CONTROL DATA

Workorder: 1855053

Project ID: Ludlam 09215186.02

QC Batch: VXX/7855 Analysis Method: EPA 8260C
QC Batch Method: EPA 5035
Associated Lab Samples: 1855053001 1855053002

METHOD BLANK: 134248

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Volatiles by GC/MS				
Dibromofluoromethane (S)	%	96	60-135	
Toluene d8 (S)	%	97	60-135	
4-Bromofluorobenzene (S)	%	95	60-135	
Dichlorodifluoromethane	mg/Kg	U	0.00037	
Chloromethane	mg/Kg	U	0.00068	
Vinyl chloride	mg/Kg	U	0.00098	
Bromomethane	mg/Kg	U	0.0015	
Chloroethane	mg/Kg	U	0.00058	
Trichlorofluoromethane	mg/Kg	U	0.00075	
Acrolein	mg/Kg	U	0.0047	
Acetone	mg/Kg	U	0.0031	
1,1-Dichloroethene	mg/Kg	U	0.00090	
Iodomethane	mg/Kg	U	0.00043	
Acrylonitrile	mg/Kg	U	0.0075	
Methylene chloride	mg/Kg	U	0.0050	
Carbon disulfide	mg/Kg	U	0.00072	
trans-1,2-Dichloroethene	mg/Kg	U	0.00089	
tert-Butyl methyl ether (MTBE)	mg/Kg	U	0.0011	
1,1-Dichloroethane	mg/Kg	U	0.00078	
Vinyl acetate	mg/Kg	U	0.00082	
Methyl ethyl ketone (MEK)	mg/Kg	U	0.0015	
cis-1,2-Dichloroethene	mg/Kg	U	0.00044	
Bromochloromethane	mg/Kg	U	0.0011	
Chloroform	mg/Kg	U	0.0066	
2,2-Dichloropropane	mg/Kg	U	0.00053	
1,2-Dichloroethane	mg/Kg	U	0.00084	
1,1,1-Trichloroethane	mg/Kg	U	0.00055	
1,1-Dichloropropene	mg/Kg	U	0.00047	
Carbon tetrachloride	mg/Kg	U	0.00054	
Benzene	mg/Kg	U	0.00046	
Dibromomethane	mg/Kg	U	0.0011	
1,2-Dichloropropane	mg/Kg	U	0.00060	
Trichloroethene	mg/Kg	U	0.00078	
Bromodichloromethane	mg/Kg	U	0.00036	
cis-1,3-Dichloropropene	mg/Kg	U	0.00056	
4-methyl-2-pentanone	mg/Kg	U	0.00054	
trans-1,3-Dichloropropene	mg/Kg	U	0.00044	
1,1,2-Trichloroethane	mg/Kg	U	0.00051	

Report ID: 1855053
1/25/2018

Page 17 of 24

FDOH# E86546

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QUALITY CONTROL DATA

Workorder: 1855053

Project ID: Ludlam 09215186.02

METHOD BLANK: 134248

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Toluene	mg/Kg	U	0.00040	
1,3-Dichloropropane	mg/Kg	U	0.00045	
Ethyl methacrylate	mg/Kg	U	0.00036	
Dibromochloromethane	mg/Kg	U	0.00057	
2-Hexanone	mg/Kg	U	0.0012	
1,2-Dibromoethane (EDB)	mg/Kg	U	0.00048	
Tetrachloroethene	mg/Kg	U	0.00045	
1,1,1,2-Tetrachloroethane	mg/Kg	U	0.00060	
Chlorobenzene	mg/Kg	U	0.00043	
Ethylbenzene	mg/Kg	U	0.00033	
m & p-xylene	mg/Kg	U	0.00064	
Bromoform	mg/Kg	U	0.00075	
t-1,4-Dichloro-2-butene	mg/Kg	U	0.0071	
Styrene	mg/Kg	U	0.00031	
1,1,1,2-Tetrachloroethane	mg/Kg	U	0.00048	
o-Xylene	mg/Kg	U	0.00035	
1,2,3-Trichloropropane	mg/Kg	U	0.0012	
cis-1,4-Dichloro-2-butene	mg/Kg	U	0.00093	
Isopropylbenzene (Cumene)	mg/Kg	U	0.00033	
Bromobenzene	mg/Kg	U	0.00037	
n-propylbenzene	mg/Kg	U	0.00030	
2-Chlorotoluene	mg/Kg	U	0.00037	
1,3,5-Trimethylbenzene	mg/Kg	U	0.00021	
4-Chlorotoluene	mg/Kg	U	0.00032	
tert-Butylbenzene	mg/Kg	U	0.00029	
1,2,4-Trimethylbenzene	mg/Kg	U	0.00075	
sec-Butylbenzene	mg/Kg	U	0.00023	
1,3-Dichlorobenzene	mg/Kg	U	0.00031	
1,4-Dichlorobenzene	mg/Kg	U	0.00034	
4-Isopropyltoluene	mg/Kg	U	0.00024	
1,2-Dichlorobenzene	mg/Kg	U	0.00029	
n-Butylbenzene	mg/Kg	U	0.00026	
1,2-DBCP	mg/Kg	U	0.00021	
1,2,4-Trichlorobenzene	mg/Kg	U	0.00022	
Naphthalene	mg/Kg	U	0.0050	
Hexachlorobutadiene	mg/Kg	U	0.00022	
1,2,3-Trichlorobenzene	mg/Kg	U	0.00014	
Xylenes- Total	mg/Kg	U	0.00099	

QUALITY CONTROL DATA

Workorder: 1855053

Project ID: Ludlam 09215186.02

LABORATORY CONTROL SAMPLE & LCSD: 134249 134250

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Volatiles by GC/MS										
Dibromofluoromethane (S)	%				97	94	60-135	2	30	
Toluene d8 (S)	%				97	96	60-135	0.8	30	
4-Bromofluorobenzene (S)	%				97	98	60-135	1	30	
Dichlorodifluoromethane	mg/Kg	0.05	0.044	0.042	88	84	60-135	5	30	
Chloromethane	mg/Kg	0.05	0.049	0.048	97	96	60-135	2	30	
Vinyl chloride	mg/Kg	0.05	0.047	0.044	94	87	60-135	7	30	
Bromomethane	mg/Kg	0.05	0.037	0.040	75	80	50-135	8	30	
Chloroethane	mg/Kg	0.05	0.045	0.044	90	88	60-135	2	30	
Trichlorofluoromethane	mg/Kg	0.05	0.044	0.043	89	86	60-135	2	30	
Acrolein	mg/Kg		U	U				0	30	
Acetone	mg/Kg	0.05	0.042	0.040	83	79	60-135	5	30	
1,1-Dichloroethene	mg/Kg	0.05	0.044	0.042	89	85	60-135	5	30	
Iodomethane	mg/Kg	0.05	0.036	0.038	72	77	60-135	5	30	
Acrylonitrile	mg/Kg		U	U				0	30	
Methylene chloride	mg/Kg	0.05	0.036	0.035	72	71	50-135	3	30	
Carbon disulfide	mg/Kg	0.05	0.043	0.042	86	85	50-135	2	30	
trans-1,2-Dichloroethene	mg/Kg	0.05	0.045	0.043	91	87	60-135	5	30	
tert-Butyl methyl ether (MTBE)	mg/Kg	0.05	0.058	0.059	116	117	60-135	2	30	
1,1-Dichloroethane	mg/Kg	0.05	0.045	0.044	90	88	60-135	2	30	
Vinyl acetate	mg/Kg	0.05	0.041	0.043	82	86	50-135	5	30	
Methyl ethyl ketone (MEK)	mg/Kg	0.05	0.055	0.048	111	96	60-135	14	30	
cis-1,2-Dichloroethene	mg/Kg	0.05	0.047	0.047	96	94	60-135	0	30	
Bromochloromethane	mg/Kg	0.05	0.047	0.044	94	89	60-135	7	30	
Chloroform	mg/Kg	0.05	0.047	0.045	94	91	60-135	4	30	
2,2-Dichloropropane	mg/Kg	0.05	0.046	0.044	93	88	50-135	4	30	
1,2-Dichloroethane	mg/Kg	0.05	0.044	0.044	88	89	60-135	0	30	
1,1,1-Trichloroethane	mg/Kg	0.05	0.047	0.046	94	92	60-135	2	30	
1,1-Dichloropropene	mg/Kg	0.05	0.049	0.048	98	95	60-135	2	30	
Carbon tetrachloride	mg/Kg	0.05	0.050	0.048	101	96	60-135	4	30	
Benzene	mg/Kg	0.05	0.048	0.046	97	92	60-135	4	30	
Dibromomethane	mg/Kg	0.049	0.045	0.045	92	90	60-135	0	30	
1,2-Dichloropropane	mg/Kg	0.05	0.046	0.044	93	88	60-135	4	30	
Trichloroethene	mg/Kg	0.05	0.047	0.044	94	88	60-135	7	30	
Bromodichloromethane	mg/Kg	0.049	0.048	0.046	98	93	60-135	4	30	
cis-1,3-Dichloropropene	mg/Kg	0.048	0.051	0.049	107	103	60-135	4	30	
4-methyl-2-pentanone	mg/Kg	0.05	0.049	0.049	98	97	60-135	0	30	
trans-1,3-Dichloropropene	mg/Kg	0.046	0.045	0.045	97	97	60-135	0	30	
1,1,2-Trichloroethane	mg/Kg	0.049	0.046	0.045	93	91	60-135	2	30	
Toluene	mg/Kg	0.05	0.049	0.048	98	95	60-135	2	30	
1,3-Dichloropropane	mg/Kg	0.05	0.048	0.047	97	95	60-135	2	30	
Ethyl methacrylate	mg/Kg	0.05	0.047	0.048	93	97	60-135	2	30	
Dibromochloromethane	mg/Kg	0.049	0.051	0.051	105	104	60-135	0	30	

Report ID: 1855053
1/25/2018

Page 19 of 24

FDOH# E86546

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QUALITY CONTROL DATA

Workorder: 1855053

Project ID: Ludlam 09215186.02

LABORATORY CONTROL SAMPLE & LCSD: 134249 134250										
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
2-Hexanone	mg/Kg	0.05	0.068	0.065	137	131	60-135	5	30	J3a
1,2-Dibromoethane (EDB)	mg/Kg	0.05	0.049	0.049	99	98	60-135	0	30	
Tetrachloroethene	mg/Kg	0.05	0.049	0.048	99	95	60-135	2	30	
1,1,1,2-Tetrachloroethane	mg/Kg	0.049	0.049	0.048	100	96	60-135	2	30	
Chlorobenzene	mg/Kg	0.05	0.050	0.048	99	96	60-135	4	30	
Ethylbenzene	mg/Kg	0.049	0.048	0.047	98	95	60-135	2	30	
m & p-xylene	mg/Kg	0.1	0.093	0.089	93	89	60-135	4	30	
Bromoform	mg/Kg	0.05	0.054	0.056	110	112	60-135	4	30	
t-1,4-Dichloro-2-butene	mg/Kg	0.05	0.044	0.045	87	90	60-135	2	30	
Styrene	mg/Kg	0.05	0.056	0.054	113	109	60-135	4	30	
1,1,2,2-Tetrachloroethane	mg/Kg	0.05	0.050	0.051	99	101	60-135	2	30	
o-Xylene	mg/Kg	0.05	0.047	0.045	94	91	60-135	4	30	
1,2,3-Trichloropropane	mg/Kg	0.05	0.047	0.049	95	98	60-135	4	30	
cis-1,4-Dichloro-2-butene	mg/Kg	0.049	0.040	0.045	82	93	60-135	12	30	
Isopropylbenzene (Cumene)	mg/Kg	0.05	0.048	0.046	97	93	60-135	4	30	
Bromobenzene	mg/Kg	0.05	0.052	0.051	105	101	60-135	2	30	
n-propylbenzene	mg/Kg	0.05	0.056	0.053	112	106	60-135	6	30	
2-Chlorotoluene	mg/Kg	0.05	0.057	0.054	114	107	60-135	5	30	
1,3,5-Trimethylbenzene	mg/Kg	0.05	0.054	0.051	108	102	60-135	6	30	
4-Chlorotoluene	mg/Kg	0.049	0.055	0.050	111	103	60-135	10	30	
tert-Butylbenzene	mg/Kg	0.05	0.054	0.051	109	103	60-135	6	30	
1,2,4-Trimethylbenzene	mg/Kg	0.049	0.064	0.061	129	124	60-135	5	30	
sec-Butylbenzene	mg/Kg	0.05	0.055	0.053	111	106	60-135	4	30	
1,3-Dichlorobenzene	mg/Kg	0.049	0.052	0.049	105	99	60-135	6	30	
1,4-Dichlorobenzene	mg/Kg	0.049	0.052	0.050	106	102	60-135	4	30	
4-Isopropyltoluene	mg/Kg	0.05	0.057	0.053	115	107	60-135	7	30	
1,2-Dichlorobenzene	mg/Kg	0.049	0.052	0.049	106	100	60-135	6	30	
n-Butylbenzene	mg/Kg	0.05	0.064	0.064	129	128	60-135	0	30	
1,2-DBCP	mg/Kg	0.05	0.044	0.044	87	88	60-135	0	30	
1,2,4-Trichlorobenzene	mg/Kg	0.05	0.055	0.052	111	104	60-135	6	30	
Naphthalene	mg/Kg	0.05	0.050	0.056	101	113	60-135	11	30	
Hexachlorobutadiene	mg/Kg	0.05	0.061	0.053	122	106	60-135	14	30	
1,2,3-Trichlorobenzene	mg/Kg	0.05	0.054	0.052	108	105	60-135	4	30	
Xylenes- Total	mg/Kg	0.15	0.140	0.135	93	90		4	30	

LABORATORY CONTROL SAMPLE & LCSD: 134251 134252										
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Volatiles by GC/MS										
Dibromofluoromethane (S)	%				95	94	60-135	0.8	30	
Toluene d8 (S)	%				97	96	60-135	0.3	30	
4-Bromofluorobenzene (S)	%				96	96	60-135	0.3	30	

Report ID: 1855053
1/25/2018

Page 20 of 24

FDOH# E86546

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QUALITY CONTROL DATA

Workorder: 1855053

Project ID: Ludlam 09215186.02

LABORATORY CONTROL SAMPLE & LCSD:		134251	134252							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Dichlorodifluoromethane	mg/Kg		U	U				0	30	
Chloromethane	mg/Kg		U	U				0	30	
Vinyl chloride	mg/Kg		U	U				0	30	
Bromomethane	mg/Kg		U	U				0	30	
Chloroethane	mg/Kg		U	U				0	30	
Trichlorofluoromethane	mg/Kg		U	U				0	30	
Acrolein	mg/Kg	0.251	0.140	0.136	56	54	50-135	3	30	
Acetone	mg/Kg		U	U				0	30	
1,1-Dichloroethene	mg/Kg		U	U				0	30	
Iodomethane	mg/Kg		U	U				0	30	
Acrylonitrile	mg/Kg	0.251	0.247	0.228	99	91	50-135	8	30	
Methylene chloride	mg/Kg		U	U				0	30	
Carbon disulfide	mg/Kg		U	U				0	30	
trans-1,2-Dichloroethene	mg/Kg		U	U				0	30	
tert-Butyl methyl ether (MTBE)	mg/Kg		U	U				0	30	
1,1-Dichloroethane	mg/Kg		U	U				0	30	
Vinyl acetate	mg/Kg		U	U				0	30	
Methyl ethyl ketone (MEK)	mg/Kg		U	U				0	30	
cis-1,2-Dichloroethene	mg/Kg		U	U				0	30	
Bromochloromethane	mg/Kg		U	U				0	30	
Chloroform	mg/Kg		U	U				0	30	
2,2-Dichloropropane	mg/Kg		U	U				0	30	
1,2-Dichloroethane	mg/Kg		U	U				0	30	
1,1,1-Trichloroethane	mg/Kg		U	U				0	30	
1,1-Dichloropropene	mg/Kg		U	U				0	30	
Carbon tetrachloride	mg/Kg		U	U				0	30	
Benzene	mg/Kg		U	U				0	30	
Dibromomethane	mg/Kg		U	U				0	30	
1,2-Dichloropropane	mg/Kg		U	U				0	30	
Trichloroethene	mg/Kg		U	U				0	30	
Bromodichloromethane	mg/Kg		U	U				0	30	
cis-1,3-Dichloropropene	mg/Kg		U	U				0	30	
4-methyl-2-pentanone	mg/Kg		U	U				0	30	
trans-1,3-Dichloropropene	mg/Kg		U	U				0	30	
1,1,2-Trichloroethane	mg/Kg		U	U				0	30	
Toluene	mg/Kg		U	U				0	30	
1,3-Dichloropropane	mg/Kg		U	U				0	30	
Ethyl methacrylate	mg/Kg		U	U				0	30	
Dibromochloromethane	mg/Kg		U	U				0	30	
2-Hexanone	mg/Kg		U	U				0	30	
1,2-Dibromoethane (EDB)	mg/Kg		U	U				0	30	
Tetrachloroethene	mg/Kg		U	U				0	30	
1,1,1,2-Tetrachloroethane	mg/Kg		U	U				0	30	

Report ID: 1855053
1/25/2018

Page 21 of 24

FDOH# E86546

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QUALITY CONTROL DATA

Workorder: 1855053

Project ID: Ludlam 09215186.02

LABORATORY CONTROL SAMPLE & LCSD: 134251

134252

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Chlorobenzene	mg/Kg		U	U				0	30	
Ethylbenzene	mg/Kg		U	U				0	30	
m & p-xylene	mg/Kg		U	U				0	30	
Bromoform	mg/Kg		U	U				0	30	
t-1,4-Dichloro-2-butene	mg/Kg		U	U				0	30	
Styrene	mg/Kg		U	U				0	30	
1,1,2,2-Tetrachloroethane	mg/Kg		U	U				0	30	
o-Xylene	mg/Kg		U	U				0	30	
1,2,3-Trichloropropane	mg/Kg		U	U				0	30	
cis-1,4-Dichloro-2-butene	mg/Kg		U	U				0	30	
Isopropylbenzene (Cumene)	mg/Kg		U	U				0	30	
Bromobenzene	mg/Kg		U	U				0	30	
n-propylbenzene	mg/Kg		U	U				0	30	
2-Chlorotoluene	mg/Kg		U	U				0	30	
1,3,5-Trimethylbenzene	mg/Kg		U	U				0	30	
4-Chlorotoluene	mg/Kg		U	U				0	30	
tert-Butylbenzene	mg/Kg		U	U				0	30	
1,2,4-Trimethylbenzene	mg/Kg		U	U				0	30	
sec-Butylbenzene	mg/Kg		U	U				0	30	
1,3-Dichlorobenzene	mg/Kg		U	U				0	30	
1,4-Dichlorobenzene	mg/Kg		U	U				0	30	
4-Isopropyltoluene	mg/Kg		U	U				0	30	
1,2-Dichlorobenzene	mg/Kg		U	U				0	30	
n-Butylbenzene	mg/Kg		U	U				0	30	
1,2-DBCP	mg/Kg		U	U				0	30	
1,2,4-Trichlorobenzene	mg/Kg		U	U				0	30	
Naphthalene	mg/Kg		U	U				0	30	
Hexachlorobutadiene	mg/Kg		U	U				0	30	
1,2,3-Trichlorobenzene	mg/Kg		U	U				0	30	
Xylenes- Total	mg/Kg		U	U				0	30	

QUALITY CONTROL DATA QUALIFIERS

Workorder: 1855053

Project ID: Ludlam 09215186.02

QUALITY CONTROL PARAMETER QUALIFIERS

- | | |
|-----|---|
| J3a | The reported value failed to meet the established quality control criteria. LCS value skewed high. Target analyte was not detected in associated samples. |
| L1 | Reported value is above the calibration range but is within the instrument LDR (Linear Dynamic Range). |

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 1855053

Project ID: Ludlam 09215186.02

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1855053001	SB-7R (0-0.5)	SM 2540G	WGR/3365		
1855053002	SB-7R (0.5-2)	SM 2540G	WGR/3365		
1855053001	SB-7R (0-0.5)	EPA 3545	XXX/10676	EPA 8310 List by 8270C SIM (S)	XMS/5680
1855053002	SB-7R (0.5-2)	EPA 3545	XXX/10676	EPA 8310 List by 8270C SIM (S)	XMS/5680
1855053001	SB-7R (0-0.5)	EPA 3545	XXX/10677	FL-PRO (GC)	XGCP/3910
1855053002	SB-7R (0.5-2)	EPA 3545	XXX/10677	FL-PRO (GC)	XGCP/3910
1855053001	SB-7R (0-0.5)	EPA 3050B	MXX/9358	EPA 6020	MMS/8389
1855053002	SB-7R (0.5-2)	EPA 3050B	MXX/9358	EPA 6020	MMS/8389
1855053001	SB-7R (0-0.5)	EPA 5035	VXX/7855	EPA 8260C	VMS/7680
1855053002	SB-7R (0.5-2)	EPA 5035	VXX/7855	EPA 8260C	VMS/7680

855053

SAMPLE RECEIPT CONFIRMATION SHEET

Client Information

SDG:	1855053	Req:	1446
Client:	SCS	Project:	FANGMEI Z
Level:	1	Date Rec'd:	1/16/2018 6:20:00 PM
Rec'd via:	courier		

Cooler Check

ID	Temp	# of samples	Security Tape		Method of Receipt	Comments
			Present	Intact		
	3.1	4	☐	☐		

Checked By: CF

Sample Verification

Loose Caps?	No	All Samples on COC accounted For?	Yes
Broken Containers?	No	All Samples on COC?	Yes
pH Verified?	No	Written on Internal COC?	No
pH Strip Lot #		Sample Vol. Suff. For Analysis?	Yes
Acid Preserved Samples Lot #		Samples Rec'd W/ Hold Time?	Yes
Base Preserved Samples Lot #		Are All Samples to be Analyzed?	Yes
Samples Received From	courier	Correct Sample Containers?	Yes
Soil Origin (Domestic/Foreign)	Domestic	COC Comments written on COC?	Yes
Site Location/Project on COC?	Yes	Samplers Initials on COC?	Yes
Client Project # on COC?	Yes	Sample Date/Time Indicated?	Yes
Project Mgr. Indicated on COC	Yes	TAT Requested:	STD
COC relinquished/Dated by Client?	Yes	Client Requests Verbal Results?	No
COC Received/Dated by JEL	Yes		
JEL to Conduct ALL Analyses?	Yes		

Subcontract Analysis

Parameter	Via	Lab Name	Comments
-----------	-----	----------	----------

Sample Receiving

From: Zhang, Fangmei
Sent: Wednesday, January 17, 2018 1:54 PM
To: Sample Receiving
Subject: RE: Attached COC

yes

Fangmei Zhang, PhD, P.E.
SCS Engineers –Miami, FL
(305) 412-8185 x 2053 (W)
(786) 792-5364 (D)
(786) 999-5521 (C)
fzhang@scsengineers.com

From: Sample Receiving [<mailto:samplereceiving@jupiterlabs.com>]
Sent: Wednesday, January 17, 2018 1:52 PM
To: Zhang, Fangmei <FZhang@scsengineers.com>
Subject: RE: Attached COC

Just to double check the metals that you're requesting are As, Pb, Cd, Cr, Cu, correct?

Best Regards,

Sample Custodian | Sample Receiving | www.jupiterlabs.com | 561-575-0030 (ext. 112)

NELAP . DoD ELAP . ISO 17025 . WMBE

From: Zhang, Fangmei [<mailto:FZhang@scsengineers.com>]
Sent: Wednesday, January 17, 2018 12:47 PM
To: Sample Receiving <samplereceiving@jupiterlabs.com>
Subject: RE: Attached COC

Yes, thanks.

Fangmei Zhang, PhD, P.E.
SCS Engineers –Miami, FL
(305) 412-8185 x 2053 (W)
(786) 792-5364 (D)
(786) 999-5521 (C)
fzhang@scsengineers.com

From: Sample Receiving [<mailto:samplereceiving@jupiterlabs.com>]
Sent: Wednesday, January 17, 2018 9:34 AM
To: Zhang, Fangmei <FZhang@scsengineers.com>
Subject: Attached COC

Good Morning!

On the attached COC can you provide the list of metals that you need? Also, just to double check the VOC 8260 is full list, correct?

Best Regards,

Sample Custodian | Sample Receiving | www.jupiterlabs.com | 561-575-0030 (ext. 112)

NELAP . DoD ELAP . ISO 17025 . WMBE

January 23, 2018

Fangmei Zhang
SCS
7700 N. Kendall Dr
Suite 300
Miami, FL 33156

RE: LOG# 1855094
Project ID: Ludlam
COC# 1855094

Dear Fangmei Zhang:

Enclosed are the analytical results for sample(s) received by the laboratory on Thursday, January 18, 2018. Results reported herein conform to the most current NELAC standards, where applicable, unless indicated by * in the body of the report. The enclosed Chain of Custody is a component of this package and should be retained with the package and incorporated therein.

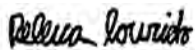
Results for all solid matrices are reported in dry weight unless otherwise noted. Results for all liquid matrices are reported as received in the laboratory unless otherwise noted. Results relate only to the samples received. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

Samples are disposed of after 30 days of their receipt by the laboratory unless extended storage is requested in writing. The laboratory maintains the right to charge storage fees for archived samples. This report will be archived for 5 years after which time it will be destroyed without further notice, unless prior arrangements have been made.

Certain analyses are subcontracted to outside NELAC certified laboratories, please see the Project Summary section of this report for NELAC certification numbers of laboratories used. A Statement of Qualifiers is available upon request.

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

Sincerely,



Rebecca Lourido for
Kacia Baldwin
V.P. of Operations

SAMPLE ANALYTE COUNT

Workorder: 1855094

Project ID: Ludlam

Lab ID	Sample ID	Method	Analytes Reported
1855094001	MW-25	EPA 200.8 (Total)	1
		EPA 8270/PAH SIM	21
1855094002	MW-26	EPA 8270/PAH SIM	21
1855094003	MW-27	EPA 200.8 (Total)	1
		EPA 8270/PAH SIM	21
1855094004	MW-40	EPA 8270/PAH SIM	21
1855094005	MW-42	EPA 8270/PAH SIM	21
1855094006	MW-17	EPA 8270/PAH SIM	21
1855094007	MW-15	EPA 8270/PAH SIM	21

FDOH# E86546

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SAMPLE SUMMARY

Workorder: 1855094

Project ID: Ludlam

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1855094001	MW-25	Aqueous Liquid	1/17/2018 12:45	1/18/2018 14:20
1855094002	MW-26	Aqueous Liquid	1/17/2018 11:45	1/18/2018 14:20
1855094003	MW-27	Aqueous Liquid	1/17/2018 10:45	1/18/2018 14:20
1855094004	MW-40	Aqueous Liquid	1/16/2018 17:25	1/18/2018 14:20
1855094005	MW-42	Aqueous Liquid	1/16/2018 16:20	1/18/2018 14:20
1855094006	MW-17	Aqueous Liquid	1/17/2018 14:40	1/18/2018 14:20
1855094007	MW-15	Aqueous Liquid	1/17/2018 15:32	1/18/2018 14:20

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ANALYTICAL RESULTS

Workorder: 1855094

Project ID: Ludlam

Lab ID: **1855094001**

Date Received: 1/18/2018 14:20

Matrix: Aqueous Liquid

Sample ID: **MW-25**

Date Collected: 1/17/2018 12:45

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/19/2018 10:09	BFM	1/19/2018 13:20	BFM	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/19/2018 10:09	BFM	1/19/2018 13:20	BFM	
Acenaphthene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 13:20	BFM	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 13:20	BFM	
Anthracene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 13:20	BFM	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 13:20	BFM	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 13:20	BFM	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 13:20	BFM	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 13:20	BFM	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 13:20	BFM	
Chrysene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 13:20	BFM	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/19/2018 10:09	BFM	1/19/2018 13:20	BFM	
Fluoranthene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 13:20	BFM	
Fluorene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 13:20	BFM	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 13:20	BFM	
Naphthalene	U	ug/L	0.093	0.047	1	1/19/2018 10:09	BFM	1/19/2018 13:20	BFM	
Phenanthrene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 13:20	BFM	
Pyrene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 13:20	BFM	
Nitrobenzene-d5 (S)	78	%	30-110		1	1/19/2018 10:09	BFM	1/19/2018 13:20	BFM	
2-Fluorobiphenyl (S)	107	%	30-110		1	1/19/2018 10:09	BFM	1/19/2018 13:20	BFM	
p-Terphenyl-d14 (S)	159	%	30-140		1	1/19/2018 10:09	BFM	1/19/2018 13:20	BFM	J2
Analysis Desc: EPA 200.8 Metals (W)					Preparation Method: EPA 200.2 mod.					
					Analytical Method: EPA 200.8 (Total)					
Arsenic	U	ug/L	2.0	0.65	4	1/19/2018 08:39	ZS	1/19/2018 11:41	ZS	

ANALYTICAL RESULTS

Workorder: 1855094

Project ID: Ludlam

Lab ID: **1855094002**

Date Received: 1/18/2018 14:20

Matrix: Aqueous Liquid

Sample ID: **MW-26**

Date Collected: 1/17/2018 11:45

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/19/2018 10:09	BFM	1/19/2018 13:43	BFM	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/19/2018 10:09	BFM	1/19/2018 13:43	BFM	
Acenaphthene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 13:43	BFM	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 13:43	BFM	
Anthracene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 13:43	BFM	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 13:43	BFM	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 13:43	BFM	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 13:43	BFM	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 13:43	BFM	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 13:43	BFM	
Chrysene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 13:43	BFM	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/19/2018 10:09	BFM	1/19/2018 13:43	BFM	
Fluoranthene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 13:43	BFM	
Fluorene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 13:43	BFM	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 13:43	BFM	
Naphthalene	U	ug/L	0.093	0.047	1	1/19/2018 10:09	BFM	1/19/2018 13:43	BFM	
Phenanthrene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 13:43	BFM	
Pyrene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 13:43	BFM	
Nitrobenzene-d5 (S)	74	%	30-110		1	1/19/2018 10:09	BFM	1/19/2018 13:43	BFM	
2-Fluorobiphenyl (S)	107	%	30-110		1	1/19/2018 10:09	BFM	1/19/2018 13:43	BFM	
p-Terphenyl-d14 (S)	141	%	30-140		1	1/19/2018 10:09	BFM	1/19/2018 13:43	BFM	J2

ANALYTICAL RESULTS

Workorder: 1855094

Project ID: Ludlam

Lab ID: **1855094003**

Date Received: 1/18/2018 14:20

Matrix: Aqueous Liquid

Sample ID: **MW-27**

Date Collected: 1/17/2018 10:45

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
Analytical Method: EPA 8270/PAH SIM										
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/19/2018 10:09	BFM	1/19/2018 14:07	BFM	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/19/2018 10:09	BFM	1/19/2018 14:07	BFM	
Acenaphthene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:07	BFM	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:07	BFM	
Anthracene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:07	BFM	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:07	BFM	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 14:07	BFM	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 14:07	BFM	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 14:07	BFM	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 14:07	BFM	
Chrysene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:07	BFM	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/19/2018 10:09	BFM	1/19/2018 14:07	BFM	
Fluoranthene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:07	BFM	
Fluorene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:07	BFM	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 14:07	BFM	
Naphthalene	U	ug/L	0.093	0.047	1	1/19/2018 10:09	BFM	1/19/2018 14:07	BFM	
Phenanthrene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:07	BFM	
Pyrene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:07	BFM	
Nitrobenzene-d5 (S)	75	%	30-110		1	1/19/2018 10:09	BFM	1/19/2018 14:07	BFM	
2-Fluorobiphenyl (S)	108	%	30-110		1	1/19/2018 10:09	BFM	1/19/2018 14:07	BFM	
p-Terphenyl-d14 (S)	150	%	30-140		1	1/19/2018 10:09	BFM	1/19/2018 14:07	BFM	J2
Analysis Desc: EPA 200.8 Metals (W)					Preparation Method: EPA 200.2 mod.					
Analytical Method: EPA 200.8 (Total)										
Arsenic	17	ug/L	2.0	0.65	4	1/19/2018 08:39	ZS	1/19/2018 11:45	ZS	

ANALYTICAL RESULTS

Workorder: 1855094

Project ID: Ludlam

Lab ID: **1855094004**

Date Received: 1/18/2018 14:20

Matrix: Aqueous Liquid

Sample ID: **MW-40**

Date Collected: 1/16/2018 17:25

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/19/2018 10:09	BFM	1/19/2018 14:30	BFM	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/19/2018 10:09	BFM	1/19/2018 14:30	BFM	
Acenaphthene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:30	BFM	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:30	BFM	
Anthracene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:30	BFM	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:30	BFM	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 14:30	BFM	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 14:30	BFM	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 14:30	BFM	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 14:30	BFM	
Chrysene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:30	BFM	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/19/2018 10:09	BFM	1/19/2018 14:30	BFM	
Fluoranthene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:30	BFM	
Fluorene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:30	BFM	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 14:30	BFM	
Naphthalene	U	ug/L	0.093	0.047	1	1/19/2018 10:09	BFM	1/19/2018 14:30	BFM	
Phenanthrene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:30	BFM	
Pyrene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:30	BFM	
Nitrobenzene-d5 (S)	72	%	30-110		1	1/19/2018 10:09	BFM	1/19/2018 14:30	BFM	
2-Fluorobiphenyl (S)	91	%	30-110		1	1/19/2018 10:09	BFM	1/19/2018 14:30	BFM	
p-Terphenyl-d14 (S)	133	%	30-140		1	1/19/2018 10:09	BFM	1/19/2018 14:30	BFM	

ANALYTICAL RESULTS

Workorder: 1855094

Project ID: Ludlam

Lab ID: **1855094005**

Date Received: 1/18/2018 14:20

Matrix: Aqueous Liquid

Sample ID: **MW-42**

Date Collected: 1/16/2018 16:20

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/19/2018 10:09	BFM	1/19/2018 14:54	BFM	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/19/2018 10:09	BFM	1/19/2018 14:54	BFM	
Acenaphthene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:54	BFM	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:54	BFM	
Anthracene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:54	BFM	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:54	BFM	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 14:54	BFM	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 14:54	BFM	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 14:54	BFM	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 14:54	BFM	
Chrysene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:54	BFM	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/19/2018 10:09	BFM	1/19/2018 14:54	BFM	
Fluoranthene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:54	BFM	
Fluorene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:54	BFM	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 14:54	BFM	
Naphthalene	U	ug/L	0.093	0.047	1	1/19/2018 10:09	BFM	1/19/2018 14:54	BFM	
Phenanthrene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:54	BFM	
Pyrene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 14:54	BFM	
Nitrobenzene-d5 (S)	75	%	30-110		1	1/19/2018 10:09	BFM	1/19/2018 14:54	BFM	
2-Fluorobiphenyl (S)	99	%	30-110		1	1/19/2018 10:09	BFM	1/19/2018 14:54	BFM	
p-Terphenyl-d14 (S)	182	%	30-140		1	1/19/2018 10:09	BFM	1/19/2018 14:54	BFM	J2

ANALYTICAL RESULTS

Workorder: 1855094

Project ID: Ludlam

Lab ID: **1855094006**

Date Received: 1/18/2018 14:20

Matrix: Aqueous Liquid

Sample ID: **MW-17**

Date Collected: 1/17/2018 14:40

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/19/2018 10:09	BFM	1/19/2018 15:18	BFM	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/19/2018 10:09	BFM	1/19/2018 15:18	BFM	
Acenaphthene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 15:18	BFM	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 15:18	BFM	
Anthracene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 15:18	BFM	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 15:18	BFM	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 15:18	BFM	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 15:18	BFM	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 15:18	BFM	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 15:18	BFM	
Chrysene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 15:18	BFM	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/19/2018 10:09	BFM	1/19/2018 15:18	BFM	
Fluoranthene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 15:18	BFM	
Fluorene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 15:18	BFM	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/19/2018 10:09	BFM	1/19/2018 15:18	BFM	
Naphthalene	U	ug/L	0.093	0.047	1	1/19/2018 10:09	BFM	1/19/2018 15:18	BFM	
Phenanthrene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 15:18	BFM	
Pyrene	U	ug/L	0.047	0.023	1	1/19/2018 10:09	BFM	1/19/2018 15:18	BFM	
Nitrobenzene-d5 (S)	75	%	30-110		1	1/19/2018 10:09	BFM	1/19/2018 15:18	BFM	
2-Fluorobiphenyl (S)	111	%	30-110		1	1/19/2018 10:09	BFM	1/19/2018 15:18	BFM	J2
p-Terphenyl-d14 (S)	138	%	30-140		1	1/19/2018 10:09	BFM	1/19/2018 15:18	BFM	

ANALYTICAL RESULTS

Workorder: 1855094

Project ID: Ludlam

Lab ID: **1855094007**

Date Received: 1/18/2018 14:20

Matrix: Aqueous Liquid

Sample ID: **MW-15**

Date Collected: 1/17/2018 15:32

Parameters	Results Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C									
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM				
					Analytical Method: EPA 8270/PAH SIM				
1-Methylnaphthalene	0.058i ug/L	0.093	0.047	1	1/19/2018 10:49	BFM	1/19/2018 15:41	BFM	
2-Methylnaphthalene	0.051i ug/L	0.093	0.047	1	1/19/2018 10:49	BFM	1/19/2018 15:41	BFM	
Acenaphthene	U ug/L	0.047	0.023	1	1/19/2018 10:49	BFM	1/19/2018 15:41	BFM	
Acenaphthylene	U ug/L	0.047	0.023	1	1/19/2018 10:49	BFM	1/19/2018 15:41	BFM	
Anthracene	U ug/L	0.047	0.023	1	1/19/2018 10:49	BFM	1/19/2018 15:41	BFM	
Benzo(a)anthracene	U ug/L	0.047	0.023	1	1/19/2018 10:49	BFM	1/19/2018 15:41	BFM	
Benzo(a)pyrene	U ug/L	0.047	0.014	1	1/19/2018 10:49	BFM	1/19/2018 15:41	BFM	
Benzo(b)fluoranthene	U ug/L	0.047	0.014	1	1/19/2018 10:49	BFM	1/19/2018 15:41	BFM	
Benzo(g,h,i)perylene	U ug/L	0.047	0.014	1	1/19/2018 10:49	BFM	1/19/2018 15:41	BFM	
Benzo(k)fluoranthene	U ug/L	0.047	0.014	1	1/19/2018 10:49	BFM	1/19/2018 15:41	BFM	
Chrysene	U ug/L	0.047	0.023	1	1/19/2018 10:49	BFM	1/19/2018 15:41	BFM	
Dibenzo(a,h)anthracene	U ug/L	0.047	0.0048	1	1/19/2018 10:49	BFM	1/19/2018 15:41	BFM	
Fluoranthene	0.039i ug/L	0.047	0.023	1	1/19/2018 10:49	BFM	1/19/2018 15:41	BFM	
Fluorene	U ug/L	0.047	0.023	1	1/19/2018 10:49	BFM	1/19/2018 15:41	BFM	
Indeno(1,2,3-cd)pyrene	U ug/L	0.047	0.014	1	1/19/2018 10:49	BFM	1/19/2018 15:41	BFM	
Naphthalene	0.158 ug/L	0.093	0.047	1	1/19/2018 10:49	BFM	1/19/2018 15:41	BFM	
Phenanthrene	0.048 ug/L	0.047	0.023	1	1/19/2018 10:49	BFM	1/19/2018 15:41	BFM	
Pyrene	0.057 ug/L	0.047	0.023	1	1/19/2018 10:49	BFM	1/19/2018 15:41	BFM	
Nitrobenzene-d5 (S)	70 %	30-110		1	1/19/2018 10:49	BFM	1/19/2018 15:41	BFM	
2-Fluorobiphenyl (S)	102 %	30-110		1	1/19/2018 10:49	BFM	1/19/2018 15:41	BFM	
p-Terphenyl-d14 (S)	139 %	30-140		1	1/19/2018 10:49	BFM	1/19/2018 15:41	BFM	

ANALYTICAL RESULTS QUALIFIERS

Workorder: 1855094

Project ID: Ludlam

PARAMETER QUALIFIERS

J2 Surrogate recovery was outside defined limits due to matrix interference.

PROJECT COMMENTS

1855094 A reported value of U indicates that the compound was analyzed for but not detected above the MDL. A value flagged with an "i" flag indicates that the reported value is between the laboratory method detection limit and the practical quantitation limit.

QUALITY CONTROL DATA

Workorder: 1855094

Project ID: Ludlam

QC Batch:	XXX/10682	Analysis Method:	EPA 8270/PAH SIM			
QC Batch Method:	EPA 3510C SIM					
Associated Lab Samples:	1855052001	1855052002	1855058001	1855058002	1855058003	1855058004
	1855058005	1855058006	1855058007	1855094001	1855094002	1855094003
	1855094004	1855094005	1855094006	1855094007		

METHOD BLANK: 133902

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Semivolatiles by EPA 8270C				
Naphthalene	ug/L	U	0.050	
2-Methylnaphthalene	ug/L	U	0.050	
1-Methylnaphthalene	ug/L	U	0.050	
Acenaphthylene	ug/L	U	0.025	
Acenaphthene	ug/L	U	0.025	
Fluorene	ug/L	U	0.025	
Phenanthrene	ug/L	U	0.025	
Anthracene	ug/L	U	0.025	
Fluoranthene	ug/L	U	0.025	
Pyrene	ug/L	U	0.025	
Benzo(a)anthracene	ug/L	U	0.025	
Chrysene	ug/L	U	0.025	
Benzo(b)fluoranthene	ug/L	U	0.015	
Benzo(k)fluoranthene	ug/L	U	0.015	
Benzo(a)pyrene	ug/L	U	0.015	
Dibenzo(a,h)anthracene	ug/L	U	0.0051	
Indeno(1,2,3-cd)pyrene	ug/L	U	0.015	
Benzo(g,h,i)perylene	ug/L	U	0.015	

LABORATORY CONTROL SAMPLE & LCSD: 133903 133904

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Semivolatiles by EPA 8270C										
Nitrobenzene-d5 (S)	%				43	46	30-110	5	40	
2-Fluorobiphenyl (S)	%				54	52	30-110	3	40	
p-Terphenyl-d14 (S)	%				65	63	30-140	2	40	
Naphthalene	ug/L	0.993	0.441	0.418	44	42	30-140	5	40	
2-Methylnaphthalene	ug/L	0.991	0.433	0.408	44	41	30-140	6	40	
1-Methylnaphthalene	ug/L	1	0.452	0.428	45	43	30-140	5	40	
Acenaphthylene	ug/L	0.984	0.465	0.467	47	48	30-120	0.4	40	
Acenaphthene	ug/L	0.994	0.524	0.521	53	52	30-120	0.6	40	
Fluorene	ug/L	0.986	0.488	0.517	49	52	30-140	6	40	
Phenanthrene	ug/L	0.996	0.566	0.532	57	53	30-120	6	40	

Report ID: 1855094 - 2062309
1/23/2018

Page 12 of 17

FDOH# E86546

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QUALITY CONTROL DATA

Workorder: 1855094

Project ID: Ludlam

LABORATORY CONTROL SAMPLE & LCSD: 133903 133904

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Anthracene	ug/L	1	0.483	0.461	48	46	30-140	5	40	
Fluoranthene	ug/L	0.991	0.475	0.436	48	44	30-120	9	40	
Pyrene	ug/L	0.981	0.541	0.527	55	54	40-140	3	40	
Benzo(a)anthracene	ug/L	1	0.547	0.530	55	53	30-120	3	40	
Chrysene	ug/L	1	0.507	0.478	51	48	30-140	6	40	
Benzo(b)fluoranthene	ug/L	1	0.637	0.590	64	59	30-140	8	40	
Benzo(k)fluoranthene	ug/L	1	0.488	0.482	49	48	30-140	1	40	
Benzo(a)pyrene	ug/L	1	0.484	0.478	48	48	30-140	1	40	
Dibenzo(a,h)anthracene	ug/L	1	0.600	0.577	60	58	30-140	4	40	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.818	0.768	82	77	30-140	6	40	
Benzo(g,h,i)perylene	ug/L	1	0.544	0.530	54	53	30-120	3	40	

FDOH# E86546

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QUALITY CONTROL DATA

Workorder: 1855094

Project ID: Ludlam

QC Batch: MXX/9356 Analysis Method: EPA 200.8 (Total)

QC Batch Method: EPA 200.2 mod.

Associated Lab Samples:	1855061001	1855090001	1855090002	1855090003	1855090004	1855090005
	1855090006	1855090007	1855091001	1855091002	1855094001	1855094003

METHOD BLANK: 133945

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Arsenic	ug/L	U	0.16	

LABORATORY CONTROL SAMPLE & LCSD: 133946 133947

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Arsenic	ug/L	50	52	52	104	104	85-115	0	20	

MATRIX SPIKE SAMPLE: 133949 Original: 1855097005

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	1.7	50	54	105	70-130	

MATRIX SPIKE SAMPLE: 133951 Original: 1855091002

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	0	50	54	108	70-130	

SAMPLE DUPLICATE: 133948 Original: 1855097005

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Arsenic	ug/L	1.7	2.0	16.2	20	

QUALITY CONTROL DATA

Workorder: 1855094

Project ID: Ludlam

SAMPLE DUPLICATE: 133950

Original: 1855091002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Arsenic	ug/L	0	U	200	20	P1

FDOH# E86546

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QUALITY CONTROL DATA QUALIFIERS

Workorder: 1855094

Project ID: Ludlam

QUALITY CONTROL PARAMETER QUALIFIERS

P1 RPD value not applicable for sample concentrations less than 5 times the PQL.

FDOH# E86546

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 1855094

Project ID: Ludlam

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1855094001	MW-25	EPA 3510C SIM	XXX/10682	EPA 8270/PAH SIM	XMS/5684
1855094002	MW-26	EPA 3510C SIM	XXX/10682	EPA 8270/PAH SIM	XMS/5684
1855094003	MW-27	EPA 3510C SIM	XXX/10682	EPA 8270/PAH SIM	XMS/5684
1855094004	MW-40	EPA 3510C SIM	XXX/10682	EPA 8270/PAH SIM	XMS/5684
1855094005	MW-42	EPA 3510C SIM	XXX/10682	EPA 8270/PAH SIM	XMS/5684
1855094006	MW-17	EPA 3510C SIM	XXX/10682	EPA 8270/PAH SIM	XMS/5684
1855094007	MW-15	EPA 3510C SIM	XXX/10682	EPA 8270/PAH SIM	XMS/5684
1855094001	MW-25	EPA 200.2 mod.	MXX/9356	EPA 200.8 (Total)	MMS/8387
1855094003	MW-27	EPA 200.2 mod.	MXX/9356	EPA 200.8 (Total)	MMS/8387

Jupiter

Environmental Laboratories, Inc.

www.jupiterlabs.com

150 S. Old Dixie Highway, Jupiter, FL 33458

(561) 575-0030 • (888) 287-3218 • clientservices@jupiterlabs.com

J.E.L. Log # 1855094

P.O. # _____

Quote # _____

Company Name <u>SCS Engineers</u> Address <u>7700 N Kendall Dr NE, Suite 300</u> City <u>Miami</u> State <u>FL</u> Zip <u>33156</u> Sampling Site Address _____ Attn: <u>Fangmei Zhang</u> Email <u>Fzhang@scsengineers.com</u> Project Name <u>Ludlum</u> Project # <u>09217186.02</u> Sampler Name/Signature <u>Anthony Pezzotti / AP</u>						LAB ANALYSIS												Requested Turnaround Time _____ Note: Rush requests subject to acceptance by the laboratory ☒ Standard _____ Expedited Due ____/____/____ Comments _____	
						Parameters												Field Filtered (Y/N)	
#	Sample Label (Client ID)	Collected Date	Collected Time	Matrix Code*	# of Cont														
1	MW-25	1/17/18	1245	GW	2	PAT AS													
2	MW-26	1/17/18	1145		1														
3	MW-27	1/17/18	1045		2														
4	MW-40	1/16/18	1725		1														
5	MW-42		1620		1														
6	MW-12	1/17/18	1440		1														
7	MW-15		1532		1														
8																			
9																			
0																			

Matrix Codes*		Pres Codes		Relinquished by	Date	Time	Received by	Date	Time
S Soil/Solid Sediment	SW Surface Water	A- none	I- Ice		1/17/18	1540		1/17/18	1540
GW Ground Water	SL Sludge	B- HNO ₃	O- Other		1/18/18	1208		1/18/18	1208
WW Waste Water	O Other (Please Specify)	C- H ₂ SO ₄	M- MeOH		1/18/18	1420		1/18/18	1420
DW Drinking Water		D- NaOH	N- Na ₂ S ₂ O ₃						
		E- HCl	Z- ZnAc						

QA/QC level with report
 None 1 2 3 See price guide for applicable fees

FDEP Dry Cleaning ☐ FDEP UST Pre-Approval ☐ SFWMD ☐ ADaPT ☐ DOT ☐	Temp Control: <u>3.2</u> °C	
---	--------------------------------	--

SAMPLE RECEIPT CONFIRMATION SHEET

Client Information

SDG:	1855094	Req:	1446
Client:	SCS	Project:	FANGMEI Z
Level:	1	Date Rec'd:	1/18/2018 2:20:00 PM
Rec'd via:	courier		

Cooler Check

ID	Temp	# of samples	Security Tape		Method of Receipt	Comments
			Present	Intact		
	3.2	7	☐	☐		

Checked By: CF

Sample Verification

Loose Caps?	No	All Samples on COC accounted For?	Yes
Broken Containers?	No	All Samples on COC?	Yes
pH Verified?	Yes	Written on Internal COC?	No
pH Strip Lot #	HC730269	Sample Vol. Suff. For Analysis?	Yes
Acid Preserved Samples Lot #	15127	Samples Rec'd W/I Hold Time?	Yes
Base Preserved Samples Lot #		Are All Samples to be Analyzed?	Yes
Samples Received From	courier	Correct Sample Containers?	Yes
Soil Origin (Domestic/Foreign)		COC Comments written on COC?	No
Site Location/Project on COC?	Yes	Samplers Initials on COC?	Yes
Client Project # on COC?	Yes	Sample Date/Time Indicated?	Yes
Project Mgr. Indicated on COC	Yes	TAT Requested:	STD
COC relinquished/Dated by Client?	Yes	Client Requests Verbal Results?	No
COC Received/Dated by JEL	Yes		
JEL to Conduct ALL Analyses?	Yes		

Subcontract Analysis

Parameter	Via	Lab Name	Comments
-----------	-----	----------	----------

January 25, 2018

Fangmei Zhang
SCS
7700 N. Kendall Dr
Suite 300
Miami, FL 33156

RE: LOG# 1855113
Project ID: Ludlam Trail
COC# 1855113

Dear Fangmei Zhang:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, January 19, 2018. Results reported herein conform to the most current NELAC standards, where applicable, unless indicated by * in the body of the report. The enclosed Chain of Custody is a component of this package and should be retained with the package and incorporated therein.

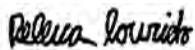
Results for all solid matrices are reported in dry weight unless otherwise noted. Results for all liquid matrices are reported as received in the laboratory unless otherwise noted. Results relate only to the samples received. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

Samples are disposed of after 30 days of their receipt by the laboratory unless extended storage is requested in writing. The laboratory maintains the right to charge storage fees for archived samples. This report will be archived for 5 years after which time it will be destroyed without further notice, unless prior arrangements have been made.

Certain analyses are subcontracted to outside NELAC certified laboratories, please see the Project Summary section of this report for NELAC certification numbers of laboratories used. A Statement of Qualifiers is available upon request.

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

Sincerely,



Rebecca Lourido for
Kacia Baldwin
V.P. of Operations

SAMPLE ANALYTE COUNT

Workorder: 1855113

Project ID: Ludlam Trail

Lab ID	Sample ID	Method	Analytes Reported
1855113001	MW-10	EPA 8270/PAH SIM	21
1855113002	MW-11	EPA 200.8 (Total)	1
		EPA 8270/PAH SIM	21
1855113003	MW-10E	EPA 200.8 (Total)	1
		EPA 8270/PAH SIM	21
1855113004	MW-33E	EPA 200.8 (Total)	1
		EPA 8270/PAH SIM	21
1855113005	MW-31	EPA 8260C	4
		EPA 8270/PAH SIM	21
1855113006	MW-30	EPA 200.8 (Total)	1
		EPA 8270/PAH SIM	21
1855113007	MW-29E	EPA 200.8 (Total)	1
		EPA 8270/PAH SIM	21
1855113008	MW-37i	EPA 200.8 (Total)	1

FDOH# E86546

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SAMPLE SUMMARY

Workorder: 1855113

Project ID: Ludlam Trail

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1855113001	MW-10	Aqueous Liquid	1/18/2018 16:10	1/19/2018 17:47
1855113002	MW-11	Aqueous Liquid	1/18/2018 16:44	1/19/2018 17:47
1855113003	MW-10E	Aqueous Liquid	1/18/2018 16:51	1/19/2018 17:47
1855113004	MW-33E	Aqueous Liquid	1/19/2018 10:25	1/19/2018 17:47
1855113005	MW-31	Aqueous Liquid	1/19/2018 11:45	1/19/2018 17:47
1855113006	MW-30	Aqueous Liquid	1/19/2018 12:55	1/19/2018 17:47
1855113007	MW-29E	Aqueous Liquid	1/19/2018 13:45	1/19/2018 17:47
1855113008	MW-37i	Aqueous Liquid	1/19/2018 14:55	1/19/2018 17:47

FDOH# E86546

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ANALYTICAL RESULTS

Workorder: 1855113

Project ID: Ludlam Trail

Lab ID: **1855113001**

Date Received: 1/19/2018 17:47

Matrix: Aqueous Liquid

Sample ID: **MW-10**

Date Collected: 1/18/2018 16:10

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/22/2018 11:39	NE	1/22/2018 21:21	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/22/2018 11:39	NE	1/22/2018 21:21	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/22/2018 11:39	NE	1/22/2018 21:21	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/22/2018 11:39	NE	1/22/2018 21:21	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/22/2018 11:39	NE	1/22/2018 21:21	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/22/2018 11:39	NE	1/22/2018 21:21	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/22/2018 11:39	NE	1/22/2018 21:21	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/22/2018 11:39	NE	1/22/2018 21:21	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/22/2018 11:39	NE	1/22/2018 21:21	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/22/2018 11:39	NE	1/22/2018 21:21	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/22/2018 11:39	NE	1/22/2018 21:21	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/22/2018 11:39	NE	1/22/2018 21:21	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/22/2018 11:39	NE	1/22/2018 21:21	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/22/2018 11:39	NE	1/22/2018 21:21	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/22/2018 11:39	NE	1/22/2018 21:21	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/22/2018 11:39	NE	1/22/2018 21:21	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/22/2018 11:39	NE	1/22/2018 21:21	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/22/2018 11:39	NE	1/22/2018 21:21	VS	
Nitrobenzene-d5 (S)	118	%	30-110		1	1/22/2018 11:39	NE	1/22/2018 21:21	VS	J2
2-Fluorobiphenyl (S)	87	%	30-110		1	1/22/2018 11:39	NE	1/22/2018 21:21	VS	
p-Terphenyl-d14 (S)	123	%	30-140		1	1/22/2018 11:39	NE	1/22/2018 21:21	VS	

ANALYTICAL RESULTS

Workorder: 1855113

Project ID: Ludlam Trail

Lab ID: **1855113002**

Date Received: 1/19/2018 17:47

Matrix: Aqueous Liquid

Sample ID: **MW-11**

Date Collected: 1/18/2018 16:44

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/22/2018 11:39	NE	1/23/2018 09:22	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/22/2018 11:39	NE	1/23/2018 09:22	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/22/2018 11:39	NE	1/23/2018 09:22	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/22/2018 11:39	NE	1/23/2018 09:22	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/22/2018 11:39	NE	1/23/2018 09:22	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/22/2018 11:39	NE	1/23/2018 09:22	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/22/2018 11:39	NE	1/23/2018 09:22	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/22/2018 11:39	NE	1/23/2018 09:22	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/22/2018 11:39	NE	1/23/2018 09:22	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/22/2018 11:39	NE	1/23/2018 09:22	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/22/2018 11:39	NE	1/23/2018 09:22	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/22/2018 11:39	NE	1/23/2018 09:22	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/22/2018 11:39	NE	1/23/2018 09:22	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/22/2018 11:39	NE	1/23/2018 09:22	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/22/2018 11:39	NE	1/23/2018 09:22	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/22/2018 11:39	NE	1/23/2018 09:22	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/22/2018 11:39	NE	1/23/2018 09:22	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/22/2018 11:39	NE	1/23/2018 09:22	VS	
Nitrobenzene-d5 (S)	91	%	30-110		1	1/22/2018 11:39	NE	1/23/2018 09:22	VS	
2-Fluorobiphenyl (S)	88	%	30-110		1	1/22/2018 11:39	NE	1/23/2018 09:22	VS	
p-Terphenyl-d14 (S)	127	%	30-140		1	1/22/2018 11:39	NE	1/23/2018 09:22	VS	
Analysis Desc: EPA 200.8 Metals (W)					Preparation Method: EPA 200.2 mod.					
					Analytical Method: EPA 200.8 (Total)					
Arsenic	10	ug/L	2.0	0.65	4	1/22/2018 08:59	ZS	1/22/2018 13:18	ZS	

ANALYTICAL RESULTS

Workorder: 1855113

Project ID: Ludlam Trail

Lab ID: **1855113003**

Date Received: 1/19/2018 17:47

Matrix: Aqueous Liquid

Sample ID: **MW-10E**

Date Collected: 1/18/2018 16:51

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/22/2018 12:56	BFM	1/23/2018 09:44	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/22/2018 12:56	BFM	1/23/2018 09:44	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 09:44	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 09:44	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 09:44	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 09:44	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 09:44	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 09:44	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 09:44	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 09:44	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 09:44	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/22/2018 12:56	BFM	1/23/2018 09:44	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 09:44	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 09:44	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 09:44	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/22/2018 12:56	BFM	1/23/2018 09:44	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 09:44	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 09:44	VS	
Nitrobenzene-d5 (S)	93	%	30-110		1	1/22/2018 12:56	BFM	1/23/2018 09:44	VS	
2-Fluorobiphenyl (S)	78	%	30-110		1	1/22/2018 12:56	BFM	1/23/2018 09:44	VS	
p-Terphenyl-d14 (S)	113	%	30-140		1	1/22/2018 12:56	BFM	1/23/2018 09:44	VS	
Analysis Desc: EPA 200.8 Metals (W)					Preparation Method: EPA 200.2 mod.					
					Analytical Method: EPA 200.8 (Total)					
Arsenic	U	ug/L	2.0	0.65	4	1/22/2018 08:59	ZS	1/22/2018 13:22	ZS	

ANALYTICAL RESULTS

Workorder: 1855113

Project ID: Ludlam Trail

Lab ID: **1855113004**

Date Received: 1/19/2018 17:47

Matrix: Aqueous Liquid

Sample ID: **MW-33E**

Date Collected: 1/19/2018 10:25

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/22/2018 12:56	BFM	1/23/2018 11:15	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/22/2018 12:56	BFM	1/23/2018 11:15	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 11:15	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 11:15	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 11:15	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 11:15	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 11:15	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 11:15	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 11:15	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 11:15	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 11:15	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/22/2018 12:56	BFM	1/23/2018 11:15	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 11:15	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 11:15	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 11:15	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/22/2018 12:56	BFM	1/23/2018 11:15	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 11:15	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 11:15	VS	
Nitrobenzene-d5 (S)	69	%	30-110		1	1/22/2018 12:56	BFM	1/23/2018 11:15	VS	
2-Fluorobiphenyl (S)	76	%	30-110		1	1/22/2018 12:56	BFM	1/23/2018 11:15	VS	
p-Terphenyl-d14 (S)	124	%	30-140		1	1/22/2018 12:56	BFM	1/23/2018 11:15	VS	
Analysis Desc: EPA 200.8 Metals (W)					Preparation Method: EPA 200.2 mod.					
					Analytical Method: EPA 200.8 (Total)					
Arsenic	U	ug/L	2.0	0.65	4	1/22/2018 08:59	ZS	1/22/2018 13:27	ZS	

ANALYTICAL RESULTS

Workorder: 1855113

Project ID: Ludlam Trail

Lab ID: **1855113005**

Date Received: 1/19/2018 17:47

Matrix: Aqueous Liquid

Sample ID: **MW-31**

Date Collected: 1/19/2018 11:45

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
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Volatiles by GC/MS

Analysis Desc: EPA 8010 Scan by 8260C (W)

Preparation Method: EPA 5030B

Analytical Method: EPA 8260C

Chloromethane	U	ug/L	5.00	2.50	1	1/22/2018 09:02	JSJ	1/22/2018 17:35	JSJ	
Dibromofluoromethane (S)	100	%	70-130		1	1/22/2018 09:02	JSJ	1/22/2018 17:35	JSJ	
Toluene d8 (S)	91	%	70-130		1	1/22/2018 09:02	JSJ	1/22/2018 17:35	JSJ	
4-Bromofluorobenzene (S)	89	%	70-130		1	1/22/2018 09:02	JSJ	1/22/2018 17:35	JSJ	

Semivolatiles by EPA 8270C

Analysis Desc: PAH List by 8270C SIM (W)

Preparation Method: EPA 3510C SIM

Analytical Method: EPA 8270/PAH SIM

1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/22/2018 12:56	BFM	1/23/2018 11:38	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/22/2018 12:56	BFM	1/23/2018 11:38	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 11:38	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 11:38	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 11:38	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 11:38	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 11:38	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 11:38	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 11:38	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 11:38	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 11:38	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/22/2018 12:56	BFM	1/23/2018 11:38	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 11:38	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 11:38	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 11:38	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/22/2018 12:56	BFM	1/23/2018 11:38	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 11:38	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 11:38	VS	
Nitrobenzene-d5 (S)	87	%	30-110		1	1/22/2018 12:56	BFM	1/23/2018 11:38	VS	
2-Fluorobiphenyl (S)	90	%	30-110		1	1/22/2018 12:56	BFM	1/23/2018 11:38	VS	
p-Terphenyl-d14 (S)	135	%	30-140		1	1/22/2018 12:56	BFM	1/23/2018 11:38	VS	

ANALYTICAL RESULTS

Workorder: 1855113

Project ID: Ludlam Trail

Lab ID: **1855113006**

Date Received: 1/19/2018 17:47

Matrix: Aqueous Liquid

Sample ID: **MW-30**

Date Collected: 1/19/2018 12:55

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/22/2018 12:56	BFM	1/23/2018 12:01	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/22/2018 12:56	BFM	1/23/2018 12:01	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:01	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:01	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:01	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:01	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 12:01	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 12:01	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 12:01	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 12:01	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:01	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/22/2018 12:56	BFM	1/23/2018 12:01	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:01	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:01	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 12:01	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/22/2018 12:56	BFM	1/23/2018 12:01	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:01	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:01	VS	
Nitrobenzene-d5 (S)	79	%	30-110		1	1/22/2018 12:56	BFM	1/23/2018 12:01	VS	
2-Fluorobiphenyl (S)	79	%	30-110		1	1/22/2018 12:56	BFM	1/23/2018 12:01	VS	
p-Terphenyl-d14 (S)	120	%	30-140		1	1/22/2018 12:56	BFM	1/23/2018 12:01	VS	
Analysis Desc: EPA 200.8 Metals (W)					Preparation Method: EPA 200.2 mod.					
					Analytical Method: EPA 200.8 (Total)					
Arsenic	1.1i	ug/L	2.0	0.65	4	1/22/2018 08:59	ZS	1/22/2018 13:32	ZS	

ANALYTICAL RESULTS

Workorder: 1855113

Project ID: Ludlam Trail

Lab ID: **1855113007**

Date Received: 1/19/2018 17:47

Matrix: Aqueous Liquid

Sample ID: **MW-29E**

Date Collected: 1/19/2018 13:45

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/22/2018 12:56	BFM	1/23/2018 12:24	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/22/2018 12:56	BFM	1/23/2018 12:24	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:24	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:24	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:24	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:24	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 12:24	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 12:24	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 12:24	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 12:24	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:24	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/22/2018 12:56	BFM	1/23/2018 12:24	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:24	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:24	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 12:24	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/22/2018 12:56	BFM	1/23/2018 12:24	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:24	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:24	VS	
Nitrobenzene-d5 (S)	80	%	30-110		1	1/22/2018 12:56	BFM	1/23/2018 12:24	VS	
2-Fluorobiphenyl (S)	77	%	30-110		1	1/22/2018 12:56	BFM	1/23/2018 12:24	VS	
p-Terphenyl-d14 (S)	119	%	30-140		1	1/22/2018 12:56	BFM	1/23/2018 12:24	VS	
Analysis Desc: EPA 200.8 Metals (W)					Preparation Method: EPA 200.2 mod.					
					Analytical Method: EPA 200.8 (Total)					
Arsenic	U	ug/L	2.0	0.65	4	1/22/2018 08:59	ZS	1/22/2018 13:37	ZS	

ANALYTICAL RESULTS

Workorder: 1855113

Project ID: Ludlam Trail

Lab ID: **1855113008**

Date Received: 1/19/2018 17:47

Matrix: Aqueous Liquid

Sample ID: **MW-37i**

Date Collected: 1/19/2018 14:55

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Analysis Desc: EPA 200.8 Metals (W)					Preparation Method: EPA 200.2 mod.					
					Analytical Method: EPA 200.8 (Total)					
Arsenic	2.5	ug/L	2.0	0.65	4	1/22/2018 08:59	ZS	1/22/2018 13:41	ZS	

ANALYTICAL RESULTS QUALIFIERS

Workorder: 1855113

Project ID: Ludlam Trail

PARAMETER QUALIFIERS

J2 Surrogate recovery was outside defined limits due to matrix interference.

PROJECT COMMENTS

1855113 A reported value of U indicates that the compound was analyzed for but not detected above the MDL. A value flagged with an "i" flag indicates that the reported value is between the laboratory method detection limit and the practical quantitation limit.

QUALITY CONTROL DATA

Workorder: 1855113

Project ID: Ludlam Trail

QC Batch:	XXX/10686	Analysis Method:		EPA 8270/PAH SIM		
QC Batch Method:	EPA 3510C SIM					
Associated Lab Samples:	1855107003	1855107004	1855107005	1855107006	1855113001	1855113002
	1855113003	1855113004	1855113005	1855113006	1855113007	

METHOD BLANK: 134047

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Semivolatiles by EPA 8270C				
Nitrobenzene-d5 (S)	%	84	30-110	
2-Fluorobiphenyl (S)	%	95	30-110	
p-Terphenyl-d14 (S)	%	140	30-140	
Naphthalene	ug/L	U	0.050	
2-Methylnaphthalene	ug/L	U	0.050	
1-Methylnaphthalene	ug/L	U	0.050	
Acenaphthylene	ug/L	U	0.025	
Acenaphthene	ug/L	U	0.025	
Fluorene	ug/L	U	0.025	
Phenanthrene	ug/L	U	0.025	
Anthracene	ug/L	U	0.025	
Fluoranthene	ug/L	U	0.025	
Pyrene	ug/L	U	0.025	
Benzo(a)anthracene	ug/L	U	0.025	
Chrysene	ug/L	U	0.025	
Benzo(b)fluoranthene	ug/L	U	0.015	
Benzo(k)fluoranthene	ug/L	U	0.015	
Benzo(a)pyrene	ug/L	U	0.015	
Dibenzo(a,h)anthracene	ug/L	U	0.0051	
Indeno(1,2,3-cd)pyrene	ug/L	U	0.015	
Benzo(g,h,i)perylene	ug/L	U	0.015	

LABORATORY CONTROL SAMPLE & LCSD: 134048 134049

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Semivolatiles by EPA 8270C										
Nitrobenzene-d5 (S)	%				97	93	30-110	4	40	
2-Fluorobiphenyl (S)	%				98	103	30-110	5	40	
p-Terphenyl-d14 (S)	%				130	138	30-140	6	40	
Naphthalene	ug/L	0.993	0.804	0.887	81	89	30-140	10	40	
2-Methylnaphthalene	ug/L	0.991	0.847	0.902	86	91	30-140	6	40	
1-Methylnaphthalene	ug/L	1	0.872	0.927	87	92	30-140	6	40	
Acenaphthylene	ug/L	0.984	0.808	0.884	82	90	30-120	9	40	
Acenaphthene	ug/L	0.994	0.849	0.922	85	93	30-120	8	40	

Report ID: 1855113 - 2065321
1/25/2018

Page 13 of 18

FDOH# E86546

CERTIFICATE OF ANALYSIS

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QUALITY CONTROL DATA

Workorder: 1855113

Project ID: Ludlam Trail

LABORATORY CONTROL SAMPLE & LCSD:		134048	134049							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Fluorene	ug/L	0.986	0.887	0.967	90	98	30-140	9	40	
Phenanthrene	ug/L	0.996	0.855	0.922	86	93	30-120	8	40	
Anthracene	ug/L	1	0.914	1.00	91	100	30-140	9	40	
Fluoranthene	ug/L	0.991	0.994	1.15	100	116	30-120	15	40	
Pyrene	ug/L	0.981	1.14	1.37	116	139	40-140	18	40	
Benzo(a)anthracene	ug/L	1	1.05	1.05	105	105	30-120	0	40	
Chrysene	ug/L	1	1.06	1.13	106	113	30-140	6	40	
Benzo(b)fluoranthene	ug/L	1	0.795	0.750	79	75	30-140	6	40	
Benzo(k)fluoranthene	ug/L	1	0.771	0.741	77	74	30-140	4	40	
Benzo(a)pyrene	ug/L	1	0.673	0.678	67	68	30-140	0.7	40	
Dibenzo(a,h)anthracene	ug/L	1	0.788	0.806	79	81	30-140	2	40	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.939	0.954	94	95	30-140	2	40	
Benzo(g,h,i)perylene	ug/L	1	0.818	0.812	82	81	30-120	0.7	40	

FDOH# E86546

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QUALITY CONTROL DATA

Workorder: 1855113

Project ID: Ludlam Trail

QC Batch: MXX/9364 Analysis Method: EPA 200.8 (Total)

QC Batch Method: EPA 200.2 mod.

Associated Lab Samples: 1855113002 1855113003 1855113004 1855113006 1855113007 1855113008

METHOD BLANK: 134050

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Arsenic	ug/L	U	0.16	

LABORATORY CONTROL SAMPLE & LCSD: 134051 134052

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Arsenic	ug/L	50	53	52	107	105	85-115	1.9	20	

MATRIX SPIKE SAMPLE: 134054 Original: 1855115007

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	0.89	82	96	116	70-130	

MATRIX SPIKE SAMPLE: 134056 Original: 1855114006

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	2	82	82	98	70-130	

SAMPLE DUPLICATE: 134053 Original: 1855115007

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Arsenic	ug/L	0.89	0.66i	29.7	20	P1

SAMPLE DUPLICATE: 134055 Original: 1855114006

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Arsenic	ug/L	2	1.8i	10.5	20	

Report ID: 1855113 - 2065321
1/25/2018

Page 15 of 18

FDOH# E86546

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QUALITY CONTROL DATA

Workorder: 1855113

Project ID: Ludlam Trail

QC Batch:	VXX/7856	Analysis Method:	EPA 8260C		
QC Batch Method:	EPA 5030B				
Associated Lab Samples:	1855098001	1855098002	1855098003	1855098004	1855107001
	1855107003	1855107004	1855107005	1855107006	1855113005

METHOD BLANK: 134262

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Volatiles by GC/MS				
Dibromofluoromethane (S)	%	98	70-130	
Toluene d8 (S)	%	91	70-130	
4-Bromofluorobenzene (S)	%	91	70-130	
Chloromethane	ug/L	U	2.50	

LABORATORY CONTROL SAMPLE & LCSD: 134263 134264

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Volatiles by GC/MS										
Dibromofluoromethane (S)	%				101	101	70-130	0	25	
Toluene d8 (S)	%				90	89	70-130	0.9	25	
4-Bromofluorobenzene (S)	%				90	91	70-130	0.8	25	
Chloromethane	ug/L	50	42.9	43.5	86	87	60-130	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 134265 134266 Original: 1855107005

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Volatiles by GC/MS											
Dibromofluoromethane (S)	%					105	105	70-130	0.2	25	
Toluene d8 (S)	%					92	93	70-130	0.6	25	
4-Bromofluorobenzene (S)	%					89	91	70-130	2	25	
Chloromethane	ug/L								10	25	

QUALITY CONTROL DATA QUALIFIERS

Workorder: 1855113

Project ID: Ludlam Trail

QUALITY CONTROL PARAMETER QUALIFIERS

P1 RPD value not applicable for sample concentrations less than 5 times the PQL.

FDOH# E86546

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 1855113

Project ID: Ludlam Trail

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1855113001	MW-10	EPA 3510C SIM	XXX/10686	EPA 8270/PAH SIM	XMS/5686
1855113002	MW-11	EPA 3510C SIM	XXX/10686	EPA 8270/PAH SIM	XMS/5686
1855113003	MW-10E	EPA 3510C SIM	XXX/10686	EPA 8270/PAH SIM	XMS/5686
1855113004	MW-33E	EPA 3510C SIM	XXX/10686	EPA 8270/PAH SIM	XMS/5686
1855113005	MW-31	EPA 3510C SIM	XXX/10686	EPA 8270/PAH SIM	XMS/5686
1855113006	MW-30	EPA 3510C SIM	XXX/10686	EPA 8270/PAH SIM	XMS/5686
1855113007	MW-29E	EPA 3510C SIM	XXX/10686	EPA 8270/PAH SIM	XMS/5686
1855113002	MW-11	EPA 200.2 mod.	MXX/9364	EPA 200.8 (Total)	MMS/8395
1855113003	MW-10E	EPA 200.2 mod.	MXX/9364	EPA 200.8 (Total)	MMS/8395
1855113004	MW-33E	EPA 200.2 mod.	MXX/9364	EPA 200.8 (Total)	MMS/8395
1855113006	MW-30	EPA 200.2 mod.	MXX/9364	EPA 200.8 (Total)	MMS/8395
1855113007	MW-29E	EPA 200.2 mod.	MXX/9364	EPA 200.8 (Total)	MMS/8395
1855113008	MW-37i	EPA 200.2 mod.	MXX/9364	EPA 200.8 (Total)	MMS/8395
1855113005	MW-31	EPA 5030B	VXX/7856	EPA 8260C	VMS/7681

Jupiter

Environmental Laboratories, Inc.

www.jupiterlabs.com

150 S. Old Dixie Highway, Jupiter, FL 33458
(561) 575-0030 • FAX (561) 575-4118 • clientservices@jupiterlabs.com

J.E.L. Log # 1855113

P.O. # _____

Quote # _____

LAB ANALYSIS

Requested Turnaround Time

Note: Rush requests subject to acceptance by the laboratory

☒ Standard

☐ Expedited

Due ___/___/___

Comments

Field Filtered (Y/N)

Pres Codes

Parameters

1 B E

PAH

Total Arsenic

Chloro methane

Company Name SCS Engineers

Address 7700 W. Kendall Dr.

City Miami State FL Zip _____

Sampling Site Address Ludlam Trail Between NW 7th and 8th St, Miami, FL

Attn: Fangmei Zhang Email FZhang@scsengineers.com

Project Name Ludlam Trail Project # _____

Sampler Name/Signature John Manna

#	Sample Label (Client ID)	Collected Date	Collected Time	Matrix Code*	# of Cont
1	MW-10	1/18/18	1610	GW	1
2	MW-11	1/18/18	1644	GW	2
3	MW-10E	1/18/18	1651	GW	2
4	MW-33E	1/19/18	1025	GW	2
5	MW-31	1/19/18	1145	GW	4
6	MW-30	1/19/18	1255	GW	2
7	MW-29E	1/19/18	1345	GW	2
8	MW-37C	1/19/18	1455	GW	1
9					
0					

Matrix Codes*

S Soil/Solid Sediment SW Surface Water
GW Ground Water SL Sludge
WW Waste Water O Other (Please Specify)
DW Drinking Water

Pres Codes

A- none I- Ice
B- HNO₃ O- Other
C- H₂SO₄ M- MeOH
D- NaOH N- Na₂SO₄
E- HCl Z- ZnAc

Relinquished by

Date

Time

Received by

Date

Time

QA/QC level with report

None 1 2 3 See price guide for applicable fees

FDEP Dry Cleaning ☐ FDEP UST Pre-Approval ☐
S²WMD ☐ ADaPT ☐ DOT ☐

Temp Control:

3.1 °C

John Manna

1/19/18

15:03

[Signature]

1/19/18

15:03

1/19/18

16:16

[Signature]

1-19-18

16:16

1-19-18

17:47

[Signature]

1-19-18

17:47

SAMPLE RECEIPT CONFIRMATION SHEET

Client Information

SDG:	1855113	Req:	1446
Client:	SCS	Project:	FANGMEI Z
Level:	1	Date Rec'd:	1/19/2018 5:47:00 PM
Rec'd via:	courier		

Cooler Check

ID	Temp	# of samples	Security Tape		Method of Receipt	Comments
			Present	Intact		
	3.1	8	☐	☐		

Checked By: CF

Sample Verification

Loose Caps?	No	All Samples on COC accounted For?	Yes
Broken Containers?	No	All Samples on COC?	Yes
pH Verified?	Yes	Written on Internal COC?	No
pH Strip Lot #	HC601354	Sample Vol. Suff. For Analysis?	Yes
Acid Preserved Samples Lot #	15127	Samples Rec'd W/I Hold Time?	Yes
Base Preserved Samples Lot #		Are All Samples to be Analyzed?	Yes
Samples Received From	courier	Correct Sample Containers?	Yes
Soil Origin (Domestic/Foreign		COC Comments written on COC?	No
Site Location/Project on COC?	Yes	Samplers Initials on COC?	Yes
Client Project # on COC?	No	Sample Date/Time Indicated?	Yes
Project Mgr. Indicated on COC	Yes	TAT Requested:	STD
COC relinquished/Dated by Client?	Yes	Client Requests Verbal Results?	No
COC Received/Dated by JEL	Yes		
JEL to Conduct ALL Analyses?	Yes		

Subcontract Analysis

Parameter	Via	Lab Name	Comments
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January 25, 2018

Fangmei Zhang
SCS
7700 N. Kendall Dr
Suite 300
Miami, FL 33156

RE: LOG# 1855114
Project ID: Ludlam 09217186.02
COC# 1855114

Dear Fangmei Zhang:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, January 19, 2018. Results reported herein conform to the most current NELAC standards, where applicable, unless indicated by * in the body of the report. The enclosed Chain of Custody is a component of this package and should be retained with the package and incorporated therein.

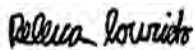
Results for all solid matrices are reported in dry weight unless otherwise noted. Results for all liquid matrices are reported as received in the laboratory unless otherwise noted. Results relate only to the samples received. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

Samples are disposed of after 30 days of their receipt by the laboratory unless extended storage is requested in writing. The laboratory maintains the right to charge storage fees for archived samples. This report will be archived for 5 years after which time it will be destroyed without further notice, unless prior arrangements have been made.

Certain analyses are subcontracted to outside NELAC certified laboratories, please see the Project Summary section of this report for NELAC certification numbers of laboratories used. A Statement of Qualifiers is available upon request.

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

Sincerely,



Rebecca Lourido for
Kacia Baldwin
V.P. of Operations

SAMPLE ANALYTE COUNT

Workorder: 1855114

Project ID: Ludlam 09217186.02

Lab ID	Sample ID	Method	Analytes Reported
1855114001	MW-23	EPA 8260C	4
		EPA 8270/PAH SIM	21
1855114002	MW-21-2	EPA 200.8 (Total)	1
		EPA 8270/PAH SIM	21
1855114003	MW-22	EPA 8270/PAH SIM	21
1855114004	MW-12	EPA 200.8 (Total)	1
		EPA 8270/PAH SIM	21
1855114005	MW-3	EPA 8270/PAH SIM	21
1855114006	MW-3E	EPA 200.8 (Total)	1
		EPA 8270/PAH SIM	21
1855114007	MW-7	EPA 8270/PAH SIM	21
1855114008	MW-7E	EPA 200.8 (Total)	1
		EPA 8270/PAH SIM	21
1855114009	MW-9	EPA 200.8 (Total)	1
		EPA 8270/PAH SIM	21
1855114010	MW-44	EPA 200.8 (Total)	1
		EPA 8270/PAH SIM	21
1855114011	MW-37	EPA 8270/PAH SIM	21

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SAMPLE SUMMARY

Workorder: 1855114

Project ID: Ludlam 09217186.02

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1855114001	MW-23	Aqueous Liquid	1/17/2018 14:15	1/19/2018 17:47
1855114002	MW-21-2	Aqueous Liquid	1/17/2018 16:25	1/19/2018 17:47
1855114003	MW-22	Aqueous Liquid	1/17/2018 15:25	1/19/2018 17:47
1855114004	MW-12	Aqueous Liquid	1/17/2018 16:20	1/19/2018 17:47
1855114005	MW-3	Aqueous Liquid	1/18/2018 10:37	1/19/2018 17:47
1855114006	MW-3E	Aqueous Liquid	1/18/2018 11:27	1/19/2018 17:47
1855114007	MW-7	Aqueous Liquid	1/18/2018 12:53	1/19/2018 17:47
1855114008	MW-7E	Aqueous Liquid	1/18/2018 13:32	1/19/2018 17:47
1855114009	MW-9	Aqueous Liquid	1/18/2018 14:54	1/19/2018 17:47
1855114010	MW-44	Aqueous Liquid	1/18/2018 09:45	1/19/2018 17:47
1855114011	MW-37	Aqueous Liquid	1/18/2018 12:25	1/19/2018 17:47

FDOH# E86546

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ANALYTICAL RESULTS

Workorder: 1855114

Project ID: Ludlam 09217186.02

Lab ID: **1855114001**

Date Received: 1/19/2018 17:47

Matrix: Aqueous Liquid

Sample ID: **MW-23**

Date Collected: 1/17/2018 14:15

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
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Volatiles by GC/MS

Analysis Desc: EPA 8010 Scan by 8260C (W)

Preparation Method: EPA 5030B

Analytical Method: EPA 8260C

Chloromethane	U	ug/L	5.00	2.50	1	1/22/2018 09:02	JSJ	1/22/2018 16:47	JSJ	
Dibromofluoromethane (S)	100	%	70-130		1	1/22/2018 09:02	JSJ	1/22/2018 16:47	JSJ	
Toluene d8 (S)	90	%	70-130		1	1/22/2018 09:02	JSJ	1/22/2018 16:47	JSJ	
4-Bromofluorobenzene (S)	91	%	70-130		1	1/22/2018 09:02	JSJ	1/22/2018 16:47	JSJ	

Semivolatiles by EPA 8270C

Analysis Desc: PAH List by 8270C SIM (W)

Preparation Method: EPA 3510C SIM

Analytical Method: EPA 8270/PAH SIM

1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/22/2018 12:56	BFM	1/23/2018 12:47	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/22/2018 12:56	BFM	1/23/2018 12:47	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:47	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:47	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:47	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:47	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 12:47	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 12:47	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 12:47	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 12:47	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:47	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/22/2018 12:56	BFM	1/23/2018 12:47	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:47	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:47	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/22/2018 12:56	BFM	1/23/2018 12:47	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/22/2018 12:56	BFM	1/23/2018 12:47	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:47	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/22/2018 12:56	BFM	1/23/2018 12:47	VS	
Nitrobenzene-d5 (S)	88	%	30-110		1	1/22/2018 12:56	BFM	1/23/2018 12:47	VS	
2-Fluorobiphenyl (S)	85	%	30-110		1	1/22/2018 12:56	BFM	1/23/2018 12:47	VS	
p-Terphenyl-d14 (S)	120	%	30-140		1	1/22/2018 12:56	BFM	1/23/2018 12:47	VS	

ANALYTICAL RESULTS

Workorder: 1855114

Project ID: Ludlam 09217186.02

Lab ID: **1855114002**

Date Received: 1/19/2018 17:47

Matrix: Aqueous Liquid

Sample ID: **MW-21-2**

Date Collected: 1/17/2018 16:25

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/22/2018 14:07	BFM	1/23/2018 13:10	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/22/2018 14:07	BFM	1/23/2018 13:10	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/22/2018 14:07	BFM	1/23/2018 13:10	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/22/2018 14:07	BFM	1/23/2018 13:10	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/22/2018 14:07	BFM	1/23/2018 13:10	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/22/2018 14:07	BFM	1/23/2018 13:10	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/22/2018 14:07	BFM	1/23/2018 13:10	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/22/2018 14:07	BFM	1/23/2018 13:10	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/22/2018 14:07	BFM	1/23/2018 13:10	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/22/2018 14:07	BFM	1/23/2018 13:10	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/22/2018 14:07	BFM	1/23/2018 13:10	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/22/2018 14:07	BFM	1/23/2018 13:10	VS	
Fluoranthene	0.036i	ug/L	0.047	0.023	1	1/22/2018 14:07	BFM	1/23/2018 13:10	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/22/2018 14:07	BFM	1/23/2018 13:10	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/22/2018 14:07	BFM	1/23/2018 13:10	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/22/2018 14:07	BFM	1/23/2018 13:10	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/22/2018 14:07	BFM	1/23/2018 13:10	VS	
Pyrene	0.024i	ug/L	0.047	0.023	1	1/22/2018 14:07	BFM	1/23/2018 13:10	VS	
Nitrobenzene-d5 (S)	93	%	30-110		1	1/22/2018 14:07	BFM	1/23/2018 13:10	VS	
2-Fluorobiphenyl (S)	84	%	30-110		1	1/22/2018 14:07	BFM	1/23/2018 13:10	VS	
p-Terphenyl-d14 (S)	120	%	30-140		1	1/22/2018 14:07	BFM	1/23/2018 13:10	VS	
Analysis Desc: EPA 200.8 Metals (W)					Preparation Method: EPA 200.2 mod.					
					Analytical Method: EPA 200.8 (Total)					
Lead	0.45i	ug/L	2.0	0.12	4	1/22/2018 08:59	ZS	1/22/2018 13:46	ZS	

ANALYTICAL RESULTS

Workorder: 1855114

Project ID: Ludlam 09217186.02

Lab ID: **1855114003**

Date Received: 1/19/2018 17:47

Matrix: Aqueous Liquid

Sample ID: **MW-22**

Date Collected: 1/17/2018 15:25

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/23/2018 14:17	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/23/2018 14:17	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/23/2018 14:17	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/23/2018 14:17	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/23/2018 14:17	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/23/2018 14:17	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/23/2018 14:17	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/23/2018 14:17	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/23/2018 14:17	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/23/2018 14:17	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/23/2018 14:17	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/23/2018 13:15	BFM	1/23/2018 14:17	VS	
Fluoranthene	0.077	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/23/2018 14:17	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/23/2018 14:17	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/23/2018 14:17	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/23/2018 14:17	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/23/2018 14:17	VS	
Pyrene	0.043i	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/23/2018 14:17	VS	
Nitrobenzene-d5 (S)	94	%	30-110		1	1/23/2018 13:15	BFM	1/23/2018 14:17	VS	
2-Fluorobiphenyl (S)	67	%	30-110		1	1/23/2018 13:15	BFM	1/23/2018 14:17	VS	
p-Terphenyl-d14 (S)	96	%	30-140		1	1/23/2018 13:15	BFM	1/23/2018 14:17	VS	

ANALYTICAL RESULTS

Workorder: 1855114

Project ID: Ludlam 09217186.02

Lab ID: **1855114004**

Date Received: 1/19/2018 17:47

Matrix: Aqueous Liquid

Sample ID: **MW-12**

Date Collected: 1/17/2018 16:20

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 06:46	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 06:46	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 06:46	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 06:46	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 06:46	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 06:46	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 06:46	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 06:46	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 06:46	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 06:46	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 06:46	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/23/2018 13:15	BFM	1/24/2018 06:46	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 06:46	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 06:46	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 06:46	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 06:46	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 06:46	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 06:46	VS	
Nitrobenzene-d5 (S)	81	%	30-110		1	1/23/2018 13:15	BFM	1/24/2018 06:46	VS	
2-Fluorobiphenyl (S)	79	%	30-110		1	1/23/2018 13:15	BFM	1/24/2018 06:46	VS	
p-Terphenyl-d14 (S)	134	%	30-140		1	1/23/2018 13:15	BFM	1/24/2018 06:46	VS	
Analysis Desc: EPA 200.8 Metals (W)					Preparation Method: EPA 200.2 mod.					
					Analytical Method: EPA 200.8 (Total)					
Arsenic	21	ug/L	2.0	0.65	4	1/22/2018 08:59	ZS	1/22/2018 13:51	ZS	

ANALYTICAL RESULTS

Workorder: 1855114

Project ID: Ludlam 09217186.02

Lab ID: **1855114005**

Date Received: 1/19/2018 17:47

Matrix: Aqueous Liquid

Sample ID: **MW-3**

Date Collected: 1/18/2018 10:37

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 07:08	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 07:08	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:08	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:08	VS	
Anthracene	0.033i	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:08	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:08	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 07:08	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 07:08	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 07:08	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 07:08	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:08	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/23/2018 13:15	BFM	1/24/2018 07:08	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:08	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:08	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 07:08	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 07:08	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:08	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:08	VS	
Nitrobenzene-d5 (S)	99	%	30-110		1	1/23/2018 13:15	BFM	1/24/2018 07:08	VS	
2-Fluorobiphenyl (S)	98	%	30-110		1	1/23/2018 13:15	BFM	1/24/2018 07:08	VS	
p-Terphenyl-d14 (S)	147	%	30-140		1	1/23/2018 13:15	BFM	1/24/2018 07:08	VS	J2

ANALYTICAL RESULTS

Workorder: 1855114

Project ID: Ludlam 09217186.02

Lab ID: **1855114006**

Date Received: 1/19/2018 17:47

Matrix: Aqueous Liquid

Sample ID: **MW-3E**

Date Collected: 1/18/2018 11:27

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 07:30	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 07:30	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:30	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:30	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:30	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:30	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 07:30	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 07:30	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 07:30	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 07:30	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:30	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/23/2018 13:15	BFM	1/24/2018 07:30	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:30	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:30	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 07:30	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 07:30	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:30	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:30	VS	
Nitrobenzene-d5 (S)	104	%	30-110		1	1/23/2018 13:15	BFM	1/24/2018 07:30	VS	
2-Fluorobiphenyl (S)	102	%	30-110		1	1/23/2018 13:15	BFM	1/24/2018 07:30	VS	
p-Terphenyl-d14 (S)	144	%	30-140		1	1/23/2018 13:15	BFM	1/24/2018 07:30	VS	J2
Analysis Desc: EPA 200.8 Metals (W)					Preparation Method: EPA 200.2 mod.					
					Analytical Method: EPA 200.8 (Total)					
Arsenic	2.0	ug/L	2.0	0.65	4	1/22/2018 08:59	ZS	1/22/2018 13:56	ZS	

ANALYTICAL RESULTS

Workorder: 1855114

Project ID: Ludlam 09217186.02

Lab ID: **1855114007**

Date Received: 1/19/2018 17:47

Matrix: Aqueous Liquid

Sample ID: **MW-7**

Date Collected: 1/18/2018 12:53

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 07:52	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 07:52	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:52	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:52	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:52	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:52	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 07:52	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 07:52	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 07:52	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 07:52	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:52	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/23/2018 13:15	BFM	1/24/2018 07:52	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:52	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:52	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 07:52	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 07:52	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:52	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 07:52	VS	
Nitrobenzene-d5 (S)	96	%	30-110		1	1/23/2018 13:15	BFM	1/24/2018 07:52	VS	
2-Fluorobiphenyl (S)	90	%	30-110		1	1/23/2018 13:15	BFM	1/24/2018 07:52	VS	
p-Terphenyl-d14 (S)	137	%	30-140		1	1/23/2018 13:15	BFM	1/24/2018 07:52	VS	

ANALYTICAL RESULTS

Workorder: 1855114

Project ID: Ludlam 09217186.02

Lab ID: **1855114008**

Date Received: 1/19/2018 17:47

Matrix: Aqueous Liquid

Sample ID: **MW-7E**

Date Collected: 1/18/2018 13:32

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 08:14	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 08:14	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:14	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:14	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:14	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:14	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 08:14	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 08:14	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 08:14	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 08:14	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:14	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/23/2018 13:15	BFM	1/24/2018 08:14	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:14	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:14	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 08:14	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 08:14	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:14	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:14	VS	
Nitrobenzene-d5 (S)	76	%	30-110		1	1/23/2018 13:15	BFM	1/24/2018 08:14	VS	
2-Fluorobiphenyl (S)	74	%	30-110		1	1/23/2018 13:15	BFM	1/24/2018 08:14	VS	
p-Terphenyl-d14 (S)	124	%	30-140		1	1/23/2018 13:15	BFM	1/24/2018 08:14	VS	
Analysis Desc: EPA 200.8 Metals (W)					Preparation Method: EPA 200.2 mod.					
					Analytical Method: EPA 200.8 (Total)					
Arsenic	3.1	ug/L	2.0	0.65	4	1/22/2018 08:59	ZS	1/22/2018 14:29	ZS	

ANALYTICAL RESULTS

Workorder: 1855114

Project ID: Ludlam 09217186.02

Lab ID: **1855114009**

Date Received: 1/19/2018 17:47

Matrix: Aqueous Liquid

Sample ID: **MW-9**

Date Collected: 1/18/2018 14:54

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 08:36	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 08:36	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:36	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:36	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:36	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:36	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 08:36	VS	
Benzo(b)fluoranthene	0.030i	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 08:36	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 08:36	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 08:36	VS	
Chrysene	0.026i	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:36	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/23/2018 13:15	BFM	1/24/2018 08:36	VS	
Fluoranthene	0.045i	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:36	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:36	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 08:36	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 08:36	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:36	VS	
Pyrene	0.055	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:36	VS	
Nitrobenzene-d5 (S)	77	%	30-110		1	1/23/2018 13:15	BFM	1/24/2018 08:36	VS	
2-Fluorobiphenyl (S)	71	%	30-110		1	1/23/2018 13:15	BFM	1/24/2018 08:36	VS	
p-Terphenyl-d14 (S)	118	%	30-140		1	1/23/2018 13:15	BFM	1/24/2018 08:36	VS	
Analysis Desc: EPA 200.8 Metals (W)					Preparation Method: EPA 200.2 mod.					
					Analytical Method: EPA 200.8 (Total)					
Arsenic	100	ug/L	2.0	0.65	4	1/22/2018 08:59	ZS	1/22/2018 14:34	ZS	

ANALYTICAL RESULTS

Workorder: 1855114

Project ID: Ludlam 09217186.02

Lab ID: **1855114010**

Date Received: 1/19/2018 17:47

Matrix: Aqueous Liquid

Sample ID: **MW-44**

Date Collected: 1/18/2018 09:45

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 08:59	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 08:59	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:59	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:59	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:59	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:59	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 08:59	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 08:59	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 08:59	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 08:59	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:59	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/23/2018 13:15	BFM	1/24/2018 08:59	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:59	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:59	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 08:59	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 08:59	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:59	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 08:59	VS	
Nitrobenzene-d5 (S)	89	%	30-110		1	1/23/2018 13:15	BFM	1/24/2018 08:59	VS	
2-Fluorobiphenyl (S)	80	%	30-110		1	1/23/2018 13:15	BFM	1/24/2018 08:59	VS	
p-Terphenyl-d14 (S)	137	%	30-140		1	1/23/2018 13:15	BFM	1/24/2018 08:59	VS	
Analysis Desc: EPA 200.8 Metals (W)					Preparation Method: EPA 200.2 mod.					
					Analytical Method: EPA 200.8 (Total)					
Arsenic	2.4	ug/L	2.0	0.65	4	1/22/2018 08:59	ZS	1/22/2018 14:38	ZS	

ANALYTICAL RESULTS

Workorder: 1855114

Project ID: Ludlam 09217186.02

Lab ID: **1855114011**

Date Received: 1/19/2018 17:47

Matrix: Aqueous Liquid

Sample ID: **MW-37**

Date Collected: 1/18/2018 12:25

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Semivolatiles by EPA 8270C										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 11:14	VS	
2-Methylnaphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 11:14	VS	
Acenaphthene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 11:14	VS	
Acenaphthylene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 11:14	VS	
Anthracene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 11:14	VS	
Benzo(a)anthracene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 11:14	VS	
Benzo(a)pyrene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 11:14	VS	
Benzo(b)fluoranthene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 11:14	VS	
Benzo(g,h,i)perylene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 11:14	VS	
Benzo(k)fluoranthene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 11:14	VS	
Chrysene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 11:14	VS	
Dibenzo(a,h)anthracene	U	ug/L	0.047	0.0048	1	1/23/2018 13:15	BFM	1/24/2018 11:14	VS	
Fluoranthene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 11:14	VS	
Fluorene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 11:14	VS	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.047	0.014	1	1/23/2018 13:15	BFM	1/24/2018 11:14	VS	
Naphthalene	U	ug/L	0.093	0.047	1	1/23/2018 13:15	BFM	1/24/2018 11:14	VS	
Phenanthrene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 11:14	VS	
Pyrene	U	ug/L	0.047	0.023	1	1/23/2018 13:15	BFM	1/24/2018 11:14	VS	
Nitrobenzene-d5 (S)	84	%	30-110		1	1/23/2018 13:15	BFM	1/24/2018 11:14	VS	
2-Fluorobiphenyl (S)	86	%	30-110		1	1/23/2018 13:15	BFM	1/24/2018 11:14	VS	
p-Terphenyl-d14 (S)	136	%	30-140		1	1/23/2018 13:15	BFM	1/24/2018 11:14	VS	

ANALYTICAL RESULTS QUALIFIERS

Workorder: 1855114

Project ID: Ludlam 09217186.02

PARAMETER QUALIFIERS

J2 Surrogate recovery was outside defined limits due to matrix interference.

FDOH# E86546

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QUALITY CONTROL DATA

Workorder: 1855114

Project ID: Ludlam 09217186.02

QC Batch:	XXX/10686	Analysis Method:	EPA 8270/PAH SIM		
QC Batch Method:	EPA 3510C SIM				
Associated Lab Samples:	1855107003	1855107004	1855107005	1855107006	1855113001
	1855113003	1855113004	1855113005	1855113006	1855113007
	1855114002	1855115001	1855115002	1855115003	1855115004
	1855115006	1855115007			1855115005

METHOD BLANK: 134047

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Semivolatiles by EPA 8270C				
Nitrobenzene-d5 (S)	%	84	30-110	
2-Fluorobiphenyl (S)	%	95	30-110	
p-Terphenyl-d14 (S)	%	140	30-140	
Naphthalene	ug/L	U	0.050	
2-Methylnaphthalene	ug/L	U	0.050	
1-Methylnaphthalene	ug/L	U	0.050	
Acenaphthylene	ug/L	U	0.025	
Acenaphthene	ug/L	U	0.025	
Fluorene	ug/L	U	0.025	
Phenanthrene	ug/L	U	0.025	
Anthracene	ug/L	U	0.025	
Fluoranthene	ug/L	U	0.025	
Pyrene	ug/L	U	0.025	
Benzo(a)anthracene	ug/L	U	0.025	
Chrysene	ug/L	U	0.025	
Benzo(b)fluoranthene	ug/L	U	0.015	
Benzo(k)fluoranthene	ug/L	U	0.015	
Benzo(a)pyrene	ug/L	U	0.015	
Dibenzo(a,h)anthracene	ug/L	U	0.0051	
Indeno(1,2,3-cd)pyrene	ug/L	U	0.015	
Benzo(g,h,i)perylene	ug/L	U	0.015	

LABORATORY CONTROL SAMPLE & LCSD: 134048 134049

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Semivolatiles by EPA 8270C										
Nitrobenzene-d5 (S)	%				97	93	30-110	4	40	
2-Fluorobiphenyl (S)	%				98	103	30-110	5	40	
p-Terphenyl-d14 (S)	%				130	138	30-140	6	40	
Naphthalene	ug/L	0.993	0.804	0.887	81	89	30-140	10	40	
2-Methylnaphthalene	ug/L	0.991	0.847	0.902	86	91	30-140	6	40	
1-Methylnaphthalene	ug/L	1	0.872	0.927	87	92	30-140	6	40	

Report ID: 1855114 - 2065781
1/25/2018

Page 16 of 24

FDOH# E86546

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QUALITY CONTROL DATA

Workorder: 1855114

Project ID: Ludlam 09217186.02

LABORATORY CONTROL SAMPLE & LCSD:		134048	134049							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Acenaphthylene	ug/L	0.984	0.808	0.884	82	90	30-120	9	40	
Acenaphthene	ug/L	0.994	0.849	0.922	85	93	30-120	8	40	
Fluorene	ug/L	0.986	0.887	0.967	90	98	30-140	9	40	
Phenanthrene	ug/L	0.996	0.855	0.922	86	93	30-120	8	40	
Anthracene	ug/L	1	0.914	1.00	91	100	30-140	9	40	
Fluoranthene	ug/L	0.991	0.994	1.15	100	116	30-120	15	40	
Pyrene	ug/L	0.981	1.14	1.37	116	139	40-140	18	40	
Benzo(a)anthracene	ug/L	1	1.05	1.05	105	105	30-120	0	40	
Chrysene	ug/L	1	1.06	1.13	106	113	30-140	6	40	
Benzo(b)fluoranthene	ug/L	1	0.795	0.750	79	75	30-140	6	40	
Benzo(k)fluoranthene	ug/L	1	0.771	0.741	77	74	30-140	4	40	
Benzo(a)pyrene	ug/L	1	0.673	0.678	67	68	30-140	0.7	40	
Dibenzo(a,h)anthracene	ug/L	1	0.788	0.806	79	81	30-140	2	40	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.939	0.954	94	95	30-140	2	40	
Benzo(g,h,i)perylene	ug/L	1	0.818	0.812	82	81	30-120	0.7	40	

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QUALITY CONTROL DATA

Workorder: 1855114

Project ID: Ludlam 09217186.02

QC Batch:	MXX/9364	Analysis Method:	EPA 200.8 (Total)			
QC Batch Method:	EPA 200.2 mod.					
Associated Lab Samples:	1855113002	1855113003	1855113004	1855113006	1855113007	1855113008
	1855114002	1855114004	1855114006	1855114008	1855114009	1855114010
	1855115001	1855115002	1855115003	1855115004	1855115005	1855115006
	1855115007	1855116001				

METHOD BLANK: 134050

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Arsenic	ug/L	U	0.16	
Lead	ug/L	U	0.029	

LABORATORY CONTROL SAMPLE & LCSD: 134051 134052

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Arsenic	ug/L	50	53	52	107	105	85-115	1.9	20	
Lead	ug/L	50	55	53	109	105	85-115	3.7	20	

MATRIX SPIKE SAMPLE: 134054 Original: 1855115007

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	0.89	82	96	116	70-130	
Lead	ug/L	1.4	82	100	123	70-130	

MATRIX SPIKE SAMPLE: 134056 Original: 1855114006

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	2	82	82	98	70-130	
Lead	ug/L	0.56	82	86	105	70-130	

QUALITY CONTROL DATA

Workorder: 1855114

Project ID: Ludlam 09217186.02

SAMPLE DUPLICATE: 134053

Original: 1855115007

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Arsenic	ug/L	0.89	0.66i	29.7	20	P1
Lead	ug/L	1.4	1.4i	0	20	

SAMPLE DUPLICATE: 134055

Original: 1855114006

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Arsenic	ug/L	2	1.8i	10.5	20	
Lead	ug/L	0.56	0.50i	11.3	20	

QUALITY CONTROL DATA

Workorder: 1855114

Project ID: Ludlam 09217186.02

QC Batch:	XXX/10690	Analysis Method:	EPA 8270/PAH SIM		
QC Batch Method:	EPA 3510C SIM				
Associated Lab Samples:	1855114003	1855114004	1855114005	1855114006	1855114007
	1855114009	1855114010	1855114011	1855116001	1855114008

METHOD BLANK: 134167

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Semivolatiles by EPA 8270C				
Nitrobenzene-d5 (S)	%	74	30-110	
2-Fluorobiphenyl (S)	%	80	30-110	
p-Terphenyl-d14 (S)	%	140	30-140	
Naphthalene	ug/L	U	0.050	
2-Methylnaphthalene	ug/L	U	0.050	
1-Methylnaphthalene	ug/L	U	0.050	
Acenaphthylene	ug/L	U	0.025	
Acenaphthene	ug/L	U	0.025	
Fluorene	ug/L	U	0.025	
Phenanthrene	ug/L	U	0.025	
Anthracene	ug/L	U	0.025	
Fluoranthene	ug/L	U	0.025	
Pyrene	ug/L	U	0.025	
Benzo(a)anthracene	ug/L	U	0.025	
Chrysene	ug/L	U	0.025	
Benzo(b)fluoranthene	ug/L	U	0.015	
Benzo(k)fluoranthene	ug/L	U	0.015	
Benzo(a)pyrene	ug/L	U	0.015	
Dibenzo(a,h)anthracene	ug/L	U	0.0051	
Indeno(1,2,3-cd)pyrene	ug/L	U	0.015	
Benzo(g,h,i)perylene	ug/L	U	0.015	

LABORATORY CONTROL SAMPLE & LCSD: 134168 134169

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Semivolatiles by EPA 8270C										
Nitrobenzene-d5 (S)	%				92	76	30-110	18	40	
2-Fluorobiphenyl (S)	%				82	66	30-110	22	40	
p-Terphenyl-d14 (S)	%				116	101	30-140	14	40	
Naphthalene	ug/L	0.993	0.676	0.582	68	59	30-140	15	40	
2-Methylnaphthalene	ug/L	0.991	0.695	0.554	70	56	30-140	23	40	
1-Methylnaphthalene	ug/L	1	0.705	0.569	70	57	30-140	21	40	
Acenaphthylene	ug/L	0.984	0.804	0.658	82	67	30-120	20	40	
Acenaphthene	ug/L	0.994	0.759	0.633	76	64	30-120	18	40	

Report ID: 1855114 - 2065781
1/25/2018

Page 20 of 24

FDOH# E86546

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QUALITY CONTROL DATA

Workorder: 1855114

Project ID: Ludlam 09217186.02

LABORATORY CONTROL SAMPLE & LCSD: 134168 134169										
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Fluorene	ug/L	0.986	0.853	0.730	87	74	30-140	16	40	
Phenanthrene	ug/L	0.996	0.795	0.650	80	65	30-120	20	40	
Anthracene	ug/L	1	0.954	0.806	95	81	30-140	17	40	
Fluoranthene	ug/L	0.991	1.15	0.978	116	99	30-120	16	40	
Pyrene	ug/L	0.981	1.04	0.889	106	91	40-140	16	40	
Benzo(a)anthracene	ug/L	1	0.957	0.808	95	81	30-120	17	40	
Chrysene	ug/L	1	0.979	0.827	98	83	30-140	17	40	
Benzo(b)fluoranthene	ug/L	1	0.679	0.585	68	58	30-140	15	40	
Benzo(k)fluoranthene	ug/L	1	0.768	0.715	77	71	30-140	7	40	
Benzo(a)pyrene	ug/L	1	0.616	0.509	61	51	30-140	19	40	
Dibenzo(a,h)anthracene	ug/L	1	0.645	0.596	65	60	30-140	8	40	
Indeno(1,2,3-cd)pyrene	ug/L	1	0.702	0.583	70	58	30-140	19	40	
Benzo(g,h,i)perylene	ug/L	1	0.752	0.679	75	68	30-120	10	40	

QUALITY CONTROL DATA

Workorder: 1855114

Project ID: Ludlam 09217186.02

QC Batch: VXX/7856 Analysis Method: EPA 8260C

QC Batch Method: EPA 5030B

Associated Lab Samples:	1855098001	1855098002	1855098003	1855098004	1855107001	1855107002
	1855107003	1855107004	1855107005	1855107006	1855113005	1855114001

METHOD BLANK: 134262

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Volatiles by GC/MS				
Dibromofluoromethane (S)	%	98	70-130	
Toluene d8 (S)	%	91	70-130	
4-Bromofluorobenzene (S)	%	91	70-130	
Chloromethane	ug/L	U	2.50	

LABORATORY CONTROL SAMPLE & LCSD: 134263 134264

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Volatiles by GC/MS										
Dibromofluoromethane (S)	%				101	101	70-130	0	25	
Toluene d8 (S)	%				90	89	70-130	0.9	25	
4-Bromofluorobenzene (S)	%				90	91	70-130	0.8	25	
Chloromethane	ug/L	50	42.9	43.5	86	87	60-130	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 134265 134266 Original: 1855107005

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Volatiles by GC/MS											
Dibromofluoromethane (S)	%					105	105	70-130	0.2	25	
Toluene d8 (S)	%					92	93	70-130	0.6	25	
4-Bromofluorobenzene (S)	%					89	91	70-130	2	25	
Chloromethane	ug/L								10	25	

QUALITY CONTROL DATA QUALIFIERS

Workorder: 1855114

Project ID: Ludlam 09217186.02

QUALITY CONTROL PARAMETER QUALIFIERS

P1 RPD value not applicable for sample concentrations less than 5 times the PQL.

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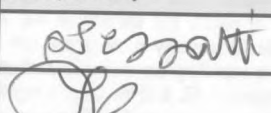
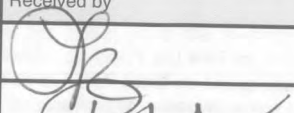
QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 1855114

Project ID: Ludlam 09217186.02

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1855114001	MW-23	EPA 3510C SIM	XXX/10686	EPA 8270/PAH SIM	XMS/5686
1855114002	MW-21-2	EPA 3510C SIM	XXX/10686	EPA 8270/PAH SIM	XMS/5686
1855114002	MW-21-2	EPA 200.2 mod.	MXX/9364	EPA 200.8 (Total)	MMS/8395
1855114004	MW-12	EPA 200.2 mod.	MXX/9364	EPA 200.8 (Total)	MMS/8395
1855114006	MW-3E	EPA 200.2 mod.	MXX/9364	EPA 200.8 (Total)	MMS/8395
1855114008	MW-7E	EPA 200.2 mod.	MXX/9364	EPA 200.8 (Total)	MMS/8395
1855114009	MW-9	EPA 200.2 mod.	MXX/9364	EPA 200.8 (Total)	MMS/8395
1855114010	MW-44	EPA 200.2 mod.	MXX/9364	EPA 200.8 (Total)	MMS/8395
1855114003	MW-22	EPA 3510C SIM	XXX/10690	EPA 8270/PAH SIM	XMS/5686
1855114004	MW-12	EPA 3510C SIM	XXX/10690	EPA 8270/PAH SIM	XMS/5686
1855114005	MW-3	EPA 3510C SIM	XXX/10690	EPA 8270/PAH SIM	XMS/5686
1855114006	MW-3E	EPA 3510C SIM	XXX/10690	EPA 8270/PAH SIM	XMS/5686
1855114007	MW-7	EPA 3510C SIM	XXX/10690	EPA 8270/PAH SIM	XMS/5686
1855114008	MW-7E	EPA 3510C SIM	XXX/10690	EPA 8270/PAH SIM	XMS/5686
1855114009	MW-9	EPA 3510C SIM	XXX/10690	EPA 8270/PAH SIM	XMS/5686
1855114010	MW-44	EPA 3510C SIM	XXX/10690	EPA 8270/PAH SIM	XMS/5686
1855114011	MW-37	EPA 3510C SIM	XXX/10690	EPA 8270/PAH SIM	XMS/5686
1855114001	MW-23	EPA 5030B	VXX/7856	EPA 8260C	VMS/7681

Company Name <u>SCS ENGINEERS</u>						LAB ANALYSIS												Requested Turnaround Time	
Address <u>7700 N KENDALL DR, SUITE 300</u>																		Note: Rush requests subject to acceptance by the laboratory	
City <u>Miami</u> State <u>FL</u> Zip <u>33156</u>																		☒ Standard	
Sampling Site Address																		☐ Expedited	
Attn: <u>Fangmei Zhang</u> Email <u>Fzhang@scsengineers.com</u>																		Due <u> </u> / <u> </u> / <u> </u>	
Project Name <u>Wdlon</u> Project # <u>09217186.02</u>																			
Sampler Name/Signature <u>Anthony Pezzotti / apezam</u>																			
#	Sample Label (Client ID)	Collected Date	Collected Time	Matrix Code*	# of Cont	Parameters												Field Filtered (Y/N)	Comments
						PAH	Pb	As	Chromatone										
01	MW-23	1/17/18	1415	aw		X			X										
02	MW-21-2	↓	1625			X	X												
03	MW-22	↓	1525			X													
04	MW-12	↓	1620			X		X											
05	MW-3	1/18/18	1037			X													
06	MW-3E	↓	1127			X		X											
07	MW-7	↓	1253			X													
08	MW-7E	↓	1332			X		X											
09	MW-9	↓	1454			X		X											
10	MW-44	↓	9:45			X		X											

Matrix Codes*				Pres Codes		Relinquished by		Date	Time	Received by		Date	Time
S	Soil/Solid Sediment	SW	Surface Water	A- none	I- Ice			1/18/18	15:50			1/18/18	15:50
GW	Ground Water	SL	Sludge	B- HNO ₃	O- Other			1/19/18	16:16			1-19-18	16:16
WW	Waste Water	O	Other (Please Specify)	C- H ₂ SO ₄	M- MeOH			1-19-18	17:47			1-19-18	17:47
DW	Drinking Water			D- NaOH	N- Na ₂ S ₂ O ₃								
				E- HCl	Z- ZnAc								

QA/QC level with report				Temp Control:
None <u> </u> 1 <u> </u> 2 <u> </u> 3 <u> </u> See price guide for applicable fees				3.4 °C
FDEP Dry Cleaning ☐ FDEP UST Pre-Approval ☐				
SFWMMD ☐ ADaPT ☐ DOT ☐				

Company Name SCS engineers						LAB ANALYSIS												Requested Turnaround Time	
Address 7700 N Kendall Dr, Suite 300						Pres Codes Parameters Field Filtered (Y/N)												Note: Rush requests subject to acceptance by the laboratory	
City Miami State FL Zip																		☒ Standard ☐ Expedited	
Sampling Site Address																		Due ___/___/___	
Attn: Fangmei Zhang Email																		Comments	
Project Name Ludlow Project # 09217186.02																			
Sampler Name/Signature Anthony Perzotti / [Signature]																			
#	Sample Label (Client ID)	Collected Date	Collected Time	Matrix Code*	# of Cont														
1	MW-37	1/18/18	12:25	GW	1	X													
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
0																			

Matrix Codes*				Pres Codes		Relinquished by		Date	Time	Received by		Date	Time		
S	Soil/Solid Sediment	SW	Surface Water	A- none	I- Ice	Relinquished by Date Time Received by Date Time		1/18/18		15:50		1/18/18		15:50	
GW	Ground Water	SL	Sludge	B- HNO ₃	O- Other										
WW	Waste Water	O	Other (Please Specify)	C- H ₂ SO ₄	M- MeOH										
DW	Drinking Water			D- NaOH	N- Na ₂ S ₂ O ₃										
				E- HCl	Z- ZnAc										
QA/QC level with report															
None ___ 1 ___ 2 ___ 3 ___ See price guide for applicable fees															
FDEP Dry Cleaning ☐ FDEP UST Pre-Approval ☐				Temp Control:											
SFWM ☐ ADaPT ☐ DOT ☐				3.4 °C											

SAMPLE RECEIPT CONFIRMATION SHEET

Client Information

SDG:	1855114	Req:	1446
Client:	SCS	Project:	FANGMEI Z
Level:	1	Date Rec'd:	1/19/2018 5:47:00 PM
Rec'd via:	courier		

Cooler Check

ID	Temp	# of samples	Security Tape		Method of Receipt	Comments
			Present	Intact		
	3.4	11	☐	☐		

Checked By: CF

Sample Verification

Loose Caps?	No	All Samples on COC accounted For?	Yes
Broken Containers?	No	All Samples on COC?	Yes
pH Verified?	Yes	Written on Internal COC?	No
pH Strip Lot #	HC730269	Sample Vol. Suff. For Analysis?	Yes
Acid Preserved Samples Lot #	15127	Samples Rec'd W/ Hold Time?	Yes
Base Preserved Samples Lot #		Are All Samples to be Analyzed?	Yes
Samples Received From	courier	Correct Sample Containers?	Yes
Soil Origin (Domestic/Foreign		COC Comments written on COC?	No
Site Location/Project on COC?	Yes	Samplers Initials on COC?	Yes
Client Project # on COC?	Yes	Sample Date/Time Indicated?	Yes
Project Mgr. Indicated on COC	Yes	TAT Requested:	STD
COC relinquished/Dated by Client?	Yes	Client Requests Verbal Results?	No
COC Received/Dated by JEL	Yes		
JEL to Conduct ALL Analyses?	Yes		

Subcontract Analysis

Parameter	Via	Lab Name	Comments
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January 26, 2018

Fangmei Zhang
SCS
7700 N. Kendall Dr
Suite 300
Miami, FL 33156

RE: LOG# 1855162
Project ID: Ludlam 09215186.02
COC# 1855162

Dear Fangmei Zhang:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, January 16, 2018. Results reported herein conform to the most current NELAC standards, where applicable, unless indicated by * in the body of the report. The enclosed Chain of Custody is a component of this package and should be retained with the package and incorporated therein.

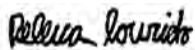
Results for all solid matrices are reported in dry weight unless otherwise noted. Results for all liquid matrices are reported as received in the laboratory unless otherwise noted. Results relate only to the samples received. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

Samples are disposed of after 30 days of their receipt by the laboratory unless extended storage is requested in writing. The laboratory maintains the right to charge storage fees for archived samples. This report will be archived for 5 years after which time it will be destroyed without further notice, unless prior arrangements have been made.

Certain analyses are subcontracted to outside NELAC certified laboratories, please see the Project Summary section of this report for NELAC certification numbers of laboratories used. A Statement of Qualifiers is available upon request.

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

Sincerely,



Rebecca Lourido for
Kacia Baldwin
V.P. of Operations

SAMPLE ANALYTE COUNT

Workorder: 1855162

Project ID: Ludlam 09215186.02

Lab ID	Sample ID	Method	Analytes Reported
1855162001	SB-7R (0.5-2)	EPA 1312/200.8	1
		SM 2540G	1

FDOH# E86546

CERTIFICATE OF ANALYSIS

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SAMPLE SUMMARY

Workorder: 1855162

Project ID: Ludlam 09215186.02

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1855162001	SB-7R (0.5-2)	Soil/Solid	1/16/2018 10:50	1/16/2018 18:20

FDOH# E86546

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ANALYTICAL RESULTS

Workorder: 1855162

Project ID: Ludlam 09215186.02

Lab ID: 1855162001	Date Received: 1/16/2018 18:20	Matrix: Soil/Solid
Sample ID: SB-7R (0.5-2)	Date Collected: 1/16/2018 10:50	

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
Wet Chemistry										
Analysis Desc: 2540G Percent Solids (Dryweight)					Analytical Method: SM 2540G					
Percent Solids (Dryweight)	96.8	%	0.1		1			1/24/2018 14:31	BFM	
Analysis Desc: EPA 1312 SPLP Metals Scan ICP/MS					Preparation Method: EPA 200.2 mod.					
					Analytical Method: EPA 1312/200.8					
Lead	0.0095	mg/L	0.0080	0.00012	4	1/25/2018 10:49	ZS	1/25/2018 16:03	ZS	

ANALYTICAL RESULTS QUALIFIERS

Workorder: 1855162

Project ID: Ludlam 09215186.02

PARAMETER QUALIFIERS

PROJECT COMMENTS

1855162	A reported value of U indicates that the compound was analyzed for but not detected above the MDL. A value flagged with an "i" flag indicates that the reported value is between the laboratory method detection limit and the practical quantitation limit.
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FDOH# E86546

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QUALITY CONTROL DATA

Workorder: 1855162

Project ID: Ludlam 09215186.02

QC Batch: MXX/9378 Analysis Method: EPA 1312/200.8
QC Batch Method: EPA 200.2 mod.
Associated Lab Samples: 1855162001 1855173001

METHOD BLANK: 134417

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Lead	mg/L	U	0.000029	

LABORATORY CONTROL SAMPLE & LCSD: 134418 134419

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Lead	mg/L	0.05	0.049	0.051	98.4	102	85-115	4	20	

MATRIX SPIKE SAMPLE: 134421 Original: 1855176001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Lead	mg/L	2e-005	0.05	0.049	97.7	70-130	

SAMPLE DUPLICATE: 134420 Original: 1855176001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
Lead	mg/L	2e-005	U	200	20	P1

QUALITY CONTROL DATA QUALIFIERS

Workorder: 1855162

Project ID: Ludlam 09215186.02

QUALITY CONTROL PARAMETER QUALIFIERS

P1 RPD value not applicable for sample concentrations less than 5 times the PQL.

FDOH# E86546

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 1855162

Project ID: Ludlam 09215186.02

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1855162001	SB-7R (0.5-2)	SM 2540G	WGR/3373		
1855162001	SB-7R (0.5-2)	EPA 200.2 mod.	MXX/9378	EPA 1312/200.8	MMS/8407

FDOH# E86546

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855162

SAMPLE RECEIPT CONFIRMATION SHEET

Client Information

SDG:	1855162	Req:	1446
Client:	SCS	Project:	FANGMEI Z
Level:	1	Date Rec'd:	1/16/2018 6:20:00 PM
Rec'd via:	courier		

Cooler Check

Security Tape

ID	Temp	# of samples	Present	Intact	Method of Receipt	Comments
	3.1	1	☐	☐		

Checked By: MD

Sample Verification

Loose Caps?	No	All Samples on COC accounted For?	Yes
Broken Containers?	No	All Samples on COC?	Yes
pH Verified?	No	Written on Internal COC?	No
pH Strip Lot #		Sample Vol. Suff. For Analysis?	Yes
Acid Preserved Samples Lot #		Samples Rec'd W/I Hold Time?	Yes
Base Preserved Samples Lot #		Are All Samples to be Analyzed?	Yes
Samples Received From	courier	Correct Sample Containers?	Yes
Soil Origin (Domestic/Foreign)	Domestic	COC Comments written on COC?	Yes
Site Location/Project on COC?	Yes	Samplers Initials on COC?	Yes
Client Project # on COC?	Yes	Sample Date/Time Indicated?	Yes
Project Mgr. Indicated on COC	Yes	TAT Requested:	STD
COC relinquished/Dated by Client?	Yes	Client Requests Verbal Results?	No
COC Received/Dated by JEL	Yes		
JEL to Conduct ALL Analyses?	Yes		

Subcontract Analysis

Parameter	Via	Lab Name	Comments
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January 25, 2018

Fangmei Zhang
SCS ES Consultants, Inc.
7700 N. Kendall Dr.
Suite #607
Miami, FL 33156

RE: Project: 09217186.02/Ludlum
Pace Project No.: 35368307

Dear Fangmei Zhang:

Enclosed are the analytical results for sample(s) received by the laboratory on January 12, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Christina Raschke
christina.raschke@pacelabs.com
(954)582-4300
Project Manager

Enclosures

cc: Karinne Bedosky, SCS Engineers



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 09217186.02/Ludlum

Pace Project No.: 35368307

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 09217186.02/Ludlum

Pace Project No.: 35368307

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35368307001	MW-29	Water	01/11/18 17:15	01/12/18 18:10
35368307002	MW-33	Water	01/11/18 16:31	01/12/18 18:10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 09217186.02/Ludlum

Pace Project No.: 35368307

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35368307001	MW-29	EPA 8270	TWB	10	PASI-O
35368307002	MW-33	EPA 8270	TWB	10	PASI-O

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 09217186.02/Ludlum

Pace Project No.: 35368307

Method: EPA 8270

Description: 8270 MSSV Semivolatile Organic

Client: SCS Engineers

Date: January 25, 2018

General Information:

2 samples were analyzed for EPA 8270. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3510 with any exceptions noted below.

QC Batch: 419659

P1: Routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.

- MW-29 (Lab ID: 35368307001)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 419659

J(L1): Estimated Value. Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

- LCSD (Lab ID: 2286277)
- Phenol

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 419659

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 09217186.02/Ludlum

Pace Project No.: 35368307

Method: EPA 8270

Description: 8270 MSSV Semivolatile Organic

Client: SCS Engineers

Date: January 25, 2018

Additional Comments:

Analyte Comments:

QC Batch: 419659

1p: A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

- MW-29 (Lab ID: 35368307001)
 - 2-Methylphenol(o-Cresol)
 - 3&4-Methylphenol(m&p Cresol)
 - Phenol
 - Pentachlorophenol
- MW-33 (Lab ID: 35368307002)
 - 2-Methylphenol(o-Cresol)
 - 3&4-Methylphenol(m&p Cresol)
 - Phenol
 - Pentachlorophenol

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlum

Pace Project No.: 35368307

Sample: MW-29		Lab ID: 35368307001		Collected: 01/11/18 17:15		Received: 01/12/18 18:10		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
2-Methylphenol(o-Cresol)	1.1 U	ug/L	7.3	1.1	1	01/18/18 21:54	01/23/18 23:16	95-48-7	1p,P1
3&4-Methylphenol(m&p Cresol)	0.96 U	ug/L	14.6	0.96	1	01/18/18 21:54	01/23/18 23:16		1p,P1
Pentachlorophenol	0.96 U	ug/L	29.2	0.96	1	01/18/18 21:54	01/23/18 23:16	87-86-5	1p,P1
Phenol	0.79 U	ug/L	7.3	0.79	1	01/18/18 21:54	01/23/18 23:16	108-95-2	1p, J(L1), P1
Surrogates									
Nitrobenzene-d5 (S)	54	%	13-83		1	01/18/18 21:54	01/23/18 23:16	4165-60-0	
2-Fluorobiphenyl (S)	66	%	21-92		1	01/18/18 21:54	01/23/18 23:16	321-60-8	
p-Terphenyl-d14 (S)	108	%	16-117		1	01/18/18 21:54	01/23/18 23:16	1718-51-0	
Phenol-d6 (S)	26	%	10-46		1	01/18/18 21:54	01/23/18 23:16	13127-88-3	
2-Fluorophenol (S)	34	%	10-44		1	01/18/18 21:54	01/23/18 23:16	367-12-4	
2,4,6-Tribromophenol (S)	77	%	22-133		1	01/18/18 21:54	01/23/18 23:16	118-79-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlum

Pace Project No.: 35368307

Sample: MW-33 **Lab ID: 35368307002** Collected: 01/11/18 16:31 Received: 01/12/18 18:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic Analytical Method: EPA 8270 Preparation Method: EPA 3510									
2-Methylphenol(o-Cresol)	0.78 U	ug/L	5.3	0.78	1	01/18/18 21:54	01/23/18 23:40	95-48-7	1p
3&4-Methylphenol(m&p Cresol)	0.71 U	ug/L	10.7	0.71	1	01/18/18 21:54	01/23/18 23:40		1p
Pentachlorophenol	0.71 U	ug/L	21.4	0.71	1	01/18/18 21:54	01/23/18 23:40	87-86-5	1p
Phenol	0.58 U	ug/L	5.3	0.58	1	01/18/18 21:54	01/23/18 23:40	108-95-2	1p,J(L1)
Surrogates									
Nitrobenzene-d5 (S)	60	%	13-83		1	01/18/18 21:54	01/23/18 23:40	4165-60-0	
2-Fluorobiphenyl (S)	69	%	21-92		1	01/18/18 21:54	01/23/18 23:40	321-60-8	
p-Terphenyl-d14 (S)	97	%	16-117		1	01/18/18 21:54	01/23/18 23:40	1718-51-0	
Phenol-d6 (S)	20	%	10-46		1	01/18/18 21:54	01/23/18 23:40	13127-88-3	
2-Fluorophenol (S)	32	%	10-44		1	01/18/18 21:54	01/23/18 23:40	367-12-4	
2,4,6-Tribromophenol (S)	78	%	22-133		1	01/18/18 21:54	01/23/18 23:40	118-79-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlum

Pace Project No.: 35368307

QC Batch: 419659

Analysis Method: EPA 8270

QC Batch Method: EPA 3510

Analysis Description: 8270 Water Full List MSSV

Associated Lab Samples: 35368307001, 35368307002

METHOD BLANK: 2286275

Matrix: Water

Associated Lab Samples: 35368307001, 35368307002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2-Methylphenol(o-Cresol)	ug/L	0.73 U	5.0	0.73	01/23/18 22:52	
3&4-Methylphenol(m&p Cresol)	ug/L	0.66 U	10.0	0.66	01/23/18 22:52	
Pentachlorophenol	ug/L	0.66 U	20.0	0.66	01/23/18 22:52	
Phenol	ug/L	0.54 U	5.0	0.54	01/23/18 22:52	
2,4,6-Tribromophenol (S)	%	77	22-133		01/23/18 22:52	
2-Fluorobiphenyl (S)	%	60	21-92		01/23/18 22:52	
2-Fluorophenol (S)	%	31	10-44		01/23/18 22:52	
Nitrobenzene-d5 (S)	%	53	13-83		01/23/18 22:52	
p-Terphenyl-d14 (S)	%	100	16-117		01/23/18 22:52	
Phenol-d6 (S)	%	19	10-46		01/23/18 22:52	

LABORATORY CONTROL SAMPLE & LCSD: 2286276

2286277

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
2-Methylphenol(o-Cresol)	ug/L	50	24.3	35.0	49	70	23-75	36	40	
3&4-Methylphenol(m&p Cresol)	ug/L	50	23.7	30.8	47	62	10-106	26	40	
Pentachlorophenol	ug/L	50	36.7	38.8	73	78	33-117	6	40	
Phenol	ug/L	50	13.4	19.2	27	38	10-37	35	40	J(L1)
2,4,6-Tribromophenol (S)	%				85	90	22-133			
2-Fluorobiphenyl (S)	%				69	85	21-92			
2-Fluorophenol (S)	%				30	43	10-44			
Nitrobenzene-d5 (S)	%				59	82	13-83			
p-Terphenyl-d14 (S)	%				97	102	16-117			
Phenol-d6 (S)	%				20	28	10-46			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 09217186.02/Ludlum

Pace Project No.: 35368307

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O Pace Analytical Services - Ormond Beach

BATCH QUALIFIERS

Batch: 419659

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

U Compound was analyzed for but not detected.

1p A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

J(L1) Estimated Value. Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

P1 Routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 09217186.02/Ludlum

Pace Project No.: 35368307

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35368307001	MW-29	EPA 3510	419659	EPA 8270	420300
35368307002	MW-33	EPA 3510	419659	EPA 8270	420300

REPORT OF LABORATORY ANALYSIS

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Environmental Laboratories, Inc.

www.jupiterlabs.com
150 S. Old Dixie Highway, Jupiter, FL 33458
(561) 575-0030 • (888) 287-3218 • clientservices@jupiterlabs.com

J.E.L. Log # _____
P.O. # _____
Quote # _____

Company Name SES Engineers		LAB ANALYSIS		Requested Turnaround Time	
Address 7700 N Kendall Dr, Suite 300				Note: Rush requests subject to acceptance by the laboratory	
City Miami State FL Zip 33156				☒ Standard ☐ Expedited	
Sampling Site Address				Due 1/11/18	
Attn: Fangmeizhong Email				Comments	
Project Name Wilson Project # 09217186.02					
Sampler Name/Signature [Signature]					
#	Sample Label (Client ID)	Collected Date	Collected Time	Matrix Code*	# of Cont
1	MW-29	1/11/18	1715		
2	MW-33	1/11/18	1631		
3					
4					
5					
6					
7					
8					
9					
0					

WO#: 35368307

35368307

Matrix Codes*	Pres Codes	Relinquished by	Date	Time	Received by	Date	Time
S- Soil/Solid Sediment GW- Ground Water WW- Waste Water DW- Drinking Water	A- none B- HNO ₃ C- H ₂ SO ₄ D- NaOH E- HCl		1/12/18	1200	[Signature]	1/12/18	1200
SW- Surface Water SL- Sludge O- Other (Please Specify)	I- Ice O- Other M- MeOH N- Na ₂ S ₂ O ₃ Z- ZnAc		1/12/18	1810	[Signature]	1/12/18	1810
QA/QC level with report None ☐ 1 ☐ 2 ☐ 3 ☐ See price guide for applicable fees			1/12/18	1810	[Signature]	1/13/18	0035
FDEP Dry Cleaning ☐ FDEP UST Pre-Approval ☐ SFWMMD ☐ ADaPT ☐ DOT ☐							2.5 T301
Temp Control: _____ °C							

Sample Condition Upon Receipt Form (SCUR)

Project #
Project Manager:
Client:

WO#: 35368307

PM: CTR Due Date: 01/22/18
CLIENT: 36-ESCON

Date and Initials of person:
Examining contents:
Label:
Deliver:
pH:

Thermometer Used: T-301

Date: 11/13/18

Time: 0835

Initials: AS

State of Origin:

Cooler #1 Temp. °C 25 (Visual) +0.0 (Correction Factor) 25 (Actual)
Cooler #2 Temp. °C (Visual) (Correction Factor) (Actual)
Cooler #3 Temp. °C (Visual) (Correction Factor) (Actual)
Cooler #4 Temp. °C (Visual) (Correction Factor) (Actual)
Cooler #5 Temp. °C (Visual) (Correction Factor) (Actual)
Cooler #6 Temp. °C (Visual) (Correction Factor) (Actual)

☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace
Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground ☐ Other

☐ Other
☐ International Priority

Billing: ☐ Recipient ☐ Sender ☐ Third Party ☐ Credit Card ☐ Unknown
Tracking #

Custody Seal on Cooler/Box Present: ☐ Yes ☒ No

Seals intact: ☐ Yes ☐ No

Ice: Wet Blue Dry None

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other

Samples shorted to lab (if Yes, complete)

Shorted Date:

Shorted Time:

Qty:

Chain of Custody Present	Yes	No	N/A	Comments:
Chain of Custody Filled Out	☒	☐	☐	
Relinquished Signature & Sampler Name COC	☒	☐	☐	
Samples Arrived within Hold Time	☒	☐	☐	
Rush TAT requested on COC	☐	☐	☒	
Sufficient Volume	☒	☐	☐	
Correct Containers Used	☒	☐	☐	
Containers Intact	☒	☐	☐	
Sample Labels match COC (sample IDs & date/time of collection)	☒	☐	☐	
All containers needing acid/base preservation have been checked.	☒	☐	☐	
All Containers needing preservation are found to be in compliance with EPA recommendation:	☐	☐	☒	
Exceptions: VOA, Coliform, TOC, O&G, Carbamates	☐	☐	☒	
Headspace in VOA Vials? (>6mm):	☐	☐	☒	
Trip Blank Present:	☐	☐	☒	

Preservative: Preservation Information:

Lot #/Trace #:

Date:

Time:

Initials:

Client Notification/ Resolution:

Person Contacted:

Date/Time:

Comments/ Resolution (use back for additional comments):

Project Manager Review:

January 30, 2018

Somshekhar Kundral
SCS Engineers
7700 N. Kendall Dr.
Suite #300
Miami, FL 33156

RE: Project: 09217186.02/Ludlum
Pace Project No.: 35369208

Dear Somshekhar Kundral:

Enclosed are the analytical results for sample(s) received by the laboratory on January 18, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Christina Raschke
christina.raschke@pacelabs.com
(954)582-4300
Project Manager

Enclosures

cc: Lucas Barroso-Giachetti, SCS Engineers
Kevin Ramirez, SCS ES Consultants
Emily Vasquez, SCS Engineers



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 09217186.02/Ludlum

Pace Project No.: 35369208

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 09217186.02/Ludlum

Pace Project No.: 35369208

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35369208001	MW-37	Water	01/18/18 12:25	01/18/18 17:50
35369208002	MW-7	Water	01/18/18 12:53	01/18/18 17:50

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 09217186.02/Ludlum

Pace Project No.: 35369208

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35369208001	MW-37	EPA 8270	TWB	8	PASI-O
35369208002	MW-7	EPA 8270	TWB	8	PASI-O

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 09217186.02/Ludlum

Pace Project No.: 35369208

Method: EPA 8270

Description: 8270 MSSV Semivolatile Organic

Client: SCS Engineers

Date: January 30, 2018

General Information:

2 samples were analyzed for EPA 8270. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3510 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 420823

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 35369164033

J(M1): Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2291968)
- Phenol

J(R1): Estimated Value. RPD value was outside control limits.

- MSD (Lab ID: 2291969)
 - 2-Methylphenol(o-Cresol)
 - 3&4-Methylphenol(m&p Cresol)
 - Di-n-octylphthalate
 - Pentachlorophenol

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 09217186.02/Ludlum

Pace Project No.: 35369208

Method: EPA 8270

Description: 8270 MSSV Semivolatile Organic

Client: SCS Engineers

Date: January 30, 2018

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlum

Pace Project No.: 35369208

Sample: MW-37		Lab ID: 35369208001		Collected: 01/18/18 12:25		Received: 01/18/18 17:50		Matrix: Water	
Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Di-n-octylphthalate	0.87 U	ug/L	4.8	0.87	1	01/24/18 15:20	01/26/18 05:40	117-84-0	
2-Methylphenol(o-Cresol)	0.70 U	ug/L	4.8	0.70	1	01/24/18 15:20	01/26/18 05:40	95-48-7	
3&4-Methylphenol(m&p Cresol)	0.63 U	ug/L	9.6	0.63	1	01/24/18 15:20	01/26/18 05:40		
Pentachlorophenol	0.63 U	ug/L	19.2	0.63	1	01/24/18 15:20	01/26/18 05:40	87-86-5	
Phenol	0.52 U	ug/L	4.8	0.52	1	01/24/18 15:20	01/26/18 05:40	108-95-2	
Surrogates									
Nitrobenzene-d5 (S)	44	%	13-83		1	01/24/18 15:20	01/26/18 05:40	4165-60-0	
2-Fluorobiphenyl (S)	57	%	21-92		1	01/24/18 15:20	01/26/18 05:40	321-60-8	
p-Terphenyl-d14 (S)	66	%	16-117		1	01/24/18 15:20	01/26/18 05:40	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlum

Pace Project No.: 35369208

Sample: MW-7 **Lab ID: 35369208002** Collected: 01/18/18 12:53 Received: 01/18/18 17:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic Analytical Method: EPA 8270 Preparation Method: EPA 3510									
Di-n-octylphthalate	0.86 U	ug/L	4.8	0.86	1	01/24/18 15:20	01/26/18 06:03	117-84-0	
2-Methylphenol(o-Cresol)	0.70 U	ug/L	4.8	0.70	1	01/24/18 15:20	01/26/18 06:03	95-48-7	
3&4-Methylphenol(m&p Cresol)	0.63 U	ug/L	9.6	0.63	1	01/24/18 15:20	01/26/18 06:03		
Pentachlorophenol	0.63 U	ug/L	19.2	0.63	1	01/24/18 15:20	01/26/18 06:03	87-86-5	
Phenol	0.52 U	ug/L	4.8	0.52	1	01/24/18 15:20	01/26/18 06:03	108-95-2	
Surrogates									
Nitrobenzene-d5 (S)	49	%	13-83		1	01/24/18 15:20	01/26/18 06:03	4165-60-0	
2-Fluorobiphenyl (S)	67	%	21-92		1	01/24/18 15:20	01/26/18 06:03	321-60-8	
p-Terphenyl-d14 (S)	77	%	16-117		1	01/24/18 15:20	01/26/18 06:03	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlum

Pace Project No.: 35369208

QC Batch:	420823	Analysis Method:	EPA 8270
QC Batch Method:	EPA 3510	Analysis Description:	8270 Water Full List MSSV
Associated Lab Samples:	35369208001, 35369208002		

METHOD BLANK: 2291630 Matrix: Water

Associated Lab Samples: 35369208001, 35369208002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2-Methylphenol(o-Cresol)	ug/L	0.73 U	5.0	0.73	01/26/18 03:00	
3&4-Methylphenol(m&p Cresol)	ug/L	0.66 U	10.0	0.66	01/26/18 03:00	
Di-n-octylphthalate	ug/L	0.90 U	5.0	0.90	01/26/18 03:00	
Pentachlorophenol	ug/L	0.66 U	20.0	0.66	01/26/18 03:00	
Phenol	ug/L	0.54 U	5.0	0.54	01/26/18 03:00	
2-Fluorobiphenyl (S)	%	76	21-92		01/26/18 03:00	
Nitrobenzene-d5 (S)	%	58	13-83		01/26/18 03:00	
p-Terphenyl-d14 (S)	%	96	16-117		01/26/18 03:00	

LABORATORY CONTROL SAMPLE: 2291631

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Methylphenol(o-Cresol)	ug/L	50	26.8	54	23-75	
3&4-Methylphenol(m&p Cresol)	ug/L	50	21.4	43	10-106	
Di-n-octylphthalate	ug/L	50	48.7	97	47-123	
Pentachlorophenol	ug/L	50	29.4	59	33-117	
Phenol	ug/L	50	8.4	17	10-37	
2-Fluorobiphenyl (S)	%			81	21-92	
Nitrobenzene-d5 (S)	%			76	13-83	
p-Terphenyl-d14 (S)	%			85	16-117	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2291968 2291969

Parameter	Units	35369164033 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
2-Methylphenol(o-Cresol)	ug/L	0.68 U	47.1	60.7	13.7	22.9	29	38	23-75	50	40 J(R1)
3&4-Methylphenol(m&p Cresol)	ug/L	0.62 U	47.1	60.7	10.2	18.4	22	30	10-106	57	40 J(R1)
Di-n-octylphthalate	ug/L	0.84 U	47.1	60.7	28.2	48.3	60	80	47-123	53	40 J(R1)
Pentachlorophenol	ug/L	0.62 U	47.1	60.7	22.2	35.2	47	58	33-117	45	40 J(R1)
Phenol	ug/L	0.51 U	47.1	60.7	3.7 I	7.3	8	12	10-37		40 J(M1)
2-Fluorobiphenyl (S)	%						54	63	21-92		
Nitrobenzene-d5 (S)	%						47	53	13-83		
p-Terphenyl-d14 (S)	%						53	70	16-117		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 09217186.02/Ludlum

Pace Project No.: 35369208

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

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

U Compound was analyzed for but not detected.

J(M1) Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

J(R1) Estimated Value. RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

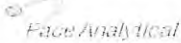
Project: 09217186.02/Ludlum

Pace Project No.: 35369208

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35369208001	MW-37	EPA 3510	420823	EPA 8270	421110
35369208002	MW-7	EPA 3510	420823	EPA 8270	421110

REPORT OF LABORATORY ANALYSIS

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	Document Name Sample Condition Upon Receipt Form	Document Revised August 2, 2017
	Document No. P-FL-C-007 rev. 12	Issuing Authority Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #
Project Manager:
Client:

WO#: 35369208

PM: CTR
Due Date: 01/26/18
CLIENT: 36-ESCON

Date and Initials of person:

Examining contents: _____

Label: _____

Deliver: _____

pH: _____

Thermometer Used T-324 Date 1/19/18 Time 1730 Initials [Signature]

State of Origin _____

Cooler #1 Temp. °C 0.9 (Visual) 0.0 (Correction Factor) 0.9 (Actual)

Cooler #2 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)

Cooler #3 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)

Cooler #4 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)

Cooler #5 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)

Cooler #6 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)

☐ Samples on ice, cooling process has begun

☐ Samples on ice, cooling process has begun

☐ Samples on ice, cooling process has begun

☐ Samples on ice, cooling process has begun

☐ Samples on ice, cooling process has begun

☐ Samples on ice, cooling process has begun

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other _____

Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground ☐ International Priority

☐ Other _____

Billing: ☐ Recipient ☐ Sender ☐ Third Party ☐ Credit Card ☐ Unknown

Tracking # _____

Custody Seal on Cooler/Box Present: ☐ Yes ☐ No Seals intact: ☐ Yes ☐ No Ice: Wet Blue Dry None

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____

Samples shorted to lab (If Yes, complete) Shorted Date _____ Shorted Time _____ Qty _____

Comments:

Chain of Custody Present	☒ Yes ☐ No ☐ N/A	
Chain of Custody Filled Out	☒ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☒ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☒ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☐ Yes ☒ No ☐ N/A	
Sufficient Volume	☒ Yes ☐ No ☐ N/A	
Correct Containers Used	☒ Yes ☐ No ☐ N/A	
Containers Intact	☒ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☒ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked	☐ Yes ☐ No ☒ N/A	Preservation Information Preservative _____ Lot #/Trace # _____ Date _____ Time _____ Initials _____
All Containers needing preservation are found to be in compliance with EPA recommendation	☐ Yes ☐ No ☒ N/A	
Exceptions: VOA, Coliform, TOC, O&G, Carbamates		
Headspace in VOA Vials? (>6mm)	☐ Yes ☐ No ☒ N/A	
Trip Blank Present:	☐ Yes ☐ No ☒ N/A	

Client Notification/ Resolution:

Person Contacted _____ Date/Time _____

Comments/ Resolution (use back for additional comments):

Project Manager Review: _____ Date _____

December 15, 2017

Fangmei Zhang
SCS ES Consultants, Inc.
7700 N. Kendall Dr.
Suite #607
Miami, FL 33156

RE: Project: 09217186.02/Ludlum
Pace Project No.: 35362097

Dear Fangmei Zhang:

Enclosed are the analytical results for sample(s) received by the laboratory on December 08, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Christina Raschke
christina.raschke@pacelabs.com
(954)582-4300
Project Manager

Enclosures

cc: Karinne Bedosky, SCS Engineers



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 09217186.02/Ludlum

Pace Project No.: 35362097

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 09217186.02/Ludlum

Pace Project No.: 35362097

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35362097001	SB-48A (0-0.5)	Solid	12/08/17 09:06	12/08/17 18:30
35362097002	SB-48A (0.5-2)	Solid	12/08/17 09:07	12/08/17 18:30
35362097003	SB-48A (2-4)	Solid	12/08/17 09:08	12/08/17 18:30
35362097004	SB-48A (4-6)	Solid	12/08/17 09:09	12/08/17 18:30
35362097005	SB-48A (6-7)	Solid	12/08/17 09:10	12/08/17 18:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 09217186.02/Ludlum

Pace Project No.: 35362097

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35362097001	SB-48A (0-0.5)	EPA 8270	TWB	10	PASI-O
		ASTM D2974-87	CS2	1	PASI-O
35362097002	SB-48A (0.5-2)	EPA 8270	TWB	10	PASI-O
		ASTM D2974-87	CS2	1	PASI-O

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 09217186.02/Ludlum

Pace Project No.: 35362097

Method: EPA 8270

Description: 8270 MSSV Full List Microwave

Client: SCS Engineers

Date: December 15, 2017

General Information:

2 samples were analyzed for EPA 8270. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: 412084

J(S0): Estimated Value. Surrogate recovery outside laboratory control limits.

- MS (Lab ID: 2249305)
 - 2,4,6-Tribromophenol (S)
 - p-Terphenyl-d14 (S)
- MSD (Lab ID: 2249306)
 - 2,4,6-Tribromophenol (S)
 - p-Terphenyl-d14 (S)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 09217186.02/Ludlum

Pace Project No.: 35362097

Method: EPA 8270

Description: 8270 MSSV Full List Microwave

Client: SCS Engineers

Date: December 15, 2017

QC Batch: 412084

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 35362042001

J(M1): Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2249305)
 - 3&4-Methylphenol(m&p Cresol)
 - Pentachlorophenol
 - Phenol
- MSD (Lab ID: 2249306)
 - 3&4-Methylphenol(m&p Cresol)
 - Pentachlorophenol
 - Phenol

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlum

Pace Project No.: 35362097

Sample: SB-48A (0-0.5) **Lab ID: 35362097001** Collected: 12/08/17 09:06 Received: 12/08/17 18:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Full List Microwave Analytical Method: EPA 8270 Preparation Method: EPA 3546									
2-Methylphenol(o-Cresol)	0.025 U	mg/kg	0.17	0.025	1	12/13/17 16:30	12/14/17 12:22	95-48-7	
3&4-Methylphenol(m&p Cresol)	0.051 U	mg/kg	0.17	0.051	1	12/13/17 16:30	12/14/17 12:22		
Pentachlorophenol	0.022 U	mg/kg	0.68	0.022	1	12/13/17 16:30	12/14/17 12:22	87-86-5	
Phenol	0.032 U	mg/kg	0.17	0.032	1	12/13/17 16:30	12/14/17 12:22	108-95-2	
Surrogates									
Nitrobenzene-d5 (S)	79	%	16-123		1	12/13/17 16:30	12/14/17 12:22	4165-60-0	
2-Fluorobiphenyl (S)	85	%	32-129		1	12/13/17 16:30	12/14/17 12:22	321-60-8	
p-Terphenyl-d14 (S)	109	%	38-138		1	12/13/17 16:30	12/14/17 12:22	1718-51-0	
Phenol-d6 (S)	86	%	10-117		1	12/13/17 16:30	12/14/17 12:22	13127-88-3	
2-Fluorophenol (S)	80	%	10-113		1	12/13/17 16:30	12/14/17 12:22	367-12-4	
2,4,6-Tribromophenol (S)	75	%	10-175		1	12/13/17 16:30	12/14/17 12:22	118-79-6	
Percent Moisture Analytical Method: ASTM D2974-87									
Percent Moisture	1.1	%	0.10	0.10	1		12/12/17 11:04		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlum

Pace Project No.: 35362097

Sample: SB-48A (0.5-2) **Lab ID: 35362097002** Collected: 12/08/17 09:07 Received: 12/08/17 18:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Full List Microwave Analytical Method: EPA 8270 Preparation Method: EPA 3546									
2-Methylphenol(o-Cresol)	0.026 U	mg/kg	0.18	0.026	1	12/13/17 16:30	12/14/17 12:45	95-48-7	
3&4-Methylphenol(m&p Cresol)	0.053 U	mg/kg	0.18	0.053	1	12/13/17 16:30	12/14/17 12:45		
Pentachlorophenol	0.022 U	mg/kg	0.70	0.022	1	12/13/17 16:30	12/14/17 12:45	87-86-5	
Phenol	0.033 U	mg/kg	0.18	0.033	1	12/13/17 16:30	12/14/17 12:45	108-95-2	
Surrogates									
Nitrobenzene-d5 (S)	72	%	16-123		1	12/13/17 16:30	12/14/17 12:45	4165-60-0	
2-Fluorobiphenyl (S)	78	%	32-129		1	12/13/17 16:30	12/14/17 12:45	321-60-8	
p-Terphenyl-d14 (S)	93	%	38-138		1	12/13/17 16:30	12/14/17 12:45	1718-51-0	
Phenol-d6 (S)	73	%	10-117		1	12/13/17 16:30	12/14/17 12:45	13127-88-3	
2-Fluorophenol (S)	69	%	10-113		1	12/13/17 16:30	12/14/17 12:45	367-12-4	
2,4,6-Tribromophenol (S)	80	%	10-175		1	12/13/17 16:30	12/14/17 12:45	118-79-6	
Percent Moisture Analytical Method: ASTM D2974-87									
Percent Moisture	4.5	%	0.10	0.10	1		12/12/17 11:04		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlum

Pace Project No.: 35362097

QC Batch:	412084	Analysis Method:	EPA 8270
QC Batch Method:	EPA 3546	Analysis Description:	8270 Solid Full List MSSV Microwave
Associated Lab Samples:	35362097001, 35362097002		

METHOD BLANK: 2248821 Matrix: Solid

Associated Lab Samples: 35362097001, 35362097002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2-Methylphenol(o-Cresol)	mg/kg	0.025 U	0.17	0.025	12/14/17 10:30	
3&4-Methylphenol(m&p Cresol)	mg/kg	0.051 U	0.17	0.051	12/14/17 10:30	
Pentachlorophenol	mg/kg	0.021 U	0.67	0.021	12/14/17 10:30	
Phenol	mg/kg	0.031 U	0.17	0.031	12/14/17 10:30	
2,4,6-Tribromophenol (S)	%	82	10-175		12/14/17 10:30	
2-Fluorobiphenyl (S)	%	83	32-129		12/14/17 10:30	
2-Fluorophenol (S)	%	81	10-113		12/14/17 10:30	
Nitrobenzene-d5 (S)	%	78	16-123		12/14/17 10:30	
p-Terphenyl-d14 (S)	%	99	38-138		12/14/17 10:30	
Phenol-d6 (S)	%	87	10-117		12/14/17 10:30	

LABORATORY CONTROL SAMPLE: 2248822

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Methylphenol(o-Cresol)	mg/kg	1.7	1.6	95	56-110	
3&4-Methylphenol(m&p Cresol)	mg/kg	1.7	1.6	94	55-110	
Pentachlorophenol	mg/kg	1.7	1.6	97	49-117	
Phenol	mg/kg	1.7	1.5	88	52-110	
2,4,6-Tribromophenol (S)	%			84	10-175	
2-Fluorobiphenyl (S)	%			84	32-129	
2-Fluorophenol (S)	%			76	10-113	
Nitrobenzene-d5 (S)	%			78	16-123	
p-Terphenyl-d14 (S)	%			89	38-138	
Phenol-d6 (S)	%			88	10-117	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2249305 2249306

Parameter	Units	35362042001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Methylphenol(o-Cresol)	mg/kg	0.074 U	5	5	3.1	2.8	62	56	56-110	11	40	
3&4-Methylphenol(m&p Cresol)	mg/kg	0.15 U	5	5	2.6	2.3	51	46	55-110	12	40	J(M1)
Pentachlorophenol	mg/kg	0.064 U	5	5	0.73 I	0.69 I	15	14	49-117		40	J(M1)
Phenol	mg/kg	0.094 U	5	5	2.5	2.0	50	41	52-110	22	40	J(M1)
2,4,6-Tribromophenol (S)	%						6	1	10-175			J(S0)
2-Fluorobiphenyl (S)	%						63	61	32-129			
2-Fluorophenol (S)	%						21	10	10-113			
Nitrobenzene-d5 (S)	%						53	53	16-123			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlum

Pace Project No.: 35362097

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2249305 2249306												
Parameter	Units	35362042001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
p-Terphenyl-d14 (S)	%						24	19	38-138			J(S0)
Phenol-d6 (S)	%						47	39	10-117			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlum

Pace Project No.: 35362097

QC Batch:	411683	Analysis Method:	ASTM D2974-87
QC Batch Method:	ASTM D2974-87	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples: 35362097001, 35362097002			

SAMPLE DUPLICATE: 2246310

Parameter	Units	35362093003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	10.3	12.5	19	5	J(D6)

SAMPLE DUPLICATE: 2246311

Parameter	Units	35362095004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	8.5	8.3	2	5	

SAMPLE DUPLICATE: 2246312

Parameter	Units	35362096005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	3.2	5.3	50	5	J(D6)

SAMPLE DUPLICATE: 2246313

Parameter	Units	35362099002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	4.3	4.5	4	5	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 09217186.02/Ludlum

Pace Project No.: 35362097

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

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

U Compound was analyzed for but not detected.

J(D6) Estimated Value. The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.

J(M1) Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

J(S0) Estimated Value. Surrogate recovery outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 09217186.02/Ludlum

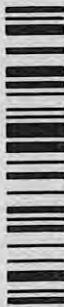
Pace Project No.: 35362097

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35362097001	SB-48A (0-0.5)	EPA 3546	412084	EPA 8270	412343
35362097002	SB-48A (0.5-2)	EPA 3546	412084	EPA 8270	412343
35362097001	SB-48A (0-0.5)	ASTM D2974-87	411683		
35362097002	SB-48A (0.5-2)	ASTM D2974-87	411683		

REPORT OF LABORATORY ANALYSIS

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WO# : 35362097



35362097

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A

Required Client Information

Company: SCS Engineers	Report To: Lucas Barroso-Giachetti	Attention: Fangmei
Address: 7700 N. Kendall Drive	Copy To:	
Miami, FL 33156		
Email: lbarroso-giachetti@scsengineers.com	Purchase Order #:	
Phone: 305.412.8185	Project Name: Prologis - Ludlum	Pace Project Manager: christina.raschke@pacelabs.com
Requested Due Date:	Project # 09216180-00-09217186.02	Pace Profile #: 0613-8

Section C

Invoice Information:

Regulatory Agency	
State / Location	FL

Page : 1 Of 1

ITEM #	MATRIX	CODE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	DATE	TIME	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	ANALYSES TEST	Y/N	Preservatives	# OF CONTAINERS	SAMPLE TEMP AT COLLECTION	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)
			START	END																
1	SB-48A(0-0.5)		12/8	9:06			12/8	9:06												
2	SB-48A(0.5-2)		12/8	9:07			12/8	9:07												
3	SB-48A(2-4)		12/8	9:08			12/8	9:08												
4	SB-48A(4-6)		12/8	9:09			12/8	9:09												
5	SB-48A(6-7)		12/8	9:10			12/8	9:10												
6																				
7																				
8																				
9																				
10																				
11																				
12																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on	Ice (Y/N)	Custody (Y/N)	Sealed Cooler (Y/N)	Samples Intact (Y/N)



Document Name:
Sample Condition Upon Receipt Form
Document No.:
F-FL-C-007 rev. 12

Document Revised:
August 2, 2017
Issuing Authority:
Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #
Project Manager:
Client:

WO#: 35362097

PM: CTR Due Date: 12/18/17
CLIENT: 36-ESCON

Date and Initials of person:

Examining contents:
Label: _____
Deliver: _____
pH: _____

Thermometer Used: T-301 Date: 12/9/17 Time: 0040 Initials: AS

State of Origin: _____

Cooler #1 Temp. °C 11.0 (Visual) 50.1 (Correction Factor) 1.1 (Actual)
Cooler #2 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)
Cooler #3 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)
Cooler #4 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)
Cooler #5 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)
Cooler #6 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)

☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☒ Commercial ☐ Pace ☐ Other _____

Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground ☐ International Priority
☐ Other _____

Billing: ☐ Recipient ☐ Sender ☐ Third Party ☐ Credit Card ☐ Unknown

Tracking # _____

Custody Seal on Cooler/Box Present: ☐ Yes ☒ No Seals intact: ☐ Yes ☐ No Ice: ☒ Wet ☐ Blue ☐ Dry ☐ None

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____

Samples shorted to lab (If Yes, complete) Shorted Date: _____ Shorted Time: _____ Qty: _____

Comments:

Chain of Custody Present	☒ Yes ☐ No ☐ N/A	
Chain of Custody Filled Out	☒ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☒ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☒ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☐ Yes ☐ No ☒ N/A	
Sufficient Volume	☒ Yes ☐ No ☐ N/A	
Correct Containers Used	☒ Yes ☐ No ☐ N/A	
Containers Intact	☒ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☒ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked.	☐ Yes ☐ No ☒ N/A	Preservation Information: Preservative: _____ Lot #/Trace #: _____ Date: _____ Time: _____ Initials: _____
All Containers needing preservation are found to be in compliance with EPA recommendation:	☐ Yes ☐ No ☒ N/A	
Exceptions: VOA, Coliform, TOC, O&G, Carbamates		
Headspace in VOA Vials? (>6mm):	☐ Yes ☐ No ☒ N/A	
Trip Blank Present:	☐ Yes ☐ No ☒ N/A	

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution (use back for additional comments): _____

Project Manager Review: _____ Date: _____

December 15, 2017

Fangmei Zhang
SCS ES Consultants, Inc.
7700 N. Kendall Dr.
Suite #607
Miami, FL 33156

RE: Project: 09217186.02/Ludlum
Pace Project No.: 35362098

Dear Fangmei Zhang:

Enclosed are the analytical results for sample(s) received by the laboratory on December 08, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Christina Raschke
christina.raschke@pacelabs.com
(954)582-4300
Project Manager

Enclosures

cc: Karinne Bedosky, SCS Engineers



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 09217186.02/Ludlum

Pace Project No.: 35362098

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 09217186.02/Ludlum

Pace Project No.: 35362098

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35362098001	SB-42A (0-0.5)	Solid	12/08/17 10:04	12/08/17 18:30
35362098002	SB-42A (0.5-2)	Solid	12/08/17 10:05	12/08/17 18:30
35362098003	SB-42A (2-4)	Solid	12/08/17 10:06	12/08/17 18:30
35362098004	SB-42A (4-6)	Solid	12/08/17 10:07	12/08/17 18:30

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SAMPLE ANALYTE COUNT

Project: 09217186.02/Ludlum

Pace Project No.: 35362098

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35362098001	SB-42A (0-0.5)	EPA 8270	TWB	10	PASI-O
		ASTM D2974-87	CS2	1	PASI-O
35362098002	SB-42A (0.5-2)	EPA 8270	TWB	10	PASI-O
		ASTM D2974-87	CS2	1	PASI-O

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 09217186.02/Ludlum

Pace Project No.: 35362098

Method: EPA 8270

Description: 8270 MSSV Full List Microwave

Client: SCS Engineers

Date: December 15, 2017

General Information:

2 samples were analyzed for EPA 8270. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: 412084

J(S0): Estimated Value. Surrogate recovery outside laboratory control limits.

- MS (Lab ID: 2249305)
 - 2,4,6-Tribromophenol (S)
 - p-Terphenyl-d14 (S)
- MSD (Lab ID: 2249306)
 - 2,4,6-Tribromophenol (S)
 - p-Terphenyl-d14 (S)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 09217186.02/Ludlum

Pace Project No.: 35362098

Method: EPA 8270

Description: 8270 MSSV Full List Microwave

Client: SCS Engineers

Date: December 15, 2017

QC Batch: 412084

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 35362042001

J(M1): Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2249305)
 - 3&4-Methylphenol(m&p Cresol)
 - Pentachlorophenol
 - Phenol
- MSD (Lab ID: 2249306)
 - 3&4-Methylphenol(m&p Cresol)
 - Pentachlorophenol
 - Phenol

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlum

Pace Project No.: 35362098

Sample: SB-42A (0-0.5) **Lab ID: 35362098001** Collected: 12/08/17 10:04 Received: 12/08/17 18:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Full List Microwave Analytical Method: EPA 8270 Preparation Method: EPA 3546									
2-Methylphenol(o-Cresol)	0.025 U	mg/kg	0.17	0.025	1	12/13/17 16:30	12/14/17 13:07	95-48-7	
3&4-Methylphenol(m&p Cresol)	0.052 U	mg/kg	0.17	0.052	1	12/13/17 16:30	12/14/17 13:07		
Pentachlorophenol	0.022 U	mg/kg	0.68	0.022	1	12/13/17 16:30	12/14/17 13:07	87-86-5	
Phenol	0.032 U	mg/kg	0.17	0.032	1	12/13/17 16:30	12/14/17 13:07	108-95-2	
Surrogates									
Nitrobenzene-d5 (S)	74	%	16-123		1	12/13/17 16:30	12/14/17 13:07	4165-60-0	
2-Fluorobiphenyl (S)	83	%	32-129		1	12/13/17 16:30	12/14/17 13:07	321-60-8	
p-Terphenyl-d14 (S)	97	%	38-138		1	12/13/17 16:30	12/14/17 13:07	1718-51-0	
Phenol-d6 (S)	79	%	10-117		1	12/13/17 16:30	12/14/17 13:07	13127-88-3	
2-Fluorophenol (S)	73	%	10-113		1	12/13/17 16:30	12/14/17 13:07	367-12-4	
2,4,6-Tribromophenol (S)	82	%	10-175		1	12/13/17 16:30	12/14/17 13:07	118-79-6	
Percent Moisture Analytical Method: ASTM D2974-87									
Percent Moisture	2.4	%	0.10	0.10	1		12/12/17 11:04		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlum

Pace Project No.: 35362098

Sample: SB-42A (0.5-2) **Lab ID: 35362098002** Collected: 12/08/17 10:05 Received: 12/08/17 18:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Full List Microwave Analytical Method: EPA 8270 Preparation Method: EPA 3546									
2-Methylphenol(o-Cresol)	0.027 U	mg/kg	0.18	0.027	1	12/13/17 16:30	12/14/17 13:29	95-48-7	
3&4-Methylphenol(m&p Cresol)	0.055 U	mg/kg	0.18	0.055	1	12/13/17 16:30	12/14/17 13:29		
Pentachlorophenol	0.023 U	mg/kg	0.73	0.023	1	12/13/17 16:30	12/14/17 13:29	87-86-5	
Phenol	0.034 U	mg/kg	0.18	0.034	1	12/13/17 16:30	12/14/17 13:29	108-95-2	
Surrogates									
Nitrobenzene-d5 (S)	69	%	16-123		1	12/13/17 16:30	12/14/17 13:29	4165-60-0	
2-Fluorobiphenyl (S)	78	%	32-129		1	12/13/17 16:30	12/14/17 13:29	321-60-8	
p-Terphenyl-d14 (S)	88	%	38-138		1	12/13/17 16:30	12/14/17 13:29	1718-51-0	
Phenol-d6 (S)	73	%	10-117		1	12/13/17 16:30	12/14/17 13:29	13127-88-3	
2-Fluorophenol (S)	67	%	10-113		1	12/13/17 16:30	12/14/17 13:29	367-12-4	
2,4,6-Tribromophenol (S)	78	%	10-175		1	12/13/17 16:30	12/14/17 13:29	118-79-6	
Percent Moisture Analytical Method: ASTM D2974-87									
Percent Moisture	7.8	%	0.10	0.10	1		12/12/17 11:04		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlum

Pace Project No.: 35362098

QC Batch: 412084

Analysis Method: EPA 8270

QC Batch Method: EPA 3546

Analysis Description: 8270 Solid Full List MSSV Microwave

Associated Lab Samples: 35362098001, 35362098002

METHOD BLANK: 2248821

Matrix: Solid

Associated Lab Samples: 35362098001, 35362098002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2-Methylphenol(o-Cresol)	mg/kg	0.025 U	0.17	0.025	12/14/17 10:30	
3&4-Methylphenol(m&p Cresol)	mg/kg	0.051 U	0.17	0.051	12/14/17 10:30	
Pentachlorophenol	mg/kg	0.021 U	0.67	0.021	12/14/17 10:30	
Phenol	mg/kg	0.031 U	0.17	0.031	12/14/17 10:30	
2,4,6-Tribromophenol (S)	%	82	10-175		12/14/17 10:30	
2-Fluorobiphenyl (S)	%	83	32-129		12/14/17 10:30	
2-Fluorophenol (S)	%	81	10-113		12/14/17 10:30	
Nitrobenzene-d5 (S)	%	78	16-123		12/14/17 10:30	
p-Terphenyl-d14 (S)	%	99	38-138		12/14/17 10:30	
Phenol-d6 (S)	%	87	10-117		12/14/17 10:30	

LABORATORY CONTROL SAMPLE: 2248822

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Methylphenol(o-Cresol)	mg/kg	1.7	1.6	95	56-110	
3&4-Methylphenol(m&p Cresol)	mg/kg	1.7	1.6	94	55-110	
Pentachlorophenol	mg/kg	1.7	1.6	97	49-117	
Phenol	mg/kg	1.7	1.5	88	52-110	
2,4,6-Tribromophenol (S)	%			84	10-175	
2-Fluorobiphenyl (S)	%			84	32-129	
2-Fluorophenol (S)	%			76	10-113	
Nitrobenzene-d5 (S)	%			78	16-123	
p-Terphenyl-d14 (S)	%			89	38-138	
Phenol-d6 (S)	%			88	10-117	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2249305

2249306

Parameter	Units	35362042001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Methylphenol(o-Cresol)	mg/kg	0.074 U	5	5	3.1	2.8	62	56	56-110	11	40	
3&4-Methylphenol(m&p Cresol)	mg/kg	0.15 U	5	5	2.6	2.3	51	46	55-110	12	40	J(M1)
Pentachlorophenol	mg/kg	0.064 U	5	5	0.73 I	0.69 I	15	14	49-117		40	J(M1)
Phenol	mg/kg	0.094 U	5	5	2.5	2.0	50	41	52-110	22	40	J(M1)
2,4,6-Tribromophenol (S)	%						6	1	10-175			J(S0)
2-Fluorobiphenyl (S)	%						63	61	32-129			
2-Fluorophenol (S)	%						21	10	10-113			
Nitrobenzene-d5 (S)	%						53	53	16-123			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlum

Pace Project No.: 35362098

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2249305 2249306												
Parameter	Units	35362042001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
p-Terphenyl-d14 (S)	%						24	19	38-138			J(S0)
Phenol-d6 (S)	%						47	39	10-117			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlum

Pace Project No.: 35362098

QC Batch:	411683	Analysis Method:	ASTM D2974-87
QC Batch Method:	ASTM D2974-87	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples: 35362098001, 35362098002			

SAMPLE DUPLICATE: 2246310

Parameter	Units	35362093003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	10.3	12.5	19	5	J(D6)

SAMPLE DUPLICATE: 2246311

Parameter	Units	35362095004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	8.5	8.3	2	5	

SAMPLE DUPLICATE: 2246312

Parameter	Units	35362096005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	3.2	5.3	50	5	J(D6)

SAMPLE DUPLICATE: 2246313

Parameter	Units	35362099002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	4.3	4.5	4	5	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 09217186.02/Ludlum

Pace Project No.: 35362098

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

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

U Compound was analyzed for but not detected.

J(D6) Estimated Value. The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.

J(M1) Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

J(S0) Estimated Value. Surrogate recovery outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 09217186.02/Ludlum

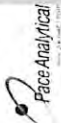
Pace Project No.: 35362098

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35362098001	SB-42A (0-0.5)	EPA 3546	412084	EPA 8270	412343
35362098002	SB-42A (0.5-2)	EPA 3546	412084	EPA 8270	412343
35362098001	SB-42A (0-0.5)	ASTM D2974-87	411683		
35362098002	SB-42A (0.5-2)	ASTM D2974-87	411683		

REPORT OF LABORATORY ANALYSIS

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WO#: 35362098



35362098

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A		Section C	
Required Client Information:		Invoice Information:	
Company: SCS Engineers	Report To: Lucas Barroso-Giachetti	Attention:	
Address: 7700 N. Kendall Drive	Copy To: <i>luciano</i>	Company Name:	
Miami, FL 33156		Address:	
Email: lbarroso-giachetti@scsengineers.com	Purchase Order #:	Pace Quote:	
Phone: 305.412.8185	Project Name: <i>Prologis Indum</i>	Pace Project Manager: christina.raschke@pacelabs.com	
Requested Due Date:	Project #: 09216180-00-09014186-00	Pace Profile #: 2612-8	

Page: 1 Of 1

Regulatory Agency	
State / Location	
FL	

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample IDs must be unique	MATRIX Drinking Water Waste Water Product Soil/Solid Oil Wipe Air Other Tissue	CODE DW WT WW P SL OL WP AR OT TS	COLLECTED		DATE	TIME	DATE	TIME	SAMPLE TYPE (G=GRAB C=COMP)	PRESERVATIVES		# OF CONTAINERS	SAMPLE TEMP AT COLLECTION	Analyses Test	Y/N	Requested Analysis Filtered (Y/N)																Residual Chlorine (Y/N)																																																																																																																																																																																																																																																																																																																																																																			
				START	END						H2SO4	HNO3					HCl	NaOH	Na2S2O3	Methanol	Other	Sulfate	Sulfide	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4		Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate-PO4	Sulfate

ITEM	ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	SAMPLE CONDITIONS			
										Received on	Ice (Y/N)	Custody (Y/N)	Sealed (Y/N)
		<i>Luciano</i>		12/8	13:15	<i>Christina Raschke</i>		12/8	13:15				
		<i>Luciano</i>		12/8	13:40	<i>Christina Raschke</i>		12/8	13:40				
		<i>Luciano</i>		12/8	13:40	<i>Christina Raschke</i>		12/8	13:40				
		<i>Luciano</i>		12/8	13:40	<i>Christina Raschke</i>		12/8	13:40				

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	<i>Christina Raschke</i>
SIGNATURE of SAMPLER:	<i>Christina Raschke</i>
DATE Signed:	12/8/2017

	Document Name:	Document Revised:
	Sample Condition Upon Receipt Form	August 2, 2017
	Document No.: F-FL-C-007 rev. 12	Issuing Authority: Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project # **WO# : 35362098**
Project Manager: PM: CTR **Due Date:** 12/18/17
Client: CLIENT: 36-ESCON

Date and Initials of person:

Examining contents: _____
 Label: _____
 Deliver: _____
 pH: _____

Thermometer Used: T-301 Date: 12/19/17 Time: 0040 Initials: AP

State of Origin: _____

Cooler #1 Temp. °C 11.0 (Visual) 10.1 (Correction Factor) 1.1 (Actual)
 Cooler #2 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)
 Cooler #3 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)
 Cooler #4 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)
 Cooler #5 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)
 Cooler #6 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)

☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☒ Commercial ☐ Pace ☐ Other _____
 Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground ☐ International Priority
☐ Other _____

Billing: ☐ Recipient ☐ Sender ☐ Third Party ☐ Credit Card ☐ Unknown

Tracking # _____

Custody Seal on Cooler/Box Present: ☐ Yes ☒ No Seals intact: ☐ Yes ☐ No Ice: Wet Blue Dry None

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____

Samples shorted to lab (If Yes, complete) Shorted Date: _____ Shorted Time: _____ Qty: _____

Comments:

Chain of Custody Present	☒ Yes ☐ No ☐ N/A	Preservation Information: Preservative: _____ Lot #/Trace #: _____ Date: _____ Time: _____ Initials: _____
Chain of Custody Filled Out	☒ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☒ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☒ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☐ Yes ☐ No ☒ N/A	
Sufficient Volume	☒ Yes ☐ No ☐ N/A	
Correct Containers Used	☒ Yes ☐ No ☐ N/A	
Containers Intact	☒ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☒ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked.	☐ Yes ☐ No ☒ N/A	
All Containers needing preservation are found to be in compliance with EPA recommendation:	☐ Yes ☐ No ☒ N/A	
Exceptions: VOA, Coliform, TOC, O&G, Carbamates		
Headspace in VOA Vials? (>6mm):	☐ Yes ☐ No ☒ N/A	
Trip Blank Present:	☐ Yes ☐ No ☒ N/A	

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution (use back for additional comments): _____

Project Manager Review: _____

Date: _____

January 07, 2018

Fangmei Zhang
SCS ES Consultants, Inc.
7700 N. Kendall Dr.
Suite #607
Miami, FL 33156

RE: Project: 09217186.02/Ludlum
Pace Project No.: 35362100

Dear Fangmei Zhang:

Enclosed are the analytical results for sample(s) received by the laboratory on December 08, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Christina Raschke
christina.raschke@pacelabs.com
(954)582-4300
Project Manager

Enclosures

cc: Karinne Bedosky, SCS Engineers



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 09217186.02/Ludlum

Pace Project No.: 35362100

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 09217186.02/Ludlum

Pace Project No.: 35362100

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35362100001	SB-30A (0-0.5)	Solid	12/08/17 11:50	12/08/17 18:30
35362100002	SB-30A (0.5-2)	Solid	12/08/17 11:52	12/08/17 18:30
35362100003	SB-30A (2-4)	Solid	12/08/17 11:53	12/08/17 18:30
35362100004	SB-30A (4-6)	Solid	12/08/17 11:54	12/08/17 18:30
35362100005	SB-30A (6-7)	Solid	12/08/17 11:56	12/08/17 18:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 09217186.02/Ludlum

Pace Project No.: 35362100

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35362100001	SB-30A (0-0.5)	EPA 8270	TWB	10	PASI-O
		ASTM D2974-87	CS2	1	PASI-O
35362100002	SB-30A (0.5-2)	EPA 8270	TWB	10	PASI-O
		EPA 8270	TWB	7	PASI-O
		ASTM D2974-87	CS2	1	PASI-O

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 09217186.02/Ludlum

Pace Project No.: 35362100

Method: EPA 8270

Description: 8270 MSSV Full List Microwave

Client: SCS Engineers

Date: January 07, 2018

General Information:

2 samples were analyzed for EPA 8270. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: 412084

J(S0): Estimated Value. Surrogate recovery outside laboratory control limits.

- MS (Lab ID: 2249305)
 - 2,4,6-Tribromophenol (S)
 - p-Terphenyl-d14 (S)
- MSD (Lab ID: 2249306)
 - 2,4,6-Tribromophenol (S)
 - p-Terphenyl-d14 (S)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 09217186.02/Ludlum

Pace Project No.: 35362100

Method: EPA 8270

Description: 8270 MSSV Full List Microwave

Client: SCS Engineers

Date: January 07, 2018

QC Batch: 412084

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 35362042001

J(M1): Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2249305)
 - 3&4-Methylphenol(m&p Cresol)
 - Pentachlorophenol
 - Phenol
- MSD (Lab ID: 2249306)
 - 3&4-Methylphenol(m&p Cresol)
 - Pentachlorophenol
 - Phenol

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 09217186.02/Ludlum

Pace Project No.: 35362100

Method: EPA 8270

Description: 8270 MSSV SPLP

Client: SCS Engineers

Date: January 07, 2018

General Information:

1 sample was analyzed for EPA 8270. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3510 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 414490

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

Analyte Comments:

QC Batch: 414490

1p: A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

- SB-30A (0.5-2) (Lab ID: 35362100002)
- Pentachlorophenol

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlum

Pace Project No.: 35362100

Sample: SB-30A (0-0.5) **Lab ID: 35362100001** Collected: 12/08/17 11:50 Received: 12/08/17 18:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Full List Microwave Analytical Method: EPA 8270 Preparation Method: EPA 3546									
2-Methylphenol(o-Cresol)	0.025 U	mg/kg	0.17	0.025	1	12/13/17 16:30	12/14/17 13:51	95-48-7	
3&4-Methylphenol(m&p Cresol)	0.052 U	mg/kg	0.17	0.052	1	12/13/17 16:30	12/14/17 13:51		
Pentachlorophenol	0.022 U	mg/kg	0.69	0.022	1	12/13/17 16:30	12/14/17 13:51	87-86-5	
Phenol	0.032 U	mg/kg	0.17	0.032	1	12/13/17 16:30	12/14/17 13:51	108-95-2	
Surrogates									
Nitrobenzene-d5 (S)	67	%	16-123		1	12/13/17 16:30	12/14/17 13:51	4165-60-0	
2-Fluorobiphenyl (S)	76	%	32-129		1	12/13/17 16:30	12/14/17 13:51	321-60-8	
p-Terphenyl-d14 (S)	102	%	38-138		1	12/13/17 16:30	12/14/17 13:51	1718-51-0	
Phenol-d6 (S)	78	%	10-117		1	12/13/17 16:30	12/14/17 13:51	13127-88-3	
2-Fluorophenol (S)	71	%	10-113		1	12/13/17 16:30	12/14/17 13:51	367-12-4	
2,4,6-Tribromophenol (S)	87	%	10-175		1	12/13/17 16:30	12/14/17 13:51	118-79-6	
Percent Moisture Analytical Method: ASTM D2974-87									
Percent Moisture	2.4	%	0.10	0.10	1		12/12/17 11:04		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlum

Pace Project No.: 35362100

Sample: SB-30A (0.5-2) **Lab ID: 35362100002** Collected: 12/08/17 11:52 Received: 12/08/17 18:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Full List Microwave Analytical Method: EPA 8270 Preparation Method: EPA 3546									
2-Methylphenol(o-Cresol)	0.025 U	mg/kg	0.17	0.025	1	12/13/17 16:30	12/14/17 14:13	95-48-7	
3&4-Methylphenol(m&p Cresol)	0.052 U	mg/kg	0.17	0.052	1	12/13/17 16:30	12/14/17 14:13		
Pentachlorophenol	0.23 I	mg/kg	0.68	0.022	1	12/13/17 16:30	12/14/17 14:13	87-86-5	
Phenol	0.032 U	mg/kg	0.17	0.032	1	12/13/17 16:30	12/14/17 14:13	108-95-2	
Surrogates									
Nitrobenzene-d5 (S)	71	%	16-123		1	12/13/17 16:30	12/14/17 14:13	4165-60-0	
2-Fluorobiphenyl (S)	82	%	32-129		1	12/13/17 16:30	12/14/17 14:13	321-60-8	
p-Terphenyl-d14 (S)	105	%	38-138		1	12/13/17 16:30	12/14/17 14:13	1718-51-0	
Phenol-d6 (S)	83	%	10-117		1	12/13/17 16:30	12/14/17 14:13	13127-88-3	
2-Fluorophenol (S)	72	%	10-113		1	12/13/17 16:30	12/14/17 14:13	367-12-4	
2,4,6-Tribromophenol (S)	85	%	10-175		1	12/13/17 16:30	12/14/17 14:13	118-79-6	
8270 MSSV SPLP Analytical Method: EPA 8270 Preparation Method: EPA 3510									
Leachate Method/Date: EPA 1312; 12/21/17 16:15 Initial pH: ; Final pH: 5									
Pentachlorophenol	0.66 U	ug/L	20.0	0.66	1	12/22/17 23:56	12/27/17 19:20	87-86-5	1p
Surrogates									
Nitrobenzene-d5 (S)	71	%	13-83		1	12/22/17 23:56	12/27/17 19:20	4165-60-0	
2-Fluorobiphenyl (S)	85	%	21-92		1	12/22/17 23:56	12/27/17 19:20	321-60-8	
p-Terphenyl-d14 (S)	97	%	16-117		1	12/22/17 23:56	12/27/17 19:20	1718-51-0	
Phenol-d6 (S)	14	%	10-46		1	12/22/17 23:56	12/27/17 19:20	13127-88-3	
2-Fluorophenol (S)	25	%	10-44		1	12/22/17 23:56	12/27/17 19:20	367-12-4	
2,4,6-Tribromophenol (S)	80	%	22-133		1	12/22/17 23:56	12/27/17 19:20	118-79-6	
Percent Moisture Analytical Method: ASTM D2974-87									
Percent Moisture	2.5	%	0.10	0.10	1		12/12/17 11:04		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlum

Pace Project No.: 35362100

QC Batch: 412084

Analysis Method: EPA 8270

QC Batch Method: EPA 3546

Analysis Description: 8270 Solid Full List MSSV Microwave

Associated Lab Samples: 35362100001, 35362100002

METHOD BLANK: 2248821

Matrix: Solid

Associated Lab Samples: 35362100001, 35362100002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2-Methylphenol(o-Cresol)	mg/kg	0.025 U	0.17	0.025	12/14/17 10:30	
3&4-Methylphenol(m&p Cresol)	mg/kg	0.051 U	0.17	0.051	12/14/17 10:30	
Pentachlorophenol	mg/kg	0.021 U	0.67	0.021	12/14/17 10:30	
Phenol	mg/kg	0.031 U	0.17	0.031	12/14/17 10:30	
2,4,6-Tribromophenol (S)	%	82	10-175		12/14/17 10:30	
2-Fluorobiphenyl (S)	%	83	32-129		12/14/17 10:30	
2-Fluorophenol (S)	%	81	10-113		12/14/17 10:30	
Nitrobenzene-d5 (S)	%	78	16-123		12/14/17 10:30	
p-Terphenyl-d14 (S)	%	99	38-138		12/14/17 10:30	
Phenol-d6 (S)	%	87	10-117		12/14/17 10:30	

LABORATORY CONTROL SAMPLE: 2248822

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Methylphenol(o-Cresol)	mg/kg	1.7	1.6	95	56-110	
3&4-Methylphenol(m&p Cresol)	mg/kg	1.7	1.6	94	55-110	
Pentachlorophenol	mg/kg	1.7	1.6	97	49-117	
Phenol	mg/kg	1.7	1.5	88	52-110	
2,4,6-Tribromophenol (S)	%			84	10-175	
2-Fluorobiphenyl (S)	%			84	32-129	
2-Fluorophenol (S)	%			76	10-113	
Nitrobenzene-d5 (S)	%			78	16-123	
p-Terphenyl-d14 (S)	%			89	38-138	
Phenol-d6 (S)	%			88	10-117	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2249305 2249306

Parameter	Units	35362042001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Methylphenol(o-Cresol)	mg/kg	0.078 U	5.2	5.2	3.2	2.9	62	56	56-110	11	40	
3&4-Methylphenol(m&p Cresol)	mg/kg	0.16 U	5.2	5.2	2.7	2.4	51	46	55-110	12	40	J(M1)
Pentachlorophenol	mg/kg	0.067 U	5.2	5.2	0.76 I	0.72 I	15	14	49-117		40	J(M1)
Phenol	mg/kg	0.098 U	5.2	5.2	2.6	2.1	50	41	52-110	22	40	J(M1)
2,4,6-Tribromophenol (S)	%						6	1	10-175			J(S0)
2-Fluorobiphenyl (S)	%						63	61	32-129			
2-Fluorophenol (S)	%						21	10	10-113			
Nitrobenzene-d5 (S)	%						53	53	16-123			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlum

Pace Project No.: 35362100

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2249305 2249306												
Parameter	Units	35362042001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
p-Terphenyl-d14 (S)	%						24	19	38-138			J(S0)
Phenol-d6 (S)	%						47	39	10-117			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlum

Pace Project No.: 35362100

QC Batch: 414490

Analysis Method: EPA 8270

QC Batch Method: EPA 3510

Analysis Description: 8270 MSSV SPLP

Associated Lab Samples: 35362100002

METHOD BLANK: 2259398

Matrix: Water

Associated Lab Samples: 35362100002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Pentachlorophenol	ug/L	0.78 U	23.6	0.78	12/27/17 16:00	
2,4,6-Tribromophenol (S)	%	81	22-133		12/27/17 16:00	
2-Fluorobiphenyl (S)	%	85	21-92		12/27/17 16:00	
2-Fluorophenol (S)	%	31	10-44		12/27/17 16:00	
Nitrobenzene-d5 (S)	%	73	13-83		12/27/17 16:00	
p-Terphenyl-d14 (S)	%	91	16-117		12/27/17 16:00	
Phenol-d6 (S)	%	18	10-46		12/27/17 16:00	

LABORATORY CONTROL SAMPLE & LCSD: 2261939

2262171

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Pentachlorophenol	ug/L	95.8	77.0	72.7	80	76	33-117	6	40	
2,4,6-Tribromophenol (S)	%				80	78	22-133			
2-Fluorobiphenyl (S)	%				83	80	21-92			
2-Fluorophenol (S)	%				40	42	10-44			
Nitrobenzene-d5 (S)	%				75	74	13-83			
p-Terphenyl-d14 (S)	%				84	88	16-117			
Phenol-d6 (S)	%				27	30	10-46			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlum

Pace Project No.: 35362100

QC Batch: 411683

Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 35362100001, 35362100002

SAMPLE DUPLICATE: 2246310

Parameter	Units	35362093003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	10.3	12.5	19	5	J(D6)

SAMPLE DUPLICATE: 2246311

Parameter	Units	35362095004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	8.5	8.3	2	5	

SAMPLE DUPLICATE: 2246312

Parameter	Units	35362096005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	3.2	5.3	50	5	J(D6)

SAMPLE DUPLICATE: 2246313

Parameter	Units	35362099002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	4.3	4.5	4	5	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 09217186.02/Ludlum

Pace Project No.: 35362100

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O Pace Analytical Services - Ormond Beach

BATCH QUALIFIERS

Batch: 414490

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

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

U Compound was analyzed for but not detected.

1p A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

J(D6) Estimated Value. The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.

J(M1) Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

J(S0) Estimated Value. Surrogate recovery outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

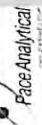
Project: 09217186.02/Ludlum

Pace Project No.: 35362100

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35362100001	SB-30A (0-0.5)	EPA 3546	412084	EPA 8270	412343
35362100002	SB-30A (0.5-2)	EPA 3546	412084	EPA 8270	412343
35362100002	SB-30A (0.5-2)	EPA 3510	414490	EPA 8270	415177
35362100001	SB-30A (0-0.5)	ASTM D2974-87	411683		
35362100002	SB-30A (0.5-2)	ASTM D2974-87	411683		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A
35362100

Section C

Invoice Information:

Page: 1 Of

Company: SCS Engineers		Report To: Lucas Barroso-Giachetti		Attention:	
Address: 7700 N Kendall Drive		Copy To: <i>lucasei</i>		Company Name:	
Miami, FL 33156				Address:	
Purchase Order #:				Pace Quote:	
Project Name:		Prologis		Pace Project Manager: christina.raschke@pacelabs.com	
Phone: 305.412.8185	Fax:			State / Location:	
Requested Due Date:		Project #: 09216180.00		Pace Profile #: 2013-8	
				FL	
				Regulatory Agency:	

[illegible]

12		ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS				
									TEMP in C	Received on	Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
			H. Sudici	12/8/17	05:59	[Signature]	12/8/17	13:15					
			[Signature]	12/8/17	18:00	[Signature]	12/10/17	00:40	Y	N	Y		
									1-1	Y			
									T3C1				
SAMPLER NAME AND SIGNATURE													
PRINT Name of SAMPLER: H. Sudici													
SIGNATURE of SAMPLER: [Signature]													
DATE Signed: 12/8/17													
TEMP in C													
Received on													
Ice (Y/N)													
Custody Sealed Cooler (Y/N)													
Samples Intact (Y/N)													

Page 1



Document Name:
Sample Condition Upon Receipt Form
Document No.:
F-FL-C-007 rev. 12

Document Revised:
August 2, 2017
Issuing Authority:
Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #
Project Manager:
Client:

WO# : 35362100

PM: CTR **Due Date: 12/18/17**
CLIENT: 36-ESCON

Date and Initials of person:

Examining contents:
Label: _____
Deliver: _____
pH: _____

Thermometer Used: T-301 **Date:** 12/19/17 **Time:** 0040 **Initials:** AB

State of Origin: _____

Cooler #1 Temp. °C 110 (Visual) 50.1 (Correction Factor) 1.1 (Actual)
Cooler #2 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)
Cooler #3 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)
Cooler #4 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)
Cooler #5 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)
Cooler #6 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)

☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☒ Commercial ☐ Pace ☐ Other _____
Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground ☐ International Priority
☐ Other _____

Billing: ☐ Recipient ☐ Sender ☐ Third Party ☐ Credit Card ☐ Unknown

Tracking # _____

Custody Seal on Cooler/Box Present: ☐ Yes ☒ No **Seals intact:** ☐ Yes ☐ No **Ice:** Wet Blue Dry None

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____

Samples shorted to lab (If Yes, complete) **Shorted Date:** _____ **Shorted Time:** _____ **Qty:** _____

Comments:

Chain of Custody Present	☒ Yes ☐ No ☐ N/A	
Chain of Custody Filled Out	☒ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☒ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☒ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☐ Yes ☐ No ☒ N/A	
Sufficient Volume	☒ Yes ☐ No ☐ N/A	
Correct Containers Used	☒ Yes ☐ No ☐ N/A	
Containers Intact	☒ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☒ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked.	☐ Yes ☐ No ☒ N/A	Preservation Information: Preservative: _____ Lot #/Trace #: _____ Date: _____ Time: _____ Initials: _____
All Containers needing preservation are found to be in compliance with EPA recommendation:	☐ Yes ☐ No ☒ N/A	
Exceptions: VOA, Coliform, TOC, O&G, Carbamates		
Headspace in VOA Vials? (>6mm):	☐ Yes ☐ No ☒ N/A	
Trip Blank Present:	☐ Yes ☐ No ☒ N/A	

Client Notification/ Resolution:

Person Contacted: _____

Date/Time: _____

Comments/ Resolution (use back for additional comments): _____

Project Manager Review: _____

Date: _____ **Page 17 of 17**

December 15, 2017

Fangmei Zhang
SCS ES Consultants, Inc.
7700 N. Kendall Dr.
Suite #607
Miami, FL 33156

RE: Project: 09217186.02/Ludlum
Pace Project No.: 35362101

Dear Fangmei Zhang:

Enclosed are the analytical results for sample(s) received by the laboratory on December 08, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Christina Raschke
christina.raschke@pacelabs.com
(954)582-4300
Project Manager

Enclosures

cc: Karinne Bedosky, SCS Engineers



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 09217186.02/Ludlum

Pace Project No.: 35362101

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 09217186.02/Ludlum

Pace Project No.: 35362101

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35362101001	SB-40A (0-0.5)	Solid	12/08/17 10:40	12/08/17 18:30
35362101002	SB-40A (0.5-2)	Solid	12/08/17 10:41	12/08/17 18:30
35362101003	SB-40A (2-4)	Solid	12/08/17 10:42	12/08/17 18:30
35362101004	SB-40A (4-6)	Solid	12/08/17 10:43	12/08/17 18:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 09217186.02/Ludlum

Pace Project No.: 35362101

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35362101001	SB-40A (0-0.5)	EPA 8270	TWB	10	PASI-O
		ASTM D2974-87	CS2	1	PASI-O
35362101002	SB-40A (0.5-2)	EPA 8270	TWB	10	PASI-O
		ASTM D2974-87	CS2	1	PASI-O

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 09217186.02/Ludlum

Pace Project No.: 35362101

Method: EPA 8270

Description: 8270 MSSV Full List Microwave

Client: SCS Engineers

Date: December 15, 2017

General Information:

2 samples were analyzed for EPA 8270. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: 412084

J(S0): Estimated Value. Surrogate recovery outside laboratory control limits.

- MS (Lab ID: 2249305)
 - 2,4,6-Tribromophenol (S)
 - p-Terphenyl-d14 (S)
- MSD (Lab ID: 2249306)
 - 2,4,6-Tribromophenol (S)
 - p-Terphenyl-d14 (S)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 09217186.02/Ludlum

Pace Project No.: 35362101

Method: EPA 8270

Description: 8270 MSSV Full List Microwave

Client: SCS Engineers

Date: December 15, 2017

QC Batch: 412084

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 35362042001

J(M1): Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2249305)
 - 3&4-Methylphenol(m&p Cresol)
 - Pentachlorophenol
 - Phenol
- MSD (Lab ID: 2249306)
 - 3&4-Methylphenol(m&p Cresol)
 - Pentachlorophenol
 - Phenol

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlum

Pace Project No.: 35362101

Sample: SB-40A (0-0.5) **Lab ID: 35362101001** Collected: 12/08/17 10:40 Received: 12/08/17 18:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Full List Microwave Analytical Method: EPA 8270 Preparation Method: EPA 3546									
2-Methylphenol(o-Cresol)	0.026 U	mg/kg	0.18	0.026	1	12/13/17 16:30	12/15/17 15:06	95-48-7	
3&4-Methylphenol(m&p Cresol)	0.053 U	mg/kg	0.18	0.053	1	12/13/17 16:30	12/15/17 15:06		
Pentachlorophenol	0.022 U	mg/kg	0.70	0.022	1	12/13/17 16:30	12/15/17 15:06	87-86-5	
Phenol	0.033 U	mg/kg	0.18	0.033	1	12/13/17 16:30	12/15/17 15:06	108-95-2	
Surrogates									
Nitrobenzene-d5 (S)	74	%	16-123		1	12/13/17 16:30	12/15/17 15:06	4165-60-0	
2-Fluorobiphenyl (S)	81	%	32-129		1	12/13/17 16:30	12/15/17 15:06	321-60-8	
p-Terphenyl-d14 (S)	94	%	38-138		1	12/13/17 16:30	12/15/17 15:06	1718-51-0	
Phenol-d6 (S)	76	%	10-117		1	12/13/17 16:30	12/15/17 15:06	13127-88-3	
2-Fluorophenol (S)	74	%	10-113		1	12/13/17 16:30	12/15/17 15:06	367-12-4	
2,4,6-Tribromophenol (S)	78	%	10-175		1	12/13/17 16:30	12/15/17 15:06	118-79-6	
Percent Moisture Analytical Method: ASTM D2974-87									
Percent Moisture	3.7	%	0.10	0.10	1		12/12/17 11:04		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlum

Pace Project No.: 35362101

Sample: SB-40A (0.5-2) **Lab ID: 35362101002** Collected: 12/08/17 10:41 Received: 12/08/17 18:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Full List Microwave Analytical Method: EPA 8270 Preparation Method: EPA 3546									
2-Methylphenol(o-Cresol)	0.027 U	mg/kg	0.19	0.027	1	12/13/17 16:30	12/15/17 15:28	95-48-7	
3&4-Methylphenol(m&p Cresol)	0.056 U	mg/kg	0.19	0.056	1	12/13/17 16:30	12/15/17 15:28		
Pentachlorophenol	0.023 U	mg/kg	0.73	0.023	1	12/13/17 16:30	12/15/17 15:28	87-86-5	
Phenol	0.034 U	mg/kg	0.19	0.034	1	12/13/17 16:30	12/15/17 15:28	108-95-2	
Surrogates									
Nitrobenzene-d5 (S)	74	%	16-123		1	12/13/17 16:30	12/15/17 15:28	4165-60-0	
2-Fluorobiphenyl (S)	85	%	32-129		1	12/13/17 16:30	12/15/17 15:28	321-60-8	
p-Terphenyl-d14 (S)	94	%	38-138		1	12/13/17 16:30	12/15/17 15:28	1718-51-0	
Phenol-d6 (S)	74	%	10-117		1	12/13/17 16:30	12/15/17 15:28	13127-88-3	
2-Fluorophenol (S)	70	%	10-113		1	12/13/17 16:30	12/15/17 15:28	367-12-4	
2,4,6-Tribromophenol (S)	85	%	10-175		1	12/13/17 16:30	12/15/17 15:28	118-79-6	
Percent Moisture Analytical Method: ASTM D2974-87									
Percent Moisture	8.8	%	0.10	0.10	1		12/12/17 11:04		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlum

Pace Project No.: 35362101

QC Batch: 412084

Analysis Method: EPA 8270

QC Batch Method: EPA 3546

Analysis Description: 8270 Solid Full List MSSV Microwave

Associated Lab Samples: 35362101001, 35362101002

METHOD BLANK: 2248821

Matrix: Solid

Associated Lab Samples: 35362101001, 35362101002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2-Methylphenol(o-Cresol)	mg/kg	0.025 U	0.17	0.025	12/14/17 10:30	
3&4-Methylphenol(m&p Cresol)	mg/kg	0.051 U	0.17	0.051	12/14/17 10:30	
Pentachlorophenol	mg/kg	0.021 U	0.67	0.021	12/14/17 10:30	
Phenol	mg/kg	0.031 U	0.17	0.031	12/14/17 10:30	
2,4,6-Tribromophenol (S)	%	82	10-175		12/14/17 10:30	
2-Fluorobiphenyl (S)	%	83	32-129		12/14/17 10:30	
2-Fluorophenol (S)	%	81	10-113		12/14/17 10:30	
Nitrobenzene-d5 (S)	%	78	16-123		12/14/17 10:30	
p-Terphenyl-d14 (S)	%	99	38-138		12/14/17 10:30	
Phenol-d6 (S)	%	87	10-117		12/14/17 10:30	

LABORATORY CONTROL SAMPLE: 2248822

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Methylphenol(o-Cresol)	mg/kg	1.7	1.6	95	56-110	
3&4-Methylphenol(m&p Cresol)	mg/kg	1.7	1.6	94	55-110	
Pentachlorophenol	mg/kg	1.7	1.6	97	49-117	
Phenol	mg/kg	1.7	1.5	88	52-110	
2,4,6-Tribromophenol (S)	%			84	10-175	
2-Fluorobiphenyl (S)	%			84	32-129	
2-Fluorophenol (S)	%			76	10-113	
Nitrobenzene-d5 (S)	%			78	16-123	
p-Terphenyl-d14 (S)	%			89	38-138	
Phenol-d6 (S)	%			88	10-117	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2249305

2249306

Parameter	Units	35362042001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Methylphenol(o-Cresol)	mg/kg	0.074 U	5	5	3.1	2.8	62	56	56-110	11	40	
3&4-Methylphenol(m&p Cresol)	mg/kg	0.15 U	5	5	2.6	2.3	51	46	55-110	12	40	J(M1)
Pentachlorophenol	mg/kg	0.064 U	5	5	0.73 I	0.69 I	15	14	49-117		40	J(M1)
Phenol	mg/kg	0.094 U	5	5	2.5	2.0	50	41	52-110	22	40	J(M1)
2,4,6-Tribromophenol (S)	%						6	1	10-175			J(S0)
2-Fluorobiphenyl (S)	%						63	61	32-129			
2-Fluorophenol (S)	%						21	10	10-113			
Nitrobenzene-d5 (S)	%						53	53	16-123			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlum

Pace Project No.: 35362101

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2249305 2249306												
Parameter	Units	35362042001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
p-Terphenyl-d14 (S)	%						24	19	38-138			J(S0)
Phenol-d6 (S)	%						47	39	10-117			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlum

Pace Project No.: 35362101

QC Batch:	411683	Analysis Method:	ASTM D2974-87
QC Batch Method:	ASTM D2974-87	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples: 35362101001, 35362101002			

SAMPLE DUPLICATE: 2246310

Parameter	Units	35362093003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	10.3	12.5	19	5	J(D6)

SAMPLE DUPLICATE: 2246311

Parameter	Units	35362095004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	8.5	8.3	2	5	

SAMPLE DUPLICATE: 2246312

Parameter	Units	35362096005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	3.2	5.3	50	5	J(D6)

SAMPLE DUPLICATE: 2246313

Parameter	Units	35362099002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	4.3	4.5	4	5	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 09217186.02/Ludlum

Pace Project No.: 35362101

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

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

U Compound was analyzed for but not detected.

J(D6) Estimated Value. The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.

J(M1) Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

J(S0) Estimated Value. Surrogate recovery outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 09217186.02/Ludlum

Pace Project No.: 35362101

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35362101001	SB-40A (0-0.5)	EPA 3546	412084	EPA 8270	412343
35362101002	SB-40A (0.5-2)	EPA 3546	412084	EPA 8270	412343
35362101001	SB-40A (0-0.5)	ASTM D2974-87	411683		
35362101002	SB-40A (0.5-2)	ASTM D2974-87	411683		

REPORT OF LABORATORY ANALYSIS

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W0#: 35362101



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A
Required Client Information:

Company: SCS Engineers
Address: 7700 N Kendall Drive
Miami, FL 33156
Email: lbarrero@scsengineers.com
Phone: 305.412.8185
Requested Due Date:

Section C
Invoice Information:

Report To: Lucas Barroso-Giachetti
Copy To: *anynei*
Purchase Order #: *Prologis-Ludlum*
Project Name: *Prologis-Ludlum*
Project #: *09216180.00*
Pace Profile #: *0512-9*

Company Name:
Address:
Pace Quote:
Pace Project Manager: *christina.raschke@pacelabs.com*
Regulatory Agency:
State / Location:
FL

Page: 1 Of 1

ITEM #	MATRIX	CODE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	PRESERVATIVES		Y/N	Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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ADDITIONAL COMMENTS

RELINQUISHED BY / AFFILIATION
Lucas Barroso-Giachetti
DATE
12/8/18
TIME
13:50

ACCEPTED BY / AFFILIATION
Christina Raschke
DATE
12/8/18
TIME
17:00

SAMPLE CONDITIONS
Ice (Y/N)
Received on
TEMP in C
1.1
1301

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: *Christina Raschke*
SIGNATURE of SAMPLER: *Christina Raschke*
DATE Signed: *12/8/2018*

Samples Intact (Y/N)
Sealed Cooler (Y/N)
Custody (Y/N)

	Document Name:	Document Revised:
	Sample Condition Upon Receipt Form	August 2, 2017
	Document No.: F-FL-C-007 rev. 12	Issuing Authority: Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project # **W0# : 35362101**
Project Manager: PM: CTR **Due Date:** 12/18/17
Client: CLIENT: 36-ESCON

Date and Initials of person:
 Examining contents: _____
 Label: _____
 Deliver: _____
 pH: _____

Thermometer Used: T-301 Date: 12/19/17 Time: 0040 Initials: AP

State of Origin: _____

Cooler #1 Temp. °C <u>11.0</u> (Visual) <u>10.1</u> (Correction Factor) <u>1.1</u> (Actual)	☐ Samples on ice, cooling process has begun
Cooler #2 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)	☐ Samples on ice, cooling process has begun
Cooler #3 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)	☐ Samples on ice, cooling process has begun
Cooler #4 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)	☐ Samples on ice, cooling process has begun
Cooler #5 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)	☐ Samples on ice, cooling process has begun
Cooler #6 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)	☐ Samples on ice, cooling process has begun

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☒ Commercial ☐ Pace ☐ Other _____
 Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground ☐ International Priority
☐ Other _____
 Billing: ☐ Recipient ☐ Sender ☐ Third Party ☐ Credit Card ☐ Unknown

Tracking # _____

Custody Seal on Cooler/Box Present: ☐ Yes ☒ No Seals intact: ☐ Yes ☐ No Ice: Wet Blue Dry None

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____

Samples shorted to lab (If Yes, complete) Shorted Date: _____ Shorted Time: _____ Qty: _____

Comments:

Chain of Custody Present	☒ Yes ☐ No ☐ N/A	Preservation Information: Preservative: _____ Lot #/Trace #: _____ Date: _____ Time: _____ Initials: _____
Chain of Custody Filled Out	☒ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☒ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☒ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☐ Yes ☐ No ☒ N/A	
Sufficient Volume	☒ Yes ☐ No ☐ N/A	
Correct Containers Used	☒ Yes ☐ No ☐ N/A	
Containers Intact	☒ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☒ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked.	☐ Yes ☐ No ☒ N/A	
All Containers needing preservation are found to be in compliance with EPA recommendation:	☐ Yes ☐ No ☒ N/A	
Exceptions: VOA, Coliform, TOC, O&G, Carbamates		
Headspace in VOA Vials? (>6mm):	☐ Yes ☐ No ☒ N/A	
Trip Blank Present:	☐ Yes ☐ No ☒ N/A	

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution (use back for additional comments):

Project Manager Review: _____

Date: _____

December 15, 2017

Fangmei Zhang
SCS ES Consultants, Inc.
7700 N. Kendall Dr.
Suite #607
Miami, FL 33156

RE: Project: 09217186.02/Ludlum
Pace Project No.: 35362275

Dear Fangmei Zhang:

Enclosed are the analytical results for sample(s) received by the laboratory on December 11, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Christina Raschke
christina.raschke@pacelabs.com
(954)582-4300
Project Manager

Enclosures

cc: Karinne Bedosky, SCS Engineers



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 09217186.02/Ludlum

Pace Project No.: 35362275

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 09217186.02/Ludlum

Pace Project No.: 35362275

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35362275001	SB-8A (0-0.5)	Solid	12/08/17 14:40	12/11/17 17:45
35362275002	SB-8A (0.5-2)	Solid	12/08/17 14:41	12/11/17 17:45
35362275003	SB-8A (2-4)	Solid	12/08/17 14:43	12/11/17 17:45
35362275004	SB-8A (4-6)	Solid	12/08/17 14:44	12/11/17 17:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 09217186.02/Ludlum

Pace Project No.: 35362275

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35362275001	SB-8A (0-0.5)	EPA 8270	TWB	10	PASI-O
		ASTM D2974-87	CS2	1	PASI-O
35362275002	SB-8A (0.5-2)	EPA 8270	TWB	10	PASI-O
		ASTM D2974-87	CS2	1	PASI-O
35362275003	SB-8A (2-4)	ASTM D2974-87	CS2	1	PASI-O
35362275004	SB-8A (4-6)	ASTM D2974-87	CS2	1	PASI-O

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 09217186.02/Ludlum

Pace Project No.: 35362275

Method: EPA 8270

Description: 8270 MSSV Full List Microwave

Client: SCS Engineers

Date: December 15, 2017

General Information:

2 samples were analyzed for EPA 8270. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

QC Batch: 412084

P3: Sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

- SB-8A (0-0.5) (Lab ID: 35362275001)
- SB-8A (0.5-2) (Lab ID: 35362275002)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: 412084

J(S0): Estimated Value. Surrogate recovery outside laboratory control limits.

- MS (Lab ID: 2249305)
 - 2,4,6-Tribromophenol (S)
 - p-Terphenyl-d14 (S)
- MSD (Lab ID: 2249306)
 - 2,4,6-Tribromophenol (S)
 - p-Terphenyl-d14 (S)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 09217186.02/Ludlum

Pace Project No.: 35362275

Method: EPA 8270

Description: 8270 MSSV Full List Microwave

Client: SCS Engineers

Date: December 15, 2017

QC Batch: 412084

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 35362042001

J(M1): Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2249305)
 - 3&4-Methylphenol(m&p Cresol)
 - Pentachlorophenol
 - Phenol
- MSD (Lab ID: 2249306)
 - 3&4-Methylphenol(m&p Cresol)
 - Pentachlorophenol
 - Phenol

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlum

Pace Project No.: 35362275

Sample: SB-8A (0-0.5) **Lab ID: 35362275001** Collected: 12/08/17 14:40 Received: 12/11/17 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Full List Microwave Analytical Method: EPA 8270 Preparation Method: EPA 3546									
2-Methylphenol(o-Cresol)	0.025 U	mg/kg	0.17	0.025	1	12/13/17 16:30	12/14/17 14:35	95-48-7	P3
3&4-Methylphenol(m&p Cresol)	0.051 U	mg/kg	0.17	0.051	1	12/13/17 16:30	12/14/17 14:35		P3
Pentachlorophenol	0.022 U	mg/kg	0.67	0.022	1	12/13/17 16:30	12/14/17 14:35	87-86-5	P3
Phenol	0.032 U	mg/kg	0.17	0.032	1	12/13/17 16:30	12/14/17 14:35	108-95-2	P3
Surrogates									
Nitrobenzene-d5 (S)	66	%	16-123		1	12/13/17 16:30	12/14/17 14:35	4165-60-0	
2-Fluorobiphenyl (S)	73	%	32-129		1	12/13/17 16:30	12/14/17 14:35	321-60-8	
p-Terphenyl-d14 (S)	89	%	38-138		1	12/13/17 16:30	12/14/17 14:35	1718-51-0	
Phenol-d6 (S)	72	%	10-117		1	12/13/17 16:30	12/14/17 14:35	13127-88-3	
2-Fluorophenol (S)	66	%	10-113		1	12/13/17 16:30	12/14/17 14:35	367-12-4	
2,4,6-Tribromophenol (S)	81	%	10-175		1	12/13/17 16:30	12/14/17 14:35	118-79-6	
Percent Moisture Analytical Method: ASTM D2974-87									
Percent Moisture	0.10 U	%	0.10	0.10	1		12/12/17 14:03		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlum

Pace Project No.: 35362275

Sample: SB-8A (0.5-2) **Lab ID: 35362275002** Collected: 12/08/17 14:41 Received: 12/11/17 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Full List Microwave Analytical Method: EPA 8270 Preparation Method: EPA 3546									
2-Methylphenol(o-Cresol)	0.025 U	mg/kg	0.17	0.025	1	12/13/17 16:30	12/14/17 14:58	95-48-7	P3
3&4-Methylphenol(m&p Cresol)	0.051 U	mg/kg	0.17	0.051	1	12/13/17 16:30	12/14/17 14:58		P3
Pentachlorophenol	0.022 U	mg/kg	0.68	0.022	1	12/13/17 16:30	12/14/17 14:58	87-86-5	P3
Phenol	0.032 U	mg/kg	0.17	0.032	1	12/13/17 16:30	12/14/17 14:58	108-95-2	P3
Surrogates									
Nitrobenzene-d5 (S)	75	%	16-123		1	12/13/17 16:30	12/14/17 14:58	4165-60-0	
2-Fluorobiphenyl (S)	81	%	32-129		1	12/13/17 16:30	12/14/17 14:58	321-60-8	
p-Terphenyl-d14 (S)	100	%	38-138		1	12/13/17 16:30	12/14/17 14:58	1718-51-0	
Phenol-d6 (S)	75	%	10-117		1	12/13/17 16:30	12/14/17 14:58	13127-88-3	
2-Fluorophenol (S)	71	%	10-113		1	12/13/17 16:30	12/14/17 14:58	367-12-4	
2,4,6-Tribromophenol (S)	85	%	10-175		1	12/13/17 16:30	12/14/17 14:58	118-79-6	
Percent Moisture Analytical Method: ASTM D2974-87									
Percent Moisture	0.40	%	0.10	0.10	1		12/12/17 14:03		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlum

Pace Project No.: 35362275

Sample: SB-8A (2-4) **Lab ID: 35362275003** Collected: 12/08/17 14:43 Received: 12/11/17 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture									
Analytical Method: ASTM D2974-87									
Percent Moisture	0.46	%	0.10	0.10	1		12/12/17 14:03		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlum

Pace Project No.: 35362275

Sample: SB-8A (4-6) **Lab ID: 35362275004** Collected: 12/08/17 14:44 Received: 12/11/17 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture									
Analytical Method: ASTM D2974-87									
Percent Moisture	0.84	%	0.10	0.10	1		12/12/17 14:03		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlum

Pace Project No.: 35362275

QC Batch: 412084

Analysis Method: EPA 8270

QC Batch Method: EPA 3546

Analysis Description: 8270 Solid Full List MSSV Microwave

Associated Lab Samples: 35362275001, 35362275002

METHOD BLANK: 2248821

Matrix: Solid

Associated Lab Samples: 35362275001, 35362275002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2-Methylphenol(o-Cresol)	mg/kg	0.025 U	0.17	0.025	12/14/17 10:30	
3&4-Methylphenol(m&p Cresol)	mg/kg	0.051 U	0.17	0.051	12/14/17 10:30	
Pentachlorophenol	mg/kg	0.021 U	0.67	0.021	12/14/17 10:30	
Phenol	mg/kg	0.031 U	0.17	0.031	12/14/17 10:30	
2,4,6-Tribromophenol (S)	%	82	10-175		12/14/17 10:30	
2-Fluorobiphenyl (S)	%	83	32-129		12/14/17 10:30	
2-Fluorophenol (S)	%	81	10-113		12/14/17 10:30	
Nitrobenzene-d5 (S)	%	78	16-123		12/14/17 10:30	
p-Terphenyl-d14 (S)	%	99	38-138		12/14/17 10:30	
Phenol-d6 (S)	%	87	10-117		12/14/17 10:30	

LABORATORY CONTROL SAMPLE: 2248822

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Methylphenol(o-Cresol)	mg/kg	1.7	1.6	95	56-110	
3&4-Methylphenol(m&p Cresol)	mg/kg	1.7	1.6	94	55-110	
Pentachlorophenol	mg/kg	1.7	1.6	97	49-117	
Phenol	mg/kg	1.7	1.5	88	52-110	
2,4,6-Tribromophenol (S)	%			84	10-175	
2-Fluorobiphenyl (S)	%			84	32-129	
2-Fluorophenol (S)	%			76	10-113	
Nitrobenzene-d5 (S)	%			78	16-123	
p-Terphenyl-d14 (S)	%			89	38-138	
Phenol-d6 (S)	%			88	10-117	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2249305 2249306

Parameter	Units	35362042001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Methylphenol(o-Cresol)	mg/kg	0.074 U	5	5	3.1	2.8	62	56	56-110	11	40	
3&4-Methylphenol(m&p Cresol)	mg/kg	0.15 U	5	5	2.6	2.3	51	46	55-110	12	40	J(M1)
Pentachlorophenol	mg/kg	0.064 U	5	5	0.73 I	0.69 I	15	14	49-117		40	J(M1)
Phenol	mg/kg	0.094 U	5	5	2.5	2.0	50	41	52-110	22	40	J(M1)
2,4,6-Tribromophenol (S)	%						6	1	10-175			J(S0)
2-Fluorobiphenyl (S)	%						63	61	32-129			
2-Fluorophenol (S)	%						21	10	10-113			
Nitrobenzene-d5 (S)	%						53	53	16-123			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlum

Pace Project No.: 35362275

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2249305 2249306												
Parameter	Units	35362042001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
p-Terphenyl-d14 (S)	%						24	19	38-138			J(S0)
Phenol-d6 (S)	%						47	39	10-117			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlum

Pace Project No.: 35362275

QC Batch: 411724 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 35362275001, 35362275002, 35362275003, 35362275004

SAMPLE DUPLICATE: 2246593

Parameter	Units	35361156007 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	4.8	5.9	21	5	J(D6)

SAMPLE DUPLICATE: 2246594

Parameter	Units	35361462009 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	4.9	7.0	35	5	J(D6)

SAMPLE DUPLICATE: 2246595

Parameter	Units	35361471004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	8.5	8.4	1	5	

SAMPLE DUPLICATE: 2246596

Parameter	Units	35362131003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	10.1	10.6	5	5	

SAMPLE DUPLICATE: 2246597

Parameter	Units	35362131012 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	1.2	1.6	31	5	J(D6)

SAMPLE DUPLICATE: 2246598

Parameter	Units	35362275002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	0.40	0.38	4	5	

SAMPLE DUPLICATE: 2246599

Parameter	Units	35362277002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	4.1	3.5	15	5	J(D6)

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 09217186.02/Ludlum

Pace Project No.: 35362275

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

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

U Compound was analyzed for but not detected.

J(D6) Estimated Value. The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.

J(M1) Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

J(S0) Estimated Value. Surrogate recovery outside laboratory control limits.

P3 Sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 09217186.02/Ludlum

Pace Project No.: 35362275

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35362275001	SB-8A (0-0.5)	EPA 3546	412084	EPA 8270	412343
35362275002	SB-8A (0.5-2)	EPA 3546	412084	EPA 8270	412343
35362275001	SB-8A (0-0.5)	ASTM D2974-87	411724		
35362275002	SB-8A (0.5-2)	ASTM D2974-87	411724		
35362275003	SB-8A (2-4)	ASTM D2974-87	411724		
35362275004	SB-8A (4-6)	ASTM D2974-87	411724		

REPORT OF LABORATORY ANALYSIS

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MO#: 35362275



35362275



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OF-CUSTODY / Analytical Request Document
This is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A

Section B

Section C

Page: 1 of 1

Company: **SCS Engineers**

Report To: **Raymond Henry**

Invoice Information:

REGULATORY AGENCY

Email To:

Purchase Order No.:

Company Name:

NPDES ☐ GROUND WATER ☐ DRINKING WATER

Phone:

Project Name:

Address:

UST ☐ RCRA ☐ OTHER ☐

Requested Due Date/TAT:

Project Number:

Pure Project Manager:

Site Location STATE:

Section D

Matrix Codes

Matrix L / CODE

COLLECTED

Preservatives

Requested Analysis Filtered (Y/N)

SAMPLE ID

(A-Z, 0-9 / -)

Sample IDs MUST BE UNIQUE

Drinking Water DNY
Water WNT
Waste Water WWV
Product P
Soil Solid SL
Oil OL
Wipe WIP
Air AR
Tissue TS
Other OT

MATRIX CODE (see valid codes to left)

SAMPLE TYPE (G=GRAB C=COMP)

DATE TIME DATE TIME
12/15 14:40 1/14/13 14:43
1/14/13 14:44

SAMPLE TEMP AT COLLECTION

OF CONTAINERS

Unpreserved
H₂SO₄
HNO₃
HCl
NaOH
Na₂S₂O₃
Methanol
Other

Analysis Test

Arsenic
PAHS

Residual Chlorine (Y/N)

Pace Project No./Lab I.D.

ADDITIONAL COMMENTS

RELINQUISHED BY / AFFILIATION

DATE

TIME

ACCEPTED BY / AFFILIATION

DATE

TIME

SAMPLE CONDITIONS

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

DATE Signed (MM/DD/YY):

Temp in °C

Received on Ice (Y/N)

Custody Sealed Cooler (Y/N)

Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

	Document Name:	Document Revised:
	Sample Condition Upon Receipt Form	August 2, 2017
	Document No.:	Issuing Authority:
	F-FL-C-007 rev. 12	Pace Florida Quality Office

WO#: 35362275

Project #
Project Manager:
Client:

PM: CTR **Due Date: 12/13/17**
CLIENT: 36-ESCON

Date and Initials of person:
Examining contents: _____
Label: _____
Deliver: _____
pH: _____

Thermometer Used: T-324 Date: 12/11/17 Time: 1745 Initials: [Signature]

State of Origin: _____

Cooler #1 Temp. °C 20.1 (Visual) 0.0 (Correction Factor) 20.1 (Actual)
Cooler #2 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)
Cooler #3 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)
Cooler #4 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)
Cooler #5 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)
Cooler #6 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual)

☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun
☐ Samples on ice, cooling process has begun

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace ☐ Other _____
Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground ☐ International Priority
☐ Other _____

Billing: ☐ Recipient ☐ Sender ☐ Third Party ☐ Credit Card ☐ Unknown

Tracking # _____

Custody Seal on Cooler/Box Present: ☐ Yes ☒ No Seals intact: ☐ Yes ☒ No Ice: Wet Blue Dry None

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____

Samples shorted to lab (If Yes, complete) Shorted Date: _____ Shorted Time: _____ Qty: _____

Comments:

Chain of Custody Present	☒ Yes ☐ No ☐ N/A	Preservation Information: Preservative: _____ Lot #/Trace #: _____ Date: _____ Time: _____ Initials: _____
Chain of Custody Filled Out	☒ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☒ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☒ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☒ Yes ☐ No ☐ N/A	
Sufficient Volume	☐ Yes ☐ No ☐ N/A	
Correct Containers Used	☒ Yes ☐ No ☐ N/A	
Containers Intact	☒ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs, & date/time of collection)	☐ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked.	☐ Yes ☐ No ☒ N/A	
All Containers needing preservation are found to be in compliance with EPA recommendation:	☐ Yes ☐ No ☒ N/A	
Exceptions: VOA, Coliform, TOC, O&G, Carbamates		
Headspace in VOA Vials? (>6mm):	☐ Yes ☐ No ☒ N/A	
Trip Blank Present:	☐ Yes ☐ No ☒ N/A	

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution (use back for additional comments):

Project Manager Review: _____

Date: _____

December 15, 2017

Fangmei Zhang
SCS ES Consultants, Inc.
7700 N. Kendall Dr.
Suite #607
Miami, FL 33156

RE: Project: 09217186.02/Ludlum
Pace Project No.: 35362276

Dear Fangmei Zhang:

Enclosed are the analytical results for sample(s) received by the laboratory on December 11, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Christina Raschke
christina.raschke@pacelabs.com
(954)582-4300
Project Manager

Enclosures

cc: Karinne Bedosky, SCS Engineers



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 09217186.02/Ludlum

Pace Project No.: 35362276

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 09217186.02/Ludlum

Pace Project No.: 35362276

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35362276001	SB-12A (0-0.5)	Solid	12/08/17 13:45	12/11/17 17:45
35362276002	SB-12A (0.5-2)	Solid	12/08/17 13:47	12/11/17 17:45
35362276003	SB-12A (2-4)	Solid	12/08/17 13:48	12/11/17 17:45
35362276004	SB-12A (4-6)	Solid	12/08/17 13:49	12/11/17 17:45
35362276005	SB-12A (6-7)	Solid	12/08/17 13:50	12/11/17 17:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 09217186.02/Ludlum

Pace Project No.: 35362276

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35362276001	SB-12A (0-0.5)	EPA 8270	TWB	10	PASI-O
		ASTM D2974-87	CS2	1	PASI-O
35362276002	SB-12A (0.5-2)	EPA 8270	TWB	10	PASI-O
		ASTM D2974-87	CS2	1	PASI-O
35362276003	SB-12A (2-4)	ASTM D2974-87	CS2	1	PASI-O
35362276004	SB-12A (4-6)	ASTM D2974-87	CS2	1	PASI-O
35362276005	SB-12A (6-7)	ASTM D2974-87	CS2	1	PASI-O

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 09217186.02/Ludlum

Pace Project No.: 35362276

Method: EPA 8270

Description: 8270 MSSV Full List Microwave

Client: SCS Engineers

Date: December 15, 2017

General Information:

2 samples were analyzed for EPA 8270. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3546 with any exceptions noted below.

QC Batch: 412084

P1: Routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.

- SB-12A (0-0.5) (Lab ID: 35362276001)
- SB-12A (0.5-2) (Lab ID: 35362276002)

P3: Sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

- SB-12A (0-0.5) (Lab ID: 35362276001)
- SB-12A (0.5-2) (Lab ID: 35362276002)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: 412084

J(S0): Estimated Value. Surrogate recovery outside laboratory control limits.

- MS (Lab ID: 2249305)
 - 2,4,6-Tribromophenol (S)
 - p-Terphenyl-d14 (S)
- MSD (Lab ID: 2249306)
 - 2,4,6-Tribromophenol (S)
 - p-Terphenyl-d14 (S)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 09217186.02/Ludlum

Pace Project No.: 35362276

Method: EPA 8270

Description: 8270 MSSV Full List Microwave

Client: SCS Engineers

Date: December 15, 2017

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 412084

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 35362042001

J(M1): Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2249305)
 - 3&4-Methylphenol(m&p Cresol)
 - Pentachlorophenol
 - Phenol
- MSD (Lab ID: 2249306)
 - 3&4-Methylphenol(m&p Cresol)
 - Pentachlorophenol
 - Phenol

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlum

Pace Project No.: 35362276

Sample: SB-12A (0-0.5) **Lab ID: 35362276001** Collected: 12/08/17 13:45 Received: 12/11/17 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Full List Microwave Analytical Method: EPA 8270 Preparation Method: EPA 3546									
2-Methylphenol(o-Cresol)	0.27 U	mg/kg	1.9	0.27	1	12/13/17 16:30	12/14/17 15:20	95-48-7	P1,P3
3&4-Methylphenol(m&p Cresol)	0.56 U	mg/kg	1.9	0.56	1	12/13/17 16:30	12/14/17 15:20		P1,P3
Pentachlorophenol	0.24 U	mg/kg	7.4	0.24	1	12/13/17 16:30	12/14/17 15:20	87-86-5	P1,P3
Phenol	0.35 U	mg/kg	1.9	0.35	1	12/13/17 16:30	12/14/17 15:20	108-95-2	P1,P3
Surrogates									
Nitrobenzene-d5 (S)	60	%	16-123		1	12/13/17 16:30	12/14/17 15:20	4165-60-0	
2-Fluorobiphenyl (S)	87	%	32-129		1	12/13/17 16:30	12/14/17 15:20	321-60-8	
p-Terphenyl-d14 (S)	109	%	38-138		1	12/13/17 16:30	12/14/17 15:20	1718-51-0	
Phenol-d6 (S)	67	%	10-117		1	12/13/17 16:30	12/14/17 15:20	13127-88-3	
2-Fluorophenol (S)	65	%	10-113		1	12/13/17 16:30	12/14/17 15:20	367-12-4	
2,4,6-Tribromophenol (S)	82	%	10-175		1	12/13/17 16:30	12/14/17 15:20	118-79-6	
Percent Moisture Analytical Method: ASTM D2974-87									
Percent Moisture	8.9	%	0.10	0.10	1		12/12/17 14:03		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlum

Pace Project No.: 35362276

Sample: SB-12A (0.5-2) **Lab ID: 35362276002** Collected: 12/08/17 13:47 Received: 12/11/17 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Full List Microwave Analytical Method: EPA 8270 Preparation Method: EPA 3546									
2-Methylphenol(o-Cresol)	0.075 U	mg/kg	0.51	0.075	1	12/13/17 16:30	12/14/17 15:42	95-48-7	P1,P3
3&4-Methylphenol(m&p Cresol)	0.15 U	mg/kg	0.51	0.15	1	12/13/17 16:30	12/14/17 15:42		P1,P3
Pentachlorophenol	0.065 U	mg/kg	2.0	0.065	1	12/13/17 16:30	12/14/17 15:42	87-86-5	P1,P3
Phenol	0.095 U	mg/kg	0.51	0.095	1	12/13/17 16:30	12/14/17 15:42	108-95-2	P1,P3
Surrogates									
Nitrobenzene-d5 (S)	67	%	16-123		1	12/13/17 16:30	12/14/17 15:42	4165-60-0	
2-Fluorobiphenyl (S)	79	%	32-129		1	12/13/17 16:30	12/14/17 15:42	321-60-8	
p-Terphenyl-d14 (S)	104	%	38-138		1	12/13/17 16:30	12/14/17 15:42	1718-51-0	
Phenol-d6 (S)	82	%	10-117		1	12/13/17 16:30	12/14/17 15:42	13127-88-3	
2-Fluorophenol (S)	73	%	10-113		1	12/13/17 16:30	12/14/17 15:42	367-12-4	
2,4,6-Tribromophenol (S)	87	%	10-175		1	12/13/17 16:30	12/14/17 15:42	118-79-6	
Percent Moisture Analytical Method: ASTM D2974-87									
Percent Moisture	2.8	%	0.10	0.10	1		12/12/17 14:03		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlum

Pace Project No.: 35362276

Sample: SB-12A (2-4) **Lab ID: 35362276003** Collected: 12/08/17 13:48 Received: 12/11/17 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture									
Analytical Method: ASTM D2974-87									
Percent Moisture	11.0	%	0.10	0.10	1		12/12/17 14:03		

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlum

Pace Project No.: 35362276

Sample: SB-12A (4-6) **Lab ID: 35362276004** Collected: 12/08/17 13:49 Received: 12/11/17 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture									
Analytical Method: ASTM D2974-87									
Percent Moisture	12.3	%	0.10	0.10	1		12/12/17 14:04		

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ANALYTICAL RESULTS

Project: 09217186.02/Ludlum

Pace Project No.: 35362276

Sample: SB-12A (6-7) **Lab ID: 35362276005** Collected: 12/08/17 13:50 Received: 12/11/17 17:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture									
Analytical Method: ASTM D2974-87									
Percent Moisture	13.8	%	0.10	0.10	1		12/12/17 14:04		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlum

Pace Project No.: 35362276

QC Batch: 412084

Analysis Method: EPA 8270

QC Batch Method: EPA 3546

Analysis Description: 8270 Solid Full List MSSV Microwave

Associated Lab Samples: 35362276001, 35362276002

METHOD BLANK: 2248821

Matrix: Solid

Associated Lab Samples: 35362276001, 35362276002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2-Methylphenol(o-Cresol)	mg/kg	0.025 U	0.17	0.025	12/14/17 10:30	
3&4-Methylphenol(m&p Cresol)	mg/kg	0.051 U	0.17	0.051	12/14/17 10:30	
Pentachlorophenol	mg/kg	0.021 U	0.67	0.021	12/14/17 10:30	
Phenol	mg/kg	0.031 U	0.17	0.031	12/14/17 10:30	
2,4,6-Tribromophenol (S)	%	82	10-175		12/14/17 10:30	
2-Fluorobiphenyl (S)	%	83	32-129		12/14/17 10:30	
2-Fluorophenol (S)	%	81	10-113		12/14/17 10:30	
Nitrobenzene-d5 (S)	%	78	16-123		12/14/17 10:30	
p-Terphenyl-d14 (S)	%	99	38-138		12/14/17 10:30	
Phenol-d6 (S)	%	87	10-117		12/14/17 10:30	

LABORATORY CONTROL SAMPLE: 2248822

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Methylphenol(o-Cresol)	mg/kg	1.7	1.6	95	56-110	
3&4-Methylphenol(m&p Cresol)	mg/kg	1.7	1.6	94	55-110	
Pentachlorophenol	mg/kg	1.7	1.6	97	49-117	
Phenol	mg/kg	1.7	1.5	88	52-110	
2,4,6-Tribromophenol (S)	%			84	10-175	
2-Fluorobiphenyl (S)	%			84	32-129	
2-Fluorophenol (S)	%			76	10-113	
Nitrobenzene-d5 (S)	%			78	16-123	
p-Terphenyl-d14 (S)	%			89	38-138	
Phenol-d6 (S)	%			88	10-117	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2249305

2249306

Parameter	Units	35362042001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Methylphenol(o-Cresol)	mg/kg	0.074 U	5	5	3.1	2.8	62	56	56-110	11	40	
3&4-Methylphenol(m&p Cresol)	mg/kg	0.15 U	5	5	2.6	2.3	51	46	55-110	12	40	J(M1)
Pentachlorophenol	mg/kg	0.064 U	5	5	0.73 I	0.69 I	15	14	49-117		40	J(M1)
Phenol	mg/kg	0.094 U	5	5	2.5	2.0	50	41	52-110	22	40	J(M1)
2,4,6-Tribromophenol (S)	%						6	1	10-175			J(S0)
2-Fluorobiphenyl (S)	%						63	61	32-129			
2-Fluorophenol (S)	%						21	10	10-113			
Nitrobenzene-d5 (S)	%						53	53	16-123			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlum

Pace Project No.: 35362276

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2249305 2249306												
Parameter	Units	35362042001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
p-Terphenyl-d14 (S)	%						24	19	38-138			J(S0)
Phenol-d6 (S)	%						47	39	10-117			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: 09217186.02/Ludlum

Pace Project No.: 35362276

QC Batch: 411724 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 35362276001, 35362276002, 35362276003, 35362276004, 35362276005

SAMPLE DUPLICATE: 2246593

Parameter	Units	35361156007 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	4.8	5.9	21	5	J(D6)

SAMPLE DUPLICATE: 2246594

Parameter	Units	35361462009 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	4.9	7.0	35	5	J(D6)

SAMPLE DUPLICATE: 2246595

Parameter	Units	35361471004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	8.5	8.4	1	5	

SAMPLE DUPLICATE: 2246596

Parameter	Units	35362131003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	10.1	10.6	5	5	

SAMPLE DUPLICATE: 2246597

Parameter	Units	35362131012 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	1.2	1.6	31	5	J(D6)

SAMPLE DUPLICATE: 2246598

Parameter	Units	35362275002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	0.40	0.38	4	5	

SAMPLE DUPLICATE: 2246599

Parameter	Units	35362277002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	4.1	3.5	15	5	J(D6)

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 09217186.02/Ludlum

Pace Project No.: 35362276

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

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

U Compound was analyzed for but not detected.

J(D6) Estimated Value. The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.

J(M1) Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

J(S0) Estimated Value. Surrogate recovery outside laboratory control limits.

P1 Routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.

P3 Sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 09217186.02/Ludlum

Pace Project No.: 35362276

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35362276001	SB-12A (0-0.5)	EPA 3546	412084	EPA 8270	412343
35362276002	SB-12A (0.5-2)	EPA 3546	412084	EPA 8270	412343
35362276001	SB-12A (0-0.5)	ASTM D2974-87	411724		
35362276002	SB-12A (0.5-2)	ASTM D2974-87	411724		
35362276003	SB-12A (2-4)	ASTM D2974-87	411724		
35362276004	SB-12A (4-6)	ASTM D2974-87	411724		
35362276005	SB-12A (6-7)	ASTM D2974-87	411724		

REPORT OF LABORATORY ANALYSIS

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MO#: 35362276

CDY / Analytical Request Document
L. DOCUMENT. All relevant fields must be completed accurately.

Section A

Required Client Information:

Company	Address	Copy To:	Report To:
Sos Tagline			Fangmei Zhang
Phone:	Fax:	Purchase Order No.:	Project Name:
			Ludum Trail
Requested Due Date/AT:	Project Number:	Price Quote Reference:	Price Project Manager:

Section B

Required Project Information:

Section C

Invoice Information:

Company Name:	Address:	Attention:
REGULATORY AGENCY	NPDES	GROUND WATER
	UST	RCRA
Site Location	STATE:	OTHER

Section D

Required Client Information

ITEM #	SAMPLE ID (A-Z, 0-9 / -)	Matrix Codes MATRIX / CODE Drinking Water Water Waste Water Product Soil/Solid Oil Wipe Air Tissue Other	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					DATE	TIME							
1	SB-12A(0-0.5)				12/10	13:45		1	X				
2	SB-12A(0.5-2)				12/10	13:47		1	X				
3	SB-12A(2-4)				12/10	13:48		1	X				
4	SB-12A(4-6)				12/10	13:49		1	X				
5	SB-12A(6-7)				12/10	13:50		1	X				
6													
7													
8													
9													
10													
11													
12													

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Ludum Trail	12/10	13:08		12/14	13:13
	12/10	13:45		12/14	13:47
	12/10	13:48		12/14	13:49
	12/10	13:50		12/14	13:50

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	SIGNATURE of SAMPLER:
DATE Signed (MM/DD/YY):	
Temp in °C	Received on Ice (Y/N)
	Custody Sealed Cooler (Y/N)
	Samples Intact (Y/N)



Document Name:
Sample Condition Upon Receipt Form
Document No.:

Document Revised:
August 2, 2017
Issuing Authority:
Pace Florida Quality Office

WO#: 35362276

PM: CTR Due Date: 12/19/17
CLIENT: 36-ESCON

m (SCUR)

Project
Project Manager
Client:

Date and Initials of person:

Examining contents:

Label:

Deliver:

pH:

Thermometer Used: T-324

Date: 12/14/17

Time: 1745

Initials:

State of Origin:

Cooler #1 Temp. °C 20.1 (Visual) 0.0 (Correction Factor) 20.1 (Actual)

Cooler #2 Temp. °C (Visual) (Correction Factor) (Actual)

Cooler #3 Temp. °C (Visual) (Correction Factor) (Actual)

Cooler #4 Temp. °C (Visual) (Correction Factor) (Actual)

Cooler #5 Temp. °C (Visual) (Correction Factor) (Actual)

Cooler #6 Temp. °C (Visual) (Correction Factor) (Actual)

☐ Samples on ice, cooling process has begun

☐ Samples on ice, cooling process has begun

☐ Samples on ice, cooling process has begun

☐ Samples on ice, cooling process has begun

☐ Samples on ice, cooling process has begun

☐ Samples on ice, cooling process has begun

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace

☐ Other

Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground ☐ International Priority

☐ Other

Billing: ☐ Recipient ☐ Sender ☐ Third Party ☐ Credit Card ☐ Unknown

Tracking #

Custody Seal on Cooler/Box Present: ☐ Yes ☒ No Seals intact: ☐ Yes ☒ No Ice: ☒ Wet ☐ Blue ☐ Dry ☐ None

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other

Samples shorted to lab (If Yes, complete) Shorted Date: Shorted Time: Qty:

Comments:

Chain of Custody Present	☒ Yes ☐ No ☐ N/A	Preservation Information: Preservative: _____ Lot #/Trace #: _____ Date: _____ Time: _____ Initials: _____
Chain of Custody Filled Out	☒ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☒ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☒ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☒ Yes ☐ No ☐ N/A	
Sufficient Volume	☒ Yes ☐ No ☐ N/A	
Correct Containers Used	☒ Yes ☐ No ☐ N/A	
Containers Intact	☒ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☐ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked.	☐ Yes ☐ No ☒ N/A	
All Containers needing preservation are found to be in compliance with EPA recommendation:	☐ Yes ☐ No ☒ N/A	
Exceptions: VOA, Coliform, TOC, O&G, Carbamates		
Headspace in VOA Vials? (>6mm):	☐ Yes ☐ No ☒ N/A	
Trip Blank Present:	☐ Yes ☐ No ☒ N/A	

Client Notification/ Resolution:

Person Contacted: _____

Date/Time: _____

Comments/ Resolution (use back for additional comments): _____

Project Manager Review: _____

Date: _____

ATTACHMENT F

BAPE CALCULATION

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: Ludlum Trail
 Location: Former 1-Mile and 5-Mile Railroad Corridors
 Facility/Site ID No.: DERM HWR-836

Soil Sample No. SB-7R (0-0.5)
 Sample Date 01/16/2018 00:00
 Location: _____
 Depth (ft): _____

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.144	1.0	0.1440
Benzo(a)anthracene	0.156	0.1	0.0156
Benzo(b)fluoranthene	0.231	0.1	0.0231
Benzo(k)fluoranthene	0.081	0.01	0.0008
Chrysene	0.143	0.001	0.0001
Dibenz(a,h)anthracene	0.022	1.0	0.0220
Indeno(1,2,3-cd)pyrene	0.189	0.1	0.0189

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.2**

The concentration shown EXCEEDS the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries

Detection	Concentration Reported	Data Qualifier	Enter
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
e MDL but < PQL	Estimated	I	reported (estimated) value
e MDL but < PQL	PQL	M	1/2 reported value

October 23, 2018
File No. 09217186.02

Mr. Wilbur Mayorga, P.E., Chief
Department of Regulatory and Economic Resources
Division of Environmental Resources Management
701 NW 1st Court, 4th Floor
Miami, Florida 33136-3912

Subject: Boundary Sampling Report Addendum
Ludlam Corridor Properties 'All Green Trail'
Former 1-Mile and 5-Mile Railroad Corridors
Between NW 7th and SW 80th Streets
Miami, Florida
DERM HWR-836

Dear Mr. Mayorga:

On behalf of LR 13-18 LLC and FECI LT I, LLC (Owners), SCS Engineers submits this Boundary Sampling Report Addendum for Ludlam Corridor Properties 'All Green Trail' (the Site) to Miami-Dade County Department of Regulatory and Economic Resources, Division of Environmental Resources Management (DERM). Additional boundary soil sampling and groundwater assessment were conducted to address DERM's June 15, 2018, June 25, 2018, September 4, 2018, and September 17, 2018 correspondences and based on the discussion in the meeting with DERM on August 9, 2018. **Attachment A** contains the relevant DERM correspondences.

This report summarizes the soil and groundwater sampling results conducted in August and September 2018, which were submitted previously through email correspondences dated August 15, 2018, August 17, 2018, August 20, 2018, and October 1, 2018. Additionally, responses to pending comments from DERM's June 25, 2018 letter are provided as **Attachment B**.

FIELD ACTIVITIES AND LABORATORY ANALYSIS

SCS performed field sampling activities in accordance with the Standard Operating Procedures (SOPs) provided within Chapter 62-160, Florida Administrative Code, as amended. Underground utility clearance was performed via Sunshine State One Call prior to mobilizing to the Site. SCS retained JAEE Environmental Services, Inc., a Florida-licensed driller, for drilling activities. Laboratory analysis was conducted by Pace Analytical, a National Environmental Laboratory Accreditation Program (NELAP)-certified laboratory.

BOUNDARY SOIL SAMPLING

On August 7 and 8, 2018, SCS advanced 68 soil borings in sampling units DU7, DU11, DU14, DU16, DU17, DU22, DU28, and DU30 for additional boundary soil assessment. Sampling was conducted in accordance with SCS' Draft Sampling Plan submitted to DERM via email on July 30, 2018. Borings were advanced using direct push technology in DU7, DU11, DU14, and DU28. Hand augers were

used in sampling units DU16, DU17, DU22, and DU30 where a drill rig was not able to access the boundary. Soil samples were collected at various depths. Composites and/or discrete samples were collected in each unit. Details are provided in **Tables 1A** and **1B**.

On August 10, 13, and 15, 2018, SCS advanced an additional 83 soil borings at the property boundary of sampling units DU1, DU4, DU6, DU10, DU13, DU19A, DU21, DU23, DU25, and DU27, which are adjacent to residential land use areas. The sampling was conducted based on the discussion in the August 9, 2018 DERM meeting. Soil samples were collected from 0 to 0.5 feet (ft) below ground surface (bgs) using hand augers in order to get as close to the Site boundary as possible.

On September 18, 2018, SCS advanced an additional 25 soil borings at the property boundary of sampling units CS1, CS8, DU11, DU15A, DU15B, DU20, DU28, DU29, and DU30 using a direct push drill rig and hand augers. Sampling was conducted in accordance with SCS' Draft Sampling Plan submitted to DERM via email on September 12, 2018 and DERM's September 17, 2018 response letter. Soil samples were collected at varying depths. Composites and/or discrete samples were collected in each unit.

The samples were analyzed for polycyclic aromatic hydrocarbons (PAHs), except for samples collected within DU22, which were also analyzed for arsenic. **Attachment C** contains the soil boring logs. **Figure 1** through **Figure 21** provide the soil sampling locations.

GROUNDWATER SAMPLING

On August 13 and 14, 2018, SCS installed one shallow (MW-9W-2S), one intermediate (MW-9W-I), and one deep (MW-9D) monitoring well utilizing both hollow stem auger and direct push drilling methods. Monitoring well locations are provided on **Figures 22** and **23**. MW-9D was installed for vertical delineation of MW-9 and MW-9I. Monitoring wells MW-9W-2S and MW-9W-I were installed for horizontal delineation and are located approximately 25 feet west of MW-9.

MW-9W-2S, the shallow well, was installed with 10-ft of 0.01-inch slotted screen from 3.5 to 13.5 ft bgs. The intermediate well, MW-9W-I, was installed with a four-inch outer casing to 20 ft bgs and a 2-inch diameter well to 27 ft bgs inside the casing. MW-9W-I has 5-ft of 0.01-inch slotted screen from 22 ft bgs to 27 ft bgs. The deep well, MW-9D, was installed with a four-inch outer casing to 30 ft and a 1.5-inch diameter well to 45 ft bgs inside the casing. MW-9W-I has 5-ft of 0.01-inch slotted screen from 40 ft bgs to 45 ft bgs. The three wells were completed with flush-mounted steel manhole covers and lockable caps. Refer to **Attachment D** for monitoring well construction and development logs.

On August 15, 2018, SCS sampled monitoring wells MW-9W-2S, MW-9W-I, MW-9D, and MW-9I for arsenic. **Attachment D** contains the groundwater sampling and calibration logs.

SCS completed a top-of-casing survey on September 14, 2018 for the wells in the vicinity of MW-9 and MW-37 based on an arbitrary reference point. A depth to water survey was completed on September 25, 2018 for these wells. The groundwater appears to flow toward the east in the vicinity of MW-37. In the vicinity of MW-9, the monitoring well (MW-9) in the center of the corridor has a slightly lower groundwater elevation. Groundwater elevations are presented in **Table 3** and on **Figures 24** and **25**.

RESULTS AND DISCUSSION

Laboratory reports and chain of custodies are provided as **Attachment E** and the benzo(a)pyrene equivalents (BaPE) calculations for soil are provided in **Attachment F**. A summary of the soil analytical results is provided in **Table 1A**, **Table 1B**, and **Figures 1** through **21**. Groundwater analytical results are presented in **Table 2** and **Figure 22**.

SOIL SAMPLING RESULTS

Residential Units

Samples collected within sampling units adjacent to residential areas include CS8, DU1, DU4, DU6, DU7, DU10, DU11, DU13, DU14, DU17, DU19A, DU21, DU22, DU23, DU25, DU27 and DU30.

The BaPE results at the boundary ranged from 0.0 milligrams/kilogram (mg/kg) to 0.3 mg/kg, except for two samples in CS8 (SBA-163(0-0.5') and SBA-163(0.5-1')), BaPE at 3.6 mg/kg and 6.3 mg/kg, respectively), one sample in DU11 (SBA-169(0-0.5), BaPE at 0.6 mg/kg), one sample in DU17 (SBA-61(0-0.5'), BaPE at 0.8 mg/kg), and the southern section of DU22 where the maximum BaPE was reported at 4.4 mg/kg. Additional information observed in sampling units CS8, DU17, DU22, and DU25 is provided below:

- **CS8:** Discrete samples (SBA-163(0-0.5') and SBA-163(0.5-1')) were collected adjacent to an off-site asphalt parking lot with a higher grade and slope towards the corridor; therefore, runoff from the parking lot is potentially contributing to the elevated BaPE. See **Figure 16A** and **16B**.
- **DU17:** Discrete sample SBA-61(0-0.5'), with BaPE of 0.8 mg/kg in DU17, was collected adjacent to an off-site asphalt parking lot with a higher grade than the corridor; therefore, runoff from the parking lot is potentially contributing to the elevated BaPE. Also note that discrete sample SBA-138 was collected approximately 80 ft south of SBA-61 in DU25, adjacent to the residential property south of the parking lot, and BaPE was 0.1 mg/kg. See **Figure 17**.
- **DU22:** The unit was divided into three sections for sampling: composite CS2 for the northern section from discrete samples SBA-38 through SBA-42, CS3 for the central section composited from discrete samples SBA-43 through SBA-49, and CS4 for the southern section from discrete samples SBA-50 through SBA-52. See **Figure 15**.
 - o Northern area composite CS2 with BaPE of 0.0 mg/kg, and arsenic was below the residential soil cleanup target level.
 - o Central area composite CS3 with BaPE at 0.2 mg/kg. BaPE was elevated at discrete samples SBA-43, SBA-45, and SBA-49.
 - o Southern section CS4 with BaPE of 0.7 mg/kg. Discrete sample BaPE concentrations ranged from 2.0 mg/kg to 3.1 mg/kg, and arsenic ranged from 14.8 mg/kg to 17.5 mg/kg from the 0-0.5' interval. Note that the southern area has extensive on-site asphalt and fill material was observed in the borings. These conditions are likely contributing to the elevated concentrations.

- DU25: Two confirmation samples (SBA-139A and SBA-139B) collected adjacent to SBA-139 (BaPE at 0.5 mg/kg) were both reported with BaPE at 0.1 mg/kg. See **Figure 18**.

Commercial/Industrial Units

Soil samples were collected in sampling units CS1, DU15A, DU15B, DU16, DU20, DU28, DU29, and DU30 that are adjacent to off-site commercial/industrial properties. BaPE results at the property boundary ranged from 0.0 mg/kg to 0.3 mg/kg, except for two samples within DU15B (SBA-154(0-0.5') and SBA-155(0-0.5'), BaPE at 0.5 mg/kg and 0.4 mg/kg, respectively), and one sample within DU30 (SBA-166(0-0.5'), BaPE at 0.9 mg/kg). Additional information observed in sampling units DU15B, DU16, DU28, and DU30 is provided below:

- DU15B: SBA-154(0-0.5') and SBA-155(0-0.5') were reported at BaPE of 0.5 mg/kg and 0.4 mg/kg, respectively. There was evidence of soil movement and fill in this portion of the corridor based on field observations. See **Figure 15**.
- DU16: Off-site buildings abut the entire property boundary except for a small section to the north which is about 200 ft long. Transect samples were collected in this northern section and the BaPE sample at the boundary was 0.1 mg/kg. See **Figure 13**.
- DU28: Two confirmation samples (SBA-20A(0-0.5) and SBA-20B(0-0.5)), collected adjacent to SBA-20(0-0.5) with BaPE at 0.6 mg/kg, were reported with BaPE at 0.3 mg/kg and 0.2 mg/kg, respectively. See **Figure 10**.
- DU30: The discrete sample (SBA-166), collected at the property boundary north of the off-site building adjacent to DU29, had BaPE at 0.9 mg/kg from 0-0.5 ft bgs. A deeper sample could not be collected with a hand auger due to the lithology of the soil (dense limerock). See **Figure 19**.

Statistical Evaluation

The U.S. Environmental Protection Agency (EPA) statistical software package ProUCL (version 5.1) was used to perform population comparisons (using the Wilcoxon-Mann-Whitney test) between Ludlam BaPE concentrations at the boundary in the sampling units adjacent to residential and commercial/industrial land use (from 0-0.5 ft bgs) and the Miami-Dade Background BaPE concentrations (Miami-Dade Anthropogenic Background Study, April 3, 2014). The discrete samples from CS8 and select discrete sample results from DU22 were not included in the analysis. A summary of the discrete data utilized in the statistical evaluations and the ProUCL output spreadsheets are included in **Attachment G**.

The results of the population comparisons for sampling units with adjacent residential land use and sampling units with adjacent commercial/industrial land use both indicate that the concentrations are consistent with background.

GROUNDWATER RESULTS

SCS compared the groundwater results to the applicable groundwater cleanup target level (GCTL) for arsenic of 10 micrograms/liter (ug/L), pursuant to Chapter 24, Code of Miami-Dade County. The arsenic results for MW-9I exceeded the GCTL (145 ug/L). The arsenic groundwater results from the monitoring well for vertical delineation (MW-9D) and the two wells for horizontal delineation to the west (MW-9I and MW-9W-2S) were below the GCTL.

Based on the information presented herein, the additional soil and groundwater assessment, in accordance with DERM's June 15, 2018, June 25, 2018, September 4, 2018, and September 17, 2018 correspondence and based on discussion in the meeting with DERM on August 9, 2018, has been completed.

Please do not hesitate to contact us with questions or comments.

Sincerely,



Alexis Nielsen, G.I.T.
Project Professional
SCS Engineers



Fangmei Zhang, PhD, P.E.
Senior Project Manager
SCS Engineers

cc: Lorna Bucknor, Caroline Wright, Becky Varley – DERM
Jose Gonzalez, Kolleen Cobb – LR 13 – 18 LLC and FECI LT 1 LLC
Howard Nelson – Bilzin Sumberg
Lisa Smith, Robert Speed, Eddy Smith – SCS Engineers

Enclosures:

Table 1A – Residential Soil Analytical Results
Table 1B – Commercial/Industrial Soil Analytical Results
Table 2 – Groundwater Analytical Results
Table 3 – Well Construction Details and Groundwater Elevation Data

Figures 1-21 – Soil Sampling Results
Figure 22 – Groundwater Sampling Results
Figure 23 – MW-9 Area
Figure 24 – MW-9 Area Groundwater Elevations
Figure 25 – MW-37 Area Groundwater Elevations

Attachments:

Attachment A – Regulatory Correspondence
Attachment B – Responses to DERM's June 25, 2018 Letter
Attachment C – Soil Boring Logs

Attachment D – Well Construction, Groundwater Sampling, and Calibration Logs
Attachment E – Laboratory Reports and Chain-of-Custodies
Attachment F – Benzo(a)pyrene Equivalent Calculations
Attachment G – Statistical Summary

Tables

Table 1A - Residential Soil Analytical Results
Ludlum Trail

Sampling Unit	Table II, Ch. 62-777 FAC Soil Cleanup Target Levels			Units	CS8		DU1									
Sample Location					SBA-163 (0-0.5')	SBA-163 (0.5-1')	SBA-69 (0-0.5')	SBA-70 (0-0.5')	SBA-71 (0-0.5')	SBA-72 (0-0.5')	SBA-73 (0-0.5')	SBA-74 (0-0.5')	SBA-75 (0-0.5')	SBA-76 (0-0.5')	SBA-77 (0-0.5')	SBA-78 (0-0.5')
	Leachability Based on Groundwater Criteria	Direct Exposure Residential	Direct Exposure Commercial / Industrial		09/18/2018	09/18/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018
EPA 8270D by SIM																
Acenaphthene	2.1	2,400	20,000	mg/kg	0.058 I 1p	0.11 1p	0.0017 U	0.0016 U J(M1)	0.0018 U	0.0018 U	0.0018 U	0.0021 U	0.0019 U	0.0017 U	0.0016 U	0.0017 U
Acenaphthylene	27	1,800	20,000	mg/kg	0.061 I 1p	0.10 1p	0.0027 I	0.0014 U J(M1)	0.0015 U	0.0024 I	0.0015 U	0.0018 U	0.0016 U	0.0034 I	0.0073 I	0.0015 U
Anthracene	2,500	21,000	300,000	mg/kg	0.23 1p	0.44 1p	0.0023 I	0.0015 U J(M1)	0.0016 U	0.0019 I	0.0017 U	0.0019 U	0.0018 U	0.0021 I	0.0031 I	0.0016 U
Benzo(a)anthracene	0.8			mg/kg	1.9 1p	3.4 1p	0.0057 I	0.0046 I J(M1)	0.0064 I	0.012	0.0040 I	0.00098 U	0.0041 I	0.010 I	0.023	0.0052 I
Benzo(a)pyrene	8	0.1	0.7	mg/kg	2.4 1p	4.2 1p	0.0088 I	0.0054 I J(M1)	0.0091 I	0.013	0.0049 I	0.0015 U	0.0056 I	0.013	0.023	0.0073 I
Benzo(b)fluoranthene	2.4			mg/kg	3.7 1p	6.6 1p	0.013	0.0096 I J(M1)	0.015	0.023	0.0089 I	0.00092 U	0.0091 I	0.022	0.035	0.012
Benzo(g,h,i)perylene	32,000	2,500	52,000	mg/kg	2.1 1p	2.9 1p	0.0042 I	0.0039 I J(M1)	0.0066 I	0.0073 I	0.0034 I	0.0036 U	0.0043 I	0.0067 I	0.013	0.0047 I
Benzo(k)fluoranthene	24			mg/kg	1.4 1p	2.4 1p	0.0050 I	0.0034 I J(M1)	0.0057 I	0.0072 I	0.0030 I	0.0021 U	0.0040 I	0.0086 I	0.014	0.0048 I
Chrysene	77			mg/kg	2.5 1p	4.4 1p	0.0081 I	0.0047 I J(M1)	0.0081 I	0.013	0.0050 I	0.0025 U	0.0051 I	0.012	0.019	0.0071 I
Dibenz(a,h)anthracene	0.7			mg/kg	0.44 1p	0.68 1p	0.0020 U	0.0020 U J(M1)	0.0021 U	0.0024 I	0.0021 U	0.0025 U	0.0023 U	0.0025 I	0.0038 I	0.0020 U
Fluoranthene	1,200	3,200	59,000	mg/kg	4.9 1p	9.3 1p	0.0061 I	0.0036 I J(M1)	0.0088 I	0.012	0.0057 I	0.0011 U	0.0055 I	0.012	0.028	0.0076 I
Fluorene	160	2,600	33,000	mg/kg	0.039 I 1p	0.074 I 1p	0.0018 U	0.0018 U J(M1)	0.0019 U	0.0019 U	0.0019 U	0.0022 U	0.0020 U	0.0018 U	0.0017 U	0.0018 U
Indeno(1,2,3-cd)pyrene	6.6			mg/kg	1.6 1p	2.6 1p	0.0039 I	0.0035 I J(M1)	0.0061 I	0.0073 I	0.0033 U	0.0039 U	0.0035 U	0.0069 I	0.012	0.0043 I
1-Methylnaphthalene	3.1	200	1,800	mg/kg	0.068 I 1p	0.070 I 1p	0.0013 U	0.0013 U J(M1)	0.0014 U	0.0014 U	0.0014 U	0.0017 U	0.0015 U	0.0013 U	0.0013 U	0.0013 U
2-Methylnaphthalene	8.5	210	2,100	mg/kg	0.076 I 1p	0.071 I 1p	0.0012 U	0.0012 U J(M1)	0.0013 U	0.0013 U	0.0013 U	0.0015 U	0.0014 U	0.0012 U	0.0012 U	0.0012 U
Naphthalene	1.2	55	300	mg/kg	0.032 I 1p	0.035 I 1p	0.0025 U	0.0025 U J(M1)	0.0027 U	0.0027 U	0.0027 U	0.0032 U	0.0029 U	0.0026 U	0.0025 U	0.0026 U
Phenanthrene	250	2,200	36,000	mg/kg	2.2 1p	3.7 1p	0.0017 U	0.0016 U J(M1)	0.0018 U	0.0018 U	0.0018 U	0.0021 U	0.0019 U	0.0017 U	0.0022 I	0.0017 I
Pyrene	880	2,400	45,000	mg/kg	4.1 1p	7.8 1p	0.0092 I	0.0052 I J(M1)	0.0083 I	0.013	0.0057 I	0.0025 U	0.0053 I	0.015	0.028	0.0072 I
Total Benzo(a)pyrene Equivalents		0.1	0.7	mg/kg	3.6	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EPA 6020																
Arsenic		2.1	12	mg/kg												

Notes:

- milligrams per kilogram (mg/kg)
- "U" flag indicates concentration was below the method detection limit (MDL).
- "I" flag indicates concentration was between the MDL and practical quantitation limit (PQL).
- Blank cells denote analyte not requested.
- "V" qualifier indicates that the analyte was detected in both the sample and the associated method blank.
- "1p" qualifier indicates that due to the extract's physical characteristics, the analysis was performed at dilution.
- "J(M1)" qualifier indicates an estimated value: matrix spike recovery exceeded QC limits.
- Batch accepted based on laboratory control sample (LCS) recovery.
- "J(R1)" qualifier indicates an estimated value. Relative percent difference (RPD) value was outside control limits.
- "M6" qualifier indicates that the matrix spike and matrix spike duplicate recovery were not evaluated against control limits due to sample dilution.
- "P1" qualifier indicates routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.
- "P3" qualifier indicates sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

Table 1A - Residential Soil Analytical Results
Ludlum Trail

Sampling Unit	Table II, Ch. 62-777 FAC Soil Cleanup Target Levels			Units	DU4									
Sample Location	Leachability Based on Groundwater Criteria	Direct Exposure Residential	Direct Exposure Commercial / Industrial		SBA-79 (0-0.5')	SBA-80 (0-0.5')	SBA-81 (0-0.5')	SBA-82 (0-0.5')	SBA-83 (0-0.5')	SBA-84 (0-0.5')	SBA-85 (0-0.5')	SBA-86 (0-0.5')	SBA-87 (0-0.5')	SBA-88 (0-0.5')
					08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018
EPA 8270D by SIM														
Acenaphthene	2.1	2,400	20,000	mg/kg	0.0019 U	0.0017 U	0.0017 U	0.0017 U	0.0019 U	0.0017 U	0.0017 U	0.0016 U	0.0018 U	0.0019 U
Acenaphthylene	27	1,800	20,000	mg/kg	0.0017 U	0.0090 I	0.0015 U	0.0015 U	0.0016 U	0.0036 I	0.0015 I	0.0054 I	0.0030 I	0.0054 I
Anthracene	2,500	21,000	300,000	mg/kg	0.0018 U	0.0065 I	0.0016 U	0.0016 U	0.0018 U	0.0028 I	0.0021 I	0.0049 I	0.0020 I	0.0045 I
Benzo(a)anthracene	0.8			mg/kg	0.00091 U	0.061	0.0044 I	0.0011 I	0.0032 I	0.017	0.0087 I	0.032	0.0097 I	0.020
Benzo(a)pyrene	8	0.1	0.7	mg/kg	0.0014 U	0.042	0.0059 I	0.0014 I	0.0044 I	0.019	0.0078 I	0.036	0.014	0.020
Benzo(b)fluoranthene	2.4			mg/kg	0.00092 I	0.075	0.0095 I	0.0023 I	0.0073 I	0.029	0.020	0.050	0.019	0.030
Benzo(g,h,i)perylene	32,000	2,500	52,000	mg/kg	0.0033 U	0.017	0.0030 U	0.0029 U	0.0033 U	0.0091 I	0.0037 I	0.016	0.0081 I	0.0092 I
Benzo(k)fluoranthene	24			mg/kg	0.0019 U	0.023	0.0040 I	0.0017 U	0.0029 I	0.010 I	0.0067 I	0.021	0.0075 I	0.011 I
Chrysene	77			mg/kg	0.0023 U	0.046	0.0049 I	0.0020 U	0.0042 I	0.021	0.014	0.037	0.013	0.019
Dibenz(a,h)anthracene	0.7			mg/kg	0.0023 U	0.0070 I	0.0021 U	0.0020 U	0.0023 U	0.0026 I	0.0020 U	0.0054 I	0.0024 I	0.0029 I
Fluoranthene	1,200	3,200	59,000	mg/kg	0.0011 U	0.060	0.0045 I	0.0015 I	0.0055 I	0.023	0.011 I	0.043	0.012	0.016
Fluorene	160	2,600	33,000	mg/kg	0.0020 U	0.0018 U	0.0018 U	0.0018 U	0.0020 U	0.0018 U	0.0018 U	0.0017 U	0.0019 U	0.0020 U
Indeno(1,2,3-cd)pyrene	6.6			mg/kg	0.0036 U	0.018	0.0032 U	0.0031 U	0.0035 U	0.0091 I	0.0039 I	0.017	0.0075 I	0.0095 I
1-Methylnaphthalene	3.1	200	1,800	mg/kg	0.0015 U	0.0013 U	0.0014 U	0.0013 U	0.0015 U	0.0014 U	0.0013 U	0.0013 U	0.0014 U	0.0015 U
2-Methylnaphthalene	8.5	210	2,100	mg/kg	0.0014 U	0.0012 U	0.0013 U	0.0012 U	0.0014 U	0.0012 U	0.0012 U	0.0012 U	0.0013 U	0.0014 U
Naphthalene	1.2	55	300	mg/kg	0.0029 U	0.0026 U	0.0026 U	0.0026 U	0.0029 U	0.0026 U	0.0025 U	0.0025 U	0.0027 U	0.0029 U
Phenanthrene	250	2,200	36,000	mg/kg	0.0019 U	0.0020 I	0.0017 U	0.0017 U	0.0019 U	0.0021 I	0.0017 U	0.0054 I	0.0018 U	0.0019 U
Pyrene	880	2,400	45,000	mg/kg	0.0023 U	0.054	0.0061 I	0.0020 U	0.0049 I	0.023	0.014	0.041	0.013	0.023
Total Benzo(a)pyrene Equivalents		0.1	0.7	mg/kg	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
EPA 6020														
Arsenic		2.1	12	mg/kg										

Notes:

- milligrams per kilogram (mg/kg)
- "U" flag indicates concentration was below the method detection limit (MDL).
- "I" flag indicates concentration was between the MDL and practical quantitation limit (PQL).
- Blank cells denote analyte not requested.
- "V" qualifier indicates that the analyte was detected in both the sample and the associated method blank.
- "1p" qualifier indicates that due to the extract's physical characteristics, the analysis was performed at dilution.
- "(M1)" qualifier indicates an estimated value: matrix spike recovery exceeded QC limits.
- Batch accepted based on laboratory control sample (LCS) recovery.
- "(R1)" qualifier indicates an estimated value. Relative percent difference (RPD) value was outside control limits.
- "M6" qualifier indicates that the matrix spike and matrix spike duplicate recovery were not evaluated against control limits due to sample dilution.
- "P1" qualifier indicates routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.
- "P3" qualifier indicates sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

Table 1A - Residential Soil Analytical Results
Ludlum Trail

Sampling Unit					DU6									
Sample Location	Table II, Ch. 62-777 FAC Soil Cleanup Target Levels			Units	SBA-89 (0-0.5')	SBA-90 (0-0.5')	SBA-91 (0-0.5')	SBA-92 (0-0.5')	SBA-93 (0-0.5')	SBA-94 (0-0.5')	SBA-95 (0-0.5')	SBA-96 (0-0.5')	SBA-97 (0-0.5')	SBA-98 (0-0.5')
	Leachability Based on Groundwater Criteria	Direct Exposure Residential	Direct Exposure Commercial / Industrial		08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018
EPA 8270D by SIM														
Acenaphthene	2.1	2,400	20,000	mg/kg	0.0019 U	0.0017 U	0.0018 U	0.0018 U	0.0017 U	0.0016 U	0.0017 U	0.0019 U	0.0017 U	0.0018 U
Acenaphthylene	27	1,800	20,000	mg/kg	0.0036 I	0.0015 U	0.0016 U	0.0016 U	0.0014 U	0.0014 U	0.0015 U	0.0017 U	0.0065 I	0.0015 U
Anthracene	2,500	21,000	300,000	mg/kg	0.0037 I	0.0016 U	0.0017 U	0.0017 U	0.0016 U	0.0015 U	0.0016 U	0.0018 U	0.0024 I	0.0016 U
Benzo(a)anthracene	0.8			mg/kg	0.015 J(M1)	0.0028 I	0.0062 I	0.0065 I	0.0018 I	0.0012 I	0.0044 I	0.0042 I	0.018	0.0024 I
Benzo(a)pyrene	8	0.1	0.7	mg/kg	0.015 J(M1)	0.0032 I	0.0073 I	0.0061 I	0.0025 I	0.0014 I	0.0058 I	0.0060 I	0.022	0.0032 I
Benzo(b)fluoranthene	2.4			mg/kg	0.031 J(M1)	0.0066 I	0.012	0.0093 I	0.0043 I	0.0036 I	0.0094 I	0.011 I	0.041	0.0056 I
Benzo(g,h,i)perylene	32,000	2,500	52,000	mg/kg	0.011 I J(M1)	0.0030 U	0.0053 I	0.0044 I	0.0029 U	0.0028 U	0.0039 I	0.0042 I	0.014	0.0031 U
Benzo(k)fluoranthene	24			mg/kg	0.011 I J(M1)	0.0025 I	0.0048 I	0.0039 I	0.0017 U	0.0030 I	0.0041 I	0.0041 I	0.015	0.0020 I
Chrysene	77			mg/kg	0.016 J(M1)	0.0038 I	0.0077 I	0.0056 I	0.0024 I	0.0019 U	0.0051 I	0.0058 I	0.022	0.0035 I
Dibenz(a,h)anthracene	0.7			mg/kg	0.0037 I J(M1)	0.0021 U	0.0022 U	0.0022 U	0.0020 U	0.0019 U	0.0020 U	0.0023 U	0.0049 I	0.0021 U
Fluoranthene	1,200	3,200	59,000	mg/kg	0.016 J(M1)	0.0045 I	0.0097 I	0.0081 I	0.0031 I	0.0019 I	0.0062 I	0.0068 I	0.029	0.0042 I
Fluorene	160	2,600	33,000	mg/kg	0.0020 U J(M1)	0.0019 U	0.0019 U	0.0020 U	0.0018 U	0.0017 U	0.0018 U	0.0021 U	0.0019 U	0.0019 U
Indeno(1,2,3-cd)pyrene	6.6			mg/kg	0.010 I J(M1)	0.0032 U	0.0049 I	0.0042 I	0.0031 U	0.0030 U	0.0039 I	0.0038 I	0.015	0.0033 U
1-Methylnaphthalene	3.1	200	1,800	mg/kg	0.0015 U	0.0014 U	0.0014 U	0.0015 U	0.0013 U	0.0013 U	0.0014 U	0.0016 U	0.0014 U	0.0014 U
2-Methylnaphthalene	8.5	210	2,100	mg/kg	0.0014 U	0.0013 U	0.0013 U	0.0014 U	0.0012 U	0.0012 U	0.0012 U	0.0014 U	0.0013 U	0.0013 U
Naphthalene	1.2	55	300	mg/kg	0.0028 U	0.0027 U	0.0028 U	0.0028 U	0.0026 U	0.0025 U	0.0026 U	0.0030 U	0.0027 U	0.0027 U
Phenanthrene	250	2,200	36,000	mg/kg	0.0020 I J(M1)	0.0017 U	0.0018 U	0.0023 I	0.0017 U	0.0016 U	0.0017 U	0.0019 U	0.0030 I	0.0018 U
Pyrene	880	2,400	45,000	mg/kg	0.018 J(M1)	0.0039 I	0.0094 I	0.0069 I	0.0026 I	0.0019 U	0.0064 I	0.0062 I	0.031	0.0036 I
Total Benzo(a)pyrene Equivalents		0.1	0.7	mg/kg	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EPA 6020														
Arsenic		2.1	12	mg/kg										

Notes:

- milligrams per kilogram (mg/kg)
- "U" flag indicates concentration was below the method detection limit (MDL).
- "I" flag indicates concentration was between the MDL and practical quantitation limit (PQL).
- Blank cells denote analyte not requested.
- "V" qualifier indicates that the analyte was detected in both the sample and the associated method blank.
- "1p" qualifier indicates that due to the extract's physical characteristics, the analysis was performed at dilution.
- "J(M1)" qualifier indicates an estimated value: matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- "J(R1)" qualifier indicates an estimated value. Relative percent difference (RPD) value was outside control limits.
- "M6" qualifier indicates that the matrix spike and matrix spike duplicate recovery were not evaluated against control limits due to sample dilution.
- "P1" qualifier indicates routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.
- "P3" qualifier indicates sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

Table 1A - Residential Soil Analytical Results
Ludlam Trail

Sampling Unit					DU7		DU10		DU11							
	Table II, Ch. 62-777 FAC Soil Cleanup Target Levels			Units	SBA-1 (0-0.5')	SBA-1 (0.5-2')	SBA-99 (0-0.5')	SBA-100 (0-0.5')	SBA-2 (0-0.5')	SBA-3 (0-0.5')	SBA-4 (0-0.5')	SBA-5 (0-0.5')	SBA-6 (0-0.5')	SBA-168 (0-0.5)	SBA-169 (0-0.5)	
Sample Location	Leachability Based on Groundwater Criteria	Direct Exposure Residential	Direct Exposure Commercial / Industrial		08/07/2018	08/07/2018	08/10/2018	08/10/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	09/18/2018	09/18/2018	
EPA 8270D by SIM																
Acenaphthene	2.1	2,400	20,000	mg/kg	0.0016 U	0.0017 U	0.0017 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0080 U	0.0040 I	0.014 U	0.013 U	
Acenaphthylene	27	1,800	20,000	mg/kg	0.0014 U	0.0014 U	0.015	0.017	0.0014 U	0.0014 U	0.030	0.12	0.0046 I	0.012 U	0.012 U	
Anthracene	2,500	21,000	300,000	mg/kg	0.0015 U	0.0015 U	0.014	0.016	0.0016 I	0.0026 I	0.016	0.053 I	0.014	0.020 I	0.016 I	
Benzo(a)anthracene	0.8			mg/kg	0.0029 I	0.00078 U	0.077	0.066	0.018	0.031	0.098	0.30	0.083	0.070	0.26	
Benzo(a)pyrene	8	0.1	0.7	mg/kg	0.0056 I	0.0012 U	0.075	0.065	0.020	0.033	0.11	0.34	0.086	0.081	0.37	
Benzo(b)fluoranthene	2.4			mg/kg	0.0081 I	0.00074 U	0.13	0.14	0.00073 U	0.00071 U	0.15	0.47	0.11	0.12	0.55	
Benzo(g,h,i)perylene	32,000	2,500	52,000	mg/kg	0.0034 I	0.0029 U	0.039	0.036	0.0080 I	0.015	0.051	0.17	0.037	0.063	0.39	
Benzo(k)fluoranthene	24			mg/kg	0.0027 I	0.0017 U	0.057	0.045	0.0016 U	0.0016 U	0.062	0.17	0.045	0.046	0.22	
Chrysene	77			mg/kg	0.0045 I	0.0020 U	0.093	0.069	0.017	0.033	0.095	0.30	0.083	0.086	0.38	
Dibenz(a,h)anthracene	0.7			mg/kg	0.0019 U	0.0020 U	0.0039 I	0.013	0.0019 U	0.0019 U	0.0050 I	0.016 I	0.0036 I	0.018 I	0.080	
Fluoranthene	1,200	3,200	59,000	mg/kg	0.0043 I	0.00092 U	0.074	0.065	0.029	0.064	0.14	0.42	0.16	0.17	0.46	
Fluorene	160	2,600	33,000	mg/kg	0.0017 U	0.0018 U	0.0018 U	0.0017 U	0.0017 U	0.0017 U	0.0018 I	0.0086 U	0.0037 I	0.014 U	0.013 U	
Indeno(1,2,3-cd)pyrene	6.6			mg/kg	0.0032 I	0.0031 U	0.040	0.038	0.0082 I	0.014	0.051	0.16	0.037	0.056	0.31	
1-Methylnaphthalene	3.1	200	1,800	mg/kg	0.0013 U	0.0013 U	0.0014 U	0.0013 U	0.0013 U	0.0013 U	0.0013 U	0.0064 U	0.0013 U	0.016 U	0.015 U	
2-Methylnaphthalene	8.5	210	2,100	mg/kg	0.0012 U	0.0012 U	0.0013 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0059 U	0.0012 U	0.015 U	0.014 U	
Naphthalene	1.2	55	300	mg/kg	0.0025 U	0.0025 U	0.0026 U	0.0025 U	0.0025 U	0.0024 U	0.0025 U	0.012 U	0.0025 U	0.014 U	0.013 U	
Phenanthrene	250	2,200	36,000	mg/kg	0.0016 U	0.0017 U	0.0079 I	0.0054 I	0.0059 I	0.015	0.022	0.038 I	0.066	0.11	0.087	
Pyrene	880	2,400	45,000	mg/kg	0.0042 I	0.0020 U	0.086	0.073	0.026	0.054	0.15	0.47	0.13	0.14	0.39	
Total Benzo(a)pyrene Equivalents		0.1	0.7	mg/kg	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.5	0.1	0.1	0.6	
EPA 6020																
Arsenic		2.1	12	mg/kg												

Notes:

- milligrams per kilogram (mg/kg)
- "U" flag indicates concentration was below the method detection limit (MDL).
- "I" flag indicates concentration was between the MDL and practical quantitation limit (PQL).
- Blank cells denote analyte not requested.
- "V" qualifier indicates that the analyte was detected in both the sample and the associated method blank.
- "1p" qualifier indicates that due to the extract's physical characteristics, the analysis was performed at dilution.
- "(M1)" qualifier indicates an estimated value: matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- "(R1)" qualifier indicates an estimated value. Relative percent difference (RPD) value was outside control limits.
- "M6" qualifier indicates that the matrix spike and matrix spike duplicate recovery were not evaluated against control limits due to sample dilution.
- "P1" qualifier indicates routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.
- "P3" qualifier indicates sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

Table 1A - Residential Soil Analytical Results
Ludlum Trail

Sampling Unit					DU13								
Sample Location	Table II, Ch. 62-777 FAC Soil Cleanup Target Levels			Units	SBA-101 (0-0.5')	SBA-102 (0-0.5')	SBA-103 (0-0.5')	SBA-104 (0-0.5')	SBA-105 (0-0.5')	SBA-106 (0-0.5')	SBA-107 (0-0.5')	SBA-108 (0-0.5')	SBA-109 (0-0.5')
	Leachability Based on Groundwater Criteria	Direct Exposure Residential	Direct Exposure Commercial / Industrial		08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018
EPA 8270D by SIM													
Acenaphthene	2.1	2,400	20,000	mg/kg	0.0020 U	0.0022 U	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.0019 U	0.0019 U	0.025 U 1p
Acenaphthylene	27	1,800	20,000	mg/kg	0.0017 I	0.0019 U	0.0015 U	0.0017 I	0.0015 U	0.0016 I	0.0017 U	0.0017 U	0.023 U 1p
Anthracene	2,500	21,000	300,000	mg/kg	0.0019 U	0.0020 U	0.0016 U	0.0015 U	0.0016 U	0.0017 I	0.0018 U	0.0018 U	0.026 U 1p
Benzo(a)anthracene	0.8			mg/kg	0.015	0.0010 U	0.0034 I	0.0053 I	0.0035 I	0.0068 I	0.0069 I	0.0050 I	0.021 U 1p
Benzo(a)pyrene	8	0.1	0.7	mg/kg	0.020	0.0016 U	0.0052 I	0.0075 I	0.0053 I	0.0093 I	0.0098 I	0.0073 I	0.018 I 1p
Benzo(b)fluoranthene	2.4			mg/kg	0.033	0.00097 U	0.0083 I	0.010 I	0.0077 I	0.015	0.014	0.010 I	0.034 I 1p
Benzo(g,h,i)perylene	32,000	2,500	52,000	mg/kg	0.012 I	0.0038 U	0.0034 I	0.0042 I	0.0030 U	0.0061 I	0.0058 I	0.0040 I	0.019 U 1p
Benzo(k)fluoranthene	24			mg/kg	0.012 I	0.0022 U	0.0027 I	0.0034 I	0.0027 I	0.0055 I	0.0050 I	0.0038 I	0.020 U 1p
Chrysene	77			mg/kg	0.021	0.0026 U	0.0050 I	0.0064 I	0.0049 I	0.0090 I	0.0093 I	0.0068 I	0.023 U 1p
Dibenz(a,h)anthracene	0.7			mg/kg	0.0024 U	0.0026 U	0.0020 U	0.0020 U	0.0021 U	0.0021 U	0.0023 U	0.0023 U	0.017 U 1p
Fluoranthene	1,200	3,200	59,000	mg/kg	0.026	0.0012 U	0.0058 I	0.0073 I	0.0048 I	0.011 I	0.012 I	0.0077 I	0.025 I 1p
Fluorene	160	2,600	33,000	mg/kg	0.0021 U	0.0023 U	0.0018 U	0.0018 U	0.0019 U	0.0018 U	0.0020 U	0.0020 U	0.026 U 1p
Indeno(1,2,3-cd)pyrene	6.6			mg/kg	0.012 I	0.0040 U	0.0032 U	0.0037 I	0.0033 U	0.0051 I	0.0053 I	0.0037 I	0.017 U 1p
1-Methylnaphthalene	3.1	200	1,800	mg/kg	0.0016 U	0.0017 U	0.0014 U	0.0013 U	0.0014 U	0.0014 U	0.0015 U	0.0015 U	0.029 U 1p
2-Methylnaphthalene	8.5	210	2,100	mg/kg	0.0015 U	0.0016 U	0.0012 U	0.0012 U	0.0013 U	0.0013 U	0.0014 U	0.0014 U	0.028 U 1p
Naphthalene	1.2	55	300	mg/kg	0.0030 U	0.0033 U	0.0026 U	0.0025 U	0.0027 U	0.0027 U	0.0029 U	0.0029 U	0.025 U 1p
Phenanthrene	250	2,200	36,000	mg/kg	0.0055 I	0.0022 U	0.0017 U	0.0017 U	0.0017 U	0.0022 I	0.0019 I	0.0019 U	0.024 U 1p
Pyrene	880	2,400	45,000	mg/kg	0.023	0.0026 U	0.0052 I	0.0082 I	0.0047 I	0.010 I	0.010 I	0.0068 I	0.023 U 1p
Total Benzo(a)pyrene Equivalents		0.1	0.7	mg/kg	0.0	0.0		0.0		0.0	0.0	0.0	0.0
EPA 6020													
Arsenic		2.1	12	mg/kg									

Notes:

- milligrams per kilogram (mg/kg)
- "U" flag indicates concentration was below the method detection limit (MDL).
- "I" flag indicates concentration was between the MDL and practical quantitation limit (PQL).
- Blank cells denote analyte not requested.
- "V" qualifier indicates that the analyte was detected in both the sample and the associated method blank.
- "1p" qualifier indicates that due to the extract's physical characteristics, the analysis was performed at dilution.
- "(M1)" qualifier indicates an estimated value: matrix spike recovery exceeded QC limits.
- Batch accepted based on laboratory control sample (LCS) recovery.
- "(R1)" qualifier indicates an estimated value. Relative percent difference (RPD) value was outside control limits.
- "M6" qualifier indicates that the matrix spike and matrix spike duplicate recovery were not evaluated against control limits due to sample dilution.
- "P1" qualifier indicates routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.
- "P3" qualifier indicates sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

Table 1A - Residential Soil Analytical Results
Ludlum Trail

Sampling Unit		Table II, Ch. 62-777 FAC Soil Cleanup Target Levels			Units	DU14								
Sample Location	Leachability Based on Groundwater Criteria					Direct Exposure Residential	Direct Exposure Commercial / Industrial	SBA-CS1 (0-0.5')	SBA-CS1 (0.5-2')	SBA-CS1 (2-4')	SBA-7 (0-0.5')	SBA-7 (0.5-2')	SBA-7 (2-4')	SBA-8 (0-0.5')
		08/07/2018	08/07/2018	08/07/2018										
EPA 8270D by SIM														
Acenaphthene	2.1	2,400	20,000	mg/kg	0.0081 U	0.0016 U	0.0017 U	0.0016 U	0.016 U	0.0016 U	0.0016 U	0.0016 U	0.0018 U	
Acenaphthylene	27	1,800	20,000	mg/kg	0.034 I	0.0069 I	0.0015 U	0.0014 U	0.036 I	0.0014 U	0.0021 I	0.0014 U	0.0015 U	
Anthracene	2,500	21,000	300,000	mg/kg	0.023 I	0.0053 I	0.0016 U	0.0015 U	0.038 I	0.0015 U	0.0015 U	0.0015 U	0.0017 U	
Benzo(a)anthracene	0.8			mg/kg	0.12	0.028	0.00080 U	0.0038 I	0.20	0.0031 I	0.0033 I	0.0023 I	0.0034 I	
Benzo(a)pyrene	8	0.1	0.7	mg/kg	0.11	0.025	0.0012 U	0.0044 I	0.13	0.0037 I	0.0043 I	0.0024 I	0.0039 I	
Benzo(b)fluoranthene	2.4			mg/kg	0.18	0.039	0.00095 I	0.0070 I	0.21	0.0053 I	0.0059 I	0.0037 I	0.0064 I	
Benzo(g,h,i)perylene	32,000	2,500	52,000	mg/kg	0.047 I	0.0093 I	0.0029 U	0.0027 U	0.050 I	0.0028 U	0.0028 U	0.0028 U	0.0031 U	
Benzo(k)fluoranthene	24			mg/kg	0.079	0.015	0.0017 U	0.0027 I	0.068 I	0.0020 I	0.0023 I	0.0016 U	0.0026 I	
Chrysene	77			mg/kg	0.10	0.026	0.0020 U	0.0048 I	0.22	0.0035 I	0.0038 I	0.0026 I	0.0042 I	
Dibenz(a,h)anthracene	0.7			mg/kg	0.0098 U	0.0020 U	0.0020 U	0.0019 U	0.019 U	0.0019 U	0.0019 U	0.0020 U	0.0021 U	
Fluoranthene	1,200	3,200	59,000	mg/kg	0.12	0.029	0.00093 U	0.0044 I	0.22	0.0046 I	0.0034 I	0.0026 I	0.0038 I	
Fluorene	160	2,600	33,000	mg/kg	0.0087 U	0.0017 U	0.0018 U	0.0017 U	0.017 U	0.0017 U	0.0017 U	0.0017 U	0.0019 U	
Indeno(1,2,3-cd)pyrene	6.6			mg/kg	0.048 I	0.0096 I	0.0031 U	0.0029 U	0.051 I	0.0030 U	0.0030 U	0.0030 U	0.0033 U	
1-Methylnaphthalene	3.1	200	1,800	mg/kg	0.0065 U	0.0013 U	0.0013 U	0.0013 U	0.013 U	0.0040 I	0.0013 U	0.0013 U	0.0014 U	
2-Methylnaphthalene	8.5	210	2,100	mg/kg	0.0060 U	0.0012 U	0.0012 U	0.0014 I	0.012 U	0.0081 I	0.0012 U	0.0012 U	0.0013 U	
Naphthalene	1.2	55	300	mg/kg	0.012 U	0.0025 U	0.0026 U	0.0024 U	0.025 U	0.011 I	0.0024 U	0.0025 U	0.0027 U	
Phenanthrene	250	2,200	36,000	mg/kg	0.0081 U	0.0016 U	0.0017 U	0.0016 U	0.016 U	0.0016 I	0.0016 U	0.0016 U	0.0018 U	
Pyrene	880	2,400	45,000	mg/kg	0.15	0.039	0.0020 U	0.0046 I	0.24	0.0041 I	0.0040 I	0.0030 I	0.0044 I	
Total Benzo(a)pyrene Equivalents		0.1	0.7	mg/kg	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	
EPA 6020														
Arsenic		2.1	12	mg/kg										

Notes:

- milligrams per kilogram (mg/kg)
- "U" flag indicates concentration was below the method detection limit (MDL).
- "I" flag indicates concentration was between the MDL and practical quantitation limit (PQL).
- Blank cells denote analyte not requested.
- "V" qualifier indicates that the analyte was detected in both the sample and the associated method blank.
- "1p" qualifier indicates that due to the extract's physical characteristics, the analysis was performed at dilution.
- "(M1)" qualifier indicates an estimated value: matrix spike recovery exceeded QC limits.
- Batch accepted based on laboratory control sample (LCS) recovery.
- "(R1)" qualifier indicates an estimated value. Relative percent difference (RPD) value was outside control limits.
- "M6" qualifier indicates that the matrix spike and matrix spike duplicate recovery were not evaluated against control limits due to sample dilution.
- "P1" qualifier indicates routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.
- "P3" qualifier indicates sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

Table 1A - Residential Soil Analytical Results
Ludlam Trail

Sampling Unit	Table II, Ch. 62-777 FAC Soil Cleanup Target Levels			Units	DU14 Continued										DU15A
Sample Location					Leachability Based on Groundwater Criteria	Direct Exposure Residential	Direct Exposure Commercial / Industrial	SBA-9 (0-0.5')	SBA-9 (0.5-2')	SBA-9 (2-4')	SBA-10 (0-0.5')	SBA-10 (0.5-2')	SBA-10 (2-4')	SBA-11 (0-0.5')	SBA-11 (0.5-2')
					08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018
EPA 8270D by SIM															
Acenaphthene	2.1	2,400	20,000	mg/kg	0.0016 U	0.0017 U	0.0017 U	0.0016 U	0.0016 U	0.0017 U	0.0083 U	0.0017 U	0.0017 U	0.013 U	
Acenaphthylene	27	1,800	20,000	mg/kg	0.015	0.031 J(M1)	0.0015 U	0.016	0.0080 I	0.0015 U	0.020 I	0.050	0.0015 U	0.012 U	
Anthracene	2,500	21,000	300,000	mg/kg	0.0086 I	0.022	0.0016 U	0.014	0.0050 I	0.0016 U	0.0091 I	0.020	0.0016 U	0.014 U	
Benzo(a)anthracene	0.8			mg/kg	0.030	0.093 J(M1)	0.00092 I V	0.048	0.024	0.0012 I	0.033 I	0.073	0.00080 U	0.011 I	
Benzo(a)pyrene	8	0.1	0.7	mg/kg	0.036	0.099 J(M1)	0.0016 I	0.051	0.026	0.0012 U	0.045 I	0.11	0.0012 U	0.010 I	
Benzo(b)fluoranthene	2.4			mg/kg	0.045	0.12 J(M1)	0.0014 I V	0.089	0.036	0.0020 I	0.060	0.15	0.00076 U	0.016 I	
Benzo(g,h,i)perylene	32,000	2,500	52,000	mg/kg	0.018	0.050	0.0030 U	0.025	0.012	0.0030 U	0.023 I	0.052	0.0029 U	0.010 I	
Benzo(k)fluoranthene	24			mg/kg	0.018	0.041	0.0017 U	0.034	0.014	0.0017 U	0.020 I	0.050	0.0017 U	0.010 U	
Chrysene	77			mg/kg	0.033	0.11 J(M1)	0.0020 U	0.050	0.022	0.0020 U	0.033 I	0.079	0.0020 U	0.012 U	
Dibenz(a,h)anthracene	0.7			mg/kg	0.0019 U	0.0049 I J(M1)	0.0020 U	0.0091 I	0.0019 U	0.0020 U	0.0099 U	0.0075 I	0.0020 U	0.0089 U	
Fluoranthene	1,200	3,200	59,000	mg/kg	0.029	0.16	0.00095 I V	0.030	0.022	0.0013 I	0.033 I	0.070	0.00094 U	0.013 I	
Fluorene	160	2,600	33,000	mg/kg	0.0017 U	0.0019 I J(M1)	0.0018 U	0.0017 U	0.0017 U	0.0018 U	0.0088 U	0.0019 I	0.0018 U	0.014 U	
Indeno(1,2,3-cd)pyrene	6.6			mg/kg	0.017	0.049	0.0032 U	0.025	0.011	0.0032 U	0.020 I	0.049	0.0032 U	0.0089 I	
1-Methylnaphthalene	3.1	200	1,800	mg/kg	0.0013 U	0.0014 U J(M1)	0.0014 U	0.0018 I	0.0018 I	0.0014 U	0.0066 U	0.0013 U	0.0014 U	0.015 U	
2-Methylnaphthalene	8.5	210	2,100	mg/kg	0.0012 U	0.0012 U J(M1)	0.0013 U	0.0036 I	0.0036 I	0.0017 I	0.0061 U	0.0012 U	0.0012 U	0.015 U	
Naphthalene	1.2	55	300	mg/kg	0.0025 U	0.0026 U J(M1)	0.0026 U	0.0051 I	0.0047 I	0.0026 U	0.013 U	0.0026 U	0.0026 U	0.013 U	
Phenanthrene	250	2,200	36,000	mg/kg	0.0032 I	0.027 J(M1)	0.0017 U	0.0019 I	0.0016 U	0.0017 U	0.0083 U	0.0063 I	0.0017 U	0.013 U	
Pyrene	880	2,400	45,000	mg/kg	0.034	0.15	0.0020 U	0.042	0.028	0.0020 U	0.042 I	0.093	0.0020 U	0.012 U	
Total Benzo(a)pyrene Equivalents		0.1	0.7	mg/kg	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	
EPA 6020															
Arsenic		2.1	12	mg/kg											

Notes:

- milligrams per kilogram (mg/kg)
- "U" flag indicates concentration was below the method detection limit (MDL).
- "I" flag indicates concentration was between the MDL and practical quantitation limit (PQL).
- Blank cells denote analyte not requested.
- "V" qualifier indicates that the analyte was detected in both the sample and the associated method blank.
- "1p" qualifier indicates that due to the extract's physical characteristics, the analysis was performed at dilution.
- "J(M1)" qualifier indicates an estimated value: matrix spike recovery exceeded QC limits.
- Batch accepted based on laboratory control sample (LCS) recovery.
- "J(R1)" qualifier indicates an estimated value. Relative percent difference (RPD) value was outside control limits.
- "M6" qualifier indicates that the matrix spike and matrix spike duplicate recovery were not evaluated against control limits due to sample dilution.
- "P1" qualifier indicates routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.
- "P3" qualifier indicates sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

Table 1A - Residential Soil Analytical Results
Ludlum Trail

Sampling Unit	Table II, Ch. 62-777 FAC Soil Cleanup Target Levels			Units	DU17						DU19A						
Sample Location					Leachability Based on Groundwater Criteria	Direct Exposure Residential	Direct Exposure Commercial / Industrial	SBA-61 (0-0.5')	SBA-61 (0.5-1')	SBA-62 (0-0.5')	SBA-62 (0.5-1')	SBA-CS5 (0-0.5')	SBA-CS5 (0.5-1.5')	SBA-111 (0-0.5')	SBA-112 (0-0.5')	SBA-113 (0-0.5')	SBA-148 (0-0.5)
					08/08/2018	08/08/2018	08/08/2018	08/08/2018	08/08/2018	08/08/2018	08/10/2018	08/10/2018	08/10/2018	08/13/2018	08/13/2018	8/15/2018	8/15/2018
EPA 8270D by SIM																	
Acenaphthene	2.1	2,400	20,000	mg/kg	0.015 U	0.013 U	0.013 U	0.013 U	0.012 U	0.013 U	0.013 U	0.013 U	0.013 U	0.038 U P1	0.026 U P1	0.013 U	0.013 U
Acenaphthylene	27	1,800	20,000	mg/kg	0.16	0.053	0.012 U	0.012 U	0.011 U	0.012 U	0.012 U	0.012 U	0.012 U	0.034 U P1	0.13 P1	0.048	0.043
Anthracene	2,500	21,000	300,000	mg/kg	0.11	0.037 I	0.014 U	0.014 U	0.012 U	0.013 U	0.013 U	0.013 U	0.013 U	0.039 U P1	0.12 P1	0.051	0.042
Benzo(a)anthracene	0.8			mg/kg	0.43	0.14	0.099	0.090	0.0099 U	0.011 U	0.027 I	0.011 U	0.011 U	0.031 U P1	0.26 P1	0.11	0.097
Benzo(a)pyrene	8	0.1	0.7	mg/kg	0.58	0.19	0.15	0.13	0.013 I	0.0093 U	0.028 I	0.012 I	0.010 I	0.039 I P1	0.30 P1	0.12	0.11
Benzo(b)fluoranthene	2.4			mg/kg	1.0	0.33	0.28	0.25	0.028 I	0.015 I	0.051	0.019 I	0.018 I	0.075 I P1	0.59 P1	0.24	0.21
Benzo(g,h,i)perylene	32,000	2,500	52,000	mg/kg	0.34	0.12	0.089	0.074	0.0087 U	0.0094 U	0.019 I	0.0096 U	0.0095 U	0.043 I P1	0.28 P1	0.065	0.053
Benzo(k)fluoranthene	24			mg/kg	0.35	0.13	0.096	0.087	0.0093 U	0.010 U	0.019 I	0.010 U	0.010 U	0.029 U P1	0.23 P1	0.098	0.077
Chrysene	77			mg/kg	0.53	0.17	0.17	0.15	0.014 I	0.012 U	0.031 I	0.012 U	0.012 U	0.040 I P1	0.35 P1	0.15	0.11
Dibenz(a,h)anthracene	0.7			mg/kg	0.088	0.033 I	0.023 I	0.020 I	0.0080 U	0.0086 U	0.0088 U	0.0088 U	0.0087 U	0.025 U P1	0.059 I P1	0.019 I	0.018 I
Fluoranthene	1,200	3,200	59,000	mg/kg	0.61	0.19	0.27	0.22	0.015 I	0.012 U	0.045	0.013 I	0.012 U	0.050 I P1	0.27 P1	0.14	0.10
Fluorene	160	2,600	33,000	mg/kg	0.015 U	0.014 U	0.014 U	0.014 U	0.012 U	0.013 U	0.014 U	0.014 U	0.014 U	0.039 U P1	0.027 U P1	0.014 U	0.013 U
Indeno(1,2,3-cd)pyrene	6.6			mg/kg	0.31	0.12	0.085	0.072	0.0080 U	0.0086 U	0.018 I	0.0087 U	0.0087 U	0.035 I P1	0.21 P1	0.057	0.050
1-Methylnaphthalene	3.1	200	1,800	mg/kg	0.017 U	0.015 U	0.015 U	0.015 U	0.014 U	0.015 U	0.015 U	0.015 U	0.015 U	0.043 U P1	0.030 U P1	0.015 U	0.015 U
2-Methylnaphthalene	8.5	210	2,100	mg/kg	0.018 I	0.015 U	0.015 U	0.015 U	0.013 U	0.014 U	0.015 U	0.014 U	0.014 U	0.042 U P1	0.029 U P1	0.015 U	0.014 U
Naphthalene	1.2	55	300	mg/kg	0.018 I	0.013 U	0.013 U	0.013 U	0.012 U	0.013 U	0.013 U	0.013 U	0.013 U	0.038 U P1	0.026 U P1	0.013 U	0.013 U
Phenanthrene	250	2,200	36,000	mg/kg	0.11	0.028 I	0.068	0.048	0.011 U	0.012 U	0.019 I	0.012 U	0.012 U	0.036 U P1	0.026 I P1	0.030 I	0.012 U
Pyrene	880	2,400	45,000	mg/kg	0.72	0.23	0.22	0.19	0.015 I	0.012 U	0.039	0.012 I	0.012 U	0.046 I P1	0.33 P1	0.16	0.13
Total Benzo(a)pyrene Equivalents		0.1	0.7	mg/kg	0.8	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.5	0.2	0.2
EPA 6020																	
Arsenic		2.1	12	mg/kg													

Notes:

- milligrams per kilogram (mg/kg)
- "U" flag indicates concentration was below the method detection limit (MDL).
- "I" flag indicates concentration was between the MDL and practical quantitation limit (PQL).
- Blank cells denote analyte not requested.
- "V" qualifier indicates that the analyte was detected in both the sample and the associated method blank.
- "1p" qualifier indicates that due to the extract's physical characteristics, the analysis was performed at dilution.
- "(M1)" qualifier indicates an estimated value: matrix spike recovery exceeded QC limits.
- Batch accepted based on laboratory control sample (LCS) recovery.
- "(R1)" qualifier indicates an estimated value. Relative percent difference (RPD) value was outside control limits.
- "M6" qualifier indicates that the matrix spike and matrix spike duplicate recovery were not evaluated against control limits due to sample dilution.
- "P1" qualifier indicates routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.
- "P3" qualifier indicates sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

Table 1A - Residential Soil Analytical Results
Ludlum Trail

Sampling Unit	Table II, Ch. 62-777 FAC Soil Cleanup Target Levels			Units	DU20												
Sample Location					Leachability Based on Groundwater Criteria	Direct Exposure Residential	Direct Exposure Commercial / Industrial	SBA-167 (0-0.5)	SBA-114 (0-0.5')	SBA-115 (0-0.5')	SBA-116 (0-0.5')	SBA-117 (0-0.5')	SBA-118 (0-0.5')	SBA-119 (0-0.5')	SBA-120 (0-0.5')	SBA-121 (0-0.5')	SBA-122 (0-0.5')
	09/18/2018	08/10/2018	08/10/2018														
EPA 8270D by SIM																	
Acenaphthene	2.1	2,400	20,000	mg/kg	0.013 U	0.013 U	0.014 U	0.013 U	0.013 U	0.012 U	0.014 U	0.013 U	0.013 U	0.014 U	0.013 U	0.026 U	1p
Acenaphthylene	27	1,800	20,000	mg/kg	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.013 U	0.011 U	0.011 U	0.012 U	0.012 U	0.024 U	1p
Anthracene	2,500	21,000	300,000	mg/kg	0.014 U	0.013 U	0.014 U	0.014 U	0.014 U	0.013 U	0.014 U	0.013 U	0.013 U	0.014 U	0.013 U	0.027 U	1p
Benzo(a)anthracene	0.8			mg/kg	0.011 U	0.011 U	0.011 U	0.011 U	0.011 U	0.010 U	0.012 U	0.010 U	0.011 U	0.011 U	0.011 U	0.10	1p
Benzo(a)pyrene	8	0.1	0.7	mg/kg	0.011 I	0.012 I	0.0097 U	0.0096 U	0.0097 U	0.010 I	0.015 I	0.012 I	0.0095 I	0.0099 U	0.011 I	0.094	1p
Benzo(b)fluoranthene	2.4			mg/kg	0.020 I	0.024 I	0.017 I	0.015 I	0.016 I	0.018 I	0.024 I	0.020 I	0.016 I	0.013 I	0.022 I	0.13	1p
Benzo(g,h,i)perylene	32,000	2,500	52,000	mg/kg	0.012 I	0.0093 U	0.0098 U	0.0097 U	0.0098 U	0.0089 U	0.011 I	0.0092 U	0.0092 U	0.010 U	0.0095 U	0.066 I	1p
Benzo(k)fluoranthene	24			mg/kg	0.010 U	0.0099 U	0.010 U	0.010 U	0.010 U	0.0095 U	0.011 I	0.0098 U	0.0098 U	0.011 U	0.010 U	0.072 I	1p
Chrysene	77			mg/kg	0.012 I	0.016 I	0.012 U	0.012 U	0.012 U	0.012 I	0.017 I	0.013 I	0.012 I	0.013 U	0.014 I	0.11	1p
Dibenz(a,h)anthracene	0.7			mg/kg	0.0088 U	0.0085 U	0.0090 U	0.0089 U	0.0090 U	0.0082 U	0.0093 U	0.0084 U	0.0085 U	0.0092 U	0.0087 U	0.023 I	1p
Fluoranthene	1,200	3,200	59,000	mg/kg	0.017 I	0.012 I	0.013 U	0.013 U	0.013 U	0.013 I	0.019 I	0.013 I	0.012 U	0.013 U	0.015 I	0.17	1p
Fluorene	160	2,600	33,000	mg/kg	0.014 U	0.013 U	0.014 U	0.014 U	0.014 U	0.013 U	0.014 U	0.013 U	0.013 U	0.014 U	0.013 U	0.027 U	1p
Indeno(1,2,3-cd)pyrene	6.6			mg/kg	0.010 I	0.0084 U	0.0089 U	0.0088 U	0.0089 U	0.0081 U	0.010 I	0.0083 U	0.0084 U	0.0091 U	0.0086 U	0.059 I	1p
1-Methylnaphthalene	3.1	200	1,800	mg/kg	0.015 U	0.014 U	0.015 U	0.015 U	0.015 U	0.014 U	0.016 U	0.014 U	0.014 U	0.016 U	0.015 U	0.030 U	1p
2-Methylnaphthalene	8.5	210	2,100	mg/kg	0.015 U	0.014 U	0.015 U	0.015 U	0.015 U	0.014 U	0.015 U	0.014 U	0.014 U	0.015 U	0.014 U	0.029 U	1p
Naphthalene	1.2	55	300	mg/kg	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.012 U	0.014 U	0.013 U	0.013 U	0.014 U	0.013 U	0.026 U	1p
Phenanthrene	250	2,200	36,000	mg/kg	0.013 U	0.012 U	0.013 U	0.013 U	0.013 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.012 U	0.085	1p
Pyrene	880	2,400	45,000	mg/kg	0.015 I	0.013 I	0.012 U	0.012 U	0.012 U	0.012 I	0.017 I	0.013 I	0.012 U	0.013 U	0.014 I	0.15	1p
Total Benzo(a)pyrene Equivalents		0.1	0.7	mg/kg	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	
EPA 6020																	
Arsenic		2.1	12	mg/kg													

Notes:

- milligrams per kilogram (mg/kg)
- "U" flag indicates concentration was below the method detection limit (MDL).
- "I" flag indicates concentration was between the MDL and practical quantitation limit (PQL).
- Blank cells denote analyte not requested.
- "V" qualifier indicates that the analyte was detected in both the sample and the associated method blank.
- "1p" qualifier indicates that due to the extract's physical characteristics, the analysis was performed at dilution.
- "(M1)" qualifier indicates an estimated value: matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- "(R1)" qualifier indicates an estimated value. Relative percent difference (RPD) value was outside control limits.
- "M6" qualifier indicates that the matrix spike and matrix spike duplicate recovery were not evaluated against control limits due to sample dilution.
- "P1" qualifier indicates routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.
- "P3" qualifier indicates sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

Table 1A - Residential Soil Analytical Results
Ludlum Trail

Sampling Unit					DU22											
	Table II, Ch. 62-777 FAC Soil Cleanup Target Levels			Units	SBA-CS2 (0-0.5')	SBA-CS2 (0.5-1')	SBA-CS3 (0-0.5')	SBA-CS3 (0.5-1')	SBA-43 (0-0.5')	SBA-44 (0-0.5')	SBA-45 (0-0.5')	SBA-46 (0-0.5')	SBA-47 (0-0.5')	SBA-48 (0-0.5')	SBA-49 (0-0.5')	
Sample Location	Leachability Based on Groundwater Criteria	Direct Exposure Residential	Direct Exposure Commercial / Industrial		08/08/2018	08/08/2018	08/08/2018	08/08/2018	08/08/2018	08/08/2018	08/08/2018	08/08/2018	08/08/2018	08/08/2018	08/08/2018	08/08/2018
EPA 8270D by SIM																
Acenaphthene	2.1	2,400	20,000	mg/kg	0.0016 U	0.0016 U	0.0024 I	0.0016 U	0.0052 I	0.0074 U	0.0015 U	0.0015 U	0.0015 U	0.0015 U	0.038 I	
Acenaphthylene	27	1,800	20,000	mg/kg	0.0020 I	0.0014 U	0.019	0.014	0.31	0.017 I	0.079	0.0032 I	0.0013 U	0.0013 U	0.18 I	
Anthracene	2,500	21,000	300,000	mg/kg	0.0015 U	0.0015 U	0.020	0.013	0.25	0.012 I	0.056	0.0024 I	0.0016 I	0.0014 U	0.32	
Benzo(a)anthracene	0.8			mg/kg	0.0051 I	0.0070 I	0.16	0.093	1.8	0.066 I	0.25	0.015	0.010	0.0097 I	2.4	
Benzo(a)pyrene	8	0.1	0.7	mg/kg	0.0078 I	0.0088 I	0.19	0.11	2.2	0.080	0.34	0.020	0.013	0.011	3.1	
Benzo(b)fluoranthene	2.4			mg/kg	0.0094 I	0.0095 I	0.22	0.12	2.7	0.11	0.61	0.031	0.022	0.019	3.8	
Benzo(g,h,i)perylene	32,000	2,500	52,000	mg/kg	0.0051 I	0.0070 I	0.11	0.062	1.3	0.043 I	0.22	0.013	0.010	0.0088 I	1.7	
Benzo(k)fluoranthene	24			mg/kg	0.0031 I	0.0035 I	0.085	0.046	0.78	0.052	0.23	0.012	0.0082 I	0.0062 I	1.6	
Chrysene	77			mg/kg	0.0063 I	0.0070 I	0.17	0.085	1.7	0.065	0.25	0.016	0.011	0.011	2.9	
Dibenz(a,h)anthracene	0.7			mg/kg	0.0019 U	0.0019 U	0.0082 I	0.0053 I	0.37	0.011 I	0.062	0.0037 I	0.0027 I	0.0024 I	0.50	
Fluoranthene	1,200	3,200	59,000	mg/kg	0.0055 I	0.0088 I	0.31	0.13	2.3	0.090	0.35	0.023	0.015	0.014	5.2	
Fluorene	160	2,600	33,000	mg/kg	0.0017 U	0.0017 U	0.0031 I	0.0017 U	0.017	0.0079 U	0.0032 I	0.0016 U	0.0016 U	0.0016 U	0.040 U	
Indeno(1,2,3-cd)pyrene	6.6			mg/kg	0.0042 I	0.0048 I	0.11	0.068	1.4	0.045 I	0.23	0.013	0.010	0.0082 I	1.7	
1-Methylnaphthalene	3.1	200	1,800	mg/kg	0.0013 U	0.0013 U	0.0013 U	0.0013 U	0.032	0.0059 U	0.0016 I	0.0012 U	0.0012 U	0.0012 U	0.030 U	
2-Methylnaphthalene	8.5	210	2,100	mg/kg	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.043	0.0054 U	0.0019 I	0.0011 U	0.0011 U	0.0011 U	0.028 U	
Naphthalene	1.2	55	300	mg/kg	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.036	0.011 U	0.0032 I	0.0023 U	0.0023 U	0.0023 U	0.058 U	
Phenanthrene	250	2,200	36,000	mg/kg	0.0016 U	0.0018 I	0.11	0.029	0.40	0.015 I	0.046	0.0046 I	0.0032 I	0.0019 I	1.6	
Pyrene	880	2,400	45,000	mg/kg	0.0065 I	0.0087 I	0.26	0.13	2.3	0.096	0.37	0.022	0.014	0.013	4.3	
Total Benzo(a)pyrene Equivalents		0.1	0.7	mg/kg	0.0	0.0	0.2	0.1	3.2	0.1	0.5	0.0	0.0	0.0	4.4	
EPA 6020																
Arsenic		2.1	12	mg/kg	0.63 I J(R1), M6	1.3	3.5	5.7								

Notes:

- milligrams per kilogram (mg/kg)
- "U" flag indicates concentration was below the method detection limit (MDL).
- "I" flag indicates concentration was between the MDL and practical quantitation limit (PQL).
- Blank cells denote analyte not requested.
- "V" qualifier indicates that the analyte was detected in both the sample and the associated method blank.
- "1p" qualifier indicates that due to the extract's physical characteristics, the analysis was performed at dilution.
- "J(M1)" qualifier indicates an estimated value: matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- "J(R1)" qualifier indicates an estimated value. Relative percent difference (RPD) value was outside control limits.
- "M6" qualifier indicates that the matrix spike and matrix spike duplicate recovery were not evaluated against control limits due to sample dilution.
- "P1" qualifier indicates routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.
- "P3" qualifier indicates sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

Table 1A - Residential Soil Analytical Results
Ludlam Trail

Sampling Unit					DU22 (continued)							
	Table II, Ch. 62-777 FAC Soil Cleanup Target Levels			Units	SBA-CS4 (0-0.5')	SBA-CS4 (0.5-1')	SBA-50 (0-0.5')	SBA-50 (0.5-1')	SBA-51 (0-0.5')	SBA-51 (0.5-1')	SBA-52 (0-0.5')	SBA-52 (0.5-1')
Sample Location	Leachability Based on Groundwater Criteria	Direct Exposure Residential	Direct Exposure Commercial / Industrial									
EPA 8270D by SIM					08/08/2018	08/08/2018	08/08/2018	08/08/2018	08/08/2018	08/08/2018	08/08/2018	08/08/2018
Acenaphthene	2.1	2,400	20,000	mg/kg	0.0031 I	0.0019 I	0.017 I	0.020 I	0.014 I	0.026 I	0.015 U	0.0075 U
Acenaphthylene	27	1,800	20,000	mg/kg	0.080	0.074	0.35	0.33	0.20	0.20	0.16	0.12
Anthracene	2,500	21,000	300,000	mg/kg	0.062	0.056	0.25	0.28	0.19	0.28	0.14	0.11
Benzo(a)anthracene	0.8			mg/kg	0.45	0.39	1.8	2.1	1.3	2.1	1.3	0.61
Benzo(a)pyrene	8	0.1	0.7	mg/kg	0.57	0.45	2.2	2.4	1.5	2.6	1.4	0.76
Benzo(b)fluoranthene	2.4			mg/kg	0.61	0.57	2.5	2.7	1.8	3.3	1.7	0.89
Benzo(g,h,i)perylene	32,000	2,500	52,000	mg/kg	0.31	0.25	1.1	1.3	0.84	1.4	0.67	0.39
Benzo(k)fluoranthene	24			mg/kg	0.25	0.21	1.0	1.2	0.53	1.2	0.67	0.33
Chrysene	77			mg/kg	0.46	0.36	1.7	1.9	1.3	2.4	1.1	0.59
Dibenz(a,h)anthracene	0.7			mg/kg	0.027	0.074	0.36	0.41	0.27	0.11	0.22	0.034 I
Fluoranthene	1,200	3,200	59,000	mg/kg	0.65	0.52	2.6	3.0	2.0	4.0	1.8	0.82
Fluorene	160	2,600	33,000	mg/kg	0.0058 I	0.0060 I	0.055	0.030 I	0.022 I	0.033 I	0.020 I	0.0080 U
Indeno(1,2,3-cd)pyrene	6.6			mg/kg	0.34	0.26	1.2	1.4	0.88	1.4	0.73	0.41
1-Methylnaphthalene	3.1	200	1,800	mg/kg	0.0019 I	0.0042 I	0.095	0.031 I	0.017 I	0.017 I	0.017 I	0.0085 I
2-Methylnaphthalene	8.5	210	2,100	mg/kg	0.0019 I	0.0046 I	0.11	0.038 I	0.019 I	0.020 I	0.021 I	0.011 I
Naphthalene	1.2	55	300	mg/kg	0.0024 U	0.0055 I	0.087	0.038 I	0.019 I	0.023 U	0.023 U	0.011 U
Phenanthrene	250	2,200	36,000	mg/kg	0.18	0.12	0.86	0.75	0.60	1.2	0.50	0.16
Pyrene	880	2,400	45,000	mg/kg	0.62	0.51	2.6	2.9	1.8	3.5	1.7	0.83
Total Benzo(a)pyrene Equivalents		0.1	0.7	mg/kg	0.7	0.6	3.1	3.4	2.2	3.4	2.0	1.0
EPA 6020												
Arsenic		2.1	12	mg/kg	12.4	13.5	17.5	19.4	16.2	22.1	14.8	24.4

Notes:

- milligrams per kilogram (mg/kg)
- "U" flag indicates concentration was below the method detection limit (MDL).
- "I" flag indicates concentration was between the MDL and practical quantitation limit (PQL).
- Blank cells denote analyte not requested.
- "V" qualifier indicates that the analyte was detected in both the sample and the associated method blank.
- "1p" qualifier indicates that due to the extract's physical characteristics, the analysis was performed at dilution.
- "J(M1)" qualifier indicates an estimated value: matrix spike recovery exceeded QC limits.
- Batch accepted based on laboratory control sample (LCS) recovery.
- "J(R1)" qualifier indicates an estimated value. Relative percent difference (RPD) value was outside control limits.
- "M6" qualifier indicates that the matrix spike and matrix spike duplicate recovery were not evaluated against control limits due to sample dilution.
- "P1" qualifier indicates routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.
- "P3" qualifier indicates sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

Table 1A - Residential Soil Analytical Results
Ludlam Trail

Sampling Unit					DU23								
	Table II, Ch. 62-777 FAC Soil Cleanup Target Levels			Units	SB-125 (0-0.5')	SB-126 (0-0.5')	SB-127 (0-0.5')	SB-128 (0-0.5')	SB-129 (0-0.5')	SB-130 (0-0.5')	SB-131 (0-0.5')	SB-132 (0-0.5')	
Sample Location	Leachability Based on Groundwater Criteria	Direct Exposure Residential	Direct Exposure Commercial / Industrial		08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	
EPA 8270D by SIM													
Acenaphthene	2.1	2,400	20,000	mg/kg	0.056 U P1	0.066 U 1p	0.013 U	0.017 U	0.014 U	0.013 U	0.014 U	0.015 U	
Acenaphthylene	27	1,800	20,000	mg/kg	0.051 U P1	0.060 U 1p	0.012 U	0.016 U	0.013 U	0.012 U	0.019 I	0.014 U	
Anthracene	2,500	21,000	300,000	mg/kg	0.057 U P1	0.068 U 1p	0.014 U	0.018 U	0.014 U	0.013 U	0.015 I	0.016 U	
Benzo(a)anthracene	0.8			mg/kg	0.046 U P1	0.084 I 1p	0.013 I	0.015 I	0.017 I	0.011 U	0.079	0.013 U	
Benzo(a)pyrene	8	0.1	0.7	mg/kg	0.040 U P1	0.093 I 1p	0.026 I	0.018 I	0.020 I	0.0093 U	0.11	0.011 U	
Benzo(b)fluoranthene	2.4			mg/kg	0.043 U P1	0.15 I 1p	0.041	0.034 I	0.033 I	0.010 U	0.17	0.016 I	
Benzo(g,h,i)perylene	32,000	2,500	52,000	mg/kg	0.041 U P1	0.13 I 1p	0.019 I	0.017 I	0.012 I	0.0094 U	0.084	0.011 U	
Benzo(k)fluoranthene	24			mg/kg	0.043 U P1	0.051 U 1p	0.019 I	0.019 I	0.011 I	0.010 U	0.061	0.012 U	
Chrysene	77			mg/kg	0.051 U P1	0.11 I 1p	0.012 U	0.016 U	0.024 I	0.012 U	0.093	0.014 U	
Dibenz(a,h)anthracene	0.7			mg/kg	0.037 U P1	0.044 U 1p	0.0090 U	0.012 U	0.0092 U	0.0086 U	0.020 I	0.010 U	
Fluoranthene	1,200	3,200	59,000	mg/kg	0.053 U P1	0.14 I 1p	0.017 I	0.017 U	0.038 I	0.012 U	0.12	0.014 U	
Fluorene	160	2,600	33,000	mg/kg	0.058 U P1	0.069 U 1p	0.014 U	0.018 U	0.014 U	0.013 U	0.014 U	0.016 U	
Indeno(1,2,3-cd)pyrene	6.6			mg/kg	0.037 U P1	0.072 I 1p	0.017 I	0.015 I	0.012 I	0.0086 U	0.078	0.010 U	
1-Methylnaphthalene	3.1	200	1,800	mg/kg	0.064 U P1	0.076 U 1p	0.015 U	0.020 U	0.016 U	0.015 U	0.016 U	0.017 U	
2-Methylnaphthalene	8.5	210	2,100	mg/kg	0.062 U P1	0.073 U 1p	0.015 U	0.019 U	0.015 U	0.014 U	0.015 U	0.017 U	
Naphthalene	1.2	55	300	mg/kg	0.056 U P1	0.066 U 1p	0.013 U	0.017 U	0.014 U	0.013 U	0.014 U	0.015 U	
Phenanthrene	250	2,200	36,000	mg/kg	0.053 U P1	0.063 U 1p	0.013 U	0.017 U	0.019 I	0.012 U	0.033 I	0.014 U	
Pyrene	880	2,400	45,000	mg/kg	0.051 U P1	0.11 I 1p	0.018 I	0.017 I	0.031 I	0.012 U	0.13	0.014 I	
Total Benzo(a)pyrene Equivalents		0.1	0.7	mg/kg	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	
EPA 6020													
Arsenic		2.1	12	mg/kg									

Notes:

- milligrams per kilogram (mg/kg)
- "U" flag indicates concentration was below the method detection limit (MDL).
- "I" flag indicates concentration was between the MDL and practical quantitation limit (PQL).
- Blank cells denote analyte not requested.
- "V" qualifier indicates that the analyte was detected in both the sample and the associated method blank.
- "1p" qualifier indicates that due to the extract's physical characteristics, the analysis was performed at dilution.
- "(M1)" qualifier indicates an estimated value: matrix spike recovery exceeded QC limits.
- Batch accepted based on laboratory control sample (LCS) recovery.
- "(R1)" qualifier indicates an estimated value. Relative percent difference (RPD) value was outside control limits.
- "M6" qualifier indicates that the matrix spike and matrix spike duplicate recovery were not evaluated against control limits due to sample dilution.
- "P1" qualifier indicates routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.
- "P3" qualifier indicates sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

Table 1A - Residential Soil Analytical Results
Ludlam Trail

Sampling Unit	Table II, Ch. 62-777 FAC Soil Cleanup Target Levels			Units	DU25											
Sample Location					Leachability Based on Groundwater Criteria	Direct Exposure Residential	Direct Exposure Commercial / Industrial	SB-133 (0-0.5')	SB-134 (0-0.5')	SB-135 (0-0.5')	SB-136 (0-0.5')	SB-137 (0-0.5')	SB-138 (0-0.5')	SB-139 (0-0.5')	SBA-139A (0-0.5')	SBA-139B (0-0.5')
					08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018	09/18/2018	09/18/2018	08/10/2018	08/10/2018	08/10/2018
EPA 8270D by SIM																
Acenaphthene	2.1	2,400	20,000	mg/kg	0.053 U P1	0.015 U	0.015 U	0.014 U	0.016 U	0.015 U	0.013 U	0.013 U	0.028 U P1	0.013 U	0.013 U	0.013 U
Acenaphthylene	27	1,800	20,000	mg/kg	0.048 U P1	0.014 U	0.014 U	0.050	0.026 I	0.014 U	0.082	0.012 U	0.025 U P1	0.012 U	0.020 I	0.011 U
Anthracene	2,500	21,000	300,000	mg/kg	0.054 U P1	0.015 U	0.015 U	0.034 I	0.017 I	0.015 U	0.059	0.014 U	0.028 U P1	0.014 U	0.015 I	0.013 U
Benzo(a)anthracene	0.8			mg/kg	0.044 U P1	0.025 I	0.012 U	0.12	0.063	0.027 I	0.26	0.037 I	0.057 I P1	0.014 I	0.046	0.010 U
Benzo(a)pyrene	8	0.1	0.7	mg/kg	0.038 U P1	0.030 I	0.011 U	0.14	0.078	0.035 I	0.34	0.049	0.070 I P1	0.023 I	0.060	0.0091 U
Benzo(b)fluoranthene	2.4			mg/kg	0.041 U P1	0.046	0.012 U	0.24	0.13	0.072	0.54	0.095	0.12 P1	0.039	0.11	0.010 I
Benzo(g,h,i)perylene	32,000	2,500	52,000	mg/kg	0.038 U P1	0.020 I	0.011 U	0.094	0.055	0.025 I	0.20	0.024 I	0.053 I P1	0.023 I	0.045	0.0092 U
Benzo(k)fluoranthene	24			mg/kg	0.041 U P1	0.018 I	0.012 U	0.094	0.047 I	0.020 I	0.24	0.033 I	0.044 I P1	0.014 I	0.043	0.0098 U
Chrysene	77			mg/kg	0.048 U P1	0.033 I	0.014 U	0.16	0.078	0.040 I	0.32	0.050	0.081 P1	0.024 I	0.068	0.012 U
Dibenz(a,h)anthracene	0.7			mg/kg	0.035 U P1	0.0099 U	0.010 U	0.028 I	0.014 I	0.010 U	0.049	0.0089 U	0.018 U P1	0.0088 U	0.012 I	0.0084 U
Fluoranthene	1,200	3,200	59,000	mg/kg	0.050 U P1	0.026 I	0.014 U	0.16	0.095	0.042 I	0.36	0.054	0.089 P1	0.026 I	0.072	0.012 U
Fluorene	160	2,600	33,000	mg/kg	0.055 U P1	0.015 U	0.015 U	0.015 U	0.017 U	0.015 U	0.014 U	0.014 U	0.029 U P1	0.014 U	0.013 U	0.013 U
Indeno(1,2,3-cd)pyrene	6.6			mg/kg	0.035 U P1	0.017 I	0.0099 U	0.086	0.049	0.027 I	0.19	0.022 I	0.046 I P1	0.016 I	0.035 I	0.0084 U
1-Methylnaphthalene	3.1	200	1,800	mg/kg	0.060 U P1	0.017 U	0.017 U	0.016 U	0.019 U	0.017 U	0.015 U	0.015 U	0.031 U P1	0.015 U	0.015 U	0.014 U
2-Methylnaphthalene	8.5	210	2,100	mg/kg	0.058 U P1	0.016 U	0.016 U	0.016 U	0.018 U	0.028 I	0.015 U	0.015 U	0.030 U P1	0.015 U	0.014 U	0.014 U
Naphthalene	1.2	55	300	mg/kg	0.052 U P1	0.015 U	0.015 U	0.014 U	0.016 U	0.015 U	0.013 U	0.013 U	0.027 U P1	0.013 U	0.013 U	0.013 U
Phenanthrene	250	2,200	36,000	mg/kg	0.050 U P1	0.014 U	0.014 U	0.030 I	0.020 I	0.014 U	0.067	0.013 U	0.026 U P1	0.013 U	0.014 I	0.012 U
Pyrene	880	2,400	45,000	mg/kg	0.048 U P1	0.026 I	0.014 U	0.18	0.11	0.043 I	0.43	0.054	0.084 P1	0.028 I	0.084	0.012 U
Total Benzo(a)pyrene Equivalents		0.1	0.7	mg/kg	0.0	0.0	0.0	0.2	0.1	0.1	0.5	0.1	0.1	0.0	0.1	0.0
EPA 6020																
Arsenic		2.1	12	mg/kg												

Notes:

- milligrams per kilogram (mg/kg)
- "U" flag indicates concentration was below the method detection limit (MDL).
- "I" flag indicates concentration was between the MDL and practical quantitation limit (PQL).
- Blank cells denote analyte not requested.
- "V" qualifier indicates that the analyte was detected in both the sample and the associated method blank.
- "1p" qualifier indicates that due to the extract's physical characteristics, the analysis was performed at dilution.
- "(M1)" qualifier indicates an estimated value: matrix spike recovery exceeded QC limits.
- Batch accepted based on laboratory control sample (LCS) recovery.
- "(R1)" qualifier indicates an estimated value. Relative percent difference (RPD) value was outside control limits.
- "M6" qualifier indicates that the matrix spike and matrix spike duplicate recovery were not evaluated against control limits due to sample dilution.
- "P1" qualifier indicates routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.
- "P3" qualifier indicates sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

Table 1A - Residential Soil Analytical Results
Ludlam Trail

Sampling Unit	Table II, Ch. 62-777 FAC Soil Cleanup Target Levels			Units	DU27					
Sample Location					Leachability Based on Groundwater Criteria	Direct Exposure Residential	Direct Exposure Commercial / Industrial	SBA-110 (0-0.5')	SBA-143 (0-0.5')	SBA-144 (0-0.5')
EPA 8270D by SIM					08/10/2018	08/13/2018	08/13/2018	08/13/2018	08/13/2018	08/13/2018
Acenaphthene	2.1	2,400	20,000	mg/kg	0.012 U	0.014 U	0.013 U	0.013 U	0.014 U	0.014 U
Acenaphthylene	27	1,800	20,000	mg/kg	0.011 U	0.012 U	0.011 U	0.012 U	0.013 U	0.013 U
Anthracene	2,500	21,000	300,000	mg/kg	0.013 U	0.014 U	0.013 U	0.013 U	0.014 U	0.023 I
Benzo(a)anthracene	0.8			mg/kg	0.012 I	0.029 I	0.010 U	0.022 I	0.019 I	0.20
Benzo(a)pyrene	8	0.1	0.7	mg/kg	0.015 I	0.040	0.0091 U	0.030 I	0.024 I	0.23
Benzo(b)fluoranthene	2.4			mg/kg	0.026 I	0.054	0.0097 U	0.043	0.035 I	0.34
Benzo(g,h,i)perylene	32,000	2,500	52,000	mg/kg	0.016 I	0.035 I	0.0092 U	0.023 I	0.019 I	0.15
Benzo(k)fluoranthene	24			mg/kg	0.0095 U	0.024 I	0.0098 U	0.019 I	0.016 I	0.15
Chrysene	77			mg/kg	0.018 I	0.045	0.012 U	0.032 I	0.027 I	0.23
Dibenz(a,h)anthracene	0.7			mg/kg	0.0082 U	0.0091 U	0.0084 U	0.0088 U	0.0093 U	0.039 I
Fluoranthene	1,200	3,200	59,000	mg/kg	0.022 I	0.059	0.012 U	0.040	0.034 I	0.33
Fluorene	160	2,600	33,000	mg/kg	0.013 U	0.014 U	0.013 U	0.014 U	0.014 U	0.015 U
Indeno(1,2,3-cd)pyrene	6.6			mg/kg	0.013 I	0.027 I	0.0083 U	0.020 I	0.014 I	0.13
1-Methylnaphthalene	3.1	200	1,800	mg/kg	0.014 U	0.016 U	0.014 U	0.015 U	0.016 U	0.016 U
2-Methylnaphthalene	8.5	210	2,100	mg/kg	0.013 U	0.015 U	0.014 U	0.015 U	0.015 U	0.016 U
Naphthalene	1.2	55	300	mg/kg	0.012 U	0.014 U	0.013 U	0.013 U	0.014 U	0.014 U
Phenanthrene	250	2,200	36,000	mg/kg	0.012 U	0.018 I	0.012 U	0.013 U	0.013 U	0.084
Pyrene	880	2,400	45,000	mg/kg	0.020 I	0.052	0.012 U	0.036 I	0.031 I	0.29
Total Benzo(a)pyrene Equivalents		0.1	0.7	mg/kg	0.0	0.1	0.0	0.0	0.0	0.3
EPA 6020										
Arsenic		2.1	12	mg/kg						

Notes:

- milligrams per kilogram (mg/kg)
- "U" flag indicates concentration was below the method detection limit (MDL).
- "I" flag indicates concentration was between the MDL and practical quantitation limit (PQL).
- Blank cells denote analyte not requested.
- "V" qualifier indicates that the analyte was detected in both the sample and the associated method blank.
- "1p" qualifier indicates that due to the extract's physical characteristics, the analysis was performed at dilution.
- "J(M1)" qualifier indicates an estimated value: matrix spike recovery exceeded QC limits.
- Batch accepted based on laboratory control sample (LCS) recovery.
- "J(R1)" qualifier indicates an estimated value. Relative percent difference (RPD) value was outside control limits.
- "M6" qualifier indicates that the matrix spike and matrix spike duplicate recovery were not evaluated against control limits due to sample dilution.
- "P1" qualifier indicates routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.
- "P3" qualifier indicates sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

Table 1A - Residential Soil Analytical Results
Ludlum Trail

Sampling Unit	Table II, Ch. 62-777 FAC Soil Cleanup Target Levels			Units	DU30							
Sample Location	Leachability Based on Groundwater Criteria	Direct Exposure Residential	Direct Exposure Commercial / Industrial		SBA-64 (0-0.5')	SBA-65 (0-0.5')	SBA-66 (0-0.5')	SBA-67 (0-0.5')	SBA-68 (0-0.5')	SBA-164 (0-0.5')	SBA-164 (0.5-1')	
					08/08/2018	08/08/2018	08/08/2018	08/08/2018	08/08/2018	09/18/2018	09/18/2018	
EPA 8270D by SIM												
Acenaphthene	2.1	2,400	20,000	mg/kg	0.012 U	0.025 U 1p	0.26 U 1p, P3	0.024 U	0.043 U P1	0.012 U	0.024 U 1p	
Acenaphthylene	27	1,800	20,000	mg/kg	0.011 U	0.023 U 1p	0.23 U 1p, P3	0.42	0.039 U P1	0.011 U	0.022 U 1p	
Anthracene	2,500	21,000	300,000	mg/kg	0.013 U	0.026 U 1p	0.26 U 1p, P3	0.26	0.044 U P1	0.012 U	0.025 U 1p	
Benzo(a)anthracene	0.8			mg/kg	0.021 I	0.051 I 1p	0.26 I 1p, P3	0.57	0.048 I P1	0.010 U	0.020 U 1p	
Benzo(a)pyrene	8	0.1	0.7	mg/kg	0.034 I	0.082 1p	0.38 I 1p, P3	0.77	0.058 I P1	0.0087 U	0.017 U 1p	
Benzo(b)fluoranthene	2.4			mg/kg	0.063	0.16 1p	0.85 1p, P3	1.5	0.12 I P1	0.0094 U	0.019 U 1p	
Benzo(g,h,i)perylene	32,000	2,500	52,000	mg/kg	0.017 I	0.036 I 1p	0.19 U 1p, P3	0.28	0.031 U P1	0.0088 U	0.018 U 1p	
Benzo(k)fluoranthene	24			mg/kg	0.026 I	0.063 I 1p	0.31 I 1p, P3	0.65	0.046 I P1	0.0094 U	0.019 U 1p	
Chrysene	77			mg/kg	0.038	0.092 1p	0.43 I 1p, P3	0.64	0.064 I P1	0.011 U	0.022 U 1p	
Dibenz(a,h)anthracene	0.7			mg/kg	0.0083 U	0.017 U 1p	0.17 U 1p, P3	0.095	0.029 U P1	0.0081 U	0.016 U 1p	
Fluoranthene	1,200	3,200	59,000	mg/kg	0.056	0.13 1p	0.51 I 1p, P3	0.52	0.067 I P1	0.012 U	0.023 U 1p	
Fluorene	160	2,600	33,000	mg/kg	0.013 U	0.026 U 1p	0.27 U 1p, P3	0.025 U	0.045 U P1	0.013 U	0.025 U 1p	
Indeno(1,2,3-cd)pyrene	6.6			mg/kg	0.017 I	0.036 I 1p	0.17 I 1p, P3	0.29	0.029 U P1	0.0080 U	0.016 U 1p	
1-Methylnaphthalene	3.1	200	1,800	mg/kg	0.014 U	0.028 U 1p	0.29 U 1p, P3	0.028 U	0.049 U P1	0.014 U	0.027 U 1p	
2-Methylnaphthalene	8.5	210	2,100	mg/kg	0.014 U	0.028 U 1p	0.29 U 1p, P3	0.027 U	0.048 U P1	0.013 U	0.027 U 1p	
Naphthalene	1.2	55	300	mg/kg	0.012 U	0.025 U 1p	0.26 U 1p, P3	0.024 U	0.043 U P1	0.012 U	0.024 U 1p	
Phenanthrene	250	2,200	36,000	mg/kg	0.012 U	0.028 I 1p	0.25 U 1p, P3	0.023 I	0.041 U P1	0.012 U	0.023 U 1p	
Pyrene	880	2,400	45,000	mg/kg	0.052	0.12 1p	0.54 I 1p, P3	0.75	0.082 I P1	0.011 U	0.022 U 1p	
Total Benzo(a)pyrene Equivalents		0.1	0.7	mg/kg	0.0	0.1	0.6	1.1	0.1	0.0	0.0	
EPA 6020												
Arsenic		2.1	12	mg/kg								

Notes:

- milligrams per kilogram (mg/kg)
- "U" flag indicates concentration was below the method detection limit (MDL).
- "I" flag indicates concentration was between the MDL and practical quantitation limit (PQL).
- Blank cells denote analyte not requested.
- "V" qualifier indicates that the analyte was detected in both the sample and the associated method blank.
- "1p" qualifier indicates that due to the extract's physical characteristics, the analysis was performed at dilution.
- "(M1)" qualifier indicates an estimated value: matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- "(R1)" qualifier indicates an estimated value. Relative percent difference (RPD) value was outside control limits.
- "M6" qualifier indicates that the matrix spike and matrix spike duplicate recovery were not evaluated against control limits due to sample dilution.
- "P1" qualifier indicates routine initial sample volume or weight was not used for extraction, resulting in elevated reporting limits.
- "P3" qualifier indicates sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

Table 1B - Commercial/Industrial Soil Analytical Results
Ludlam Trail

Sampling Unit	Table II, Ch. 62-777 FAC Soil Cleanup Target Levels				CS1	DU15A	DU15B						
					SBA-170 (0-0.5')	SBA-152 (0.5-2)	CS-7 (0-0.5)	SBA-153 (0-0.5)	SBA-154 (0-0.5)	SBA-155 (0-0.5)	SBA-156 (0-0.5)	SBA-157 (0-0.5)	CS-7 (0.5-2)
Sample Location	Leachability Based on Groundwater Criteria	Direct Exposure Residential	Direct Exposure Commercial / Industrial	Units	09/18/2018	09/18/2018	09/18/2018	09/18/2018	09/18/2018	09/18/2018	09/18/2018	09/18/2018	09/18/2018
EPA 8270D by SIM													
Acenaphthene	2.1	2,400	20,000	mg/kg	0.012 U	0.013 U	0.013 U	0.013 U	0.013 U	0.012 U	0.025 U	0.025 U	0.013 U
Acenaphthylene	27	1,800	20,000	mg/kg	0.011 U	0.012 U	0.057	0.011 U	0.066	0.050	0.023 U	0.023 U	0.012 U
Anthracene	2,500	21,000	300,000	mg/kg	0.012 U	0.013 U	0.052	0.013 U	0.063	0.050	0.025 U	0.026 U	0.013 U
Benzo(a)anthracene	0.8			mg/kg	0.010 I	0.011 U	0.22	0.020 I	0.27	0.18	0.022 I	0.048 I	0.030 I
Benzo(a)pyrene	8	0.1	0.7	mg/kg	0.012 I	0.0093 U	0.25	0.024 I	0.35	0.26	0.029 I	0.063 I	0.031 I
Benzo(b)fluoranthene	2.4			mg/kg	0.021 I	0.010 U	0.43	0.047	0.62	0.46	0.057 I 1p	0.13 1p	0.050
Benzo(g,h,i)perylene	32,000	2,500	52,000	mg/kg	0.017 I	0.0094 U	0.14	0.013 I	0.17	0.11	0.018 U 1p	0.034 I 1p	0.019 I
Benzo(k)fluoranthene	24			mg/kg	0.0093 U	0.010 U	0.15	0.015 I	0.21	0.16	0.019 U 1p	0.041 I 1p	0.021 I
Chrysene	77			mg/kg	0.018 I	0.012 U	0.24	0.026 I	0.29	0.19	0.040 I 1p	0.060 I 1p	0.041
Dibenz(a,h)anthracene	0.7			mg/kg	0.0080 U	0.0086 U	0.032 I	0.0084 U	0.050	0.032 I	0.017 U 1p	0.017 U 1p	0.0085 U
Fluoranthene	1,200	3,200	59,000	mg/kg	0.015 I	0.012 U	0.34	0.031 I	0.42	0.29	0.047 I 1p	0.097 1p	0.066
Fluorene	160	2,600	33,000	mg/kg	0.012 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.026 U 1p	0.026 U 1p	0.013 U
Indeno(1,2,3-cd)pyrene	6.6			mg/kg	0.010 I	0.0086 U	0.13	0.012 I	0.18	0.12	0.016 U 1p	0.027 I 1p	0.018 I
1-Methylnaphthalene	3.1	200	1,800	mg/kg	0.014 U	0.015 U	0.014 U	0.014 U	0.014 U	0.014 U	0.028 U 1p	0.029 U 1p	0.014 U
2-Methylnaphthalene	8.5	210	2,100	mg/kg	0.013 U	0.014 U	0.014 U	0.014 U	0.014 U	0.014 U	0.027 U 1p	0.028 U 1p	0.014 U
Naphthalene	1.2	55	300	mg/kg	0.012 U	0.013 U	0.013 U	0.012 U	0.013 U	0.012 U	0.025 U 1p	0.025 U 1p	0.013 U
Phenanthrene	250	2,200	36,000	mg/kg	0.011 U	0.012 U	0.092	0.012 U	0.069	0.056	0.024 U 1p	0.043 I 1p	0.025 I
Pyrene	880	2,400	45,000	mg/kg	0.013 I	0.012 U	0.36	0.035 I	0.47	0.32	0.051 I 1p	0.082 1p	0.062
Total Benzo(a)pyrene Equivalents		0.1	0.7	mg/kg	0.0	0.0	0.4	0.0	0.5	0.4	0.0	0.1	0.0
EPA 6020													
Arsenic		2.1	12	mg/kg									

Notes:

- "U" flag indicates concentration was below the method detection limit (MDL).
- "I" flag indicates concentration was between the MDL and practical quantitation limit (PQL).
- Blank cells denote analyte not requested.
- "V" qualifier indicates that the analyte was detected in both the sample and the associated method blank.
- "1p" qualifier indicates that due to the extract's physical characteristics, the analysis was performed at dilution.
- "J(M1)" qualifier indicates an estimated value: matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- "J(D6)" qualifier indicates an estimated value. The relative percent difference (RPD) between the sample and the sample duplicate exceeded laboratory control limits.
- "P3" qualifier indicates sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

**Table 1B - Commercial/Industrial Soil Analytical Results
Ludlam Trail**

Sampling Unit	Table II, Ch. 62-777 FAC Soil Cleanup Target Levels			Units	DU16					DU20	DU28						
Sample Location	Leachability Based on Groundwater Criteria	Direct Exposure Residential	Direct Exposure Commercial / Industrial		SBA-33 (0-0.5')	SBA-34 (0-0.5')	SBA-35 (0-0.5')	SBA-36 (0-0.5')	SBA-37 (0-0.5')	CS-6 (0-0.5)	SBA-20 (0-0.5')	SBA-20 (0.5-2')	SBA 20A (0-0.5)	SBA 20A (0.5-1)	SBA 20B (0-0.5)	SBA 20B (0.5-1)	
					08/08/2018	08/08/2018	08/08/2018	08/08/2018	08/08/2018	09/18/2018	08/07/2018	08/07/2018	09/18/2018	09/18/2018	09/18/2018	09/18/2018	
EPA 8270D by SIM																	
Acenaphthene	2.1	2,400	20,000	mg/kg	0.0016 U J(M1)	0.0073 I		0.044	0.0016 U	0.0016 U	0.026 U	0.0019 I	0.0062 I	0.013 U	0.012 U	0.013 U	0.013 U
Acenaphthylene	27	1,800	20,000	mg/kg	0.0014 U J(M1)	0.0064 I		0.014	0.041	0.11	0.023 U	0.077	0.036	0.066	0.052	0.033 I	0.062
Anthracene	2,500	21,000	300,000	mg/kg	0.0051 I	0.071 J(D6)		0.18	0.029	0.062	0.027 U	0.048	0.029	0.043	0.033 I	0.026 I	0.045
Benzo(a)anthracene	0.8			mg/kg	0.045 J(M1)	0.35 J(D6)		0.44	0.21	0.19	0.046 I	0.50	0.22	0.14	0.11	0.098	0.15
Benzo(a)pyrene	8	0.1	0.7	mg/kg	0.059 J(M1)	0.34 J(D6)		0.34	0.26	0.26	0.055 I	0.47	0.22	0.19	0.14	0.13	0.16
Benzo(b)fluoranthene	2.4			mg/kg	0.072 J(M1)	0.36 J(D6)		0.37	0.31	0.33	0.10	0.71	0.35	0.35	0.26	0.24	0.28
Benzo(g,h,i)perylene	32,000	2,500	52,000	mg/kg	0.034	0.13 J(D6)		0.13	0.13	0.14	0.044 I	0.25	0.10	0.11	0.078	0.10	0.15
Benzo(k)fluoranthene	24			mg/kg	0.024	0.15 J(D6)		0.13	0.11	0.14	0.039 I	0.30	0.13	0.12	0.10	0.084	0.10
Chrysene	77			mg/kg	0.046 J(M1)	0.28 J(D6)		0.38	0.22	0.22	0.059 I	0.47	0.20	0.19	0.15	0.15	0.18
Dibenz(a,h)anthracene	0.7			mg/kg	0.0088 I	0.013		0.014	0.011	0.013	0.017 U	0.026	0.011 I	0.032 I	0.023 I	0.027 I	0.037 I
Fluoranthene	1,200	3,200	59,000	mg/kg	0.080 J(M1)	0.61 J(D6)		1.0	0.27	0.18	0.064 I	0.52	0.25	0.27	0.21	0.22	0.25
Fluorene	160	2,600	33,000	mg/kg	0.0017 U J(M1)	0.0078 I		0.046	0.0020 I	0.0041 I	0.027 U	0.0017 U	0.0048 I	0.013 U	0.013 U	0.013 U	0.013 U
Indeno(1,2,3-cd)pyrene	6.6			mg/kg	0.032	0.13 J(D6)		0.14	0.15	0.13	0.036 I	0.25	0.10	0.11	0.075	0.090	0.12
1-Methylnaphthalene	3.1	200	1,800	mg/kg	0.0016 I J(M1)	0.0013 U		0.0041 I	0.0013 U	0.0017 I	0.029 U	0.0013 U	0.0013 U	0.014 U	0.014 U	0.014 U	0.014 U
2-Methylnaphthalene	8.5	210	2,100	mg/kg	0.0012 U J(M1)	0.0012 U		0.0032 I	0.0011 U	0.0016 I	0.029 U	0.0012 U	0.0012 U	0.014 U	0.014 U	0.014 U	0.014 U
Naphthalene	1.2	55	300	mg/kg	0.0025 U J(M1)	0.0024 U		0.0025 U	0.0024 U	0.0024 U	0.026 U	0.0024 U	0.0031 I	0.013 U	0.012 U	0.013 U	0.013 U
Phenanthrene	250	2,200	36,000	mg/kg	0.021 J(M1)	0.26 J(D6)		0.77	0.037	0.023	0.025 U	0.010 I	0.050	0.036 I	0.026 I	0.052	0.072
Pyrene	880	2,400	45,000	mg/kg	0.065 J(M1)	0.48 J(D6)		0.73	0.27	0.24	0.078	0.73	0.31	0.29	0.23	0.21	0.25
Total Benzo(a)pyrene Equivalents		0.1	0.7	mg/kg	0.1	0.4		0.5	0.3	0.3	0.1	0.6	0.3	0.3	0.2	0.2	0.3
EPA 6020																	
Arsenic		2.1	12	mg/kg													

Notes:

- "U" flag indicates concentration was below the method detection limit (MDL).
- "I" flag indicates concentration was between the MDL and practical quantitation limit (PQL).
- Blank cells denote analyte not requested.
- "V" qualifier indicates that the analyte was detected in both the sample and the associated method blank.
- "1p" qualifier indicates that due to the extract's physical characteristics, the analysis was performed at dilution.
- "J(M1)" qualifier indicates an estimated value: matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- "J(D6)" qualifier indicates an estimated value. The relative percent difference (RPD) between the sample and the sample duplicate exceeded laboratory control limits.
- "P3" qualifier indicates sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

**Table 1B - Commercial/Industrial Soil Analytical Results
Ludlam Trail**

Sampling Unit	Table II, Ch. 62-777 FAC Soil Cleanup Target Levels			DU28 Continued														
Sample Location				Leachability Based on Groundwater Criteria	Direct Exposure Residential	Direct Exposure Commercial / Industrial	Units	SBA-21 (0-0.5')	SBA-21 (0.5-2')	SBA-22 (0-0.5')	SBA-22 (0.5-2')	SBA-23 (0-0.5')	SBA-23 (0.5-2')	SBA-24 (0-0.5')	SBA-24 (0.5-2')	SBA-25 (0-0.5')	SBA-25 (0.5-2')	SBA-26 (0-0.5')
EPA 8270D by SIM					08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018
Acenaphthene	2.1	2,400	20,000	mg/kg	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U J(M1)	0.0016 U	0.0016 U	0.0016 U	0.0017 U	0.0016 U	0.0015 U	0.0015 U	0.0015 U	0.0016 U
Acenaphthylene	27	1,800	20,000	mg/kg	0.0014 U	0.0014 U	0.0014 U	0.0017 I	0.0016 I J(M1)	0.0025 I	0.014	0.019	0.0015 U	0.0014 U	0.035	0.035	0.0014 U	0.0014 U
Anthracene	2,500	21,000	300,000	mg/kg	0.0015 U	0.0015 U	0.0015 U	0.0019 I	0.0015 U J(M1)	0.0015 U	0.0054 I	0.0085 I	0.0016 U	0.0015 U	0.016	0.016	0.0015 U	0.0015 U
Benzo(a)anthracene	0.8			mg/kg	0.0019 I	0.00077 U	0.00075 U	0.014	0.0077 I J(M1)	0.0098 I	0.059	0.045	0.0031 I	0.00074 U	0.081	0.081	0.00074 U	0.00074 U
Benzo(a)pyrene	8	0.1	0.7	mg/kg	0.0030 I	0.0012 U	0.0012 U	0.0087 I	0.0077 I J(M1)	0.011	0.053	0.059	0.0038 I	0.0012 U	0.14	0.14	0.0011 U	0.0011 U
Benzo(b)fluoranthene	2.4			mg/kg	0.0052 I	0.0013 I	0.00070 U	0.016	0.013 J(M1)	0.020	0.087	0.094	0.0062 I	0.00070 U	0.21	0.21	0.0010 I	0.0010 I
Benzo(g,h,i)perylene	32,000	2,500	52,000	mg/kg	0.0029 U	0.0028 U	0.0027 U	0.0036 I	0.0053 I J(M1)	0.0078 I	0.024	0.031	0.0030 U	0.0027 U	0.072	0.072	0.0027 U	0.0027 U
Benzo(k)fluoranthene	24			mg/kg	0.0017 I	0.0016 U	0.0016 U	0.0061 I	0.0043 I J(M1)	0.0063 I	0.035	0.038	0.0026 I	0.0016 U	0.073	0.073	0.0016 U	0.0016 U
Chrysene	77			mg/kg	0.0028 I	0.0020 U	0.0019 U	0.014	0.0071 I J(M1)	0.011	0.053	0.046	0.0036 I	0.0019 U	0.092	0.092	0.0019 U	0.0019 U
Dibenz(a,h)anthracene	0.7			mg/kg	0.0020 U	0.0020 U	0.0019 U	0.0019 U	0.0019 U J(M1)	0.0019 U	0.0086 I	0.0028 I	0.0021 U	0.0019 U	0.0063 I	0.0063 I	0.0019 U	0.0019 U
Fluoranthene	1,200	3,200	59,000	mg/kg	0.0033 I	0.00093 I	0.00087 U	0.023	0.011 J(M1)	0.014	0.065	0.048	0.0041 I	0.00087 U	0.078	0.078	0.00086 U	0.00086 U
Fluorene	160	2,600	33,000	mg/kg	0.0018 U	0.0017 U	0.0017 U	0.0017 U	0.0017 U J(M1)	0.0017 U	0.0017 U	0.0017 U	0.0018 U	0.0017 U	0.0016 U	0.0016 U	0.0017 U	0.0017 U
Indeno(1,2,3-cd)pyrene	6.6			mg/kg	0.0031 U	0.0030 U	0.0029 U	0.0039 I	0.0050 I J(M1)	0.0074 I	0.025	0.031	0.0032 U	0.0029 U	0.068	0.068	0.0029 U	0.0029 U
1-Methylnaphthalene	3.1	200	1,800	mg/kg	0.0013 U	0.0013 U	0.0013 U	0.0012 U	0.0013 U J(M1)	0.0013 U	0.0013 U	0.0013 U	0.0014 U	0.0013 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U
2-Methylnaphthalene	8.5	210	2,100	mg/kg	0.0012 U	0.0012 U	0.0012 U	0.0011 U	0.0012 U J(M1)	0.0012 U	0.0011 U	0.0012 U	0.0013 U	0.0012 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U
Naphthalene	1.2	55	300	mg/kg	0.0025 U	0.0025 U	0.0024 U	0.0024 U	0.0025 U J(M1)	0.0024 U	0.0024 U	0.0024 U	0.0026 U	0.0024 U	0.0024 U	0.0024 U	0.0024 U	0.0024 U
Phenanthrene	250	2,200	36,000	mg/kg	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U J(M1)	0.0016 U	0.0016 U	0.0028 I	0.0017 U	0.0016 U	0.0051 I	0.0051 I	0.0016 U	0.0016 U
Pyrene	880	2,400	45,000	mg/kg	0.0032 I	0.0020 U	0.0019 U	0.023	0.011 J(M1)	0.015	0.075	0.064	0.0051 I	0.0019 U	0.13	0.13	0.0019 U	0.0019 U
Total Benzo(a)pyrene Equivalents		0.1	0.7	mg/kg	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.2	0.2	0.0	0.0
EPA 6020																		
Arsenic		2.1	12	mg/kg														

Notes:

- "U" flag indicates concentration was below the method detection limit (MDL).
- "I" flag indicates concentration was between the MDL and practical quantitation limit (PQL).
- Blank cells denote analyte not requested.
- "V" qualifier indicates that the analyte was detected in both the sample and the associated method blank.
- "1p" qualifier indicates that due to the extract's physical characteristics, the analysis was performed at dilution.
- "J(M1)" qualifier indicates an estimated value: matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- "J(D6)" qualifier indicates an estimated value. The relative percent difference (RPD) between the sample and the sample duplicate exceeded laboratory control limits.
- "P3" qualifier indicates sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

**Table 1B - Commercial/Industrial Soil Analytical Results
Ludlam Trail**

Sampling Unit					DU28 Continued												
Sample Location	Table II, Ch. 62-777 FAC Soil Cleanup Target Levels				SBA-27 (0-0.5')	SBA-27 (0.5-2')	SBA-28 (0-0.5')	SBA-28 (0.5-2')	SBA-29 (0-0.5')	SBA-29 (0.5-2')	SBA-30 (0-0.5')	SBA-30 (0.5-2')	SBA-31 (0-0.5')	SBA-31 (0.5-2')	SBA-63 (0-0.5')	SBA-63 (0.5-1')	SBA-150 (0.5 2)
	Leachability Based on Groundwater Criteria	Direct Exposure Residential	Direct Exposure Commercial / Industrial	Units	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/07/2018	08/08/2018	08/08/2018	09/18/2018
EPA 8270D by SIM																	
Acenaphthene	2.1	2,400	20,000	mg/kg	0.0016 U	0.0015 U	0.0016 U	0.0015 U	0.0015 U	0.0016 U	0.0017 I	0.0016 U	0.0016 U	0.0016 U	0.26 U 1p, P3	0.025 U 1p	0.013 U
Acenaphthylene	27	1,800	20,000	mg/kg	0.0019 I	0.0013 U	0.0040 I	0.0013 U	0.014	0.0036 I	0.24	0.014	0.088	0.0014 U	1.8 1p, P3	0.61 1p	0.012 U
Anthracene	2,500	21,000	300,000	mg/kg	0.0015 U	0.0014 U	0.0018 I	0.0014 U	0.0041 I	0.0015 U	0.075	0.0050 I	0.037	0.0015 U	1.2 1p, P3	0.39 1p	0.013 U
Benzo(a)anthracene	0.8			mg/kg	0.0045 I	0.00072 U	0.016	0.0026 I	0.049	0.0097 I	0.73	0.039	0.32	0.00075 U	3.6 1p, P3	2.3 1p	0.011 U
Benzo(a)pyrene	8	0.1	0.7	mg/kg	0.0063 I	0.0011 U	0.016	0.0029 I	0.055	0.013	0.75	0.047	0.33	0.0012 U	4.4 1p, P3	2.0 1p	0.0092 U
Benzo(b)fluoranthene	2.4			mg/kg	0.0092 I	0.00068 U	0.028	0.0049 I	0.093	0.022	1.7	0.085	0.52	0.00081 I	7.7 1p, P3	3.9 1p	0.0099 U
Benzo(g,h,i)perylene	32,000	2,500	52,000	mg/kg	0.0032 I	0.0026 U	0.0088 I	0.0027 U	0.031	0.0080 I	0.35	0.027	0.14	0.0027 U	1.8 1p, P3	0.83 1p	0.0093 U
Benzo(k)fluoranthene	24			mg/kg	0.0034 I	0.0015 U	0.0096 I	0.0016 I	0.034	0.0078 I	0.47	0.033	0.19	0.0016 U	3.4 1p, P3	1.7 1p	0.0099 U
Chrysene	77			mg/kg	0.0048 I	0.0018 U	0.015	0.0025 I	0.047	0.010 I	0.71	0.044	0.30	0.0019 U	4.0 1p, P3	2.2 1p	0.012 U
Dibenz(a,h)anthracene	0.7			mg/kg	0.0019 U	0.0018 U	0.0019 U	0.0018 U	0.0029 I	0.0019 U	0.029	0.0022 I	0.013	0.0019 U	0.59 I 1p, P3	0.25 1p	0.0086 U
Fluoranthene	1,200	3,200	59,000	mg/kg	0.0054 I	0.00084 U	0.017	0.0026 I	0.059	0.010 I	1.0	0.061	0.36	0.00088 U	4.8 1p, P3	3.4 1p	0.012 U
Fluorene	160	2,600	33,000	mg/kg	0.0017 U	0.0016 U	0.0017 U	0.0016 U	0.0017 U	0.0017 U	0.0034 I	0.0017 U	0.0017 U	0.0017 U	0.27 U 1p, P3	0.026 I 1p	0.013 U
Indeno(1,2,3-cd)pyrene	6.6			mg/kg	0.0033 I	0.0028 U	0.0090 I	0.0029 U	0.033	0.0081 I	0.37	0.028	0.15	0.0030 U	1.9 1p, P3	0.85 1p	0.0085 U
1-Methylnaphthalene	3.1	200	1,800	mg/kg	0.0013 U	0.0012 U	0.0013 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U	0.0013 U	0.0013 U	0.0013 U	0.30 U 1p, P3	0.028 U 1p	0.015 U
2-Methylnaphthalene	8.5	210	2,100	mg/kg	0.0012 U	0.0011 U	0.0012 U	0.0011 U	0.0011 U	0.0011 U	0.0011 U	0.0012 U	0.0012 U	0.0012 U	0.29 U 1p, P3	0.039 I 1p	0.014 U
Naphthalene	1.2	55	300	mg/kg	0.0024 U	0.0023 U	0.0024 U	0.0023 U	0.0024 U	0.0024 U	0.0023 U	0.0025 U	0.0024 U	0.0024 U	0.26 U 1p, P3	0.11 1p	0.013 U
Phenanthrene	250	2,200	36,000	mg/kg	0.0016 U	0.0015 U	0.0016 U	0.0015 U	0.0025 I	0.0016 U	0.022	0.0093 I	0.013	0.0016 U	0.38 I 1p, P3	0.21 1p	0.012 U
Pyrene	880	2,400	45,000	mg/kg	0.0070 I	0.0018 U	0.021	0.0032 I	0.079	0.013	1.2	0.064	0.43	0.0019 U	6.0 1p, P3	3.2 1p	0.012 U
Total Benzo(a)pyrene Equivalents		0.1	0.7	mg/kg	0.0	0.0	0.0	0.0	0.1	0.0	1.1	0.1	0.4	0.0	6.3	3.0	0.0
EPA 6020																	
Arsenic	2.1		12	mg/kg													

Notes:

- "U" flag indicates concentration was below the method detection limit (MDL).
- "I" flag indicates concentration was between the MDL and practical quantitation limit (PQL).
- Blank cells denote analyte not requested.
- "V" qualifier indicates that the analyte was detected in both the sample and the associated method blank.
- "1p" qualifier indicates that due to the extract's physical characteristics, the analysis was performed at dilution.
- "J(M1)" qualifier indicates an estimated value: matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- "J(D6)" qualifier indicates an estimated value. The relative percent difference (RPD) between the sample and the sample duplicate exceeded laboratory control limits.
- "P3" qualifier indicates sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

**Table 1B - Commercial/Industrial Soil Analytical Results
Ludlam Trail**

Sampling Unit	Table II, Ch. 62-777 FAC Soil Cleanup Target Levels			Units	DU29		DU30	
Sample Location	Leachability Based on Groundwater Criteria	Direct Exposure Residential	Direct Exposure Commercial / Industrial		SBA-165 (0-0.5)	SBA-165 (0.5-1)	SBA-166 (0-0.5)	SBA-32 (0-0.5')
					09/18/2018	09/18/2018	9/18/2018	08/07/2018
EPA 8270D by SIM								
Acenaphthene	2.1	2,400	20,000	mg/kg	0.012 U	0.012 U	0.013 U	0.0015 U
Acenaphthylene	27	1,800	20,000	mg/kg	0.011 U	0.011 U	0.042	0.0013 U
Anthracene	2,500	21,000	300,000	mg/kg	0.044	0.014 I	0.084	0.0014 U
Benzo(a)anthracene	0.8			mg/kg	0.23	0.047	0.58	0.00073 U
Benzo(a)pyrene	8	0.1	0.7	mg/kg	0.21	0.040	0.61	0.0011 U
Benzo(b)fluoranthene	2.4			mg/kg	0.33	0.057	1.0	0.00069 U
Benzo(g,h,i)perylene	32,000	2,500	52,000	mg/kg	0.12	0.023 I	0.34	0.0027 U
Benzo(k)fluoranthene	24			mg/kg	0.13	0.025 I	0.37	0.0015 U
Chrysene	77			mg/kg	0.26	0.049	0.71	0.0018 U
Dibenz(a,h)anthracene	0.7			mg/kg	0.033 I	0.0082 U	0.10	0.0018 U
Fluoranthene	1,200	3,200	59,000	mg/kg	0.54	0.091	1.2	0.00085 U
Fluorene	160	2,600	33,000	mg/kg	0.013 U	0.013 U	0.014 U	0.0016 U
Indeno(1,2,3-cd)pyrene	6.6			mg/kg	0.11	0.021 I	0.34	0.0029 U
1-Methylnaphthalene	3.1	200	1,800	mg/kg	0.014 U	0.014 U	0.015 U	0.0012 U
2-Methylnaphthalene	8.5	210	2,100	mg/kg	0.014 U	0.014 U	0.015 U	0.0011 U
Naphthalene	1.2	55	300	mg/kg	0.012 U	0.012 U	0.013 U	0.0024 U
Phenanthrene	250	2,200	36,000	mg/kg	0.28	0.058	0.32	0.0015 U
Pyrene	880	2,400	45,000	mg/kg	0.47	0.082	1.0	0.0018 U
Total Benzo(a)pyrene Equivalents		0.1	0.7	mg/kg	0.3	0.1	0.9	0.0
EPA 6020								
Arsenic		2.1	12	mg/kg				

Notes:

- "U" flag indicates concentration was below the method detection limit (MDL).
- "I" flag indicates concentration was between the MDL and practical quantitation limit (PQL).
- Blank cells denote analyte not requested.
- "V" qualifier indicates that the analyte was detected in both the sample and the associated method blank.
- "1p" qualifier indicates that due to the extract's physical characteristics, the analysis was performed at dilution.
- "J(M1)" qualifier indicates an estimated value: matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- "J(D6)" qualifier indicates an estimated value. The relative percent difference (RPD) between the sample and the sample duplicate exceeded laboratory control limits.
- "P3" qualifier indicates sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

Table 2: Groundwater Analytical Summary - Arsenic
Facility Name: Ludlam Trail, Miami, FL

		Groundwater Arsenic	
		Turbidity	Arsenic
Units		NTU	µg/L
MW-9	1/18/2018	2.34	100
	3/28/2018	2.85	77
	5/2/2018	7.7	122
MW-9I	4/24/2018	4.5	222
	5/2/2018	5.1	151
	8/15/2018	0.23	145
MW-9D	8/15/2018	9.25	2.2
MW-9E	4/23/2018	3.37	0.85 I
MW-9W	4/23/2018	2.64	29.2
	5/2/2018	0.95	14.5
MW-9W-I	8/15/2018	1.76	0.50 U
MW-9W-2S	8/15/2018	0.02	2.4
TWP-10	09/01/2017	16	138
MW-10	10/2/2017	10.1	24.3
	10/9/2017	8.55	20.8
MW-10E	1/18/2018	2.81	0.65 U
MW-11	1/18/2018	4.11	10
TWP-12	09/05/2017	42	11.2 J(L1) L5
MW-12	10/2/2017	4.68	10.3
	10/9/2017	8.67	11.4
	1/17/2018	2.54	21
	3/28/2018	3.84	13.2
TWP-14	09/05/2017	18.6	5.4 I J(L1) L5
TWP-16	09/05/2017	67	5.0 U J(L1) L5
TWP-17	09/01/2017	19.6	26.0
MW-17	10/2/2017	5.82	8.6 I
	10/9/2017	6.07	5 U
TWP-18	08/31/2017	163	5.0 U
TWP-19	08/31/2017	17.7	6.2 I
TWP-21	08/31/2017		5.0 U
TWP-23	08/31/2017	171	5.0 U
TWP-25	8/30/2017		5.0 U
MW-25	1/17/2018	4.16	0.65 U
MW-26	11/2/2017	6.21	5.0 U
TWP-27	08/31/2017	125	16.8
MW-27	10/2/2017	4.89	19.7
	10/9/2017	4.07	5.9 I
	1/17/2018	1.03	17
	3/28/2018	2.79	14.9
TWP-29	08/30/2017	10.7	18.9
MW-29	10/3/2017	6.23	5.7 I
	10/9/2017	2.58	19
MW-29E	1/19/2018	4.12	0.65 U
MW-30	1/19/2018	4.01	1.1 I
TWP-31	08/31/2017	41.7	5.0 U
TWP-33	08/30/2017	343	155
MW-33	10/3/2017	7.25	6.6 I
	10/9/2017	1.14	25.5
MW-33E	1/19/2018	2.51	0.65 U
TWP-35	08/31/2017	31.7	5.0 U
MW-35	11/2/2017	3.39	5.0 U
MW-35	11/15/2017	0.26	0.65 U
MW-36	11/2/2017	6.37	5.0 U
TWP-37	08/30/2017	351	192
MW-37	10/9/2017	1.63	78.6
MW-37I	1/19/2018	4.23	2.5
MW-37E	11/2/2017	5.61	5.0 U
MW-37W	11/2/2017	5.75	5.0 U
MW-38	11/1/2017	5.59	0.50 U
TWP-39	08/30/2017	45.3	5.0 U
MW-40	11/1/2017	5.33	0.50 U
	11/15/2017	0.68	1.0 I
TWP-41	08/30/2017	1.67	5.0 U
MW-42	11/1/2017	2.91	0.50 U
TWP-43	08/30/2017	11.3	77.1
MW-43	10/3/2017	5.54	5.0 U
	10/9/2017	1.3	5.0 U
MW-44	1/18/2018	3.01	2.4
TWP-45	08/29/2017	23.8	21.9
MW-45	10/3/2017	4.43	5.0 U
	10/9/2017	3.31	5.0 U
MW-46	1/16/2018	3.15	0.65 U
TWP-47	08/29/2017	10.7	5.0 U
MW-47	1/16/2018	4.19	0.65 U
MW-48	11/1/2017	4.93	0.51 I
TWP-49	08/29/2017	30.3	5.0 U
MW-49-2	1/16/2018	2.03	1.2 I

Notes:

- **BOLDED CONCENTRATION** exceeds its Groundwater Cleanup Target Level (GCTL).
- **BOLDED ITALICIZED CONCENTRATION** exceeds its Natural Attenuation Default Concentration (NADC).
- µg/L = microgram/Liter
- NTU = Nephelometric Turbidity Units
- "U" flag indicates concentration was below the method detection limit (MDL).
- "I" flag indicates concentration was between the MDL and practical quantitation limit (PQL).
- "J(L1)" Estimated value. Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
- "L5" flag indicates LCS recovery exceeded QC limits. Batch accepted based on matrix spike recovery within LCS limits.

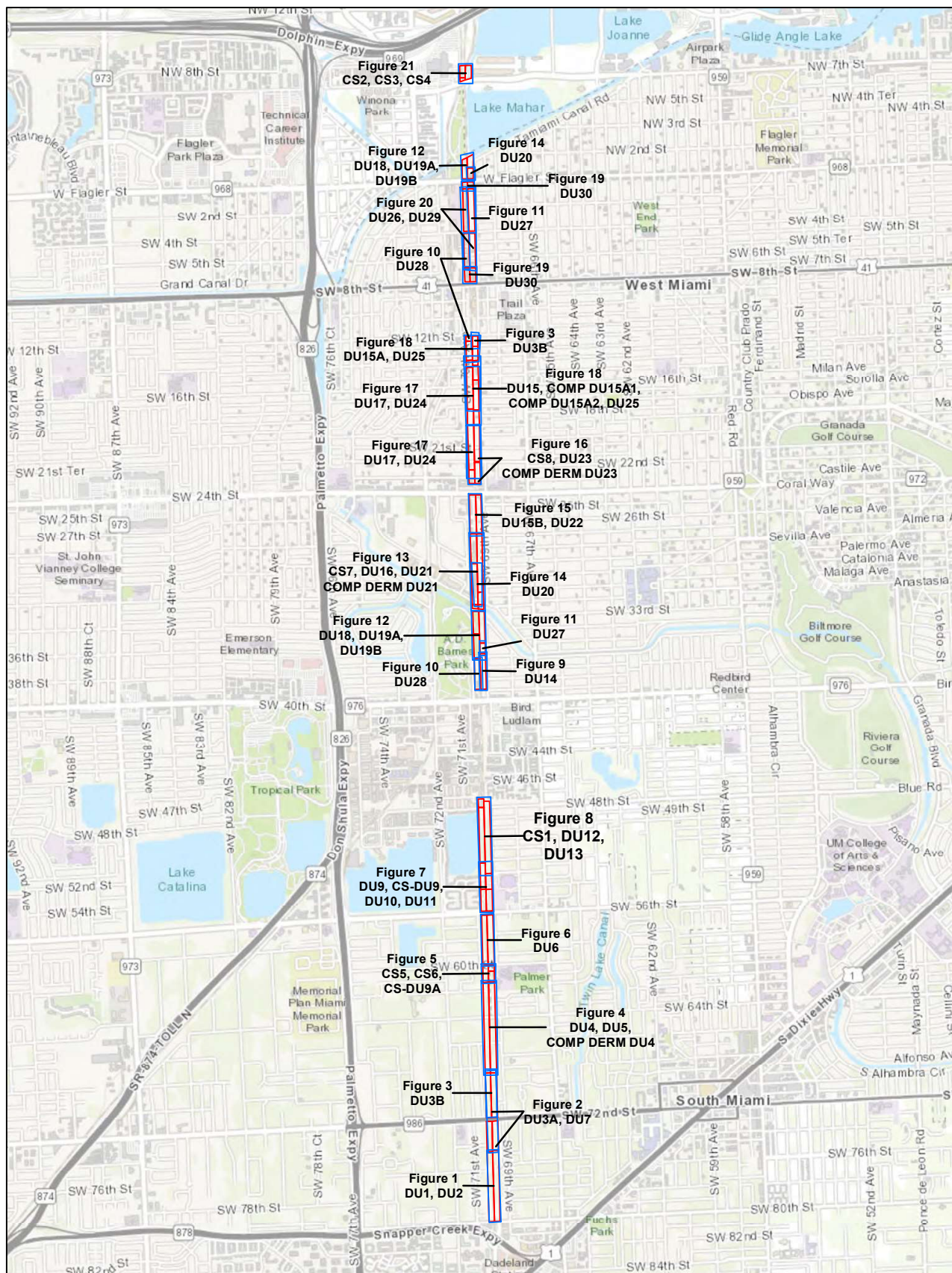
**Table 3 - Well Construction Details and Groundwater Elevation Data
Ludlam Trail**

Group	Well ID	TOC Elevation	Well Diameter	Screen Length	Total Depth	Depth to Water from TOC	Groundwater Elevation
		feet*	inches	feet	feet	feet	feet*
1	MW-37	99.82	2	10	17	12.39	87.43
	MW-37I	100.00	1.5	5	27	NA	NA
	MW-37E	99.05	2	10	19.8	12.68	86.37
	MW-37W	100.31	2	10	20	12.89	87.43
2	MW-9E	99.38	2	10	15.24	6.23	93.15
	MW-9	99.66	2	10	15	6.52	93.14
	MW-9I	99.85	1.5	5	27	NA	NA
	MW-9D	100.00	1.5	5	45	NA	NA
	MW-9W	99.80	2	10	15.23	6.65	93.15
	MW-9W-I	100.49	2	5	27	NA	NA
	MW-9W-2S	100.53	2	10	13.5	7.38	93.15

Notes:

- TOC = Top of Casing
- *Feet reference an arbitrarily selected datum (MW-37I for Group 1 and MW-9D for Group 2)
- TOC elevations were obtained from an SCS elevation survey dated September 14, 2018.
- NA = Not applicable

Figures



- Figure Extent
- Decision Unit Extent

KEY MAP

Soil Sampling Results

Ludlam Corridor All Green Trail

October 2018

0 1,200 2,400
Feet



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Miami, FL 33156



Decision Unit Results			
	DU1 (0-0.5')	DU1 (0.5-2')	DU1 (2-4')
Adjacent Land Use	Residential / Former Agriculture		
Arsenic	3.1	1.3 J	0.82 J
BaPE	0.4	0	0
	DU1-R1 (0-0.5')	DU1-R1 (0.5-2')	DU1-R1 (2-4')
Adjacent Land Use	Residential / Former Agriculture		
Arsenic	3.5	0.32	0.54 J
BaPE	0.5	0.1	0
	DU1-R2 (0-0.5')	DU1-R2 (0.5-2')	DU1-R2 (2-4')
Adjacent Land Use	Residential / Former Agriculture		
Arsenic	3.4	1.8	0.60 J
BaPE	0.2	0.1	0
	DU2 (0-0.5')	DU2 (0.5-2')	DU2 (2-4')
Adjacent Land Use	Residential / Former Agriculture		
Arsenic	5.7	1.8	0.30 J
BaPE	0.2	0.1	0

Figure # 1
Soil Sampling Results
DU1, DU2

General Notes:
 Arsenic and Benzo(a)pyrene Equivalent (BaPE) concentrations in soil are in milligram/kilogram (mg/kg).
 DU - Decision Unit
 CS - Composite Sample
 U - indicates the analyte was analyzed for but not detected
 I, J - indicates the result is less than the reporting limit but greater or equal to the method detection limit (MDL) and the concentration is an approximate value.
 B - indicates compound was found in the blank and sample.
 Polycyclic aromatic hydrocarbons (PAHs) were not detected above the Groundwater Cleanup Target Levels (GCTLs) in groundwater samples; therefore, not shown.
 Arsenic results in groundwater are reported in microgram/liter (ug/L).

Ludlam Corridor All Green Trail

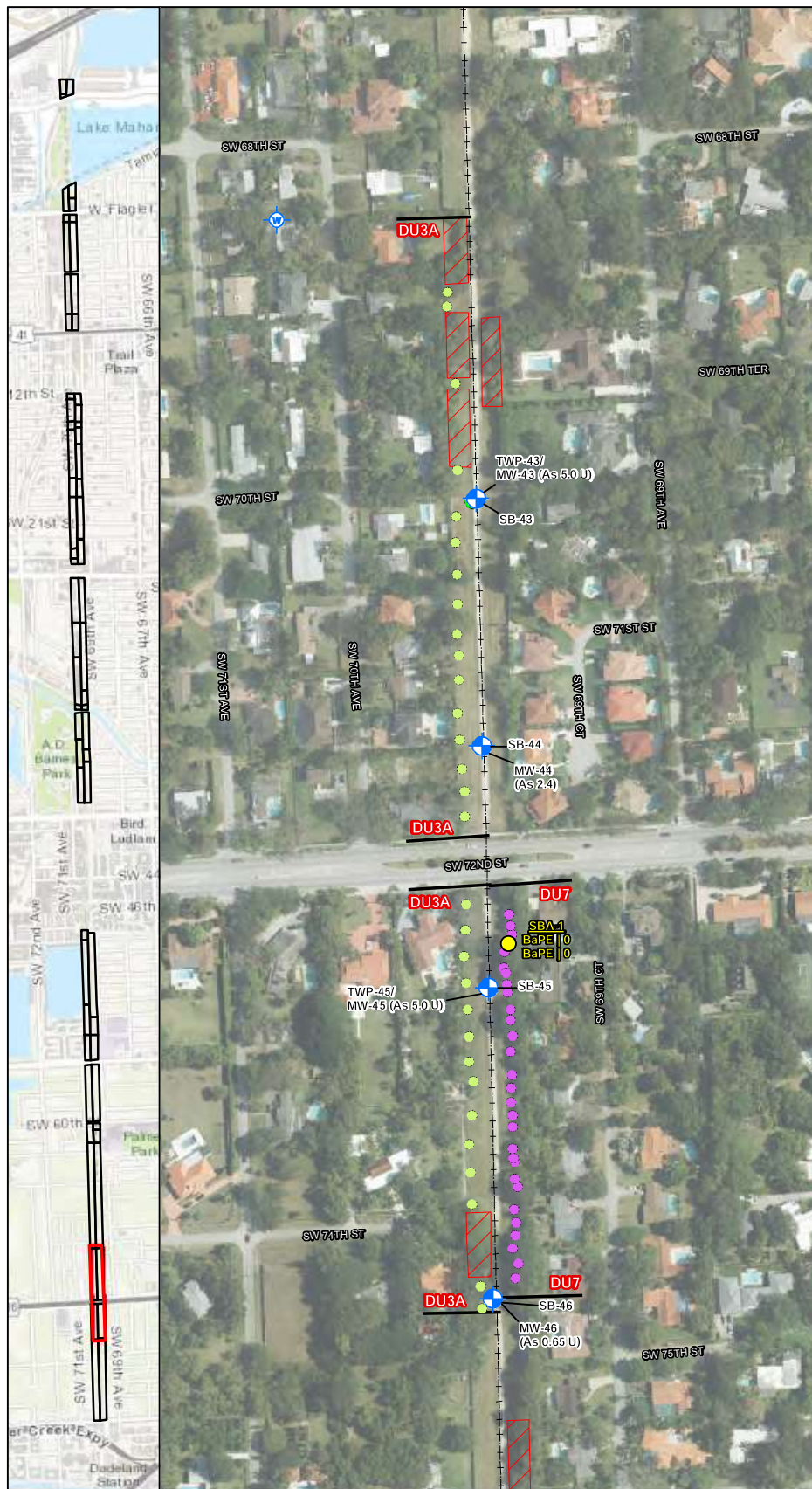
October 2018

0 75 150
Feet



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Decision Unit Results			
	DU7 (0-0.5)	DU7 (0.5-2')	DU7 (2-4')
Adjacent Land Use	Residential / Former Agriculture / Berm		
Arsenic	5.3	3.2	0.67 J
BaPE	0.3	1.9	0.0
	DU3A (0-0.5)	DU3A (0.5-2')	DU3A (2-4')
Adjacent Land Use	Residential / Former Agriculture		
Arsenic	4.5	3.0	0.87 J
BaPE	0.1	0.0	0.1

- Temporary or permanent monitoring well
- Approximate Decision Unit Extent
- Historical Track Location (approximate)
- Boundary not sampled due to physical barrier
- Approximate Potable Water Well Locations
- Soil Borings**
- DU3A
- DU7
- Historical Soil Borings
- Soil Borings Collected 8/2018 w/ Analytics

Figure # 2
Soil Sampling Results
DU3A, DU7

General Notes:
 Arsenic and Benzo(a)pyrene Equivalent (BaPE) concentrations in soil are in milligram/kilogram (mg/kg).
 DU - Decision Unit
 CS - Composite Sample
 U - indicates the analyte was analyzed for but not detected
 I, J - indicates the result is less than the reporting limit but greater or equal to the method detection limit (MDL) and the concentration is an approximate value.
 B - indicates compound was found in the blank and sample.
 Polycyclic aromatic hydrocarbons (PAHs) were not detected above the Groundwater Cleanup Target Levels (GCTLs) in groundwater samples; therefore, not shown.
 Arsenic results in groundwater are reported in microgram/liter (ug/L).

Ludlam Corridor All Green Trail

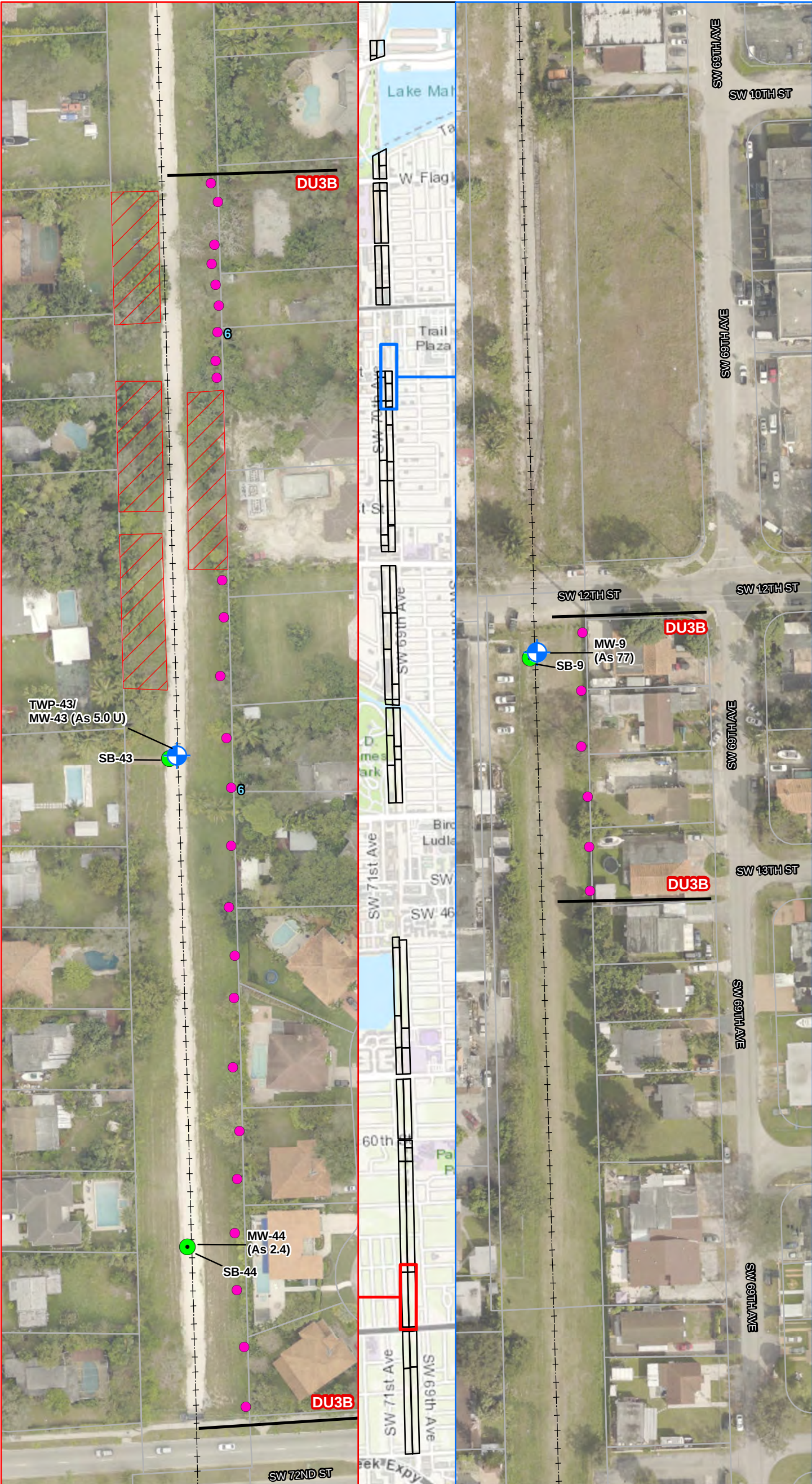
October 2018

0 100 200
Feet



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Decision Unit Results			
	DU3B (0-0.5')	DU3B (0.5-2')	DU3B (2-4')
Adjacent Land Use	Residential / Former Agriculture		
Arsenic	2.0	0.56 J	0.30 J
BaPE	0.1	0.0	0.0

3

Approximate depth-to-water (feet)

Temporary or permanent monitoring well

Approximate Decision Unit Extent

Historical Track Location (approximate)

Boundary not sampled due to physical barrier

Parcel Boundaries

Approximate Potable Water Well Locations

Soil Borings

DU3B

Historical Soil Borings

Figure # 3

Soil Sampling Results

DU3B

General Notes:

Arsenic and Benzo(a)pyrene Equivalent (BaPE) concentrations in soil are in milligram/kilogram (mg/kg).

DU - Decision Unit

CS - Composite Sample

U - indicates the analyte was analyzed for but not detected

I, J - indicates the result is less than the reporting limit but greater or equal to the method detection limit (MDL) and the concentration is an approximate value.

B - indicates compound was found in the blank and sample.

Polycyclic aromatic hydrocarbons (PAHs) were not detected above the Groundwater Cleanup Target Levels (GCTLs) in groundwater samples; therefore, not shown.

Arsenic results in groundwater are reported in microgram/liter (ug/L).

Ludlam Corridor

All Green Trail

October 2018

050100

Feet

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Decision Unit Results			
	DU4 (0-0.5')	DU4 (0.5-2')	DU4 (2-4')
Adjacent Land Use	Residential / Former Agriculture		
Arsenic	3.5	0.76 J	0.16 J
BaPE	0.3	0	0
	DU 5 (0-0.5')	DU5 (0.5-2')	DU5 (2-4')
Adjacent Land Use	Residential / Former Agriculture		
Arsenic	3.2	1.1 J	0.44 J
BaPE	0.1	0.1	0.0

Temporary or permanent monitoring well

Approximate Decision Unit Extent

Historical Track Location (approximate)

Boundary not sampled due to physical barrier

Approximate Potable Water Well Locations

Soil Borings

DU4

DU5

Historical Soil Borings

Soil Borings Collected 8/2018 w/ Analytics

Figure # 4

Soil Sampling Results

DU4, COMP DERM DU4, DU5

General Notes:

Arsenic and Benzo(a)pyrene Equivalent (BaPE) concentrations in soil are in milligram/kilogram (mg/kg).

DU - Decision Unit

CS - Composite Sample

U - indicates the analyte was analyzed for but not detected

I, J - indicates the result is less than the reporting limit but greater or equal to the method detection limit (MDL) and the concentration is an approximate value.

B - indicates compound was found in the blank and sample.

Polycyclic aromatic hydrocarbons (PAHs) were not detected above the Groundwater Cleanup Target Levels (GCTLs) in groundwater samples; therefore, not shown.

Arsenic results in groundwater are reported in microgram/liter (ug/L).

Ludlam Corridor

All Green Trail

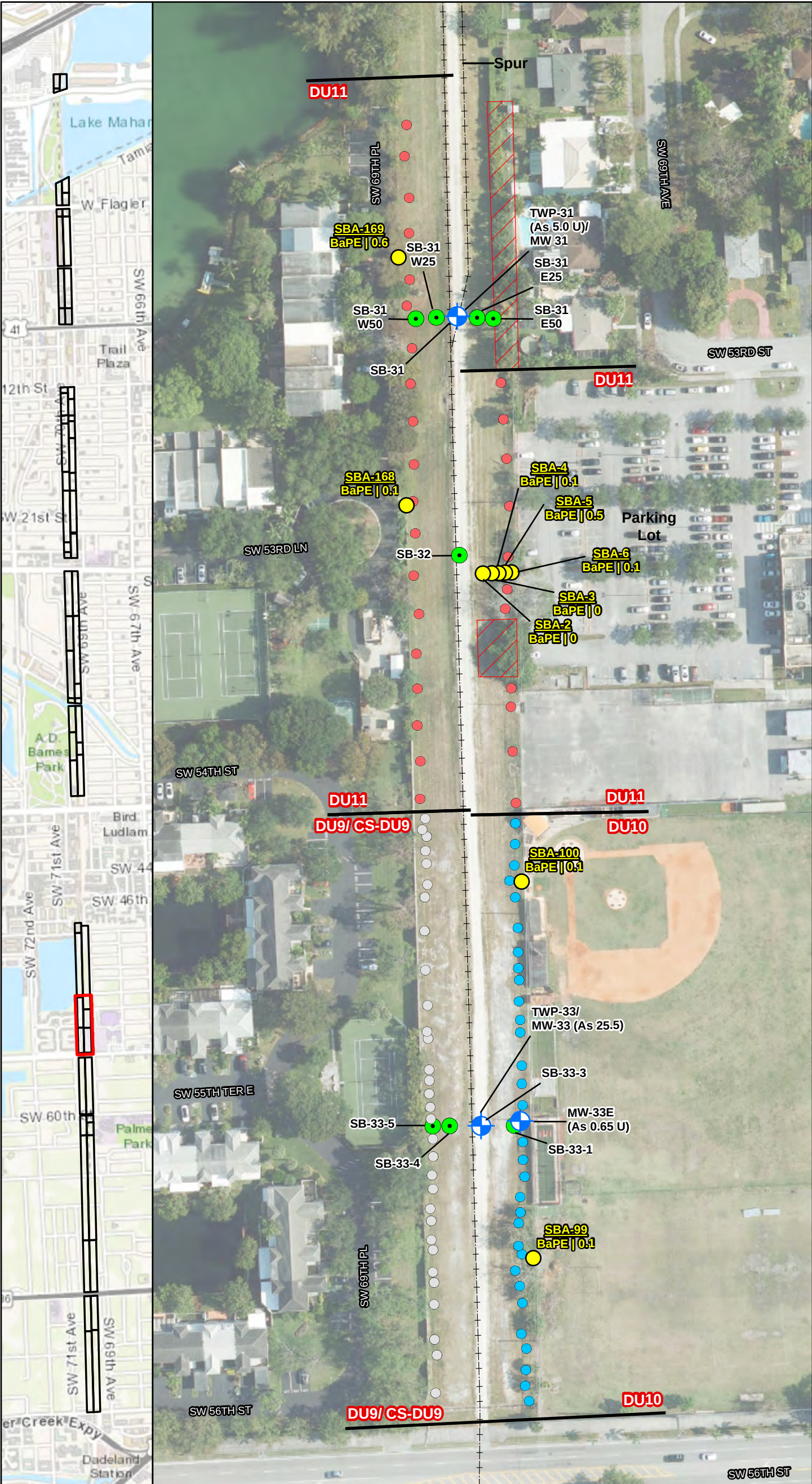
October 2018

0100200

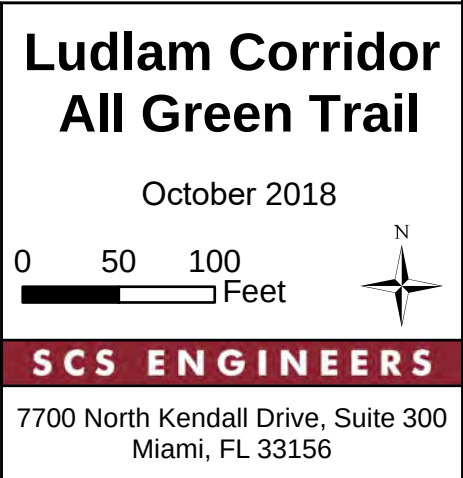
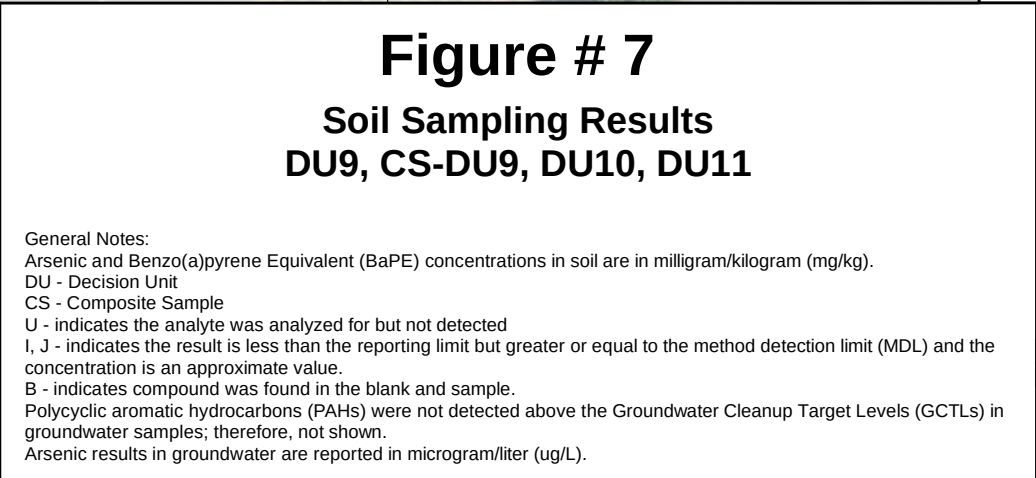
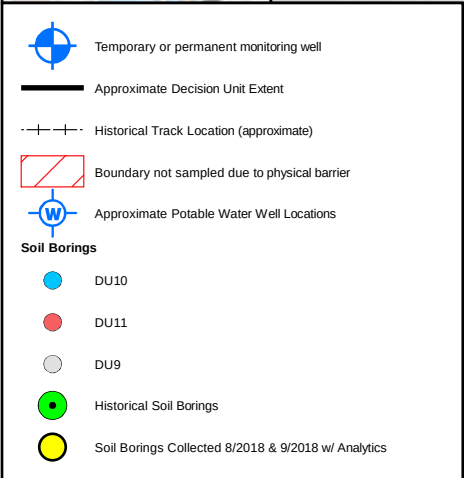
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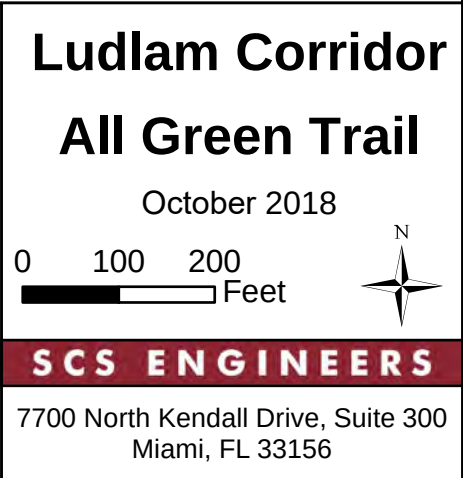
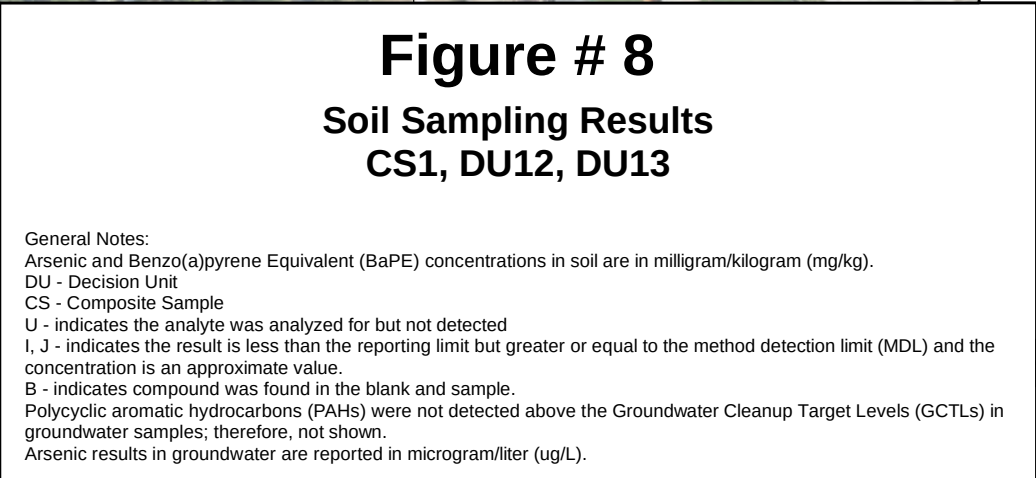
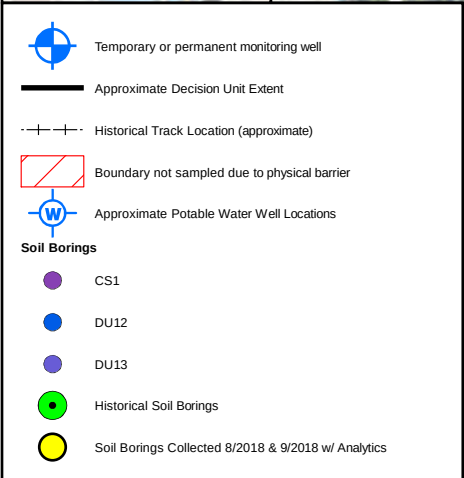


Decision Unit Results			
Adjacent Land Use	DU9 (0-0.5')	CS-DU9 (0.5-2')	CS-DU9 (2-4')
	Public School		
Arsenic	1.9	0.55 J	0.86 J
BaPE	0.1	0.0	0.0
Adjacent Land Use	DU10 (0-0.5')	DU10 (0.5-2')	DU10 (2-4')
	Residential		
Arsenic	4.1	1.4	1.4 U
BaPE	0.9	0.0	0.0
Adjacent Land Use	DU11 (0-0.5')	DU11 (0.5-2')	DU11 (2-4')
	West - Residential East - Public Schools		
Arsenic	3.8	2.2	1.2 J
BaPE	2.4	0.2	0





Decision Unit Results			
	DU12 (0-0.5')	DU12 (0.5-2')	DU12 (2-4')
Adjacent Land Use	Residential		
Arsenic	3.5	1.3 J	0.54 J
BaPE	0.1	0.0	0.0
	DU13 (0-0.5')	DU13 (0.5-2')	DU13 (2-4')
Adjacent Land Use	Residential		
Arsenic	4.1	1.4	0.70 J
BaPE	1.0	0.0	0.0
	CS1 (0-0.5')	CS1 (0.5-2')	CS1 (2-4')
Adjacent Land Use	Commercial / Industrial		
Arsenic	12	13	8
BaPE	1.9	0.1	0





Decision Unit Results			
	DU14 (0-0.5')	DU14 (0.5-2')	DU14 (2-4')
Adjacent Land Use	Residential		
Arsenic	4.5 B	4.9 B	4.4 B
BaPE	1.6	2.0	0.9
	DU14-R1 (0-0.5')	DU14-R1 (0.5-2')	DU14-R1 (2-4')
Adjacent Land Use	Residential		
Arsenic	4.2 B	4.9 B	4.6 B
BaPE	1.0	2.2	1.6
	DU14-R2 (0-0.5')	DU14-R2 (0.5-2')	DU14-R2 (2-4')
Adjacent Land Use	Residential		
Arsenic	4.2 B	5.4 B	3.7 B
BaPE	1.9	3.7	1.7

Temporary or permanent monitoring well

Approximate Decision Unit Extent

Historical Track Location (approximate)

Boundary not sampled due to physical barrier

Approximate Potable Water Well Locations

Soil Borings

DU14

Historical Soil Borings

Soil Borings Collected 8/2018 w/ Analytics

Figure # 9

Soil Sampling Results

DU14

General Notes:

Arsenic and Benzo(a)pyrene Equivalent (BaPE) concentrations in soil are in milligram/kilogram (mg/kg).

DU - Decision Unit

CS - Composite Sample

U - indicates the analyte was analyzed for but not detected

I, J - indicates the result is less than the reporting limit but greater or equal to the method detection limit (MDL) and the concentration is an approximate value.

B - indicates compound was found in the blank and sample.

Polycyclic aromatic hydrocarbons (PAHs) were not detected above the Groundwater Cleanup Target Levels (GCTLs) in groundwater samples; therefore, not shown.

Arsenic results in groundwater are reported in microgram/liter (ug/L).

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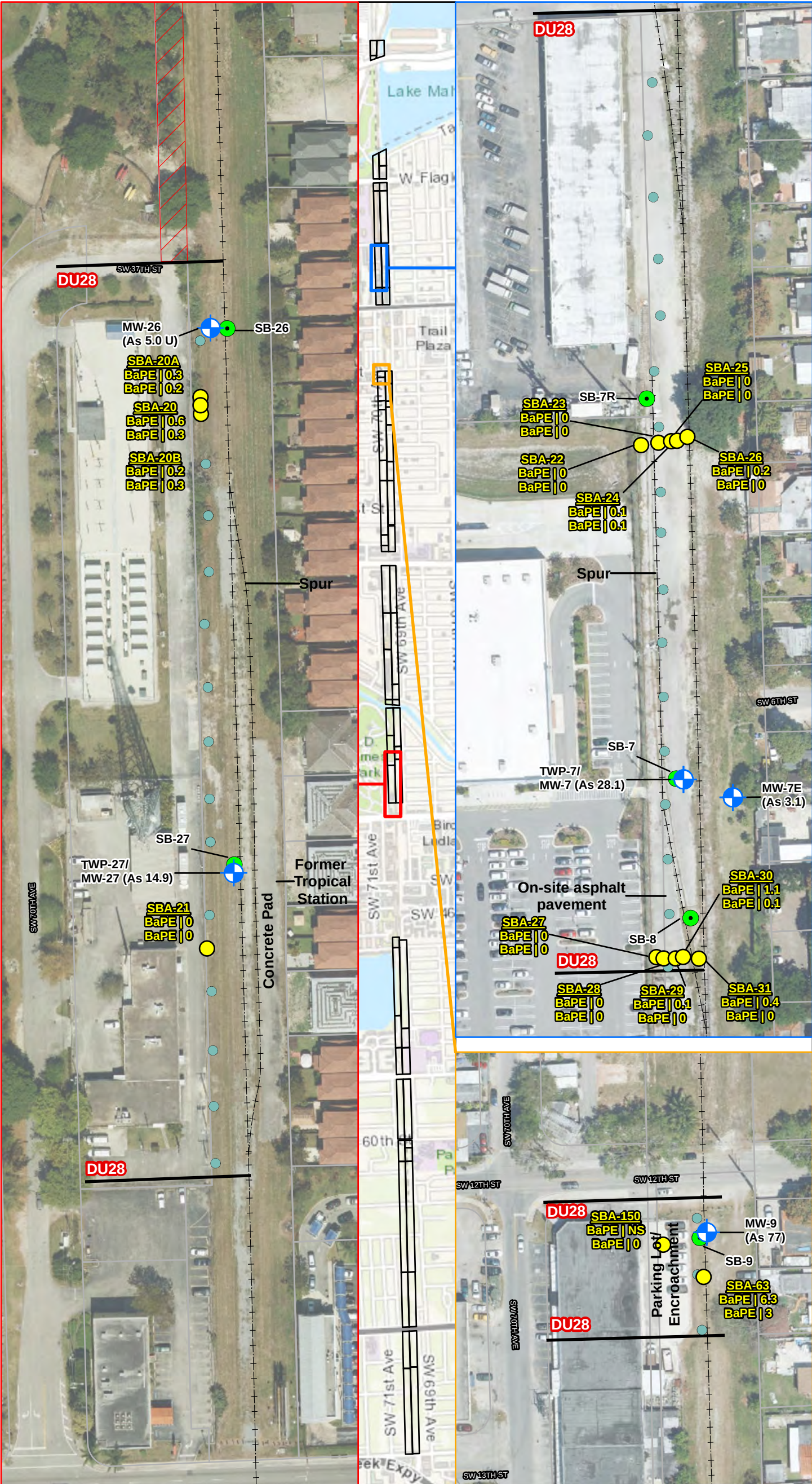
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Feet

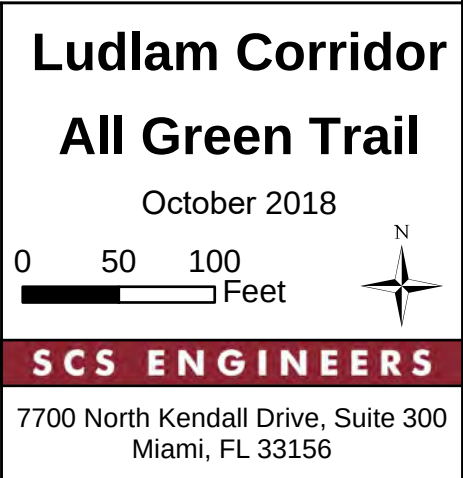
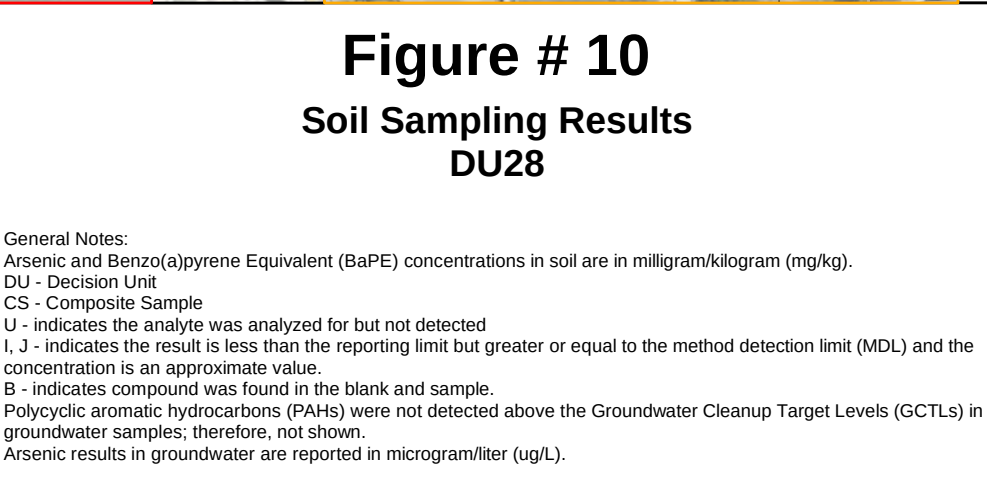
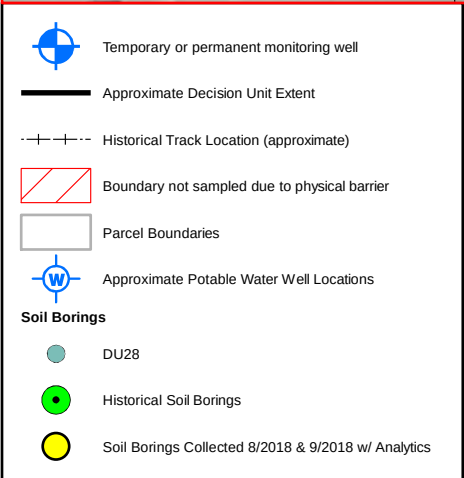
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Decision Unit Results			
	DU28 (0-0.5')	DU28 (0.5-2')	DU28 (2-4')
Adjacent Land Use	Commercial / Industrial		
Arsenic	8.4 B	6.4 B	4.0 B
BaPE	4.9	1.5	0.7





Decision Unit Results			
	DU27 (0-0.5')	DU27 (0.5-2')	DU27 (2-4')
Adjacent Land Use	Residential		
Arsenic	1.4	0.59 J	0.72 J
BaPE	0.3	0	0

Figure # 11
Soil Sampling Results
DU27

General Notes:
Arsenic and Benzo(a)pyrene Equivalent (BaPE) concentrations in soil are in milligram/kilogram (mg/kg).
DU - Decision Unit
CS - Composite Sample
U - indicates the analyte was analyzed for but not detected
I, J - indicates the result is less than the reporting limit but greater or equal to the method detection limit (MDL) and the concentration is an approximate value.
B - indicates compound was found in the blank and sample.
Polycyclic aromatic hydrocarbons (PAHs) were not detected above the Groundwater Cleanup Target Levels (GCTLs) in groundwater samples; therefore, not shown.
Arsenic results in groundwater are reported in microgram/liter (ug/L).

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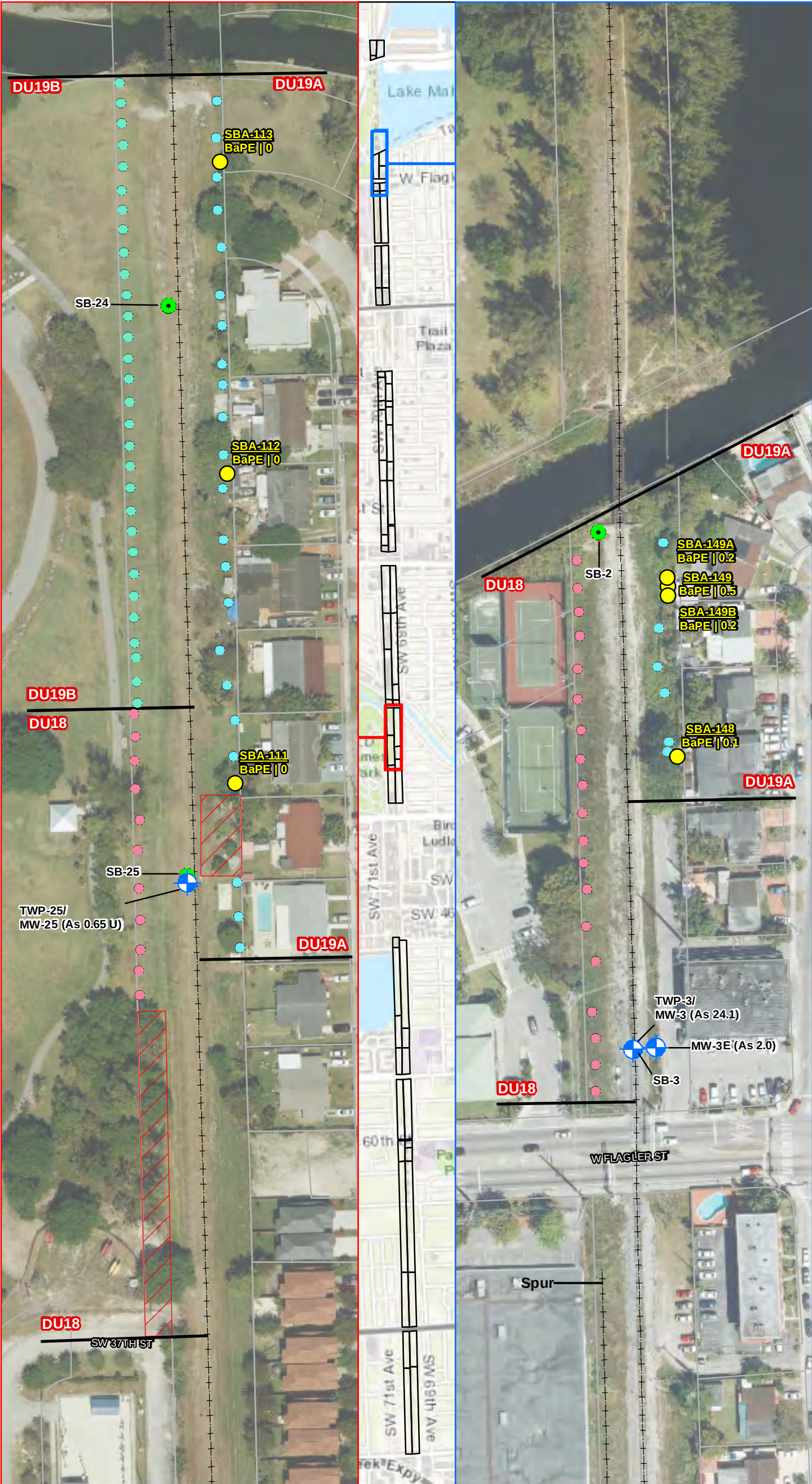
October 2018

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Feet



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Decision Unit Results			
	DU18 (0-0.5')	DU18 (0.5-2')	DU18 (2-4')
Adjacent Land Use	Public Park		
Arsenic	5.3	6.8	3.7
BaPE	0.1	0	0.1
	DU19A (0-0.5')	DU19A (0.5-2')	DU19A (2-4')
Adjacent Land Use	Residential		
Arsenic	4.2	2.6	0.62 J
BaPE	0.6	0.3	0
	DU19B (0-0.5')	DU19B (0.5-2')	DU19B (2-4')
Adjacent Land Use	Public Park		
Arsenic	3.2 B	1.9 B	2.0 B
BaPE	0.7	0.8	0.0

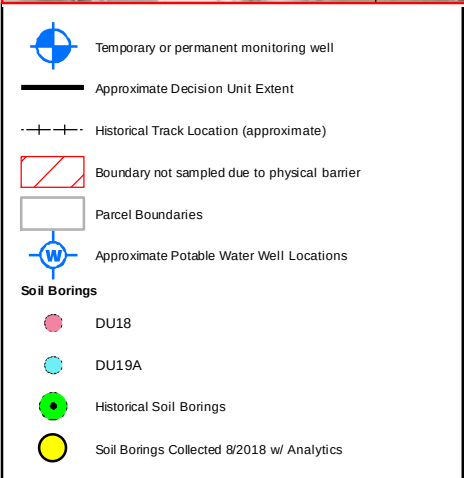


Figure # 12

Soil Sampling Results

DU18, DU19A, DU19B

General Notes:

Arsenic and Benzo(a)pyrene Equivalent (BaPE) concentrations in soil are in milligram/kilogram (mg/kg).

DU - Decision Unit

CS - Composite Sample

U - indicates the analyte was analyzed for but not detected

I, J - indicates the result is less than the reporting limit but greater or equal to the method detection limit (MDL) and the concentration is an approximate value.

B - indicates compound was found in the blank and sample.

Polycyclic aromatic hydrocarbons (PAHs) were not detected above the Groundwater Cleanup Target Levels (GCTLs) in groundwater samples; therefore, not shown.

Arsenic results in groundwater are reported in microgram/liter (ug/L).

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