



Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Thursday, November 21, 2019

Phil Wiescher
Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

RE: A9J0427 - Siltronic Sediment Sampling - 8128.02.19-04

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A9J0427, which was received by the laboratory on 10/11/2019 at 11:33:00AM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: pnerenberg@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler #1	2.2 degC	Cooler #2	1.1 degC
Cooler #3	1.8 degC	Cooler #4	1.4 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

Philip Nerenberg, Lab Director

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Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SED-05-SS-1.0	A9J0427-01	Sediment	10/10/19 09:00	10/11/19 11:33
SED-06-SS-1.0	A9J0427-02	Sediment	10/10/19 10:00	10/11/19 11:33
SED-07-SS-1.0	A9J0427-03	Sediment	10/10/19 11:00	10/11/19 11:33
SED-07-SS-1.0-DUP	A9J0427-04	Sediment	10/10/19 11:00	10/11/19 11:33
SED-08-SS-1.0	A9J0427-05	Sediment	10/10/19 13:10	10/11/19 11:33
SED-09-SS-1.0	A9J0427-06	Sediment	10/10/19 15:15	10/11/19 11:33
SED-10-SS-1.0	A9J0427-07	Sediment	10/10/19 14:15	10/11/19 11:33
SED-SS-RB	A9J0427-08	Water	10/10/19 17:00	10/11/19 11:33

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ANALYTICAL CASE NARRATIVE

Work Order: A9J0427

Analyses with dilutions:

The following samples were diluted for SVOC analysis due to high target analyte concentrations:

SED-05-SS-1.0 (100x)
SED-06-SS-1.0 (100x)
SED-07-SS-1.0 (10x)
SED-07-DUP-SS-1.0 (10x)
SED-08-SS-1.0 (10x)
SED-09-SS-1.0 (40x)
SED-10-SS-1.0 (10x)

The following samples were diluted for PAH homolog analysis due to high target analyte concentrations :

SED-05-SS-1.0 (4x)
SED-06-SS-1.0 (10x)
SED-07-SS-1.0 (4x)
SED-09-SS-1.0 (4x)
SED-10-SS-1.0 (4x)

The following sample was diluted for PAH homolog analysis due to high non-target analyte concentrations:

SED-08-SS-1.0 (4x)

Philip Nerenberg
Lab Director
11/21/19

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ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-05-SS-1.0 (A9J0427-01)		Matrix: Sediment			Batch: 9101214			
Diesel	ND	12.4	24.9	mg/kg dry	1	10/17/19 16:22	NWTPH-Dx	
Oil	57.3	24.9	49.7	mg/kg dry	1	10/17/19 16:22	NWTPH-Dx	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 96 %</i>		<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/17/19 16:22</i>	<i>NWTPH-Dx</i>	
SED-06-SS-1.0 (A9J0427-02)		Matrix: Sediment			Batch: 9101214			
Diesel	ND	13.8	27.6	mg/kg dry	1	10/17/19 17:42	NWTPH-Dx	
Oil	151	27.6	55.3	mg/kg dry	1	10/17/19 17:42	NWTPH-Dx	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 92 %</i>		<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/17/19 17:42</i>	<i>NWTPH-Dx</i>	
SED-07-SS-1.0 (A9J0427-03)		Matrix: Sediment			Batch: 9101214			
Diesel	121	15.5	30.9	mg/kg dry	1	10/17/19 19:23	NWTPH-Dx	F-15
Oil	330	30.9	61.8	mg/kg dry	1	10/17/19 19:23	NWTPH-Dx	F-16
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 93 %</i>		<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/17/19 19:23</i>	<i>NWTPH-Dx</i>	
SED-07-SS-1.0-DUP (A9J0427-04)		Matrix: Sediment			Batch: 9101214			
Diesel	91.9	16.3	32.7	mg/kg dry	1	10/17/19 19:43	NWTPH-Dx	F-15
Oil	252	32.7	65.3	mg/kg dry	1	10/17/19 19:43	NWTPH-Dx	F-16
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 96 %</i>		<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/17/19 19:43</i>	<i>NWTPH-Dx</i>	
SED-08-SS-1.0 (A9J0427-05)		Matrix: Sediment			Batch: 9101214			
Diesel	ND	13.6	27.1	mg/kg dry	1	10/17/19 20:03	NWTPH-Dx	
Oil	77.1	27.1	54.3	mg/kg dry	1	10/17/19 20:03	NWTPH-Dx	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 97 %</i>		<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/17/19 20:03</i>	<i>NWTPH-Dx</i>	
SED-09-SS-1.0 (A9J0427-06)		Matrix: Sediment			Batch: 9101214			
Diesel	55.4	14.2	28.4	mg/kg dry	1	10/17/19 23:18	NWTPH-Dx	F-15
Oil	150	28.4	56.7	mg/kg dry	1	10/17/19 23:18	NWTPH-Dx	F-16
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 94 %</i>		<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/17/19 23:18</i>	<i>NWTPH-Dx</i>	
SED-10-SS-1.0 (A9J0427-07)		Matrix: Sediment			Batch: 9101214			
Diesel	ND	17.7	35.5	mg/kg dry	1	10/17/19 23:38	NWTPH-Dx	
Oil	89.5	35.5	70.9	mg/kg dry	1	10/17/19 23:38	NWTPH-Dx	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 97 %</i>		<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/17/19 23:38</i>	<i>NWTPH-Dx</i>	

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ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-SS-RB (A9J0427-08)				Matrix: Water		Batch: 9101068		
Diesel	ND	0.0943	0.189	mg/L	1	10/15/19 04:28	NWTPH-Dx	
Oil	ND	0.189	0.377	mg/L	1	10/15/19 04:28	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 103 %</i>		<i>Limits: 50-150 %</i>	<i>1</i>	<i>10/15/19 04:28</i>	<i>NWTPH-Dx</i>	

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ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-05-SS-1.0 (A9J0427-01)				Matrix: Sediment		Batch: 9101343		
Acenaphthene	253	168	337	ug/kg dry	100	10/21/19 13:40	EPA 8270D	Ja
Acenaphthylene	320	168	337	ug/kg dry	100	10/21/19 13:40	EPA 8270D	Ja
Anthracene	ND	168	337	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Benz(a)anthracene	545	168	337	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Benzo(a)pyrene	1670	253	505	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Benzo(b)fluoranthene	1520	253	505	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Benzo(k)fluoranthene	524	253	505	ug/kg dry	100	10/21/19 13:40	EPA 8270D	M-05
Benzo(g,h,i)perylene	1770	168	337	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Chrysene	894	168	337	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Dibenz(a,h)anthracene	201	168	337	ug/kg dry	100	10/21/19 13:40	EPA 8270D	Ja
Fluoranthene	488	168	337	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Fluorene	ND	168	337	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Indeno(1,2,3-cd)pyrene	1530	168	337	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
1-Methylnaphthalene	ND	337	674	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
2-Methylnaphthalene	ND	337	674	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Naphthalene	ND	337	674	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Phenanthrene	210	168	337	ug/kg dry	100	10/21/19 13:40	EPA 8270D	Ja
Pyrene	901	168	337	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Carbazole	ND	253	505	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Dibenzofuran	ND	168	337	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
4-Chloro-3-methylphenol	ND	1680	3370	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
2-Chlorophenol	ND	843	1680	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
2,4-Dichlorophenol	ND	843	1680	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
2,4-Dimethylphenol	ND	843	1680	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
2,4-Dinitrophenol	ND	4210	8430	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	4210	8430	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
2-Methylphenol	ND	421	843	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
3+4-Methylphenol(s)	ND	421	843	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
2-Nitrophenol	ND	1680	3370	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
4-Nitrophenol	ND	1680	3370	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Pentachlorophenol (PCP)	ND	1680	3370	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Phenol	ND	337	674	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
2,3,4,6-Tetrachlorophenol	ND	843	1680	ug/kg dry	100	10/21/19 13:40	EPA 8270D	

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Project Manager: **Phil Wiescher**

Report ID:

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ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-05-SS-1.0 (A9J0427-01)				Matrix: Sediment		Batch: 9101343		
2,3,5,6-Tetrachlorophenol	ND	843	1680	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
2,4,5-Trichlorophenol	ND	843	1680	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
2,4,6-Trichlorophenol	ND	843	1680	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	2530	5050	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Butyl benzyl phthalate	ND	843	1680	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Diethylphthalate	ND	843	1680	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Dimethylphthalate	ND	843	1680	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Di-n-butylphthalate	ND	843	1680	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Di-n-octyl phthalate	ND	1350	1680	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
N-Nitrosodimethylamine	ND	421	843	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
N-Nitroso-di-n-propylamine	ND	421	843	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
N-Nitrosodiphenylamine	ND	421	843	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Bis(2-Chloroethoxy) methane	ND	421	843	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Bis(2-Chloroethyl) ether	ND	421	843	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
2,2'-Oxybis(1-Chloropropane)	ND	421	843	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Hexachlorobenzene	ND	168	337	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Hexachlorobutadiene	ND	421	843	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Hexachlorocyclopentadiene	ND	843	1680	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Hexachloroethane	ND	421	843	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
2-Chloronaphthalene	ND	168	337	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
1,2-Dichlorobenzene	ND	421	843	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
1,3-Dichlorobenzene	ND	421	843	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
1,4-Dichlorobenzene	ND	421	843	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
1,2,4-Trichlorobenzene	ND	421	843	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
4-Bromophenyl phenyl ether	ND	421	843	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	421	843	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Aniline	ND	843	1680	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
4-Chloroaniline	ND	421	843	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
2-Nitroaniline	ND	3370	6740	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
3-Nitroaniline	ND	3370	6740	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
4-Nitroaniline	ND	3370	6740	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Nitrobenzene	ND	1680	3370	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
2,4-Dinitrotoluene	ND	1680	3370	ug/kg dry	100	10/21/19 13:40	EPA 8270D	

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Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-05-SS-1.0 (A9J0427-01)		Matrix: Sediment			Batch: 9101343			
2,6-Dinitrotoluene	ND	1680	3370	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Benzoic acid	ND	21100	42100	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Benzyl alcohol	ND	843	1680	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Isophorone	ND	421	843	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Azobenzene (1,2-DPH)	ND	421	843	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Bis(2-Ethylhexyl) adipate	ND	4210	8430	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
3,3'-Dichlorobenzidine	ND	3370	6740	ug/kg dry	100	10/21/19 13:40	EPA 8270D	Q-52
1,2-Dinitrobenzene	ND	4210	8430	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
1,3-Dinitrobenzene	ND	4210	8430	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
1,4-Dinitrobenzene	ND	4210	8430	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
Pyridine	ND	843	1680	ug/kg dry	100	10/21/19 13:40	EPA 8270D	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery:</i>	40 %	<i>Limits:</i>	37-122 %	100	10/21/19 13:40	EPA 8270D S-05
<i>2-Fluorobiphenyl (Surr)</i>			65 %		44-115 %	100	10/21/19 13:40	EPA 8270D S-05
<i>Phenol-d6 (Surr)</i>			48 %		33-122 %	100	10/21/19 13:40	EPA 8270D S-05
<i>p-Terphenyl-d14 (Surr)</i>			82 %		54-127 %	100	10/21/19 13:40	EPA 8270D S-05
<i>2-Fluorophenol (Surr)</i>			49 %		35-115 %	100	10/21/19 13:40	EPA 8270D S-05
<i>2,4,6-Tribromophenol (Surr)</i>			124 %		39-132 %	100	10/21/19 13:40	EPA 8270D S-05
SED-06-SS-1.0 (A9J0427-02)		Matrix: Sediment			Batch: 9101343			
Acenaphthene	200	184	370	ug/kg dry	100	10/21/19 14:46	EPA 8270D	Ja
Acenaphthylene	239	184	370	ug/kg dry	100	10/21/19 14:46	EPA 8270D	Ja
Anthracene	ND	184	370	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Benz(a)anthracene	520	184	370	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Benzo(a)pyrene	1450	277	554	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Benzo(b)fluoranthene	1500	277	554	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Benzo(k)fluoranthene	576	277	554	ug/kg dry	100	10/21/19 14:46	EPA 8270D	M-05
Benzo(g,h,i)perylene	1330	184	370	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Chrysene	852	184	370	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Dibenz(a,h)anthracene	ND	184	370	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Fluoranthene	830	184	370	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Fluorene	ND	184	370	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Indeno(1,2,3-cd)pyrene	1210	184	370	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
1-Methylnaphthalene	ND	370	738	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
2-Methylnaphthalene	ND	370	738	ug/kg dry	100	10/21/19 14:46	EPA 8270D	

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Philip Nerenberg, Lab Director



Apex Laboratories, LLC

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Tigard, OR 97223

503-718-2323

EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200

Portland, OR 97209

Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-06-SS-1.0 (A9J0427-02)				Matrix: Sediment		Batch: 9101343		
Naphthalene	ND	370	738	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Phenanthrene	886	184	370	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Pyrene	1110	184	370	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Carbazole	ND	277	554	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Dibenzofuran	ND	184	370	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
4-Chloro-3-methylphenol	ND	1840	3700	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
2-Chlorophenol	ND	924	1840	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
2,4-Dichlorophenol	ND	924	1840	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
2,4-Dimethylphenol	ND	924	1840	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
2,4-Dinitrophenol	ND	4610	9240	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	4610	9240	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
2-Methylphenol	ND	461	924	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
3+4-Methylphenol(s)	ND	461	924	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
2-Nitrophenol	ND	1840	3700	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
4-Nitrophenol	ND	1840	3700	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Pentachlorophenol (PCP)	ND	1840	3700	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Phenol	ND	370	738	ug/kg dry	100	10/21/19 14:46	EPA 8270D	Q-42
2,3,4,6-Tetrachlorophenol	ND	924	1840	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
2,3,5,6-Tetrachlorophenol	ND	924	1840	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
2,4,5-Trichlorophenol	ND	924	1840	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
2,4,6-Trichlorophenol	ND	924	1840	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	2770	5540	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Butyl benzyl phthalate	ND	924	1840	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Diethylphthalate	ND	924	1840	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Dimethylphthalate	ND	924	1840	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Di-n-butylphthalate	ND	924	1840	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Di-n-octyl phthalate	ND	1480	1840	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
N-Nitrosodimethylamine	ND	461	924	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
N-Nitroso-di-n-propylamine	ND	461	924	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
N-Nitrosodiphenylamine	ND	461	924	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Bis(2-Chloroethoxy) methane	ND	461	924	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Bis(2-Chloroethyl) ether	ND	461	924	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
2,2'-Oxybis(1-Chloropropane)	ND	461	924	ug/kg dry	100	10/21/19 14:46	EPA 8270D	

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Philip Nerenberg, Lab Director

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Portland, OR 97209

Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-06-SS-1.0 (A9J0427-02)				Matrix: Sediment		Batch: 9101343		
Hexachlorobenzene	ND	184	370	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Hexachlorobutadiene	ND	461	924	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Hexachlorocyclopentadiene	ND	924	1840	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Hexachloroethane	ND	461	924	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
2-Chloronaphthalene	ND	184	370	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
1,2-Dichlorobenzene	ND	461	924	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
1,3-Dichlorobenzene	ND	461	924	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
1,4-Dichlorobenzene	ND	461	924	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
1,2,4-Trichlorobenzene	ND	461	924	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
4-Bromophenyl phenyl ether	ND	461	924	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	461	924	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Aniline	ND	924	1840	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
4-Chloroaniline	ND	461	924	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
2-Nitroaniline	ND	3700	7380	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
3-Nitroaniline	ND	3700	7380	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
4-Nitroaniline	ND	3700	7380	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Nitrobenzene	ND	1840	3700	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
2,4-Dinitrotoluene	ND	1840	3700	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
2,6-Dinitrotoluene	ND	1840	3700	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Benzoic acid	ND	23100	46100	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Benzyl alcohol	ND	924	1840	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Isophorone	ND	461	924	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Azobenzene (1,2-DPH)	ND	461	924	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Bis(2-Ethylhexyl) adipate	ND	4610	9240	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
3,3'-Dichlorobenzidine	ND	3700	7380	ug/kg dry	100	10/21/19 14:46	EPA 8270D	Q-52
1,2-Dinitrobenzene	ND	4610	9240	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
1,3-Dinitrobenzene	ND	4610	9240	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
1,4-Dinitrobenzene	ND	4610	9240	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Pyridine	ND	924	1840	ug/kg dry	100	10/21/19 14:46	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery: 43 %		Limits: 37-122 %	100	10/21/19 14:46	EPA 8270D	S-05
2-Fluorobiphenyl (Surr)		63 %		44-115 %	100	10/21/19 14:46	EPA 8270D	S-05
Phenol-d6 (Surr)		39 %		33-122 %	100	10/21/19 14:46	EPA 8270D	S-05
p-Terphenyl-d14 (Surr)		88 %		54-127 %	100	10/21/19 14:46	EPA 8270D	S-05
2-Fluorophenol (Surr)		44 %		35-115 %	100	10/21/19 14:46	EPA 8270D	S-05

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Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-06-SS-1.0 (A9J0427-02)				Matrix: Sediment		Batch: 9101343		
Surrogate: 2,4,6-Tribromophenol (Surr)		Recovery: 158 %		Limits: 39-132 %	100	10/21/19 14:46	EPA 8270D	S-05
SED-07-SS-1.0 (A9J0427-03RE1)				Matrix: Sediment		Batch: 9101343		
Acenaphthene	78.3	20.0	40.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	Ja
Acenaphthylene	27.3	20.0	40.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Anthracene	48.9	20.0	40.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	Ja
Benz(a)anthracene	77.0	20.0	40.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Benzo(a)pyrene	107	30.1	60.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Benzo(b)fluoranthene	102	30.1	60.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Benzo(k)fluoranthene	36.3	30.1	60.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Benzo(g,h,i)perylene	103	20.0	40.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	Ja
Chrysene	98.5	20.0	40.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Dibenz(a,h)anthracene	ND	20.0	40.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Fluoranthene	253	20.0	40.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Fluorene	52.1	20.0	40.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Indeno(1,2,3-cd)pyrene	84.9	20.0	40.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
1-Methylnaphthalene	ND	40.2	80.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
2-Methylnaphthalene	51.0	40.2	80.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Naphthalene	121	40.2	80.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Phenanthrene	277	20.0	40.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Pyrene	303	20.0	40.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	Ja
Carbazole	ND	30.1	60.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Dibenzofuran	21.7	20.0	40.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
4-Chloro-3-methylphenol	ND	200	402	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
2-Chlorophenol	ND	100	200	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
2,4-Dichlorophenol	ND	100	200	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
2,4-Dimethylphenol	ND	100	200	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
2,4-Dinitrophenol	ND	501	1000	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	501	1000	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
2-Methylphenol	ND	50.1	100	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
3+4-Methylphenol(s)	200	50.1	100	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
2-Nitrophenol	ND	200	402	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
4-Nitrophenol	ND	200	402	ug/kg dry	10	10/22/19 16:22	EPA 8270D	

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Philip Nerenberg, Lab Director

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Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****ANALYTICAL SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-07-SS-1.0 (A9J0427-03RE1)				Matrix: Sediment		Batch: 9101343		
Pentachlorophenol (PCP)	ND	200	402	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Phenol	ND	40.2	80.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
2,3,4,6-Tetrachlorophenol	ND	100	200	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
2,3,5,6-Tetrachlorophenol	ND	100	200	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
2,4,5-Trichlorophenol	ND	100	200	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
2,4,6-Trichlorophenol	ND	100	200	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	301	602	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Butyl benzyl phthalate	ND	100	200	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Diethylphthalate	ND	100	200	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Dimethylphthalate	ND	100	200	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Di-n-butylphthalate	ND	100	200	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Di-n-octyl phthalate	ND	161	200	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
N-Nitrosodimethylamine	ND	50.1	100	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
N-Nitroso-di-n-propylamine	ND	50.1	100	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
N-Nitrosodiphenylamine	ND	100	100	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Bis(2-Chloroethoxy) methane	ND	50.1	100	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Bis(2-Chloroethyl) ether	ND	50.1	100	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
2,2'-Oxybis(1-Chloropropane)	ND	50.1	100	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Hexachlorobenzene	ND	20.0	40.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Hexachlorobutadiene	ND	50.1	100	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Hexachlorocyclopentadiene	ND	100	200	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Hexachloroethane	ND	50.1	100	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
2-Chloronaphthalene	ND	20.0	40.2	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
1,2-Dichlorobenzene	ND	50.1	100	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
1,3-Dichlorobenzene	ND	50.1	100	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
1,4-Dichlorobenzene	ND	50.1	100	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
1,2,4-Trichlorobenzene	ND	50.1	100	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
4-Bromophenyl phenyl ether	ND	50.1	100	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	50.1	100	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Aniline	ND	100	200	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
4-Chloroaniline	ND	50.1	100	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
2-Nitroaniline	ND	402	802	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
3-Nitroaniline	ND	402	802	ug/kg dry	10	10/22/19 16:22	EPA 8270D	

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Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-07-SS-1.0 (A9J0427-03RE1)				Matrix: Sediment		Batch: 9101343		
4-Nitroaniline	ND	402	802	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Nitrobenzene	ND	200	402	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
2,4-Dinitrotoluene	ND	200	402	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
2,6-Dinitrotoluene	ND	200	402	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Benzoic acid	ND	2510	5010	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Benzyl alcohol	ND	100	200	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Isophorone	ND	50.1	100	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Azobenzene (1,2-DPH)	ND	50.1	100	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Bis(2-Ethylhexyl) adipate	ND	501	1000	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
3,3'-Dichlorobenzidine	ND	402	802	ug/kg dry	10	10/22/19 16:22	EPA 8270D	Q-52
1,2-Dinitrobenzene	ND	501	1000	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
1,3-Dinitrobenzene	ND	501	1000	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
1,4-Dinitrobenzene	ND	501	1000	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
Pyridine	ND	100	200	ug/kg dry	10	10/22/19 16:22	EPA 8270D	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 63 %</i>		<i>Limits: 37-122 %</i>	<i>10</i>	<i>10/22/19 16:22</i>	<i>EPA 8270D</i>	
<i>2-Fluorobiphenyl (Surr)</i>		<i>63 %</i>		<i>44-115 %</i>	<i>10</i>	<i>10/22/19 16:22</i>	<i>EPA 8270D</i>	
<i>Phenol-d6 (Surr)</i>		<i>52 %</i>		<i>33-122 %</i>	<i>10</i>	<i>10/22/19 16:22</i>	<i>EPA 8270D</i>	
<i>p-Terphenyl-d14 (Surr)</i>		<i>77 %</i>		<i>54-127 %</i>	<i>10</i>	<i>10/22/19 16:22</i>	<i>EPA 8270D</i>	
<i>2-Fluorophenol (Surr)</i>		<i>56 %</i>		<i>35-115 %</i>	<i>10</i>	<i>10/22/19 16:22</i>	<i>EPA 8270D</i>	
<i>2,4,6-Tribromophenol (Surr)</i>		<i>110 %</i>		<i>39-132 %</i>	<i>10</i>	<i>10/22/19 16:22</i>	<i>EPA 8270D</i>	

SED-07-SS-1.0-DUP (A9J0427-04)				Matrix: Sediment		Batch: 9101343		
Acenaphthene	48.9	22.4	45.0	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Acenaphthylene	ND	22.4	45.0	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Anthracene	40.7	22.4	45.0	ug/kg dry	10	10/21/19 20:37	EPA 8270D	Ja
Benz(a)anthracene	81.9	22.4	45.0	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Benzo(a)pyrene	125	33.7	67.4	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Benzo(b)fluoranthene	102	33.7	67.4	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Benzo(k)fluoranthene	37.0	33.7	67.4	ug/kg dry	10	10/21/19 20:37	EPA 8270D	Ja
Benzo(g,h,i)perylene	128	22.4	45.0	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Chrysene	95.7	22.4	45.0	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Dibenz(a,h)anthracene	ND	22.4	45.0	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Fluoranthene	225	22.4	45.0	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Fluorene	33.4	22.4	45.0	ug/kg dry	10	10/21/19 20:37	EPA 8270D	Ja

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Philip Nerenberg, Lab Director



Apex Laboratories, LLC

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200

Portland, OR 97209

Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-07-SS-1.0-DUP (A9J0427-04)				Matrix: Sediment		Batch: 9101343		
Indeno(1,2,3-cd)pyrene	86.8	22.4	45.0	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
1-Methylnaphthalene	ND	45.0	89.9	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
2-Methylnaphthalene	ND	45.0	89.9	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Naphthalene	76.9	45.0	89.9	ug/kg dry	10	10/21/19 20:37	EPA 8270D	Ja
Phenanthrene	212	22.4	45.0	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Pyrene	289	22.4	45.0	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Carbazole	ND	33.7	67.4	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Dibenzofuran	ND	22.4	45.0	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
4-Chloro-3-methylphenol	ND	224	450	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
2-Chlorophenol	ND	112	224	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
2,4-Dichlorophenol	ND	112	224	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
2,4-Dimethylphenol	ND	112	224	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
2,4-Dinitrophenol	ND	561	1120	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	561	1120	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
2-Methylphenol	ND	56.1	112	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
3+4-Methylphenol(s)	132	56.1	112	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
2-Nitrophenol	ND	224	450	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
4-Nitrophenol	ND	224	450	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Pentachlorophenol (PCP)	ND	224	450	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Phenol	ND	45.0	89.9	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
2,3,4,6-Tetrachlorophenol	ND	112	224	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
2,3,5,6-Tetrachlorophenol	ND	112	224	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
2,4,5-Trichlorophenol	ND	112	224	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
2,4,6-Trichlorophenol	ND	112	224	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	337	674	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Butyl benzyl phthalate	ND	112	224	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Diethylphthalate	ND	112	224	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Dimethylphthalate	ND	112	224	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Di-n-butylphthalate	ND	112	224	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Di-n-octyl phthalate	ND	180	224	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
N-Nitrosodimethylamine	ND	56.1	112	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
N-Nitroso-di-n-propylamine	ND	56.1	112	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
N-Nitrosodiphenylamine	ND	56.1	112	ug/kg dry	10	10/21/19 20:37	EPA 8270D	

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Philip Nerenberg, Lab Director

**Apex Laboratories, LLC**

6700 S.W. Sandburg Street
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503-718-2323
EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****ANALYTICAL SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-07-SS-1.0-DUP (A9J0427-04)				Matrix: Sediment		Batch: 9101343		
Bis(2-Chloroethoxy) methane	ND	56.1	112	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Bis(2-Chloroethyl) ether	ND	56.1	112	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
2,2'-Oxybis(1-Chloropropane)	ND	56.1	112	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Hexachlorobenzene	ND	22.4	45.0	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Hexachlorobutadiene	ND	56.1	112	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Hexachlorocyclopentadiene	ND	112	224	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Hexachloroethane	ND	56.1	112	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
2-Chloronaphthalene	ND	22.4	45.0	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
1,2-Dichlorobenzene	ND	56.1	112	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
1,3-Dichlorobenzene	ND	56.1	112	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
1,4-Dichlorobenzene	ND	56.1	112	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
1,2,4-Trichlorobenzene	ND	56.1	112	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
4-Bromophenyl phenyl ether	ND	56.1	112	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	56.1	112	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Aniline	ND	112	224	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
4-Chloroaniline	ND	56.1	112	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
2-Nitroaniline	ND	450	899	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
3-Nitroaniline	ND	450	899	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
4-Nitroaniline	ND	450	899	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Nitrobenzene	ND	224	450	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
2,4-Dinitrotoluene	ND	224	450	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
2,6-Dinitrotoluene	ND	224	450	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Benzoic acid	ND	2820	5610	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Benzyl alcohol	ND	112	224	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Isophorone	ND	56.1	112	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Azobenzene (1,2-DPH)	ND	56.1	112	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Bis(2-Ethylhexyl) adipate	ND	561	1120	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
3,3'-Dichlorobenzidine	ND	450	899	ug/kg dry	10	10/21/19 20:37	EPA 8270D	Q-52
1,2-Dinitrobenzene	ND	561	1120	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
1,3-Dinitrobenzene	ND	561	1120	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
1,4-Dinitrobenzene	ND	561	1120	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Pyridine	ND	112	224	ug/kg dry	10	10/21/19 20:37	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery: 39 %		Limits: 37-122 %	10	10/21/19 20:37	EPA 8270D	

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Philip Nerenberg, Lab Director

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EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200

Portland, OR 97209

Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-07-SS-1.0-DUP (A9J0427-04)		Matrix: Sediment			Batch: 9101343			
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery:</i>	54 %	<i>Limits:</i>	44-115 %	10	10/21/19 20:37	EPA 8270D
<i>Phenol-d6 (Surr)</i>			38 %		33-122 %	10	10/21/19 20:37	EPA 8270D
<i>p-Terphenyl-d14 (Surr)</i>			95 %		54-127 %	10	10/21/19 20:37	EPA 8270D
<i>2-Fluorophenol (Surr)</i>			37 %		35-115 %	10	10/21/19 20:37	EPA 8270D
<i>2,4,6-Tribromophenol (Surr)</i>			94 %		39-132 %	10	10/21/19 20:37	EPA 8270D
SED-08-SS-1.0 (A9J0427-05)		Matrix: Sediment			Batch: 9101343			
Acenaphthene	47.1	17.6	35.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Acenaphthylene	ND	17.6	35.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Anthracene	38.2	17.6	35.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Benz(a)anthracene	174	17.6	35.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Benzo(a)pyrene	206	26.5	53.0	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Benzo(b)fluoranthene	272	26.5	53.0	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Benzo(k)fluoranthene	86.0	26.5	53.0	ug/kg dry	10	10/21/19 21:12	EPA 8270D	M-05
Benzo(g,h,i)perylene	158	17.6	35.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Chrysene	248	17.6	35.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Dibenz(a,h)anthracene	27.3	17.6	35.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	Ja
Fluoranthene	367	17.6	35.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Fluorene	ND	17.6	35.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Indeno(1,2,3-cd)pyrene	144	17.6	35.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
1-Methylnaphthalene	ND	35.4	70.6	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
2-Methylnaphthalene	ND	35.4	70.6	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Naphthalene	ND	35.4	70.6	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Phenanthrene	150	17.6	35.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Pyrene	392	17.6	35.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Carbazole	ND	26.5	53.0	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Dibenzofuran	ND	17.6	35.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
4-Chloro-3-methylphenol	ND	176	354	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
2-Chlorophenol	ND	88.4	176	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
2,4-Dichlorophenol	ND	88.4	176	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
2,4-Dimethylphenol	ND	88.4	176	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
2,4-Dinitrophenol	ND	441	884	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	441	884	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
2-Methylphenol	ND	44.1	88.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	

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Philip Nerenberg, Lab Director

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EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200

Portland, OR 97209

Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****ANALYTICAL SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-08-SS-1.0 (A9J0427-05)				Matrix: Sediment		Batch: 9101343		
3+4-Methylphenol(s)	ND	44.1	88.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
2-Nitrophenol	ND	176	354	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
4-Nitrophenol	ND	176	354	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Pentachlorophenol (PCP)	ND	176	354	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Phenol	ND	35.4	70.6	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
2,3,4,6-Tetrachlorophenol	ND	88.4	176	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
2,3,5,6-Tetrachlorophenol	ND	88.4	176	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
2,4,5-Trichlorophenol	ND	88.4	176	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
2,4,6-Trichlorophenol	ND	88.4	176	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	265	530	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Butyl benzyl phthalate	ND	88.4	176	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Diethylphthalate	ND	88.4	176	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Dimethylphthalate	ND	88.4	176	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Di-n-butylphthalate	ND	88.4	176	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Di-n-octyl phthalate	ND	142	176	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
N-Nitrosodimethylamine	ND	44.1	88.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
N-Nitroso-di-n-propylamine	ND	44.1	88.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
N-Nitrosodiphenylamine	ND	44.1	88.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Bis(2-Chloroethoxy) methane	ND	44.1	88.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Bis(2-Chloroethyl) ether	ND	44.1	88.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
2,2'-Oxybis(1-Chloropropane)	ND	44.1	88.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Hexachlorobenzene	ND	17.6	35.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Hexachlorobutadiene	ND	44.1	88.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Hexachlorocyclopentadiene	ND	88.4	176	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Hexachloroethane	ND	44.1	88.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
2-Chloronaphthalene	ND	17.6	35.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
1,2-Dichlorobenzene	ND	44.1	88.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
1,3-Dichlorobenzene	ND	44.1	88.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
1,4-Dichlorobenzene	ND	44.1	88.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
1,2,4-Trichlorobenzene	ND	44.1	88.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
4-Bromophenyl phenyl ether	ND	44.1	88.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	44.1	88.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Aniline	ND	88.4	176	ug/kg dry	10	10/21/19 21:12	EPA 8270D	

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Philip Nerenberg, Lab Director

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Portland, OR 97209

Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-08-SS-1.0 (A9J0427-05)				Matrix: Sediment		Batch: 9101343		
4-Chloroaniline	ND	44.1	88.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	Q-52
2-Nitroaniline	ND	354	706	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
3-Nitroaniline	ND	354	706	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
4-Nitroaniline	ND	354	706	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Nitrobenzene	ND	176	354	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
2,4-Dinitrotoluene	ND	176	354	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
2,6-Dinitrotoluene	ND	176	354	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Benzoic acid	ND	2210	4410	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Benzyl alcohol	ND	88.4	176	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Isophorone	ND	44.1	88.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Azobenzene (1,2-DPH)	ND	44.1	88.4	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Bis(2-Ethylhexyl) adipate	ND	441	884	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
3,3'-Dichlorobenzidine	ND	354	706	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
1,2-Dinitrobenzene	ND	441	884	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
1,3-Dinitrobenzene	ND	441	884	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
1,4-Dinitrobenzene	ND	441	884	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Pyridine	ND	88.4	176	ug/kg dry	10	10/21/19 21:12	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery: 43 %		Limits: 37-122 %	10	10/21/19 21:12	EPA 8270D	
2-Fluorobiphenyl (Surr)		51 %		44-115 %	10	10/21/19 21:12	EPA 8270D	
Phenol-d6 (Surr)		46 %		33-122 %	10	10/21/19 21:12	EPA 8270D	
p-Terphenyl-d14 (Surr)		82 %		54-127 %	10	10/21/19 21:12	EPA 8270D	
2-Fluorophenol (Surr)		46 %		35-115 %	10	10/21/19 21:12	EPA 8270D	
2,4,6-Tribromophenol (Surr)		106 %		39-132 %	10	10/21/19 21:12	EPA 8270D	
SED-09-SS-1.0 (A9J0427-06)				Matrix: Sediment		Batch: 9101343		
Acenaphthene	ND	75.7	152	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Acenaphthylene	ND	75.7	152	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Anthracene	ND	75.7	152	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Benz(a)anthracene	227	75.7	152	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Benzo(a)pyrene	283	114	228	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Benzo(b)fluoranthene	236	114	228	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Benzo(k)fluoranthene	ND	114	228	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Benzo(g,h,i)perylene	177	75.7	152	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Chrysene	275	75.7	152	ug/kg dry	40	10/21/19 15:24	EPA 8270D	

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Philip Nerenberg, Lab Director

**Apex Laboratories, LLC**

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200

Portland, OR 97209

Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****ANALYTICAL SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-09-SS-1.0 (A9J0427-06)				Matrix: Sediment		Batch: 9101343		
Dibenz(a,h)anthracene	ND	75.7	152	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Fluoranthene	535	75.7	152	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Fluorene	ND	75.7	152	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Indeno(1,2,3-cd)pyrene	160	75.7	152	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
1-Methylnaphthalene	ND	152	303	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
2-Methylnaphthalene	ND	152	303	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Naphthalene	ND	152	303	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Phenanthrene	148	75.7	152	ug/kg dry	40	10/21/19 15:24	EPA 8270D	Ja
Pyrene	598	75.7	152	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Carbazole	ND	114	228	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Dibenzofuran	ND	75.7	152	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
4-Chloro-3-methylphenol	ND	757	1520	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
2-Chlorophenol	ND	380	757	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
2,4-Dichlorophenol	ND	380	757	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
2,4-Dimethylphenol	ND	380	757	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
2,4-Dinitrophenol	ND	1900	3800	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	1900	3800	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
2-Methylphenol	ND	190	380	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
3+4-Methylphenol(s)	ND	190	380	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
2-Nitrophenol	ND	1520	1520	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
4-Nitrophenol	ND	757	1520	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Pentachlorophenol (PCP)	ND	757	1520	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Phenol	ND	152	303	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
2,3,4,6-Tetrachlorophenol	ND	380	757	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
2,3,5,6-Tetrachlorophenol	ND	380	757	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
2,4,5-Trichlorophenol	ND	380	757	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
2,4,6-Trichlorophenol	ND	380	757	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	1140	2280	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Butyl benzyl phthalate	ND	380	757	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Diethylphthalate	ND	380	757	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Dimethylphthalate	ND	380	757	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Di-n-butylphthalate	ND	380	757	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Di-n-octyl phthalate	ND	609	757	ug/kg dry	40	10/21/19 15:24	EPA 8270D	

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Philip Nerenberg, Lab Director

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EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****ANALYTICAL SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-09-SS-1.0 (A9J0427-06)				Matrix: Sediment		Batch: 9101343		
N-Nitrosodimethylamine	ND	190	380	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
N-Nitroso-di-n-propylamine	ND	190	380	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
N-Nitrosodiphenylamine	ND	190	380	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Bis(2-Chloroethoxy) methane	ND	190	380	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Bis(2-Chloroethyl) ether	ND	190	380	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
2,2'-Oxybis(1-Chloropropane)	ND	190	380	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Hexachlorobenzene	ND	75.7	152	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Hexachlorobutadiene	ND	190	380	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Hexachlorocyclopentadiene	ND	380	757	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Hexachloroethane	ND	190	380	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
2-Chloronaphthalene	ND	75.7	152	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
1,2-Dichlorobenzene	ND	190	380	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
1,3-Dichlorobenzene	ND	190	380	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
1,4-Dichlorobenzene	ND	190	380	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
1,2,4-Trichlorobenzene	ND	190	380	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
4-Bromophenyl phenyl ether	ND	190	380	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	190	380	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Aniline	ND	380	757	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
4-Chloroaniline	ND	190	380	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
2-Nitroaniline	ND	1520	3030	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
3-Nitroaniline	ND	1520	3030	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
4-Nitroaniline	ND	1520	3030	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Nitrobenzene	ND	757	1520	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
2,4-Dinitrotoluene	ND	757	1520	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
2,6-Dinitrotoluene	ND	757	1520	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Benzoic acid	ND	9510	19000	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Benzyl alcohol	ND	380	757	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Isophorone	ND	190	380	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Azobenzene (1,2-DPH)	ND	190	380	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Bis(2-Ethylhexyl) adipate	ND	1900	3800	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
3,3'-Dichlorobenzidine	ND	1520	3030	ug/kg dry	40	10/21/19 15:24	EPA 8270D	Q-52
1,2-Dinitrobenzene	ND	1900	3800	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
1,3-Dinitrobenzene	ND	1900	3800	ug/kg dry	40	10/21/19 15:24	EPA 8270D	

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Philip Nerenberg, Lab Director



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503-718-2323

EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200

Portland, OR 97209

Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-09-SS-1.0 (A9J0427-06)		Matrix: Sediment			Batch: 9101343			
1,4-Dinitrobenzene	ND	1900	3800	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
Pyridine	ND	380	757	ug/kg dry	40	10/21/19 15:24	EPA 8270D	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery:</i>	<i>33 %</i>	<i>Limits:</i>	<i>37-122 %</i>	<i>40</i>	<i>10/21/19 15:24</i>	<i>EPA 8270D S-05</i>
<i>2-Fluorobiphenyl (Surr)</i>			<i>56 %</i>		<i>44-115 %</i>	<i>40</i>	<i>10/21/19 15:24</i>	<i>EPA 8270D S-05</i>
<i>Phenol-d6 (Surr)</i>			<i>43 %</i>		<i>33-122 %</i>	<i>40</i>	<i>10/21/19 15:24</i>	<i>EPA 8270D S-05</i>
<i>p-Terphenyl-d14 (Surr)</i>			<i>78 %</i>		<i>54-127 %</i>	<i>40</i>	<i>10/21/19 15:24</i>	<i>EPA 8270D S-05</i>
<i>2-Fluorophenol (Surr)</i>			<i>43 %</i>		<i>35-115 %</i>	<i>40</i>	<i>10/21/19 15:24</i>	<i>EPA 8270D S-05</i>
<i>2,4,6-Tribromophenol (Surr)</i>			<i>85 %</i>		<i>39-132 %</i>	<i>40</i>	<i>10/21/19 15:24</i>	<i>EPA 8270D S-05</i>
SED-10-SS-1.0 (A9J0427-07RE1)		Matrix: Sediment			Batch: 9101492			
Acenaphthene	69.2	23.0	46.2	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Acenaphthylene	43.3	23.0	46.2	ug/kg dry	10	10/23/19 18:13	EPA 8270D	Q-42, Ja
Anthracene	71.1	23.0	46.2	ug/kg dry	10	10/23/19 18:13	EPA 8270D	Q-42
Benz(a)anthracene	210	23.0	46.2	ug/kg dry	10	10/23/19 18:13	EPA 8270D	Q-42
Benzo(a)pyrene	318	34.6	69.3	ug/kg dry	10	10/23/19 18:13	EPA 8270D	Q-42
Benzo(b)fluoranthene	311	34.6	69.3	ug/kg dry	10	10/23/19 18:13	EPA 8270D	Q-42
Benzo(k)fluoranthene	107	34.6	69.3	ug/kg dry	10	10/23/19 18:13	EPA 8270D	M-05, Q-42
Benzo(g,h,i)perylene	258	23.0	46.2	ug/kg dry	10	10/23/19 18:13	EPA 8270D	Q-42
Chrysene	343	23.0	46.2	ug/kg dry	10	10/23/19 18:13	EPA 8270D	Q-42
Dibenz(a,h)anthracene	34.0	23.0	46.2	ug/kg dry	10	10/23/19 18:13	EPA 8270D	Q-42, Ja
Fluoranthene	248	23.0	46.2	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Fluorene	46.7	23.0	46.2	ug/kg dry	10	10/23/19 18:13	EPA 8270D	Q-42
Indeno(1,2,3-cd)pyrene	200	23.0	46.2	ug/kg dry	10	10/23/19 18:13	EPA 8270D	Q-42
1-Methylnaphthalene	ND	46.2	92.3	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
2-Methylnaphthalene	ND	46.2	92.3	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Naphthalene	ND	46.2	92.3	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Phenanthrene	121	23.0	46.2	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Pyrene	336	23.0	46.2	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Carbazole	ND	34.6	69.3	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Dibenzofuran	29.1	23.0	46.2	ug/kg dry	10	10/23/19 18:13	EPA 8270D	Q-42, Ja
4-Chloro-3-methylphenol	ND	230	462	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
2-Chlorophenol	ND	115	230	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
2,4-Dichlorophenol	ND	115	230	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
2,4-Dimethylphenol	ND	115	230	ug/kg dry	10	10/23/19 18:13	EPA 8270D	

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EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****ANALYTICAL SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-10-SS-1.0 (A9J0427-07RE1)				Matrix: Sediment		Batch: 9101492		
2,4-Dinitrophenol	ND	577	1150	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	577	1150	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
2-Methylphenol	ND	57.7	115	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
3+4-Methylphenol(s)	ND	57.7	115	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
2-Nitrophenol	ND	230	462	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
4-Nitrophenol	ND	230	462	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Pentachlorophenol (PCP)	ND	230	462	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Phenol	ND	46.2	92.3	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
2,3,4,6-Tetrachlorophenol	ND	115	230	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
2,3,5,6-Tetrachlorophenol	ND	115	230	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
2,4,5-Trichlorophenol	ND	115	230	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
2,4,6-Trichlorophenol	ND	115	230	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	346	693	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Butyl benzyl phthalate	ND	115	230	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Diethylphthalate	ND	115	230	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Dimethylphthalate	ND	115	230	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Di-n-butylphthalate	ND	115	230	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Di-n-octyl phthalate	ND	185	230	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
N-Nitrosodimethylamine	ND	57.7	115	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
N-Nitroso-di-n-propylamine	ND	57.7	115	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
N-Nitrosodiphenylamine	ND	57.7	115	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Bis(2-Chloroethoxy) methane	ND	57.7	115	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Bis(2-Chloroethyl) ether	ND	57.7	115	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
2,2'-Oxybis(1-Chloropropane)	ND	57.7	115	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Hexachlorobenzene	ND	23.0	46.2	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Hexachlorobutadiene	ND	57.7	115	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Hexachlorocyclopentadiene	ND	115	230	ug/kg dry	10	10/23/19 18:13	EPA 8270D	Q-42
Hexachloroethane	ND	57.7	115	ug/kg dry	10	10/23/19 18:13	EPA 8270D	Q-42
2-Chloronaphthalene	ND	23.0	46.2	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
1,2-Dichlorobenzene	ND	57.7	115	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
1,3-Dichlorobenzene	ND	57.7	115	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
1,4-Dichlorobenzene	ND	57.7	115	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
1,2,4-Trichlorobenzene	ND	57.7	115	ug/kg dry	10	10/23/19 18:13	EPA 8270D	

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Portland, OR 97209

Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-10-SS-1.0 (A9J0427-07RE1)				Matrix: Sediment		Batch: 9101492		
4-Bromophenyl phenyl ether	ND	57.7	115	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	57.7	115	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Aniline	ND	115	230	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
4-Chloroaniline	ND	57.7	115	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
2-Nitroaniline	ND	462	923	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
3-Nitroaniline	ND	462	923	ug/kg dry	10	10/23/19 18:13	EPA 8270D	Q-42
4-Nitroaniline	ND	462	923	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Nitrobenzene	ND	230	462	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
2,4-Dinitrotoluene	ND	230	462	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
2,6-Dinitrotoluene	ND	230	462	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Benzoic acid	ND	2890	5770	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Benzyl alcohol	ND	115	230	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Isophorone	ND	57.7	115	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Azobenzene (1,2-DPH)	ND	57.7	115	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Bis(2-Ethylhexyl) adipate	ND	577	1150	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
3,3'-Dichlorobenzidine	ND	462	923	ug/kg dry	10	10/23/19 18:13	EPA 8270D	Q-42, Q-52
1,2-Dinitrobenzene	ND	577	1150	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
1,3-Dinitrobenzene	ND	577	1150	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
1,4-Dinitrobenzene	ND	577	1150	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Pyridine	ND	115	230	ug/kg dry	10	10/23/19 18:13	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery: 63 %		Limits: 37-122 %	10	10/23/19 18:13	EPA 8270D	
2-Fluorobiphenyl (Surr)		68 %		44-115 %	10	10/23/19 18:13	EPA 8270D	
Phenol-d6 (Surr)		72 %		33-122 %	10	10/23/19 18:13	EPA 8270D	
p-Terphenyl-d14 (Surr)		71 %		54-127 %	10	10/23/19 18:13	EPA 8270D	
2-Fluorophenol (Surr)		67 %		35-115 %	10	10/23/19 18:13	EPA 8270D	
2,4,6-Tribromophenol (Surr)		84 %		39-132 %	10	10/23/19 18:13	EPA 8270D	

SED-SS-RB (A9J0427-08)				Matrix: Water		Batch: 9101073		
Acenaphthene	ND	0.0101	0.0202	ug/L	1	10/15/19 11:57	EPA 8270D	Q-30
Acenaphthylene	ND	0.0101	0.0202	ug/L	1	10/15/19 11:57	EPA 8270D	
Anthracene	ND	0.0101	0.0202	ug/L	1	10/15/19 11:57	EPA 8270D	
Benz(a)anthracene	ND	0.0101	0.0202	ug/L	1	10/15/19 11:57	EPA 8270D	
Benzo(a)pyrene	ND	0.0152	0.0303	ug/L	1	10/15/19 11:57	EPA 8270D	
Benzo(b)fluoranthene	ND	0.0152	0.0303	ug/L	1	10/15/19 11:57	EPA 8270D	

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Philip Nerenberg, Lab Director



Apex Laboratories, LLC

6700 S.W. Sandburg Street

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503-718-2323

EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200

Portland, OR 97209

Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-SS-RB (A9J0427-08)				Matrix: Water		Batch: 9101073		
Benzo(k)fluoranthene	ND	0.0152	0.0303	ug/L	1	10/15/19 11:57	EPA 8270D	
Benzo(g,h,i)perylene	ND	0.0101	0.0202	ug/L	1	10/15/19 11:57	EPA 8270D	
Chrysene	ND	0.0101	0.0202	ug/L	1	10/15/19 11:57	EPA 8270D	
Dibenz(a,h)anthracene	ND	0.0101	0.0202	ug/L	1	10/15/19 11:57	EPA 8270D	
Fluoranthene	ND	0.0101	0.0202	ug/L	1	10/15/19 11:57	EPA 8270D	
Fluorene	ND	0.0101	0.0202	ug/L	1	10/15/19 11:57	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	0.0101	0.0202	ug/L	1	10/15/19 11:57	EPA 8270D	
1-Methylnaphthalene	ND	0.0202	0.0404	ug/L	1	10/15/19 11:57	EPA 8270D	Q-30
2-Methylnaphthalene	ND	0.0202	0.0404	ug/L	1	10/15/19 11:57	EPA 8270D	Q-30
Naphthalene	ND	0.0404	0.0404	ug/L	1	10/15/19 11:57	EPA 8270D	Q-30
Phenanthrene	ND	0.0202	0.0202	ug/L	1	10/15/19 11:57	EPA 8270D	
Pyrene	ND	0.0101	0.0202	ug/L	1	10/15/19 11:57	EPA 8270D	
Carbazole	ND	0.0152	0.0303	ug/L	1	10/15/19 11:57	EPA 8270D	
Dibenzofuran	ND	0.0101	0.0202	ug/L	1	10/15/19 11:57	EPA 8270D	
4-Chloro-3-methylphenol	ND	0.101	0.202	ug/L	1	10/15/19 11:57	EPA 8270D	
2-Chlorophenol	ND	0.0505	0.101	ug/L	1	10/15/19 11:57	EPA 8270D	
2,4-Dichlorophenol	ND	0.0505	0.101	ug/L	1	10/15/19 11:57	EPA 8270D	
2,4-Dimethylphenol	ND	0.0505	0.101	ug/L	1	10/15/19 11:57	EPA 8270D	
2,4-Dinitrophenol	ND	0.253	0.505	ug/L	1	10/15/19 11:57	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	0.253	0.505	ug/L	1	10/15/19 11:57	EPA 8270D	
2-Methylphenol	ND	0.0253	0.0505	ug/L	1	10/15/19 11:57	EPA 8270D	
3+4-Methylphenol(s)	ND	0.0253	0.0505	ug/L	1	10/15/19 11:57	EPA 8270D	
2-Nitrophenol	ND	0.101	0.202	ug/L	1	10/15/19 11:57	EPA 8270D	
4-Nitrophenol	ND	0.101	0.202	ug/L	1	10/15/19 11:57	EPA 8270D	
Pentachlorophenol (PCP)	ND	0.101	0.202	ug/L	1	10/15/19 11:57	EPA 8270D	
Phenol	ND	0.202	0.404	ug/L	1	10/15/19 11:57	EPA 8270D	
2,3,4,6-Tetrachlorophenol	ND	0.0505	0.101	ug/L	1	10/15/19 11:57	EPA 8270D	
2,3,5,6-Tetrachlorophenol	ND	0.0505	0.101	ug/L	1	10/15/19 11:57	EPA 8270D	
2,4,5-Trichlorophenol	ND	0.0505	0.101	ug/L	1	10/15/19 11:57	EPA 8270D	
2,4,6-Trichlorophenol	ND	0.0505	0.101	ug/L	1	10/15/19 11:57	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	0.202	0.404	ug/L	1	10/15/19 11:57	EPA 8270D	
Butyl benzyl phthalate	ND	0.202	0.404	ug/L	1	10/15/19 11:57	EPA 8270D	
Diethylphthalate	ND	0.202	0.404	ug/L	1	10/15/19 11:57	EPA 8270D	

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Philip Nerenberg, Lab Director

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EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****ANALYTICAL SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-SS-RB (A9J0427-08)				Matrix: Water		Batch: 9101073		
Dimethylphthalate	ND	0.202	0.404	ug/L	1	10/15/19 11:57	EPA 8270D	
Di-n-butylphthalate	0.227	0.202	0.404	ug/L	1	10/15/19 11:57	EPA 8270D	Ja
Di-n-octyl phthalate	ND	0.202	0.404	ug/L	1	10/15/19 11:57	EPA 8270D	
N-Nitrosodimethylamine	ND	0.0253	0.0505	ug/L	1	10/15/19 11:57	EPA 8270D	
N-Nitroso-di-n-propylamine	ND	0.0253	0.0505	ug/L	1	10/15/19 11:57	EPA 8270D	
N-Nitrosodiphenylamine	ND	0.0253	0.0505	ug/L	1	10/15/19 11:57	EPA 8270D	
Bis(2-Chloroethoxy) methane	ND	0.0253	0.0505	ug/L	1	10/15/19 11:57	EPA 8270D	
Bis(2-Chloroethyl) ether	ND	0.0253	0.0505	ug/L	1	10/15/19 11:57	EPA 8270D	
2,2'-Oxybis(1-Chloropropane)	ND	0.0253	0.0505	ug/L	1	10/15/19 11:57	EPA 8270D	
Hexachlorobenzene	ND	0.0101	0.0202	ug/L	1	10/15/19 11:57	EPA 8270D	
Hexachlorobutadiene	ND	0.0253	0.0505	ug/L	1	10/15/19 11:57	EPA 8270D	Q-30
Hexachlorocyclopentadiene	ND	0.0505	0.101	ug/L	1	10/15/19 11:57	EPA 8270D	
Hexachloroethane	ND	0.0253	0.0505	ug/L	1	10/15/19 11:57	EPA 8270D	Q-30
2-Chloronaphthalene	ND	0.0101	0.0202	ug/L	1	10/15/19 11:57	EPA 8270D	Q-30
1,2-Dichlorobenzene	ND	0.0253	0.0505	ug/L	1	10/15/19 11:57	EPA 8270D	Q-30
1,3-Dichlorobenzene	ND	0.0253	0.0505	ug/L	1	10/15/19 11:57	EPA 8270D	Q-30
1,4-Dichlorobenzene	ND	0.0253	0.0505	ug/L	1	10/15/19 11:57	EPA 8270D	Q-30
1,2,4-Trichlorobenzene	ND	0.0253	0.0505	ug/L	1	10/15/19 11:57	EPA 8270D	Q-30
4-Bromophenyl phenyl ether	ND	0.0253	0.0505	ug/L	1	10/15/19 11:57	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	0.0253	0.0505	ug/L	1	10/15/19 11:57	EPA 8270D	Q-30
Aniline	ND	0.0505	0.101	ug/L	1	10/15/19 11:57	EPA 8270D	
4-Chloroaniline	ND	0.0253	0.0505	ug/L	1	10/15/19 11:57	EPA 8270D	
2-Nitroaniline	ND	0.202	0.404	ug/L	1	10/15/19 11:57	EPA 8270D	
3-Nitroaniline	ND	0.202	0.404	ug/L	1	10/15/19 11:57	EPA 8270D	
4-Nitroaniline	ND	0.202	0.404	ug/L	1	10/15/19 11:57	EPA 8270D	
Nitrobenzene	ND	0.101	0.202	ug/L	1	10/15/19 11:57	EPA 8270D	
2,4-Dinitrotoluene	ND	0.101	0.202	ug/L	1	10/15/19 11:57	EPA 8270D	
2,6-Dinitrotoluene	ND	0.101	0.202	ug/L	1	10/15/19 11:57	EPA 8270D	
Benzoic acid	ND	1.26	2.53	ug/L	1	10/15/19 11:57	EPA 8270D	
Benzyl alcohol	ND	0.101	0.202	ug/L	1	10/15/19 11:57	EPA 8270D	
Isophorone	ND	0.0253	0.0505	ug/L	1	10/15/19 11:57	EPA 8270D	
Azobenzene (1,2-DPH)	ND	0.0253	0.0505	ug/L	1	10/15/19 11:57	EPA 8270D	
Bis(2-Ethylhexyl) adipate	ND	0.253	0.505	ug/L	1	10/15/19 11:57	EPA 8270D	

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Portland, OR 97209

Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-SS-RB (A9J0427-08)		Matrix: Water			Batch: 9101073			
3,3'-Dichlorobenzidine	ND	0.505	1.01	ug/L	1	10/15/19 11:57	EPA 8270D	Q-52
1,2-Dinitrobenzene	ND	0.253	0.505	ug/L	1	10/15/19 11:57	EPA 8270D	
1,3-Dinitrobenzene	ND	0.253	0.505	ug/L	1	10/15/19 11:57	EPA 8270D	
1,4-Dinitrobenzene	ND	0.253	0.505	ug/L	1	10/15/19 11:57	EPA 8270D	
Pyridine	ND	0.101	0.202	ug/L	1	10/15/19 11:57	EPA 8270D	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery:</i>	66 %	<i>Limits:</i>	44-120 %	1	10/15/19 11:57	EPA 8270D
<i>2-Fluorobiphenyl (Surr)</i>			60 %		44-120 %	1	10/15/19 11:57	EPA 8270D
<i>Phenol-d6 (Surr)</i>			25 %		10-120 %	1	10/15/19 11:57	EPA 8270D
<i>p-Terphenyl-d14 (Surr)</i>			77 %		50-133 %	1	10/15/19 11:57	EPA 8270D
<i>2-Fluorophenol (Surr)</i>			40 %		19-120 %	1	10/15/19 11:57	EPA 8270D
<i>2,4,6-Tribromophenol (Surr)</i>			88 %		43-140 %	1	10/15/19 11:57	EPA 8270D

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Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

ANALYTICAL SAMPLE RESULTS

Alkylated PAH Homologs by 8270D Modified

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-05-SS-1.0 (A9J0427-01)		Matrix: Sediment			Batch: 9110582		H-08	
C1-Chrysenes/Benz(a)anthracenes	414	102	102	ug/kg dry	4	11/12/19 12:43	EPA 8270Dm	
C1-Fluoranthrenes/Pyrenes	365	102	102	ug/kg dry	4	11/12/19 12:43	EPA 8270Dm	
C1-Fluorenes	ND	102	102	ug/kg dry	4	11/12/19 12:43	EPA 8270Dm	
C1-Phenanthrenes/Anthracenes	140	102	102	ug/kg dry	4	11/12/19 12:43	EPA 8270Dm	
C2-Chrysenes/Benz(a)anthracenes	305	102	102	ug/kg dry	4	11/12/19 12:43	EPA 8270Dm	
C2-Fluorenes	ND	102	102	ug/kg dry	4	11/12/19 12:43	EPA 8270Dm	
C2-Naphthalenes	ND	102	102	ug/kg dry	4	11/12/19 12:43	EPA 8270Dm	
C2-Phenanthrenes/Anthracenes	233	102	102	ug/kg dry	4	11/12/19 12:43	EPA 8270Dm	
C3-Chrysenes/Benz(a)anthracenes	213	102	102	ug/kg dry	4	11/12/19 12:43	EPA 8270Dm	
C3-Fluorenes	ND	102	102	ug/kg dry	4	11/12/19 12:43	EPA 8270Dm	
C3-Naphthalenes	ND	102	102	ug/kg dry	4	11/12/19 12:43	EPA 8270Dm	
C3-Phenanthrenes/Anthracenes	263	102	102	ug/kg dry	4	11/12/19 12:43	EPA 8270Dm	
C4-Chrysenes/Benz(a)anthracenes	ND	205	205	ug/kg dry	4	11/12/19 12:43	EPA 8270Dm	
C4-Naphthalenes	ND	102	102	ug/kg dry	4	11/12/19 12:43	EPA 8270Dm	
C4-Phenanthrenes/Anthracenes	ND	205	205	ug/kg dry	4	11/12/19 12:43	EPA 8270Dm	
Surrogate: Acenaphthylene-d8 (Surr)		Recovery: 74 %		Limits: 40-120 %	4	11/12/19 12:43	EPA 8270Dm	
Benzo(a)pyrene-d12 (Surr)		91 %		40-120 %	4	11/12/19 12:43	EPA 8270Dm	
SED-06-SS-1.0 (A9J0427-02)		Matrix: Sediment			Batch: 9110582		H-08	
C1-Chrysenes/Benz(a)anthracenes	2090	276	276	ug/kg dry	10	11/12/19 09:51	EPA 8270Dm	
C1-Fluoranthrenes/Pyrenes	2860	276	276	ug/kg dry	10	11/12/19 09:51	EPA 8270Dm	
C1-Fluorenes	ND	276	276	ug/kg dry	10	11/12/19 09:51	EPA 8270Dm	
C1-Phenanthrenes/Anthracenes	2500	276	276	ug/kg dry	10	11/12/19 09:51	EPA 8270Dm	
C2-Chrysenes/Benz(a)anthracenes	1410	276	276	ug/kg dry	10	11/12/19 09:51	EPA 8270Dm	
C2-Fluorenes	453	276	276	ug/kg dry	10	11/12/19 09:51	EPA 8270Dm	
C2-Naphthalenes	392	276	276	ug/kg dry	10	11/12/19 09:51	EPA 8270Dm	
C2-Phenanthrenes/Anthracenes	2600	276	276	ug/kg dry	10	11/12/19 09:51	EPA 8270Dm	
C3-Chrysenes/Benz(a)anthracenes	832	276	276	ug/kg dry	10	11/12/19 09:51	EPA 8270Dm	
C3-Fluorenes	355	276	276	ug/kg dry	10	11/12/19 09:51	EPA 8270Dm	
C3-Naphthalenes	511	276	276	ug/kg dry	10	11/12/19 09:51	EPA 8270Dm	
C3-Phenanthrenes/Anthracenes	1710	276	276	ug/kg dry	10	11/12/19 09:51	EPA 8270Dm	
C4-Chrysenes/Benz(a)anthracenes	696	552	552	ug/kg dry	10	11/12/19 09:51	EPA 8270Dm	
C4-Naphthalenes	365	276	276	ug/kg dry	10	11/12/19 09:51	EPA 8270Dm	

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****ANALYTICAL SAMPLE RESULTS****Alkylated PAH Homologs by 8270D Modified**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-06-SS-1.0 (A9J0427-02)				Matrix: Sediment		Batch: 9110582		H-08
C4-Phenanthrenes/Anthracenes	749	552	552	ug/kg dry	10	11/12/19 09:51	EPA 8270Dm	
<i>Surrogate: Acenaphthylene-d8 (Surr)</i>		<i>Recovery: 74 %</i>		<i>Limits: 40-120 %</i>	10	11/12/19 09:51	EPA 8270Dm	
<i>Benzo(a)pyrene-d12 (Surr)</i>		<i>90 %</i>		<i>40-120 %</i>	10	11/12/19 09:51	EPA 8270Dm	
SED-07-SS-1.0 (A9J0427-03)				Matrix: Sediment		Batch: 9110582		H-08
C1-Chrysenes/Benz(a)anthracenes	126	118	118	ug/kg dry	4	11/12/19 13:17	EPA 8270Dm	
C1-Fluoranthrenes/Pyrenes	216	118	118	ug/kg dry	4	11/12/19 13:17	EPA 8270Dm	
C1-Fluorenes	ND	118	118	ug/kg dry	4	11/12/19 13:17	EPA 8270Dm	
C1-Phenanthrenes/Anthracenes	340	118	118	ug/kg dry	4	11/12/19 13:17	EPA 8270Dm	
C2-Chrysenes/Benz(a)anthracenes	ND	118	118	ug/kg dry	4	11/12/19 13:17	EPA 8270Dm	
C2-Fluorenes	ND	118	118	ug/kg dry	4	11/12/19 13:17	EPA 8270Dm	
C2-Naphthalenes	346	118	118	ug/kg dry	4	11/12/19 13:17	EPA 8270Dm	
C2-Phenanthrenes/Anthracenes	359	118	118	ug/kg dry	4	11/12/19 13:17	EPA 8270Dm	
C3-Chrysenes/Benz(a)anthracenes	ND	118	118	ug/kg dry	4	11/12/19 13:17	EPA 8270Dm	
C3-Fluorenes	ND	118	118	ug/kg dry	4	11/12/19 13:17	EPA 8270Dm	
C3-Naphthalenes	408	118	118	ug/kg dry	4	11/12/19 13:17	EPA 8270Dm	
C3-Phenanthrenes/Anthracenes	276	118	118	ug/kg dry	4	11/12/19 13:17	EPA 8270Dm	
C4-Chrysenes/Benz(a)anthracenes	ND	235	235	ug/kg dry	4	11/12/19 13:17	EPA 8270Dm	
C4-Naphthalenes	309	118	118	ug/kg dry	4	11/12/19 13:17	EPA 8270Dm	
C4-Phenanthrenes/Anthracenes	ND	235	235	ug/kg dry	4	11/12/19 13:17	EPA 8270Dm	
<i>Surrogate: Acenaphthylene-d8 (Surr)</i>		<i>Recovery: 72 %</i>		<i>Limits: 40-120 %</i>	4	11/12/19 13:17	EPA 8270Dm	
<i>Benzo(a)pyrene-d12 (Surr)</i>		<i>78 %</i>		<i>40-120 %</i>	4	11/12/19 13:17	EPA 8270Dm	
SED-08-SS-1.0 (A9J0427-05)				Matrix: Sediment		Batch: 9110582		R-04, H-08
C1-Chrysenes/Benz(a)anthracenes	ND	105	105	ug/kg dry	4	11/12/19 13:51	EPA 8270Dm	
C1-Fluoranthrenes/Pyrenes	ND	105	105	ug/kg dry	4	11/12/19 13:51	EPA 8270Dm	
C1-Fluorenes	ND	105	105	ug/kg dry	4	11/12/19 13:51	EPA 8270Dm	
C1-Phenanthrenes/Anthracenes	ND	105	105	ug/kg dry	4	11/12/19 13:51	EPA 8270Dm	
C2-Chrysenes/Benz(a)anthracenes	ND	105	105	ug/kg dry	4	11/12/19 13:51	EPA 8270Dm	
C2-Fluorenes	ND	105	105	ug/kg dry	4	11/12/19 13:51	EPA 8270Dm	
C2-Naphthalenes	ND	105	105	ug/kg dry	4	11/12/19 13:51	EPA 8270Dm	
C2-Phenanthrenes/Anthracenes	ND	105	105	ug/kg dry	4	11/12/19 13:51	EPA 8270Dm	
C3-Chrysenes/Benz(a)anthracenes	ND	105	105	ug/kg dry	4	11/12/19 13:51	EPA 8270Dm	
C3-Fluorenes	ND	105	105	ug/kg dry	4	11/12/19 13:51	EPA 8270Dm	

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503-718-2323

EPA ID: OR01039

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Portland, OR 97209

Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

ANALYTICAL SAMPLE RESULTS

Alkylated PAH Homologs by 8270D Modified

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-08-SS-1.0 (A9J0427-05)		Matrix: Sediment		Batch: 9110582		R-04, H-08		
C3-Naphthalenes	ND	105	105	ug/kg dry	4	11/12/19 13:51	EPA 8270Dm	
C3-Phenanthrenes/Anthracenes	ND	105	105	ug/kg dry	4	11/12/19 13:51	EPA 8270Dm	
C4-Chrysenes/Benz(a)anthracenes	ND	211	211	ug/kg dry	4	11/12/19 13:51	EPA 8270Dm	
C4-Naphthalenes	ND	105	105	ug/kg dry	4	11/12/19 13:51	EPA 8270Dm	
C4-Phenanthrenes/Anthracenes	ND	211	211	ug/kg dry	4	11/12/19 13:51	EPA 8270Dm	
<i>Surrogate: Acenaphthylene-d8 (Surr)</i>		<i>Recovery: 67 %</i>		<i>Limits: 40-120 %</i>	4	11/12/19 13:51	EPA 8270Dm	
<i>Benzo(a)pyrene-d12 (Surr)</i>		<i>89 %</i>		<i>40-120 %</i>	4	11/12/19 13:51	EPA 8270Dm	
SED-09-SS-1.0 (A9J0427-06)		Matrix: Sediment		Batch: 9110582		H-08		
C1-Chrysenes/Benz(a)anthracenes	155	118	118	ug/kg dry	4	11/12/19 14:25	EPA 8270Dm	
C1-Fluoranthrenes/Pyrenes	240	118	118	ug/kg dry	4	11/12/19 14:25	EPA 8270Dm	
C1-Fluorenes	ND	118	118	ug/kg dry	4	11/12/19 14:25	EPA 8270Dm	
C1-Phenanthrenes/Anthracenes	ND	118	118	ug/kg dry	4	11/12/19 14:25	EPA 8270Dm	
C2-Chrysenes/Benz(a)anthracenes	ND	118	118	ug/kg dry	4	11/12/19 14:25	EPA 8270Dm	
C2-Fluorenes	ND	118	118	ug/kg dry	4	11/12/19 14:25	EPA 8270Dm	
C2-Naphthalenes	ND	118	118	ug/kg dry	4	11/12/19 14:25	EPA 8270Dm	
C2-Phenanthrenes/Anthracenes	138	118	118	ug/kg dry	4	11/12/19 14:25	EPA 8270Dm	
C3-Chrysenes/Benz(a)anthracenes	ND	118	118	ug/kg dry	4	11/12/19 14:25	EPA 8270Dm	
C3-Fluorenes	ND	118	118	ug/kg dry	4	11/12/19 14:25	EPA 8270Dm	
C3-Naphthalenes	ND	118	118	ug/kg dry	4	11/12/19 14:25	EPA 8270Dm	
C3-Phenanthrenes/Anthracenes	ND	118	118	ug/kg dry	4	11/12/19 14:25	EPA 8270Dm	
C4-Chrysenes/Benz(a)anthracenes	ND	236	236	ug/kg dry	4	11/12/19 14:25	EPA 8270Dm	
C4-Naphthalenes	ND	118	118	ug/kg dry	4	11/12/19 14:25	EPA 8270Dm	
C4-Phenanthrenes/Anthracenes	ND	236	236	ug/kg dry	4	11/12/19 14:25	EPA 8270Dm	
<i>Surrogate: Acenaphthylene-d8 (Surr)</i>		<i>Recovery: 76 %</i>		<i>Limits: 40-120 %</i>	4	11/12/19 14:25	EPA 8270Dm	
<i>Benzo(a)pyrene-d12 (Surr)</i>		<i>84 %</i>		<i>40-120 %</i>	4	11/12/19 14:25	EPA 8270Dm	
SED-10-SS-1.0 (A9J0427-07)		Matrix: Sediment		Batch: 9110582		H-08		
C1-Chrysenes/Benz(a)anthracenes	169	132	132	ug/kg dry	4	11/11/19 12:11	EPA 8270Dm	
C1-Fluoranthrenes/Pyrenes	188	132	132	ug/kg dry	4	11/11/19 12:11	EPA 8270Dm	
C1-Fluorenes	ND	132	132	ug/kg dry	4	11/11/19 12:11	EPA 8270Dm	
C1-Phenanthrenes/Anthracenes	170	132	132	ug/kg dry	4	11/11/19 12:11	EPA 8270Dm	
C2-Chrysenes/Benz(a)anthracenes	ND	132	132	ug/kg dry	4	11/11/19 12:11	EPA 8270Dm	
C2-Fluorenes	ND	132	132	ug/kg dry	4	11/11/19 12:11	EPA 8270Dm	

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ANALYTICAL SAMPLE RESULTS

Alkylated PAH Homologs by 8270D Modified

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-10-SS-1.0 (A9J0427-07)				Matrix: Sediment		Batch: 9110582		H-08
C2-Naphthalenes	172	132	132	ug/kg dry	4	11/11/19 12:11	EPA 8270Dm	
C2-Phenanthrenes/Anthracenes	139	132	132	ug/kg dry	4	11/11/19 12:11	EPA 8270Dm	
C3-Chrysenes/Benz(a)anthracenes	ND	132	132	ug/kg dry	4	11/11/19 12:11	EPA 8270Dm	
C3-Fluorenes	ND	132	132	ug/kg dry	4	11/11/19 12:11	EPA 8270Dm	
C3-Naphthalenes	187	132	132	ug/kg dry	4	11/11/19 12:11	EPA 8270Dm	
C3-Phenanthrenes/Anthracenes	ND	132	132	ug/kg dry	4	11/11/19 12:11	EPA 8270Dm	
C4-Chrysenes/Benz(a)anthracenes	ND	263	263	ug/kg dry	4	11/11/19 12:11	EPA 8270Dm	
C4-Naphthalenes	ND	132	132	ug/kg dry	4	11/11/19 12:11	EPA 8270Dm	
C4-Phenanthrenes/Anthracenes	ND	263	263	ug/kg dry	4	11/11/19 12:11	EPA 8270Dm	
Surrogate: Acenaphthylene-d8 (Surr)		Recovery: 78 %	Limits: 40-120 %	4	11/11/19 12:11	EPA 8270Dm		
Benzo(a)pyrene-d12 (Surr)		89 %	40-120 %	4	11/11/19 12:11	EPA 8270Dm		

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ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-05-SS-1.0 (A9J0427-01) Matrix: Sediment								
Batch: 9101165								
Arsenic	2.27	0.313	0.626	mg/kg dry	5	10/16/19 21:53	EPA 6020A	
Barium	65.4	0.313	0.626	mg/kg dry	5	10/16/19 21:53	EPA 6020A	
Cadmium	ND	0.0626	0.125	mg/kg dry	5	10/16/19 21:53	EPA 6020A	
Chromium	8.24	0.313	0.626	mg/kg dry	5	10/16/19 21:53	EPA 6020A	
Copper	10.3	0.313	0.626	mg/kg dry	5	10/16/19 21:53	EPA 6020A	
Lead	6.35	0.0626	0.125	mg/kg dry	5	10/16/19 21:53	EPA 6020A	
Mercury	0.0262	0.0250	0.0501	mg/kg dry	5	10/16/19 21:53	EPA 6020A	Ja
Silver	ND	0.0626	0.125	mg/kg dry	5	10/16/19 21:53	EPA 6020A	
Zinc	38.9	1.25	2.50	mg/kg dry	5	10/16/19 21:53	EPA 6020A	
SED-05-SS-1.0 (A9J0427-01RE1) Matrix: Sediment								
Batch: 9101165								
Selenium	0.388	0.313	0.626	mg/kg dry	5	10/17/19 16:07	EPA 6020A	Ja
SED-06-SS-1.0 (A9J0427-02) Matrix: Sediment								
Batch: 9101236								
Arsenic	2.91	0.351	0.702	mg/kg dry	5	10/17/19 16:43	EPA 6020A	
Barium	80.0	0.351	0.702	mg/kg dry	5	10/17/19 16:43	EPA 6020A	
Cadmium	ND	0.0702	0.140	mg/kg dry	5	10/17/19 16:43	EPA 6020A	
Chromium	11.1	0.351	0.702	mg/kg dry	5	10/17/19 16:43	EPA 6020A	
Copper	14.3	0.351	0.702	mg/kg dry	5	10/17/19 16:43	EPA 6020A	
Lead	7.59	0.0702	0.140	mg/kg dry	5	10/17/19 16:43	EPA 6020A	
Mercury	ND	0.0281	0.0561	mg/kg dry	5	10/17/19 16:43	EPA 6020A	
Selenium	0.555	0.351	0.702	mg/kg dry	5	10/17/19 16:43	EPA 6020A	Ja
Silver	ND	0.0702	0.140	mg/kg dry	5	10/17/19 16:43	EPA 6020A	
Zinc	55.8	1.40	2.81	mg/kg dry	5	10/17/19 16:43	EPA 6020A	
SED-07-SS-1.0 (A9J0427-03) Matrix: Sediment								
Batch: 9101165								
Arsenic	4.30	0.379	0.758	mg/kg dry	5	10/16/19 21:57	EPA 6020A	
Barium	143	0.379	0.758	mg/kg dry	5	10/16/19 21:57	EPA 6020A	
Cadmium	0.220	0.0758	0.152	mg/kg dry	5	10/16/19 21:57	EPA 6020A	
Chromium	22.7	0.379	0.758	mg/kg dry	5	10/16/19 21:57	EPA 6020A	

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Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-07-SS-1.0 (A9J0427-03) Matrix: Sediment								
Copper	37.2	0.379	0.758	mg/kg dry	5	10/16/19 21:57	EPA 6020A	
Lead	39.9	0.0758	0.152	mg/kg dry	5	10/16/19 21:57	EPA 6020A	
Mercury	0.132	0.0303	0.0606	mg/kg dry	5	10/16/19 21:57	EPA 6020A	
Silver	0.287	0.0758	0.152	mg/kg dry	5	10/16/19 21:57	EPA 6020A	
Zinc	149	1.52	3.03	mg/kg dry	5	10/16/19 21:57	EPA 6020A	
SED-07-SS-1.0 (A9J0427-03RE1) Matrix: Sediment								
Batch: 9101165								
Selenium	0.719	0.379	0.758	mg/kg dry	5	10/17/19 16:11	EPA 6020A	Ja
SED-07-SS-1.0-DUP (A9J0427-04) Matrix: Sediment								
Batch: 9101165								
Arsenic	4.74	0.434	0.867	mg/kg dry	5	10/16/19 22:02	EPA 6020A	
Barium	151	0.434	0.867	mg/kg dry	5	10/16/19 22:02	EPA 6020A	
Cadmium	0.243	0.0867	0.173	mg/kg dry	5	10/16/19 22:02	EPA 6020A	
Chromium	24.9	0.434	0.867	mg/kg dry	5	10/16/19 22:02	EPA 6020A	
Copper	40.5	0.434	0.867	mg/kg dry	5	10/16/19 22:02	EPA 6020A	
Lead	34.3	0.0867	0.173	mg/kg dry	5	10/16/19 22:02	EPA 6020A	
Mercury	0.189	0.0347	0.0694	mg/kg dry	5	10/16/19 22:02	EPA 6020A	
Silver	0.335	0.0867	0.173	mg/kg dry	5	10/16/19 22:02	EPA 6020A	
Zinc	153	1.73	3.47	mg/kg dry	5	10/16/19 22:02	EPA 6020A	
SED-07-SS-1.0-DUP (A9J0427-04RE1) Matrix: Sediment								
Batch: 9101165								
Selenium	0.778	0.434	0.867	mg/kg dry	5	10/17/19 16:16	EPA 6020A	Ja
SED-08-SS-1.0 (A9J0427-05) Matrix: Sediment								
Batch: 9101165								
Arsenic	3.47	0.345	0.690	mg/kg dry	5	10/16/19 22:06	EPA 6020A	
Barium	192	0.345	0.690	mg/kg dry	5	10/16/19 22:06	EPA 6020A	
Cadmium	ND	0.0690	0.138	mg/kg dry	5	10/16/19 22:06	EPA 6020A	
Chromium	28.7	0.345	0.690	mg/kg dry	5	10/16/19 22:06	EPA 6020A	
Copper	11.9	0.345	0.690	mg/kg dry	5	10/16/19 22:06	EPA 6020A	
Mercury	ND	0.0276	0.0552	mg/kg dry	5	10/16/19 22:06	EPA 6020A	

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ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-08-SS-1.0 (A9J0427-05)				Matrix: Sediment				
Silver	ND	0.0690	0.138	mg/kg dry	5	10/16/19 22:06	EPA 6020A	
Zinc	58.0	1.38	2.76	mg/kg dry	5	10/16/19 22:06	EPA 6020A	
SED-08-SS-1.0 (A9J0427-05RE1)				Matrix: Sediment				
Batch: 9101165								
Selenium	0.454	0.345	0.690	mg/kg dry	5	10/17/19 16:01	EPA 6020A	Ja
SED-08-SS-1.0 (A9J0427-05RE2)				Matrix: Sediment				
Batch: 9101165								
Lead	1650	1.38	2.76	mg/kg dry	100	10/17/19 16:30	EPA 6020A	
SED-09-SS-1.0 (A9J0427-06)				Matrix: Sediment				
Batch: 9101165								
Arsenic	2.65	0.355	0.710	mg/kg dry	5	10/16/19 22:11	EPA 6020A	
Barium	132	0.355	0.710	mg/kg dry	5	10/16/19 22:11	EPA 6020A	
Cadmium	0.0787	0.0710	0.142	mg/kg dry	5	10/16/19 22:11	EPA 6020A	Ja
Chromium	11.9	0.355	0.710	mg/kg dry	5	10/16/19 22:11	EPA 6020A	
Copper	14.0	0.355	0.710	mg/kg dry	5	10/16/19 22:11	EPA 6020A	
Lead	17.0	0.0710	0.142	mg/kg dry	5	10/16/19 22:11	EPA 6020A	
Mercury	0.0520	0.0284	0.0568	mg/kg dry	5	10/16/19 22:11	EPA 6020A	Ja
Silver	ND	0.0710	0.142	mg/kg dry	5	10/16/19 22:11	EPA 6020A	
Zinc	70.2	1.42	2.84	mg/kg dry	5	10/16/19 22:11	EPA 6020A	
SED-09-SS-1.0 (A9J0427-06RE1)				Matrix: Sediment				
Batch: 9101165								
Selenium	0.429	0.355	0.710	mg/kg dry	5	10/17/19 16:20	EPA 6020A	Ja
SED-10-SS-1.0 (A9J0427-07)				Matrix: Sediment				
Batch: 9101165								
Arsenic	3.99	0.442	0.885	mg/kg dry	5	10/16/19 22:15	EPA 6020A	
Barium	108	0.442	0.885	mg/kg dry	5	10/16/19 22:15	EPA 6020A	
Cadmium	0.169	0.0885	0.177	mg/kg dry	5	10/16/19 22:15	EPA 6020A	Ja
Chromium	14.9	0.442	0.885	mg/kg dry	5	10/16/19 22:15	EPA 6020A	
Copper	25.1	0.442	0.885	mg/kg dry	5	10/16/19 22:15	EPA 6020A	
Lead	11.8	0.0885	0.177	mg/kg dry	5	10/16/19 22:15	EPA 6020A	

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ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-10-SS-1.0 (A9J0427-07)				Matrix: Sediment				
Mercury	0.0463	0.0354	0.0708	mg/kg dry	5	10/16/19 22:15	EPA 6020A	Ja
Silver	ND	0.0885	0.177	mg/kg dry	5	10/16/19 22:15	EPA 6020A	
Zinc	85.0	1.77	3.54	mg/kg dry	5	10/16/19 22:15	EPA 6020A	
SED-10-SS-1.0 (A9J0427-07RE1)				Matrix: Sediment				
Batch: 9101165								
Selenium	0.698	0.442	0.885	mg/kg dry	5	10/17/19 16:25	EPA 6020A	Ja
SED-SS-RB (A9J0427-08)				Matrix: Water				
Batch: 9101189								
Arsenic	ND	0.500	1.00	ug/L	1	10/16/19 23:08	EPA 6020A	
Barium	ND	0.500	1.00	ug/L	1	10/16/19 23:08	EPA 6020A	
Cadmium	ND	0.0400	0.200	ug/L	1	10/16/19 23:08	EPA 6020A	
Chromium	ND	0.500	1.00	ug/L	1	10/16/19 23:08	EPA 6020A	
Copper	ND	0.500	1.00	ug/L	1	10/16/19 23:08	EPA 6020A	
Lead	ND	0.100	0.200	ug/L	1	10/16/19 23:08	EPA 6020A	
Mercury	ND	0.0400	0.0800	ug/L	1	10/16/19 23:08	EPA 6020A	
Selenium	ND	0.500	1.00	ug/L	1	10/16/19 23:08	EPA 6020A	
Silver	ND	0.100	0.200	ug/L	1	10/16/19 23:08	EPA 6020A	
Zinc	ND	2.00	4.00	ug/L	1	10/16/19 23:08	EPA 6020A	

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ANALYTICAL SAMPLE RESULTS

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-05-SS-1.0 (A9J0427-01)				Matrix: Sediment		Batch: 9101029		
Total Cyanide	0.244	0.0637	0.127	mg/kg dry	1	10/15/19 12:37	D7511-12	
SED-06-SS-1.0 (A9J0427-02)				Matrix: Sediment		Batch: 9101029		
Total Cyanide	0.351	0.0676	0.135	mg/kg dry	1	10/15/19 12:39	D7511-12	
SED-07-SS-1.0 (A9J0427-03)				Matrix: Sediment		Batch: 9101029		
Total Cyanide	0.371	0.0775	0.155	mg/kg dry	1	10/15/19 12:53	D7511-12	
SED-07-SS-1.0-DUP (A9J0427-04)				Matrix: Sediment		Batch: 9101029		
Total Cyanide	0.469	0.0840	0.168	mg/kg dry	1	10/15/19 12:55	D7511-12	
SED-08-SS-1.0 (A9J0427-05)				Matrix: Sediment		Batch: 9101029		
Total Cyanide	0.510	0.0673	0.135	mg/kg dry	1	10/15/19 12:59	D7511-12	
SED-09-SS-1.0 (A9J0427-06)				Matrix: Sediment		Batch: 9101029		
Total Cyanide	0.410	0.0729	0.146	mg/kg dry	1	10/15/19 13:01	D7511-12	
SED-10-SS-1.0 (A9J0427-07)				Matrix: Sediment		Batch: 9101029		
Total Cyanide	0.902	0.0886	0.177	mg/kg dry	1	10/15/19 13:03	D7511-12	

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A9J0427 - 11 21 19 1543

ANALYTICAL SAMPLE RESULTS

Total Cyanide by Flow Analysis (Aqueous)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-SS-RB (A9J0427-08)				Matrix: Water		Batch: 9101032		
Total Cyanide	ND	0.00500	0.00500	mg/L	1	10/14/19 11:56	EPA 335.4	

Apex Laboratories

Philip Nerenberg, Lab Director

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6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200

Portland, OR 97209

Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

ANALYTICAL SAMPLE RESULTS

Demand Parameters

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-05-SS-1.0 (A9J0427-01)				Matrix: Sediment				
Batch: 9101455								
Total Organic Carbon	3800	200	200	mg/kg	1	10/24/19 19:48	EPA 9060Amod	
SED-06-SS-1.0 (A9J0427-02)				Matrix: Sediment				
Batch: 9101455								
Total Organic Carbon	9400	200	200	mg/kg	1	10/24/19 20:20	EPA 9060Amod	Q-42
SED-07-SS-1.0 (A9J0427-03)				Matrix: Sediment				
Batch: 9101455								
Total Organic Carbon	26000	200	200	mg/kg	1	10/24/19 20:53	EPA 9060Amod	
SED-07-SS-1.0-DUP (A9J0427-04)				Matrix: Sediment				
Batch: 9101455								
Total Organic Carbon	22000	200	200	mg/kg	1	10/24/19 21:04	EPA 9060Amod	
SED-08-SS-1.0 (A9J0427-05)				Matrix: Sediment				
Batch: 9101455								
Total Organic Carbon	5100	200	200	mg/kg	1	10/24/19 21:15	EPA 9060Amod	
SED-09-SS-1.0 (A9J0427-06)				Matrix: Sediment				
Batch: 9101455								
Total Organic Carbon	7000	200	200	mg/kg	1	10/24/19 21:25	EPA 9060Amod	
SED-10-SS-1.0 (A9J0427-07)				Matrix: Sediment				
Batch: 9101455								
Total Organic Carbon	19000	200	200	mg/kg	1	10/24/19 21:36	EPA 9060Amod	

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A9J0427 - 11 21 19 1543

ANALYTICAL SAMPLE RESULTS

Total Organic Carbon (Non-Purgeable) by Persulfate Oxidation by Standard Method 5310C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-SS-RB (A9J0427-08)				Matrix: Water		Batch: 9101080		
Total Organic Carbon	ND	1.00	1.00	mg/L	1	10/15/19 02:08	SM 5310 C	

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****ANALYTICAL SAMPLE RESULTS****Solid and Moisture Determinations**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-05-SS-1.0 (A9J0427-01)				Matrix: Sediment				
Batch: 9101456								
Total Solids	78.0	1.00	1.00	% by Weight	1	10/23/19 13:17	PSEP 1986	
SED-06-SS-1.0 (A9J0427-02)				Matrix: Sediment				
Batch: 9101456								
Total Solids	71.6	1.00	1.00	% by Weight	1	10/23/19 13:17	PSEP 1986	
SED-07-SS-1.0 (A9J0427-03)				Matrix: Sediment				
Batch: 9101456								
Total Solids	63.8	1.00	1.00	% by Weight	1	10/23/19 13:17	PSEP 1986	
SED-07-SS-1.0-DUP (A9J0427-04)				Matrix: Sediment				
Batch: 9101456								
Total Solids	58.1	1.00	1.00	% by Weight	1	10/23/19 13:17	PSEP 1986	
SED-08-SS-1.0 (A9J0427-05)				Matrix: Sediment				
Batch: 9101456								
Total Solids	72.5	1.00	1.00	% by Weight	1	10/23/19 13:17	PSEP 1986	
SED-09-SS-1.0 (A9J0427-06)				Matrix: Sediment				
Batch: 9101456								
Total Solids	67.7	1.00	1.00	% by Weight	1	10/23/19 13:17	PSEP 1986	
SED-10-SS-1.0 (A9J0427-07)				Matrix: Sediment				
Batch: 9101456								
Total Solids	56.1	1.00	1.00	% by Weight	1	10/23/19 13:17	PSEP 1986	

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ANALYTICAL SAMPLE RESULTS

Grain Size by ASTM D 422m/PSET Parameters

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-05-SS-1.0 (A9J0427-01)				Matrix: Sediment		Batch: 9101813		
Gravel (>2.00mm)	7.30	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 4.75 mm sieve (#4)	3.06	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 2.00 mm sieve (#10)	4.25	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Sand (0.063mm - 2.00mm)	85.0	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.85 mm sieve (#20)	5.70	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.425 mm sieve (#40)	36.7	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.250 mm sieve (#60)	30.0	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.150 mm sieve (#100)	6.91	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.106 mm sieve (#140)	2.33	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.075 mm sieve (#200)	2.21	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.063 mm sieve (#230)	1.21	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Silt (0.005mm < 0.063mm)	5.70	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Clay (< 0.005 mm)	2.00	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
SED-06-SS-1.0 (A9J0427-02)				Matrix: Sediment		Batch: 9101813		
Gravel (>2.00mm)	5.47	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 4.75 mm sieve (#4)	2.29	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 2.00 mm sieve (#10)	3.18	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Sand (0.063mm - 2.00mm)	84.1	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.85 mm sieve (#20)	5.68	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.425 mm sieve (#40)	32.3	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.250 mm sieve (#60)	28.5	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.150 mm sieve (#100)	8.13	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.106 mm sieve (#140)	3.64	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.075 mm sieve (#200)	3.87	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.063 mm sieve (#230)	1.96	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Silt (0.005mm < 0.063mm)	7.20	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	

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Portland, OR 97209

Project: **Siltronic Sediment Sampling**
Project Number: **8128.02.19-04**
Project Manager: **Phil Wiescher**

Report ID:
A9J0427 - 11 21 19 1543

ANALYTICAL SAMPLE RESULTS

Grain Size by ASTM D 422m/PSET Parameters

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-06-SS-1.0 (A9J0427-02)				Matrix: Sediment		Batch: 9101813		
Clay (< 0.005 mm)	3.20	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
SED-07-SS-1.0 (A9J0427-03)				Matrix: Sediment		Batch: 9101813		
Gravel (>2.00mm)	7.38	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 4.75 mm sieve (#4)	4.44	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 2.00 mm sieve (#10)	2.94	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Sand (0.063mm - 2.00mm)	38.4	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.85 mm sieve (#20)	1.87	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.425 mm sieve (#40)	4.89	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.250 mm sieve (#60)	11.1	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.150 mm sieve (#100)	8.77	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.106 mm sieve (#140)	4.86	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.075 mm sieve (#200)	4.51	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.063 mm sieve (#230)	2.37	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Silt (0.005mm < 0.063mm)	40.8	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Clay (< 0.005 mm)	13.4	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
SED-07-SS-1.0-DUP (A9J0427-04)				Matrix: Sediment		Batch: 9101813		
Gravel (>2.00mm)	16.3	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 4.75 mm sieve (#4)	13.9	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 2.00 mm sieve (#10)	2.39	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Sand (0.063mm - 2.00mm)	34.6	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.85 mm sieve (#20)	1.52	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.425 mm sieve (#40)	4.60	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.250 mm sieve (#60)	9.87	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.150 mm sieve (#100)	7.98	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.106 mm sieve (#140)	4.53	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.075 mm sieve (#200)	3.96	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	

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Project Manager: **Phil Wiescher**

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ANALYTICAL SAMPLE RESULTS

Grain Size by ASTM D 422m/PSET Parameters

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-07-SS-1.0-DUP (A9J0427-04)				Matrix: Sediment		Batch: 9101813		
Percent Retained 0.063 mm sieve (#230)	2.10	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Silt (0.005mm < 0.063mm)	37.1	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Clay (< 0.005 mm)	12.0	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
SED-08-SS-1.0 (A9J0427-05)				Matrix: Sediment		Batch: 9101813		
Gravel (>2.00mm)	18.3	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 4.75 mm sieve (#4)	10.4	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 2.00 mm sieve (#10)	7.92	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Sand (0.063mm - 2.00mm)	70.7	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.85 mm sieve (#20)	5.81	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.425 mm sieve (#40)	22.2	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.250 mm sieve (#60)	28.9	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.150 mm sieve (#100)	9.94	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.106 mm sieve (#140)	1.85	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.075 mm sieve (#200)	1.31	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.063 mm sieve (#230)	0.63	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Silt (0.005mm < 0.063mm)	7.80	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Clay (< 0.005 mm)	3.20	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
SED-09-SS-1.0 (A9J0427-06)				Matrix: Sediment		Batch: 9101813		
Gravel (>2.00mm)	1.82	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 4.75 mm sieve (#4)	0.90	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 2.00 mm sieve (#10)	0.91	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Sand (0.063mm - 2.00mm)	79.8	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.85 mm sieve (#20)	0.74	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.425 mm sieve (#40)	6.15	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.250 mm sieve (#60)	26.4	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.150 mm sieve (#100)	33.6	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	

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ANALYTICAL SAMPLE RESULTS

Grain Size by ASTM D 422m/PSET Parameters

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-09-SS-1.0 (A9J0427-06)				Matrix: Sediment		Batch: 9101813		
Percent Retained 0.106 mm sieve (#140)	6.12	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.075 mm sieve (#200)	4.50	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.063 mm sieve (#230)	2.23	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Silt (0.005mm < 0.063mm)	13.0	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Clay (< 0.005 mm)	5.30	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
SED-10-SS-1.0 (A9J0427-07)				Matrix: Sediment		Batch: 9101813		
Gravel (>2.00mm)	2.40	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 4.75 mm sieve (#4)	0.90	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 2.00 mm sieve (#10)	1.51	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Sand (0.063mm - 2.00mm)	58.6	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.85 mm sieve (#20)	3.58	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.425 mm sieve (#40)	14.0	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.250 mm sieve (#60)	20.8	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.150 mm sieve (#100)	7.94	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.106 mm sieve (#140)	4.35	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.075 mm sieve (#200)	5.22	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Percent Retained 0.063 mm sieve (#230)	2.64	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Silt (0.005mm < 0.063mm)	29.9	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	
Clay (< 0.005 mm)	9.10	0.01	0.01	% of Total	1	11/04/19 19:53	D422mod	

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Project Manager: **Phil Wiescher**

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ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-05-SS-1.0 (A9J0427-01)				Matrix: Sediment		Batch: 9101456		
% Solids	78.0	1.00	1.00	% by Weight	1	10/23/19 13:17	EPA 8000C	
SED-06-SS-1.0 (A9J0427-02)				Matrix: Sediment		Batch: 9101456		
% Solids	71.6	1.00	1.00	% by Weight	1	10/23/19 13:17	EPA 8000C	
SED-07-SS-1.0 (A9J0427-03)				Matrix: Sediment		Batch: 9101456		
% Solids	63.8	1.00	1.00	% by Weight	1	10/23/19 13:17	EPA 8000C	
SED-07-SS-1.0-DUP (A9J0427-04)				Matrix: Sediment		Batch: 9101456		
% Solids	58.1	1.00	1.00	% by Weight	1	10/23/19 13:17	EPA 8000C	
SED-08-SS-1.0 (A9J0427-05)				Matrix: Sediment		Batch: 9101456		
% Solids	72.5	1.00	1.00	% by Weight	1	10/23/19 13:17	EPA 8000C	
SED-09-SS-1.0 (A9J0427-06)				Matrix: Sediment		Batch: 9101456		
% Solids	67.7	1.00	1.00	% by Weight	1	10/23/19 13:17	EPA 8000C	
SED-10-SS-1.0 (A9J0427-07)				Matrix: Sediment		Batch: 9101456		
% Solids	56.1	1.00	1.00	% by Weight	1	10/23/19 13:17	EPA 8000C	

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****Weck Laboratories, Inc.****ANALYTICAL SAMPLE RESULTS (Subcontracted)****Chlorinated Herbicides by GC/ECD**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-05-SS-1.0 (A9J0427-01)		Matrix: Sediment			Batch: W9J0978			
Batch: W9J0978								
2,4-D	ND	0.034	0.49	mg/kg dry	1	10/23/19 00:41	EPA 8151A	M-02
2,4-DB	ND	0.083	0.49	mg/kg dry	1	10/23/19 00:41	EPA 8151A	M-02
2,4,5-T	ND	0.027	0.49	mg/kg dry	1	10/23/19 00:41	EPA 8151A	M-02
2,4,5-TP (Silvex)	ND	0.035	0.49	mg/kg dry	1	10/23/19 00:41	EPA 8151A	M-02
Dalapon	ND	0.092	0.49	mg/kg dry	1	10/23/19 00:41	EPA 8151A	M-02
Dicamba	ND	0.044	0.49	mg/kg dry	1	10/23/19 00:41	EPA 8151A	M-02
Dichloroprop	ND	0.035	0.49	mg/kg dry	1	10/23/19 00:41	EPA 8151A	M-02
Dinoseb	ND	0.018	0.73	mg/kg dry	1	10/23/19 00:41	EPA 8151A	M-02
MCPA	ND	3.8	73	mg/kg dry	1	10/23/19 00:41	EPA 8151A	M-02
MCPP	ND	3.3	73	mg/kg dry	1	10/23/19 00:41	EPA 8151A	M-02
Pentachlorophenol	ND	0.031	0.49	mg/kg dry	1	10/23/19 00:41	EPA 8151A	M-02
Picloram	ND	0.035	0.49	mg/kg dry	1	10/23/19 00:41	EPA 8151A	M-02
Batch: W9J0978								
Surrogate: 2,4-DCAA		Recovery: 90 %		Limits: 13-119 %	1	10/23/19 00:41	EPA 8151A	M-02
SED-06-SS-1.0 (A9J0427-02)		Matrix: Sediment			Batch: W9J1359			
Batch: W9J1359								
2,4-D	ND	0.031	0.44	mg/kg dry	1	11/01/19 02:01	EPA 8151A	M-02
2,4-DB	ND	0.075	0.44	mg/kg dry	1	11/01/19 02:01	EPA 8151A	M-02
2,4,5-T	ND	0.025	0.44	mg/kg dry	1	11/01/19 02:01	EPA 8151A	M-02
2,4,5-TP (Silvex)	ND	0.032	0.44	mg/kg dry	1	11/01/19 02:01	EPA 8151A	M-02
Dalapon	ND	0.084	0.44	mg/kg dry	1	11/01/19 02:01	EPA 8151A	M-02
Dicamba	ND	0.040	0.44	mg/kg dry	1	11/01/19 02:01	EPA 8151A	M-02
Dichloroprop	ND	0.031	0.44	mg/kg dry	1	11/01/19 02:01	EPA 8151A	M-02
Dinoseb	ND	0.017	0.67	mg/kg dry	1	11/01/19 02:01	EPA 8151A	M-02
MCPA	ND	3.5	67	mg/kg dry	1	11/01/19 02:01	EPA 8151A	M-02
MCPP	ND	3.0	67	mg/kg dry	1	11/01/19 02:01	EPA 8151A	M-02
Pentachlorophenol	ND	0.028	0.44	mg/kg dry	1	11/01/19 02:01	EPA 8151A	M-02
Picloram	ND	0.032	0.44	mg/kg dry	1	11/01/19 02:01	EPA 8151A	M-02
Batch: W9J1359								
Surrogate: 2,4-DCAA		Recovery: 58 %		Limits: 13-119 %	1	11/01/19 02:01	EPA 8151A	M-02

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Philip Nerenberg, Lab Director

**Apex Laboratories, LLC**

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200

Portland, OR 97209

Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****Weck Laboratories, Inc.****ANALYTICAL SAMPLE RESULTS (Subcontracted)****Chlorinated Herbicides by GC/ECD**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-07-SS-1.0 (A9J0427-03)		Matrix: Sediment				Batch: W9J0978		
Batch: W9J0978								
2,4-D	ND	0.040	0.58	mg/kg dry	1	10/23/19 01:18	EPA 8151A	M-02
2,4-DB	ND	0.099	0.58	mg/kg dry	1	10/23/19 01:18	EPA 8151A	M-02
2,4,5-T	ND	0.033	0.58	mg/kg dry	1	10/23/19 01:18	EPA 8151A	M-02
2,4,5-TP (Silvex)	ND	0.042	0.58	mg/kg dry	1	10/23/19 01:18	EPA 8151A	M-02
Dalapon	ND	0.11	0.58	mg/kg dry	1	10/23/19 01:18	EPA 8151A	M-02
Dicamba	ND	0.053	0.58	mg/kg dry	1	10/23/19 01:18	EPA 8151A	M-02
Dichloroprop	ND	0.041	0.58	mg/kg dry	1	10/23/19 01:18	EPA 8151A	M-02
Dinoseb	ND	0.022	0.88	mg/kg dry	1	10/23/19 01:18	EPA 8151A	M-02
MCPA	ND	4.6	88	mg/kg dry	1	10/23/19 01:18	EPA 8151A	M-02
MCPP	ND	4.0	88	mg/kg dry	1	10/23/19 01:18	EPA 8151A	M-02
Pentachlorophenol	ND	0.037	0.58	mg/kg dry	1	10/23/19 01:18	EPA 8151A	M-02
Picloram	ND	0.042	0.58	mg/kg dry	1	10/23/19 01:18	EPA 8151A	M-02
Batch: W9J0978								
Surrogate: 2,4-DCAA			Recovery: 57 %	Limits: 13-119 %	1	10/23/19 01:18	EPA 8151A	M-02
SED-07-SS-1.0-DUP (A9J0427-04)		Matrix: Sediment				Batch: W9J0978		
Batch: W9J0978								
2,4-D	ND	0.044	0.63	mg/kg dry	1	10/23/19 01:54	EPA 8151A	M-02
2,4-DB	ND	0.11	0.63	mg/kg dry	1	10/23/19 01:54	EPA 8151A	M-02
2,4,5-T	ND	0.035	0.63	mg/kg dry	1	10/23/19 01:54	EPA 8151A	M-02
2,4,5-TP (Silvex)	ND	0.046	0.63	mg/kg dry	1	10/23/19 01:54	EPA 8151A	M-02
Dalapon	ND	0.12	0.63	mg/kg dry	1	10/23/19 01:54	EPA 8151A	M-02
Dicamba	ND	0.057	0.63	mg/kg dry	1	10/23/19 01:54	EPA 8151A	M-02
Dichloroprop	ND	0.045	0.63	mg/kg dry	1	10/23/19 01:54	EPA 8151A	M-02
Dinoseb	ND	0.024	0.95	mg/kg dry	1	10/23/19 01:54	EPA 8151A	M-02
MCPA	ND	5.0	95	mg/kg dry	1	10/23/19 01:54	EPA 8151A	M-02
MCPP	ND	4.3	95	mg/kg dry	1	10/23/19 01:54	EPA 8151A	M-02
Pentachlorophenol	ND	0.040	0.63	mg/kg dry	1	10/23/19 01:54	EPA 8151A	M-02
Picloram	ND	0.046	0.63	mg/kg dry	1	10/23/19 01:54	EPA 8151A	M-02
Batch: W9J0978								

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Philip Nerenberg, Lab Director

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EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200
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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****Weck Laboratories, Inc.****ANALYTICAL SAMPLE RESULTS (Subcontracted)****Chlorinated Herbicides by GC/ECD**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-07-SS-1.0-DUP (A9J0427-04)		Matrix: Sediment		Batch: W9J0978				
<i>Surrogate: 2,4-DCAA</i>		<i>Recovery: 81 %</i>		<i>Limits: 13-119 %</i>	<i>1</i>	<i>10/23/19 01:54</i>	<i>EPA 8151A</i>	<i>M-02</i>
SED-08-SS-1.0 (A9J0427-05)		Matrix: Sediment		Batch: W9J0978				
<i>Batch: W9J0978</i>								
2,4-D	ND	0.031	0.45	mg/kg dry	1	10/23/19 02:30	EPA 8151A	M-02
2,4-DB	ND	0.077	0.45	mg/kg dry	1	10/23/19 02:30	EPA 8151A	M-02
2,4,5-T	ND	0.025	0.45	mg/kg dry	1	10/23/19 02:30	EPA 8151A	M-02
2,4,5-TP (Silvex)	ND	0.033	0.45	mg/kg dry	1	10/23/19 02:30	EPA 8151A	M-02
Dalapon	ND	0.086	0.45	mg/kg dry	1	10/23/19 02:30	EPA 8151A	M-02
Dicamba	ND	0.041	0.45	mg/kg dry	1	10/23/19 02:30	EPA 8151A	M-02
Dichloroprop	ND	0.032	0.45	mg/kg dry	1	10/23/19 02:30	EPA 8151A	M-02
Dinoseb	ND	0.017	0.68	mg/kg dry	1	10/23/19 02:30	EPA 8151A	M-02
MCPA	ND	3.6	68	mg/kg dry	1	10/23/19 02:30	EPA 8151A	M-02
MCPP	ND	3.1	68	mg/kg dry	1	10/23/19 02:30	EPA 8151A	M-02
Pentachlorophenol	ND	0.029	0.45	mg/kg dry	1	10/23/19 02:30	EPA 8151A	M-02
Picloram	ND	0.033	0.45	mg/kg dry	1	10/23/19 02:30	EPA 8151A	M-02
<i>Batch: W9J0978</i>								
<i>Surrogate: 2,4-DCAA</i>		<i>Recovery: 85 %</i>		<i>Limits: 13-119 %</i>	<i>1</i>	<i>10/23/19 02:30</i>	<i>EPA 8151A</i>	<i>M-02</i>
SED-09-SS-1.0 (A9J0427-06)		Matrix: Sediment		Batch: W9J0978				
<i>Batch: W9J0978</i>								
2,4-D	ND	0.037	0.53	mg/kg dry	1	10/23/19 03:06	EPA 8151A	M-02
2,4-DB	ND	0.090	0.53	mg/kg dry	1	10/23/19 03:06	EPA 8151A	M-02
2,4,5-T	ND	0.030	0.53	mg/kg dry	1	10/23/19 03:06	EPA 8151A	M-02
2,4,5-TP (Silvex)	ND	0.038	0.53	mg/kg dry	1	10/23/19 03:06	EPA 8151A	M-02
Dalapon	ND	0.10	0.53	mg/kg dry	1	10/23/19 03:06	EPA 8151A	M-02
Dicamba	ND	0.048	0.53	mg/kg dry	1	10/23/19 03:06	EPA 8151A	M-02
Dichloroprop	ND	0.038	0.53	mg/kg dry	1	10/23/19 03:06	EPA 8151A	M-02
Dinoseb	ND	0.020	0.79	mg/kg dry	1	10/23/19 03:06	EPA 8151A	M-02
MCPA	ND	4.2	79	mg/kg dry	1	10/23/19 03:06	EPA 8151A	M-02
MCPP	ND	3.6	79	mg/kg dry	1	10/23/19 03:06	EPA 8151A	M-02
Pentachlorophenol	ND	0.033	0.53	mg/kg dry	1	10/23/19 03:06	EPA 8151A	M-02

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Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

Weck Laboratories, Inc.

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Chlorinated Herbicides by GC/ECD

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-09-SS-1.0 (A9J0427-06)				Matrix: Sediment		Batch: W9J0978		
Picloram	ND	0.038	0.53	mg/kg dry	1	10/23/19 03:06	EPA 8151A	M-02
Batch: W9J0978								
Surrogate: 2,4-DCAA		Recovery: 68 %	Limits: 13-119 %	1	10/23/19 03:06	EPA 8151A	M-02	
SED-10-SS-1.0 (A9J0427-07)				Matrix: Sediment		Batch: W9J0978		
Batch: W9J0978								
2,4-D	ND	0.043	0.63	mg/kg dry	1	10/23/19 03:43	EPA 8151A	M-02
2,4-DB	ND	0.11	0.63	mg/kg dry	1	10/23/19 03:43	EPA 8151A	M-02
2,4,5-T	ND	0.035	0.63	mg/kg dry	1	10/23/19 03:43	EPA 8151A	M-02
2,4,5-TP (Silvex)	ND	0.045	0.63	mg/kg dry	1	10/23/19 03:43	EPA 8151A	M-02
Dalapon	ND	0.12	0.63	mg/kg dry	1	10/23/19 03:43	EPA 8151A	M-02
Dicamba	ND	0.056	0.63	mg/kg dry	1	10/23/19 03:43	EPA 8151A	M-02
Dichloroprop	ND	0.044	0.63	mg/kg dry	1	10/23/19 03:43	EPA 8151A	M-02
Dinoseb	ND	0.024	0.94	mg/kg dry	1	10/23/19 03:43	EPA 8151A	M-02
MCPA	ND	4.9	94	mg/kg dry	1	10/23/19 03:43	EPA 8151A	M-02
MCPP	ND	4.3	94	mg/kg dry	1	10/23/19 03:43	EPA 8151A	M-02
Pentachlorophenol	ND	0.039	0.63	mg/kg dry	1	10/23/19 03:43	EPA 8151A	M-02
Picloram	ND	0.045	0.63	mg/kg dry	1	10/23/19 03:43	EPA 8151A	M-02
Batch: W9J0978								
Surrogate: 2,4-DCAA		Recovery: 79 %	Limits: 13-119 %	1	10/23/19 03:43	EPA 8151A	M-02	
SED-SS-RB (A9J0427-08)				Matrix: Water		Batch: W9J0967		
Batch: W9J0967								
2,4-D	ND	0.21	0.50	ug/l	1	10/31/19 17:01	EPA 8151A	
2,4-DB	ND	1.3	2.5	ug/l	1	10/31/19 17:01	EPA 8151A	
2,4,5-T	ND	0.13	0.25	ug/l	1	10/31/19 17:01	EPA 8151A	
2,4,5-TP (Silvex)	ND	0.11	0.25	ug/l	1	10/31/19 17:01	EPA 8151A	
3,5-Dichlorobenzoic acid	ND	0.56	1.2	ug/l	1	10/31/19 17:01	EPA 8151A	
4-Nitrophenol	ND	0.52	1.2	ug/l	1	10/31/19 17:01	EPA 8151A	
Acifluorfen	ND	0.15	0.50	ug/l	1	10/31/19 17:01	EPA 8151A	
Bentazon	ND	1.1	2.5	ug/l	1	10/31/19 17:01	EPA 8151A	
Dalapon	ND	0.15	0.50	ug/l	1	10/31/19 17:01	EPA 8151A	

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****Weck Laboratories, Inc.****ANALYTICAL SAMPLE RESULTS (Subcontracted)****Chlorinated Herbicides by GC/ECD**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-SS-RB (A9J0427-08)		Matrix: Water			Batch: W9J0967			
Dicamba	ND	0.40	0.75	ug/l	1	10/31/19 17:01	EPA 8151A	
Dichloroprop	ND	0.49	1.0	ug/l	1	10/31/19 17:01	EPA 8151A	
Dinoseb	ND	0.19	0.50	ug/l	1	10/31/19 17:01	EPA 8151A	
DCPA	ND	0.14	0.25	ug/l	1	10/31/19 17:01	EPA 8151A	
MCPA	ND	45	100	ug/l	1	10/31/19 17:01	EPA 8151A	
MCPP	ND	63	100	ug/l	1	10/31/19 17:01	EPA 8151A	
Pentachlorophenol	ND	0.11	0.25	ug/l	1	10/31/19 17:01	EPA 8151A	
Picloram	ND	0.31	0.75	ug/l	1	10/31/19 17:01	EPA 8151A	
Batch: W9J0967								
Surrogate: 2,4-DCAA		Recovery: 78 %		Limits: 56-156 %		1	10/31/19 17:01	EPA 8151A

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Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

Weck Laboratories, Inc.

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED-05-SS-1.0 (A9J0427-01)				Matrix: Sediment		Batch: W9J1001		
Batch: W9J1001								
% Solids	76.7		0.100	% by Weight	1	10/18/19 16:16	EPA 160.3M	
SED-06-SS-1.0 (A9J0427-02)				Matrix: Sediment		Batch: W9J1001		
Batch: W9J1001								
% Solids	76.1		0.100	% by Weight	1	10/18/19 16:16	EPA 160.3M	
SED-07-SS-1.0 (A9J0427-03)				Matrix: Sediment		Batch: W9J1001		
Batch: W9J1001								
% Solids	60.3		0.100	% by Weight	1	10/18/19 16:16	EPA 160.3M	
SED-07-SS-1.0-DUP (A9J0427-04)				Matrix: Sediment		Batch: W9J1001		
Batch: W9J1001								
% Solids	58.0		0.100	% by Weight	1	10/18/19 16:16	EPA 160.3M	
SED-08-SS-1.0 (A9J0427-05)				Matrix: Sediment		Batch: W9J1007		
Batch: W9J1007								
% Solids	72.2		0.100	% by Weight	1	10/18/19 17:03	EPA 160.3M	
SED-09-SS-1.0 (A9J0427-06)				Matrix: Sediment		Batch: W9J1007		
Batch: W9J1007								
% Solids	64.9		0.100	% by Weight	1	10/18/19 17:03	EPA 160.3M	
SED-10-SS-1.0 (A9J0427-07)				Matrix: Sediment		Batch: W9J1007		
Batch: W9J1007								
% Solids	57.1		0.100	% by Weight	1	10/18/19 17:03	EPA 160.3M	

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Project: **Siltronic Sediment Sampling**
Project Number: **8128.02.19-04**
Project Manager: **Phil Wiescher**

Report ID:
A9J0427 - 11 21 19 1543

QUALITY CONTROL (QC) SAMPLE RESULTS**Diesel and/or Oil Hydrocarbons by NWTPH-Dx**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101068 - EPA 3510C (Fuels/Acid Ext.)						Water						
Blank (9101068-BLK1)			Prepared: 10/14/19 12:53		Analyzed: 10/14/19 20:55							
NWTPH-Dx												
Diesel	ND	0.0909	0.182	mg/L	1	---	---	---	---	---	---	
Oil	ND	0.182	0.364	mg/L	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 102 %		Limits: 50-150 %		Dilution: 1x						
LCS (9101068-BS1)			Prepared: 10/14/19 12:53		Analyzed: 10/14/19 21:18							
NWTPH-Dx												
Diesel	1.08	0.100	0.200	mg/L	1	1.25	---	87	58-115%	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 109 %		Limits: 50-150 %		Dilution: 1x						
LCS Dup (9101068-BSD1)			Prepared: 10/14/19 12:53		Analyzed: 10/14/19 21:40							Q-19
NWTPH-Dx												
Diesel	1.12	0.100	0.200	mg/L	1	1.25	---	90	58-115%	4	20%	
Surr: o-Terphenyl (Surr)		Recovery: 112 %		Limits: 50-150 %		Dilution: 1x						
Batch 9101214 - EPA 3546 (Fuels)						Sediment						
Blank (9101214-BLK1)			Prepared: 10/17/19 07:04		Analyzed: 10/17/19 15:42							
NWTPH-Dx												
Diesel	ND	9.09	18.2	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	18.2	36.4	mg/kg wet	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 92 %		Limits: 50-150 %		Dilution: 1x						
LCS (9101214-BS1)			Prepared: 10/17/19 07:04		Analyzed: 10/17/19 16:02							
NWTPH-Dx												
Diesel	104	10.0	20.0	mg/kg wet	1	125	---	83	76-115%	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 97 %		Limits: 50-150 %		Dilution: 1x						
Duplicate (9101214-DUP1)			Prepared: 10/17/19 07:04		Analyzed: 10/17/19 17:02							
QC Source Sample: SED-05-SS-1.0 (A9J0427-01)												
NWTPH-Dx												
Diesel	ND	12.4	24.8	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	105	24.8	49.5	mg/kg dry	1	---	57.3	---	---	59	30%	F-03, Q-05

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Philip Nerenberg, Lab Director

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Maul Foster & Alongi, INC.

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Diesel and/or Oil Hydrocarbons by NWTPH-Dx**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101214 - EPA 3546 (Fuels)						Sediment						
Duplicate (9101214-DUP1)			Prepared: 10/17/19 07:04 Analyzed: 10/17/19 17:02									
QC Source Sample: SED-05-SS-1.0 (A9J0427-01)												
Surr: o-Terphenyl (Surr)		Recovery: 102 %		Limits: 50-150 %		Dilution: 1x						
Matrix Spike (9101214-MS1)			Prepared: 10/17/19 07:04 Analyzed: 10/17/19 18:23									
QC Source Sample: SED-06-SS-1.0 (A9J0427-02)												
NWTPH-Dx												
Diesel	200	13.8	27.6	mg/kg dry	1	172	ND	116	50-150%	---	---	
Surr: o-Terphenyl (Surr)		Recovery: 95 %		Limits: 50-150 %		Dilution: 1x						
Matrix Spike Dup (9101214-MSD1)			Prepared: 10/17/19 07:05 Analyzed: 10/17/19 18:43									
QC Source Sample: SED-06-SS-1.0 (A9J0427-02)												
NWTPH-Dx												
Diesel	206	13.9	27.7	mg/kg dry	1	173	ND	119	50-150%	3	50%	
Surr: o-Terphenyl (Surr)		Recovery: 102 %		Limits: 50-150 %		Dilution: 1x						

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101073 - EPA 3510C (Acid/Base Neutral)						Water						
Blank (9101073-BLK1)			Prepared: 10/14/19 13:02		Analyzed: 10/15/19 09:33							
EPA 8270D												
Acenaphthene	0.0330	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	Q-30, B
Acenaphthylene	0.0338	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	B
Anthracene	0.0570	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	B
Benz(a)anthracene	0.0611	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	B
Benzo(a)pyrene	0.0594	0.0136	0.0273	ug/L	1	---	---	---	---	---	---	B
Benzo(b)fluoranthene	0.0631	0.0136	0.0273	ug/L	1	---	---	---	---	---	---	B
Benzo(k)fluoranthene	0.0598	0.0136	0.0273	ug/L	1	---	---	---	---	---	---	B
Benzo(g,h,i)perylene	0.0563	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	B
Chrysene	0.0596	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	B
Dibenz(a,h)anthracene	0.0557	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	B
Fluoranthene	0.0679	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	B
Fluorene	0.0431	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	B
Indeno(1,2,3-cd)pyrene	0.0552	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	B
1-Methylnaphthalene	0.0288	0.0182	0.0364	ug/L	1	---	---	---	---	---	---	B-02, Q-30, Ja
2-Methylnaphthalene	0.0303	0.0182	0.0364	ug/L	1	---	---	---	---	---	---	B-02, Q-30, Ja
Naphthalene	0.0417	0.0182	0.0364	ug/L	1	---	---	---	---	---	---	Q-30, B
Phenanthrene	0.0597	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	B
Pyrene	0.0726	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	B
Carbazole	0.0592	0.0136	0.0273	ug/L	1	---	---	---	---	---	---	B
Dibenzofuran	0.0390	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	B
4-Chloro-3-methylphenol	ND	0.0909	0.182	ug/L	1	---	---	---	---	---	---	
2-Chlorophenol	ND	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	
2,4-Dichlorophenol	0.0666	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	B-02, Ja
2,4-Dimethylphenol	ND	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	
2,4-Dinitrophenol	0.245	0.227	0.455	ug/L	1	---	---	---	---	---	---	B-02, Ja
4,6-Dinitro-2-methylphenol	ND	0.227	0.455	ug/L	1	---	---	---	---	---	---	
2-Methylphenol	0.0386	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	B-02, Ja
3+4-Methylphenol(s)	0.0361	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	B-02, Ja
2-Nitrophenol	ND	0.0909	0.182	ug/L	1	---	---	---	---	---	---	
4-Nitrophenol	0.0918	0.0909	0.182	ug/L	1	---	---	---	---	---	---	B-02, Ja
Pentachlorophenol (PCP)	0.121	0.0909	0.182	ug/L	1	---	---	---	---	---	---	B-02, Ja
Phenol	ND	0.182	0.364	ug/L	1	---	---	---	---	---	---	

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101073 - EPA 3510C (Acid/Base Neutral)						Water						
Blank (9101073-BLK1)			Prepared: 10/14/19 13:02		Analyzed: 10/15/19 09:33							
2,3,4,6-Tetrachlorophenol	0.0753	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	B-02, Ja
2,3,5,6-Tetrachlorophenol	0.0866	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	B-02, Ja
2,4,5-Trichlorophenol	0.0747	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	B-02, Ja
2,4,6-Trichlorophenol	0.0756	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	B-02, Ja
Bis(2-ethylhexyl)phthalate	ND	0.182	0.364	ug/L	1	---	---	---	---	---	---	
Butyl benzyl phthalate	ND	0.182	0.364	ug/L	1	---	---	---	---	---	---	
Diethylphthalate	ND	0.182	0.364	ug/L	1	---	---	---	---	---	---	
Dimethylphthalate	ND	0.182	0.364	ug/L	1	---	---	---	---	---	---	
Di-n-butylphthalate	ND	0.182	0.364	ug/L	1	---	---	---	---	---	---	
Di-n-octyl phthalate	ND	0.182	0.364	ug/L	1	---	---	---	---	---	---	
N-Nitrosodimethylamine	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	
N-Nitroso-di-n-propylamine	0.0468	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	B
N-Nitrosodiphenylamine	0.0522	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	B
Bis(2-Chloroethoxy) methane	0.0495	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	B
Bis(2-Chloroethyl) ether	0.0472	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	B
2,2'-Oxybis(1-Chloropropane)	0.0304	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	B-02, Ja
Hexachlorobenzene	0.0500	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	B
Hexachlorobutadiene	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	Q-30
Hexachlorocyclopentadiene	ND	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	
Hexachloroethane	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	Q-30
2-Chloronaphthalene	0.0242	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	Q-30, B
1,2-Dichlorobenzene	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	Q-30
1,3-Dichlorobenzene	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	Q-30
1,4-Dichlorobenzene	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	Q-30
1,2,4-Trichlorobenzene	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	Q-30
4-Bromophenyl phenyl ether	0.0410	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	B-02, Ja
4-Chlorophenyl phenyl ether	0.0346	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	Q-30, B-02, Ja
Aniline	ND	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	
4-Chloroaniline	0.0305	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	B-02, Ja
2-Nitroaniline	ND	0.182	0.364	ug/L	1	---	---	---	---	---	---	
3-Nitroaniline	ND	0.182	0.364	ug/L	1	---	---	---	---	---	---	
4-Nitroaniline	ND	0.182	0.364	ug/L	1	---	---	---	---	---	---	
Nitrobenzene	ND	0.0909	0.182	ug/L	1	---	---	---	---	---	---	
2,4-Dinitrotoluene	0.0940	0.0909	0.182	ug/L	1	---	---	---	---	---	---	B-02, Ja

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Maul Foster & Alongi, INC.
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Project: **Siltronic Sediment Sampling**
Project Number: **8128.02.19-04**
Project Manager: **Phil Wiescher**

Report ID:
A9J0427 - 11 21 19 1543

QUALITY CONTROL (QC) SAMPLE RESULTS**Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101073 - EPA 3510C (Acid/Base Neutral)						Water						
Blank (9101073-BLK1)			Prepared: 10/14/19 13:02		Analyzed: 10/15/19 09:33							
2,6-Dinitrotoluene	ND	0.0909	0.182	ug/L	1	---	---	---	---	---	---	
Benzoic acid	ND	1.14	2.27	ug/L	1	---	---	---	---	---	---	
Benzyl alcohol	ND	0.0909	0.182	ug/L	1	---	---	---	---	---	---	
Isophorone	0.0484	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	B
Azobenzene (1,2-DPH)	0.0440	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	B-02, Ja
Bis(2-Ethylhexyl) adipate	ND	0.227	0.455	ug/L	1	---	---	---	---	---	---	
3,3'-Dichlorobenzidine	ND	0.455	0.909	ug/L	1	---	---	---	---	---	---	Q-52
1,2-Dinitrobenzene	ND	0.227	0.455	ug/L	1	---	---	---	---	---	---	
1,3-Dinitrobenzene	ND	0.227	0.455	ug/L	1	---	---	---	---	---	---	
1,4-Dinitrobenzene	ND	0.227	0.455	ug/L	1	---	---	---	---	---	---	
Pyridine	ND	0.0909	0.182	ug/L	1	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)		Recovery: 58 %		Limits: 44-120 %		Dilution: 1x						
2-Fluorobiphenyl (Surr)		50 %		44-120 %		"						
Phenol-d6 (Surr)		19 %		10-120 %		"						
p-Terphenyl-d14 (Surr)		76 %		50-133 %		"						
2-Fluorophenol (Surr)		30 %		19-120 %		"						
2,4,6-Tribromophenol (Surr)		76 %		43-140 %		"						
LCS (9101073-BS1)			Prepared: 10/14/19 13:02		Analyzed: 10/15/19 10:09							
EPA 8270D												
Acenaphthene	2.00	0.0400	0.0800	ug/L	4	4.00	---	50	47-122%	---	---	B
Acenaphthylene	2.36	0.0400	0.0800	ug/L	4	4.00	---	59	41-130%	---	---	B
Anthracene	3.60	0.0400	0.0800	ug/L	4	4.00	---	90	57-123%	---	---	B
Benz(a)anthracene	4.03	0.0400	0.0800	ug/L	4	4.00	---	101	58-125%	---	---	B
Benzo(a)pyrene	3.78	0.0600	0.120	ug/L	4	4.00	---	95	54-128%	---	---	B
Benzo(b)fluoranthene	4.08	0.0600	0.120	ug/L	4	4.00	---	102	53-131%	---	---	B
Benzo(k)fluoranthene	3.97	0.0600	0.120	ug/L	4	4.00	---	99	57-129%	---	---	B
Benzo(g,h,i)perylene	4.37	0.0400	0.0800	ug/L	4	4.00	---	109	50-134%	---	---	B
Chrysene	4.01	0.0400	0.0800	ug/L	4	4.00	---	100	59-123%	---	---	B
Dibenz(a,h)anthracene	4.04	0.0400	0.0800	ug/L	4	4.00	---	101	51-134%	---	---	B
Fluoranthene	4.25	0.0400	0.0800	ug/L	4	4.00	---	106	57-128%	---	---	B
Fluorene	2.74	0.0400	0.0800	ug/L	4	4.00	---	68	52-124%	---	---	B
Indeno(1,2,3-cd)pyrene	3.94	0.0400	0.0800	ug/L	4	4.00	---	98	52-133%	---	---	B
1-Methylnaphthalene	1.60	0.0800	0.160	ug/L	4	4.00	---	40	41-120%	---	---	Q-30, B-02

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101073 - EPA 3510C (Acid/Base Neutral)						Water						
LCS (9101073-BS1)						Prepared: 10/14/19 13:02 Analyzed: 10/15/19 10:09						
2-Methylnaphthalene	1.53	0.0800	0.160	ug/L	4	4.00	---	38	40-121%	---	---	Q-30, B-02
Naphthalene	1.61	0.0800	0.160	ug/L	4	4.00	---	40	40-121%	---	---	B
Phenanthrene	3.34	0.0400	0.0800	ug/L	4	4.00	---	83	59-120%	---	---	B
Pyrene	4.30	0.0400	0.0800	ug/L	4	4.00	---	108	57-126%	---	---	B
Carbazole	4.51	0.0600	0.120	ug/L	4	4.00	---	113	60-122%	---	---	B, Q-41
Dibenzofuran	2.47	0.0400	0.0800	ug/L	4	4.00	---	62	53-120%	---	---	B
4-Chloro-3-methylphenol	3.65	0.400	0.800	ug/L	4	4.00	---	91	52-120%	---	---	
2-Chlorophenol	2.87	0.200	0.400	ug/L	4	4.00	---	72	38-120%	---	---	
2,4-Dichlorophenol	3.46	0.200	0.400	ug/L	4	4.00	---	87	47-121%	---	---	B-02
2,4-Dimethylphenol	3.18	0.200	0.400	ug/L	4	4.00	---	79	31-124%	---	---	
2,4-Dinitrophenol	5.52	1.00	2.00	ug/L	4	4.00	---	138	23-143%	---	---	B-02, Q-41
4,6-Dinitro-2-methylphenol	5.58	1.00	2.00	ug/L	4	4.00	---	140	44-137%	---	---	Q-29, Q-41
2-Methylphenol	2.66	0.100	0.200	ug/L	4	4.00	---	66	30-120%	---	---	B-02
3+4-Methylphenol(s)	2.38	0.100	0.200	ug/L	4	4.00	---	59	29-120%	---	---	B-02
2-Nitrophenol	4.12	0.400	0.800	ug/L	4	4.00	---	103	47-123%	---	---	
4-Nitrophenol	1.71	0.400	0.800	ug/L	4	4.00	---	43	5-120%	---	---	B-02, Q-41
Pentachlorophenol (PCP)	3.76	0.400	0.800	ug/L	4	4.00	---	94	35-138%	---	---	B-02
Phenol	1.24	0.800	0.800	ug/L	4	4.00	---	31	5-120%	---	---	
2,3,4,6-Tetrachlorophenol	3.92	0.200	0.400	ug/L	4	4.00	---	98	50-128%	---	---	B-02
2,3,5,6-Tetrachlorophenol	4.05	0.200	0.400	ug/L	4	4.00	---	101	50-121%	---	---	B-02
2,4,5-Trichlorophenol	4.04	0.200	0.400	ug/L	4	4.00	---	101	53-123%	---	---	B-02
2,4,6-Trichlorophenol	3.97	0.200	0.400	ug/L	4	4.00	---	99	50-125%	---	---	B-02
Bis(2-ethylhexyl)phthalate	4.18	0.800	1.60	ug/L	4	4.00	---	104	55-135%	---	---	
Butyl benzyl phthalate	4.18	0.800	1.60	ug/L	4	4.00	---	104	53-134%	---	---	
Diethylphthalate	4.24	0.800	1.60	ug/L	4	4.00	---	106	55-125%	---	---	
Dimethylphthalate	4.03	0.800	1.60	ug/L	4	4.00	---	101	45-127%	---	---	
Di-n-butylphthalate	4.20	0.800	1.60	ug/L	4	4.00	---	105	59-127%	---	---	
Di-n-octyl phthalate	3.99	0.800	1.60	ug/L	4	4.00	---	100	51-140%	---	---	
N-Nitrosodimethylamine	1.65	0.100	0.200	ug/L	4	4.00	---	41	6-120%	---	---	
N-Nitroso-di-n-propylamine	2.97	0.100	0.200	ug/L	4	4.00	---	74	49-120%	---	---	B
N-Nitrosodiphenylamine	3.63	0.100	0.200	ug/L	4	4.00	---	91	51-123%	---	---	B
Bis(2-Chloroethoxy) methane	3.37	0.100	0.200	ug/L	4	4.00	---	84	48-120%	---	---	B
Bis(2-Chloroethyl) ether	2.80	0.100	0.200	ug/L	4	4.00	---	70	43-120%	---	---	B
2,2'-Oxybis(1-Chloropropane)	1.90	0.100	0.200	ug/L	4	4.00	---	48	37-130%	---	---	Q-31, B-02

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101073 - EPA 3510C (Acid/Base Neutral)						Water						
LCS (9101073-BS1)						Prepared: 10/14/19 13:02 Analyzed: 10/15/19 10:09						
Hexachlorobenzene	3.32	0.0400	0.0800	ug/L	4	4.00	---	83	52-125%	---	---	B
Hexachlorobutadiene	0.799	0.100	0.200	ug/L	4	4.00	---	20	22-124%	---	---	Q-30
Hexachlorocyclopentadiene	0.820	0.200	0.400	ug/L	4	4.00	---	21	5-127%	---	---	Q-41
Hexachloroethane	0.802	0.100	0.200	ug/L	4	4.00	---	20	21-120%	---	---	Q-30
2-Chloronaphthalene	1.69	0.0400	0.0800	ug/L	4	4.00	---	42	40-120%	---	---	B
1,2-Dichlorobenzene	1.06	0.100	0.200	ug/L	4	4.00	---	26	32-120%	---	---	Q-30
1,3-Dichlorobenzene	0.930	0.100	0.200	ug/L	4	4.00	---	23	28-120%	---	---	Q-30
1,4-Dichlorobenzene	0.958	0.100	0.200	ug/L	4	4.00	---	24	29-120%	---	---	Q-30
1,2,4-Trichlorobenzene	1.08	0.100	0.200	ug/L	4	4.00	---	27	29-120%	---	---	Q-30
4-Bromophenyl phenyl ether	2.75	0.100	0.200	ug/L	4	4.00	---	69	54-124%	---	---	B-02
4-Chlorophenyl phenyl ether	2.26	0.100	0.200	ug/L	4	4.00	---	56	53-121%	---	---	B-02
Aniline	2.71	0.200	0.400	ug/L	4	4.00	---	68	6-120%	---	---	
4-Chloroaniline	2.16	0.100	0.200	ug/L	4	4.00	---	54	33-120%	---	---	B-02
2-Nitroaniline	4.32	0.800	1.60	ug/L	4	4.00	---	108	54-127%	---	---	
3-Nitroaniline	3.06	0.800	1.60	ug/L	4	4.00	---	76	41-128%	---	---	
4-Nitroaniline	4.67	0.800	1.60	ug/L	4	4.00	---	117	35-120%	---	---	Q-41
Nitrobenzene	2.75	0.400	0.800	ug/L	4	4.00	---	69	45-121%	---	---	
2,4-Dinitrotoluene	4.06	0.400	0.800	ug/L	4	4.00	---	101	57-128%	---	---	B-02
2,6-Dinitrotoluene	3.98	0.400	0.800	ug/L	4	4.00	---	100	57-124%	---	---	
Benzoic acid	3.31	0.200	0.200	ug/L	4	8.00	---	41	5-120%	---	---	
Benzyl alcohol	2.57	0.400	0.800	ug/L	4	4.00	---	64	31-120%	---	---	
Isophorone	3.26	0.100	0.200	ug/L	4	4.00	---	81	42-124%	---	---	B
Azobenzene (1,2-DPH)	2.85	0.100	0.200	ug/L	4	4.00	---	71	61-120%	---	---	B-02
Bis(2-Ethylhexyl) adipate	3.88	1.00	2.00	ug/L	4	4.00	---	97	40-125%	---	---	
3,3'-Dichlorobenzidine	8.09	2.00	4.00	ug/L	4	8.00	---	101	27-129%	---	---	Q-31
1,2-Dinitrobenzene	3.89	1.00	2.00	ug/L	4	4.00	---	97	59-120%	---	---	
1,3-Dinitrobenzene	4.41	1.00	2.00	ug/L	4	4.00	---	110	49-128%	---	---	
1,4-Dinitrobenzene	4.82	1.00	2.00	ug/L	4	4.00	---	120	40-120%	---	---	Q-41
Pyridine	1.36	0.400	0.800	ug/L	4	4.00	---	34	5-120%	---	---	
Surr: Nitrobenzene-d5 (Surr)		Recovery: 78 %		Limits: 44-120 %		Dilution: 4x						
2-Fluorobiphenyl (Surr)		79 %		44-120 %		"						
Phenol-d6 (Surr)		26 %		10-120 %		"						
p-Terphenyl-d14 (Surr)		101 %		50-133 %		"						
2-Fluorophenol (Surr)		43 %		19-120 %		"						

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Philip Nerenberg, Lab Director

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101073 - EPA 3510C (Acid/Base Neutral)						Water						
LCS (9101073-BS1)			Prepared: 10/14/19 13:02		Analyzed: 10/15/19 10:09							
Surr: 2,4,6-Tribromophenol (Surr)		Recovery: 95 %		Limits: 43-140 %		Dilution: 4x						
LCS Dup (9101073-BSD1)			Prepared: 10/14/19 13:02		Analyzed: 10/15/19 10:44							Q-19
EPA 8270D												
Acenaphthene	1.83	0.0400	0.0800	ug/L	4	4.00	---	46	47-122%	9	30%	Q-30, B
Acenaphthylene	2.10	0.0400	0.0800	ug/L	4	4.00	---	53	41-130%	12	30%	B
Anthracene	3.38	0.0400	0.0800	ug/L	4	4.00	---	85	57-123%	6	30%	B
Benz(a)anthracene	3.91	0.0400	0.0800	ug/L	4	4.00	---	98	58-125%	3	30%	B
Benzo(a)pyrene	3.66	0.0600	0.120	ug/L	4	4.00	---	91	54-128%	3	30%	B
Benzo(b)fluoranthene	3.94	0.0600	0.120	ug/L	4	4.00	---	98	53-131%	4	30%	B
Benzo(k)fluoranthene	3.89	0.0600	0.120	ug/L	4	4.00	---	97	57-129%	2	30%	B
Benzo(g,h,i)perylene	4.22	0.0400	0.0800	ug/L	4	4.00	---	105	50-134%	4	30%	B
Chrysene	3.86	0.0400	0.0800	ug/L	4	4.00	---	97	59-123%	4	30%	B
Dibenz(a,h)anthracene	3.89	0.0400	0.0800	ug/L	4	4.00	---	97	51-134%	4	30%	B
Fluoranthene	3.98	0.0400	0.0800	ug/L	4	4.00	---	99	57-128%	7	30%	B
Fluorene	2.49	0.0400	0.0800	ug/L	4	4.00	---	62	52-124%	9	30%	B
Indeno(1,2,3-cd)pyrene	3.68	0.0400	0.0800	ug/L	4	4.00	---	92	52-133%	7	30%	B
1-Methylnaphthalene	1.45	0.0800	0.160	ug/L	4	4.00	---	36	41-120%	9	30%	Q-30, B-02
2-Methylnaphthalene	1.39	0.0800	0.160	ug/L	4	4.00	---	35	40-121%	9	30%	Q-30, B-02
Naphthalene	1.43	0.0800	0.160	ug/L	4	4.00	---	36	40-121%	12	30%	Q-30, B
Phenanthrene	3.14	0.0400	0.0800	ug/L	4	4.00	---	78	59-120%	6	30%	B
Pyrene	4.02	0.0400	0.0800	ug/L	4	4.00	---	101	57-126%	7	30%	B
Carbazole	4.22	0.0600	0.120	ug/L	4	4.00	---	105	60-122%	7	30%	B, Q-41
Dibenzofuran	2.22	0.0400	0.0800	ug/L	4	4.00	---	55	53-120%	11	30%	B
4-Chloro-3-methylphenol	3.58	0.400	0.800	ug/L	4	4.00	---	90	52-120%	2	30%	
2-Chlorophenol	2.58	0.200	0.400	ug/L	4	4.00	---	65	38-120%	11	30%	
2,4-Dichlorophenol	3.06	0.200	0.400	ug/L	4	4.00	---	77	47-121%	12	30%	B-02
2,4-Dimethylphenol	3.21	0.200	0.400	ug/L	4	4.00	---	80	31-124%	1	30%	
2,4-Dinitrophenol	5.42	1.00	2.00	ug/L	4	4.00	---	135	23-143%	2	30%	B-02, Q-41
4,6-Dinitro-2-methylphenol	5.39	1.00	2.00	ug/L	4	4.00	---	135	44-137%	4	30%	Q-41
2-Methylphenol	2.78	0.100	0.200	ug/L	4	4.00	---	69	30-120%	5	30%	B-02
3+4-Methylphenol(s)	2.56	0.100	0.200	ug/L	4	4.00	---	64	29-120%	7	30%	B-02
2-Nitrophenol	3.81	0.400	0.800	ug/L	4	4.00	---	95	47-123%	8	30%	
4-Nitrophenol	1.82	0.400	0.800	ug/L	4	4.00	---	45	5-120%	6	30%	B-02, Q-41

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Philip Nerenberg, Lab Director

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101073 - EPA 3510C (Acid/Base Neutral)						Water						
LCS Dup (9101073-BSD1)						Prepared: 10/14/19 13:02 Analyzed: 10/15/19 10:44						Q-19
Pentachlorophenol (PCP)	3.62	0.400	0.800	ug/L	4	4.00	---	91	35-138%	4	30%	B-02
Phenol	1.26	0.800	0.800	ug/L	4	4.00	---	32	5-120%	2	30%	
2,3,4,6-Tetrachlorophenol	3.71	0.200	0.400	ug/L	4	4.00	---	93	50-128%	6	30%	B-02
2,3,5,6-Tetrachlorophenol	3.85	0.200	0.400	ug/L	4	4.00	---	96	50-121%	5	30%	B-02
2,4,5-Trichlorophenol	3.63	0.200	0.400	ug/L	4	4.00	---	91	53-123%	11	30%	B-02
2,4,6-Trichlorophenol	3.51	0.200	0.400	ug/L	4	4.00	---	88	50-125%	12	30%	B-02
Bis(2-ethylhexyl)phthalate	4.07	0.800	1.60	ug/L	4	4.00	---	102	55-135%	3	30%	
Butyl benzyl phthalate	3.95	0.800	1.60	ug/L	4	4.00	---	99	53-134%	6	30%	
Diethylphthalate	3.95	0.800	1.60	ug/L	4	4.00	---	99	55-125%	7	30%	
Dimethylphthalate	3.83	0.800	1.60	ug/L	4	4.00	---	96	45-127%	5	30%	
Di-n-butylphthalate	4.04	0.800	1.60	ug/L	4	4.00	---	101	59-127%	4	30%	
Di-n-octyl phthalate	3.89	0.800	1.60	ug/L	4	4.00	---	97	51-140%	2	30%	
N-Nitrosodimethylamine	1.46	0.100	0.200	ug/L	4	4.00	---	36	6-120%	12	30%	
N-Nitroso-di-n-propylamine	2.77	0.100	0.200	ug/L	4	4.00	---	69	49-120%	7	30%	B
N-Nitrosodiphenylamine	3.31	0.100	0.200	ug/L	4	4.00	---	83	51-123%	9	30%	B
Bis(2-Chloroethoxy) methane	3.05	0.100	0.200	ug/L	4	4.00	---	76	48-120%	10	30%	B
Bis(2-Chloroethyl) ether	2.48	0.100	0.200	ug/L	4	4.00	---	62	43-120%	12	30%	B
2,2'-Oxybis(1-Chloropropane)	1.70	0.100	0.200	ug/L	4	4.00	---	42	37-130%	11	30%	B-02, Q-31
Hexachlorobenzene	3.15	0.0400	0.0800	ug/L	4	4.00	---	79	52-125%	5	30%	B
Hexachlorobutadiene	0.734	0.100	0.200	ug/L	4	4.00	---	18	22-124%	8	30%	Q-30
Hexachlorocyclopentadiene	0.784	0.200	0.400	ug/L	4	4.00	---	20	5-127%	4	30%	Q-41
Hexachloroethane	0.657	0.100	0.200	ug/L	4	4.00	---	16	21-120%	20	30%	Q-30
2-Chloronaphthalene	1.51	0.0400	0.0800	ug/L	4	4.00	---	38	40-120%	12	30%	Q-30, B
1,2-Dichlorobenzene	0.897	0.100	0.200	ug/L	4	4.00	---	22	32-120%	17	30%	Q-30
1,3-Dichlorobenzene	0.834	0.100	0.200	ug/L	4	4.00	---	21	28-120%	11	30%	Q-30
1,4-Dichlorobenzene	0.880	0.100	0.200	ug/L	4	4.00	---	22	29-120%	9	30%	Q-30
1,2,4-Trichlorobenzene	0.973	0.100	0.200	ug/L	4	4.00	---	24	29-120%	10	30%	Q-30
4-Bromophenyl phenyl ether	2.60	0.100	0.200	ug/L	4	4.00	---	65	54-124%	6	30%	B-02
4-Chlorophenyl phenyl ether	2.10	0.100	0.200	ug/L	4	4.00	---	52	53-121%	7	30%	Q-30, B-02
Aniline	2.79	0.200	0.400	ug/L	4	4.00	---	70	6-120%	3	30%	
4-Chloroaniline	2.35	0.100	0.200	ug/L	4	4.00	---	59	33-120%	8	30%	B-02
2-Nitroaniline	3.90	0.800	1.60	ug/L	4	4.00	---	97	54-127%	10	30%	
3-Nitroaniline	3.53	0.800	1.60	ug/L	4	4.00	---	88	41-128%	14	30%	
4-Nitroaniline	4.66	0.800	1.60	ug/L	4	4.00	---	116	35-120%	0.3	30%	Q-41

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101073 - EPA 3510C (Acid/Base Neutral)						Water						
LCS Dup (9101073-BSD1)						Prepared: 10/14/19 13:02 Analyzed: 10/15/19 10:44						Q-19
Nitrobenzene	2.43	0.400	0.800	ug/L	4	4.00	---	61	45-121%	12	30%	
2,4-Dinitrotoluene	3.71	0.400	0.800	ug/L	4	4.00	---	93	57-128%	9	30%	B-02
2,6-Dinitrotoluene	3.64	0.400	0.800	ug/L	4	4.00	---	91	57-124%	9	30%	
Benzoic acid	5.12	0.200	0.200	ug/L	4	8.00	---	64	5-120%	43	30%	Q-24
Benzyl alcohol	2.63	0.400	0.800	ug/L	4	4.00	---	66	31-120%	2	30%	
Isophorone	3.08	0.100	0.200	ug/L	4	4.00	---	77	42-124%	6	30%	B
Azobenzene (1,2-DPH)	2.62	0.100	0.200	ug/L	4	4.00	---	66	61-120%	8	30%	B-02
Bis(2-Ethylhexyl) adipate	3.69	1.00	2.00	ug/L	4	4.00	---	92	40-125%	5	30%	
3,3'-Dichlorobenzidine	6.62	2.00	4.00	ug/L	4	8.00	---	83	27-129%	20	30%	Q-31
1,2-Dinitrobenzene	3.74	1.00	2.00	ug/L	4	4.00	---	93	59-120%	4	30%	
1,3-Dinitrobenzene	4.10	1.00	2.00	ug/L	4	4.00	---	103	49-128%	7	30%	
1,4-Dinitrobenzene	4.34	1.00	2.00	ug/L	4	4.00	---	108	40-120%	10	30%	Q-41
Pyridine	1.26	0.400	0.800	ug/L	4	4.00	---	32	5-120%	7	30%	
<i>Surr: Nitrobenzene-d5 (Surr)</i>												
		<i>Recovery:</i>		<i>Limits:</i>		<i>Dilution:</i>						
<i>2-Fluorobiphenyl (Surr)</i>		66 %		44-120 %		4x						
<i>Phenol-d6 (Surr)</i>		65 %		44-120 %		"						
<i>p-Terphenyl-d14 (Surr)</i>		27 %		10-120 %		"						
<i>2-Fluorophenol (Surr)</i>		95 %		50-133 %		"						
<i>2,4,6-Tribromophenol (Surr)</i>		39 %		19-120 %		"						
		88 %		43-140 %		"						

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Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101343 - EPA 3546						Sediment						
Blank (9101343-BLK1)			Prepared: 10/19/19 09:52		Analyzed: 10/21/19 10:32							
EPA 8270D												
Acenaphthene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Anthracene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Benzo(a)anthracene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	1.87	3.75	ug/kg wet	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	1.87	3.75	ug/kg wet	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	1.87	3.75	ug/kg wet	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Chrysene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Fluoranthene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Fluorene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	2.50	5.00	ug/kg wet	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	2.50	5.00	ug/kg wet	1	---	---	---	---	---	---	
Naphthalene	ND	2.50	5.00	ug/kg wet	1	---	---	---	---	---	---	
Phenanthrene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Pyrene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Carbazole	ND	1.87	3.75	ug/kg wet	1	---	---	---	---	---	---	
Dibenzofuran	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
4-Chloro-3-methylphenol	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
2-Chlorophenol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dichlorophenol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dimethylphenol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dinitrophenol	ND	31.2	62.5	ug/kg wet	1	---	---	---	---	---	---	
4,6-Dinitro-2-methylphenol	ND	31.2	62.5	ug/kg wet	1	---	---	---	---	---	---	
2-Methylphenol	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
3+4-Methylphenol(s)	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
2-Nitrophenol	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
4-Nitrophenol	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
Pentachlorophenol (PCP)	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
Phenol	ND	2.50	5.00	ug/kg wet	1	---	---	---	---	---	---	
2,3,4,6-Tetrachlorophenol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	

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Philip Nerenberg, Lab Director

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EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101343 - EPA 3546						Sediment						
Blank (9101343-BLK1)			Prepared: 10/19/19 09:52		Analyzed: 10/21/19 10:32							
2,3,5,6-Tetrachlorophenol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
2,4,5-Trichlorophenol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
2,4,6-Trichlorophenol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-ethylhexyl)phthalate	ND	18.7	37.5	ug/kg wet	1	---	---	---	---	---	---	
Butyl benzyl phthalate	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
Diethylphthalate	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
Dimethylphthalate	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
Di-n-butylphthalate	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
Di-n-octyl phthalate	ND	10.0	12.5	ug/kg wet	1	---	---	---	---	---	---	
N-Nitrosodimethylamine	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
N-Nitroso-di-n-propylamine	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
N-Nitrosodiphenylamine	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-Chloroethoxy) methane	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-Chloroethyl) ether	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
2,2'-Oxybis(1-Chloropropane)	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
Hexachlorobenzene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
Hexachlorocyclopentadiene	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
Hexachloroethane	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
2-Chloronaphthalene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
4-Bromophenyl phenyl ether	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
4-Chlorophenyl phenyl ether	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
Aniline	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
4-Chloroaniline	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
2-Nitroaniline	ND	25.0	50.0	ug/kg wet	1	---	---	---	---	---	---	
3-Nitroaniline	ND	25.0	50.0	ug/kg wet	1	---	---	---	---	---	---	
4-Nitroaniline	ND	25.0	50.0	ug/kg wet	1	---	---	---	---	---	---	
Nitrobenzene	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dinitrotoluene	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
2,6-Dinitrotoluene	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101343 - EPA 3546						Sediment						
Blank (9101343-BLK1)			Prepared: 10/19/19 09:52		Analyzed: 10/21/19 10:32							
Benzoic acid	ND	157	312	ug/kg wet	1	---	---	---	---	---	---	Q-52
Benzyl alcohol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
Isophorone	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
Azobenzene (1,2-DPH)	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-Ethylhexyl) adipate	ND	31.2	62.5	ug/kg wet	1	---	---	---	---	---	---	
3,3'-Dichlorobenzidine	ND	25.0	50.0	ug/kg wet	1	---	---	---	---	---	---	
1,2-Dinitrobenzene	ND	31.2	62.5	ug/kg wet	1	---	---	---	---	---	---	
1,3-Dinitrobenzene	ND	31.2	62.5	ug/kg wet	1	---	---	---	---	---	---	
1,4-Dinitrobenzene	ND	31.2	62.5	ug/kg wet	1	---	---	---	---	---	---	
Pyridine	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)		Recovery: 94 %		Limits: 37-122 %		Dilution: 1x						
2-Fluorobiphenyl (Surr)		94 %		44-115 %		"						
Phenol-d6 (Surr)		89 %		33-122 %		"						
p-Terphenyl-d14 (Surr)		111 %		54-127 %		"						
2-Fluorophenol (Surr)		90 %		35-115 %		"						
2,4,6-Tribromophenol (Surr)		87 %		39-132 %		"						
LCS (9101343-BS1)			Prepared: 10/19/19 09:52		Analyzed: 10/21/19 11:09							
EPA 8270D												
Acenaphthene	467	1.33	2.67	ug/kg wet	1	533	---	88	40-122%	---	---	
Acenaphthylene	493	1.33	2.67	ug/kg wet	1	533	---	92	32-132%	---	---	
Anthracene	502	1.33	2.67	ug/kg wet	1	533	---	94	47-123%	---	---	
Benz(a)anthracene	557	1.33	2.67	ug/kg wet	1	533	---	104	49-126%	---	---	
Benzo(a)pyrene	511	2.00	4.00	ug/kg wet	1	533	---	96	45-129%	---	---	
Benzo(b)fluoranthene	558	2.00	4.00	ug/kg wet	1	533	---	105	45-132%	---	---	
Benzo(k)fluoranthene	581	2.00	4.00	ug/kg wet	1	533	---	109	47-132%	---	---	
Benzo(g,h,i)perylene	431	1.33	2.67	ug/kg wet	1	533	---	81	43-134%	---	---	
Chrysene	522	1.33	2.67	ug/kg wet	1	533	---	98	50-124%	---	---	
Dibenz(a,h)anthracene	556	1.33	2.67	ug/kg wet	1	533	---	104	45-134%	---	---	
Fluoranthene	534	1.33	2.67	ug/kg wet	1	533	---	100	50-127%	---	---	
Fluorene	479	1.33	2.67	ug/kg wet	1	533	---	90	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	482	1.33	2.67	ug/kg wet	1	533	---	90	45-133%	---	---	
1-Methylnaphthalene	481	2.67	5.33	ug/kg wet	1	533	---	90	40-120%	---	---	
2-Methylnaphthalene	481	2.67	5.33	ug/kg wet	1	533	---	90	38-122%	---	---	

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101343 - EPA 3546						Sediment						
LCS (9101343-BS1)			Prepared: 10/19/19 09:52		Analyzed: 10/21/19 11:09							
Naphthalene	460	2.67	5.33	ug/kg wet	1	533	---	86	35-123%	---	---	
Phenanthrene	476	1.33	2.67	ug/kg wet	1	533	---	89	50-121%	---	---	
Pyrene	529	1.33	2.67	ug/kg wet	1	533	---	99	47-127%	---	---	
Carbazole	551	2.00	4.00	ug/kg wet	1	533	---	103	50-122%	---	---	
Dibenzofuran	480	1.33	2.67	ug/kg wet	1	533	---	90	44-120%	---	---	
4-Chloro-3-methylphenol	534	13.3	26.7	ug/kg wet	1	533	---	100	45-122%	---	---	
2-Chlorophenol	530	6.67	13.3	ug/kg wet	1	533	---	99	34-121%	---	---	
2,4-Dichlorophenol	555	6.67	13.3	ug/kg wet	1	533	---	104	40-122%	---	---	
2,4-Dimethylphenol	498	6.67	13.3	ug/kg wet	1	533	---	93	30-127%	---	---	
2,4-Dinitrophenol	549	33.3	66.7	ug/kg wet	1	533	---	103	5-137%	---	---	
4,6-Dinitro-2-methylphenol	568	33.3	66.7	ug/kg wet	1	533	---	107	29-132%	---	---	
2-Methylphenol	529	3.33	6.67	ug/kg wet	1	533	---	99	32-122%	---	---	
3+4-Methylphenol(s)	546	3.33	6.67	ug/kg wet	1	533	---	102	34-120%	---	---	
2-Nitrophenol	529	13.3	26.7	ug/kg wet	1	533	---	99	36-123%	---	---	
4-Nitrophenol	508	13.3	26.7	ug/kg wet	1	533	---	95	30-132%	---	---	
Pentachlorophenol (PCP)	525	13.3	26.7	ug/kg wet	1	533	---	98	25-133%	---	---	
Phenol	553	2.67	5.33	ug/kg wet	1	533	---	104	34-120%	---	---	
2,3,4,6-Tetrachlorophenol	517	6.67	13.3	ug/kg wet	1	533	---	97	44-125%	---	---	
2,3,5,6-Tetrachlorophenol	549	6.67	13.3	ug/kg wet	1	533	---	103	40-120%	---	---	
2,4,5-Trichlorophenol	545	6.67	13.3	ug/kg wet	1	533	---	102	41-124%	---	---	
2,4,6-Trichlorophenol	536	6.67	13.3	ug/kg wet	1	533	---	101	39-126%	---	---	
Bis(2-ethylhexyl)phthalate	495	20.0	40.0	ug/kg wet	1	533	---	93	51-133%	---	---	
Butyl benzyl phthalate	522	6.67	13.3	ug/kg wet	1	533	---	98	48-132%	---	---	
Diethylphthalate	472	6.67	13.3	ug/kg wet	1	533	---	88	50-124%	---	---	
Dimethylphthalate	492	6.67	13.3	ug/kg wet	1	533	---	92	48-124%	---	---	
Di-n-butylphthalate	523	6.67	13.3	ug/kg wet	1	533	---	98	51-128%	---	---	
Di-n-octyl phthalate	648	10.7	13.3	ug/kg wet	1	533	---	121	44-140%	---	---	Q-41
N-Nitrosodimethylamine	449	3.33	6.67	ug/kg wet	1	533	---	84	23-120%	---	---	
N-Nitroso-di-n-propylamine	469	3.33	6.67	ug/kg wet	1	533	---	88	36-120%	---	---	
N-Nitrosodiphenylamine	518	3.33	6.67	ug/kg wet	1	533	---	97	38-127%	---	---	
Bis(2-Chloroethoxy) methane	467	3.33	6.67	ug/kg wet	1	533	---	88	36-121%	---	---	
Bis(2-Chloroethyl) ether	466	3.33	6.67	ug/kg wet	1	533	---	87	31-120%	---	---	
2,2'-Oxybis(1-Chloropropane)	400	3.33	6.67	ug/kg wet	1	533	---	75	33-131%	---	---	
Hexachlorobenzene	509	1.33	2.67	ug/kg wet	1	533	---	95	44-122%	---	---	

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101343 - EPA 3546						Sediment						
LCS (9101343-BS1)						Prepared: 10/19/19 09:52 Analyzed: 10/21/19 11:09						
Hexachlorobutadiene	476	3.33	6.67	ug/kg wet	1	533	---	89	32-123%	---	---	Q-31
Hexachlorocyclopentadiene	428	6.67	13.3	ug/kg wet	1	533	---	80	5-140%	---	---	
Hexachloroethane	464	3.33	6.67	ug/kg wet	1	533	---	87	28-120%	---	---	
2-Chloronaphthalene	468	1.33	2.67	ug/kg wet	1	533	---	88	41-120%	---	---	
1,2-Dichlorobenzene	470	3.33	6.67	ug/kg wet	1	533	---	88	33-120%	---	---	
1,3-Dichlorobenzene	462	3.33	6.67	ug/kg wet	1	533	---	87	30-120%	---	---	
1,4-Dichlorobenzene	461	3.33	6.67	ug/kg wet	1	533	---	86	31-120%	---	---	
1,2,4-Trichlorobenzene	478	3.33	6.67	ug/kg wet	1	533	---	90	34-120%	---	---	
4-Bromophenyl phenyl ether	530	3.33	6.67	ug/kg wet	1	533	---	99	46-124%	---	---	
4-Chlorophenyl phenyl ether	486	3.33	6.67	ug/kg wet	1	533	---	91	45-121%	---	---	
Aniline	459	6.67	13.3	ug/kg wet	1	533	---	86	7-120%	---	---	
4-Chloroaniline	398	3.33	6.67	ug/kg wet	1	533	---	75	16-120%	---	---	
2-Nitroaniline	530	26.7	53.3	ug/kg wet	1	533	---	99	44-127%	---	---	
3-Nitroaniline	499	26.7	53.3	ug/kg wet	1	533	---	94	33-120%	---	---	
4-Nitroaniline	529	26.7	53.3	ug/kg wet	1	533	---	99	35-120%	---	---	
Nitrobenzene	498	13.3	26.7	ug/kg wet	1	533	---	93	34-122%	---	---	
2,4-Dinitrotoluene	534	13.3	26.7	ug/kg wet	1	533	---	100	48-126%	---	---	
2,6-Dinitrotoluene	520	13.3	26.7	ug/kg wet	1	533	---	97	46-124%	---	---	
Benzoic acid	1000	167	333	ug/kg wet	1	1070	---	94	5-140%	---	---	
Benzyl alcohol	512	6.67	13.3	ug/kg wet	1	533	---	96	29-122%	---	---	
Isophorone	484	3.33	6.67	ug/kg wet	1	533	---	91	30-122%	---	---	
Azobenzene (1,2-DPH)	467	3.33	6.67	ug/kg wet	1	533	---	88	39-125%	---	---	
Bis(2-Ethylhexyl) adipate	546	33.3	66.7	ug/kg wet	1	533	---	102	60-121%	---	---	
3,3'-Dichlorobenzidine	1050	26.7	53.3	ug/kg wet	1	1070	---	99	22-121%	---	---	
1,2-Dinitrobenzene	520	33.3	66.7	ug/kg wet	1	533	---	98	44-120%	---	---	
1,3-Dinitrobenzene	532	33.3	66.7	ug/kg wet	1	533	---	100	42-127%	---	---	
1,4-Dinitrobenzene	557	33.3	66.7	ug/kg wet	1	533	---	104	37-132%	---	---	
Pyridine	319	6.67	13.3	ug/kg wet	1	533	---	60	5-120%	---	---	
Surr: Nitrobenzene-d5 (Surr)		Recovery:	101 %	Limits:	37-122 %	Dilution:	1x					
2-Fluorobiphenyl (Surr)			96 %		44-115 %		"					
Phenol-d6 (Surr)			101 %		33-122 %		"					
p-Terphenyl-d14 (Surr)			114 %		54-127 %		"					
2-Fluorophenol (Surr)			98 %		35-115 %		"					
2,4,6-Tribromophenol (Surr)			115 %		39-132 %		"					

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101343 - EPA 3546							Sediment					
Duplicate (9101343-DUP1) Prepared: 10/19/19 09:52 Analyzed: 10/21/19 12:21												
QC Source Sample: Non-SDG (A9J0371-05)												
Acenaphthene	6900	2230	4470	ug/kg dry	1000	---	6540	---	---	5	30%	Q-17, Ja
Acenaphthylene	2550	2230	4470	ug/kg dry	1000	---	ND	---	---		30%	
Anthracene	6460	2230	4470	ug/kg dry	1000	---	8280	---	---	25	30%	
Benz(a)anthracene	24800	2230	4470	ug/kg dry	1000	---	20300	---	---	20	30%	
Benzo(a)pyrene	36400	3350	6700	ug/kg dry	1000	---	28700	---	---	24	30%	
Benzo(b)fluoranthene	33000	3350	6700	ug/kg dry	1000	---	26600	---	---	21	30%	M-05
Benzo(k)fluoranthene	13200	3350	6700	ug/kg dry	1000	---	12900	---	---	2	30%	
Benzo(g,h,i)perylene	25500	2230	4470	ug/kg dry	1000	---	20900	---	---	20	30%	
Chrysene	32200	2230	4470	ug/kg dry	1000	---	25000	---	---	25	30%	
Dibenz(a,h)anthracene	2950	2230	4470	ug/kg dry	1000	---	2350	---	---	22	30%	
Fluoranthene	72300	2230	4470	ug/kg dry	1000	---	68200	---	---	6	30%	Ja
Fluorene	6520	2230	4470	ug/kg dry	1000	---	5950	---	---	9	30%	
Indeno(1,2,3-cd)pyrene	23200	2230	4470	ug/kg dry	1000	---	19000	---	---	20	30%	
1-Methylnaphthalene	ND	4470	8930	ug/kg dry	1000	---	ND	---	---	---	30%	
2-Methylnaphthalene	ND	4470	8930	ug/kg dry	1000	---	ND	---	---	---	30%	
Naphthalene	4600	4470	8930	ug/kg dry	1000	---	4730	---	---	3	30%	
Phenanthrene	63000	2230	4470	ug/kg dry	1000	---	68800	---	---	9	30%	
Pyrene	89600	2230	4470	ug/kg dry	1000	---	81600	---	---	9	30%	
Carbazole	ND	3350	6700	ug/kg dry	1000	---	ND	---	---	---	30%	
Dibenzofuran	ND	2230	4470	ug/kg dry	1000	---	ND	---	---	---	30%	
4-Chloro-3-methylphenol	ND	22300	44700	ug/kg dry	1000	---	ND	---	---	---	30%	
2-Chlorophenol	ND	11200	22300	ug/kg dry	1000	---	ND	---	---	---	30%	
2,4-Dichlorophenol	ND	11200	22300	ug/kg dry	1000	---	ND	---	---	---	30%	
2,4-Dimethylphenol	ND	11200	22300	ug/kg dry	1000	---	ND	---	---	---	30%	
2,4-Dinitrophenol	ND	55800	112000	ug/kg dry	1000	---	ND	---	---	---	30%	
4,6-Dinitro-2-methylphenol	ND	55800	112000	ug/kg dry	1000	---	ND	---	---	---	30%	
2-Methylphenol	ND	5580	11200	ug/kg dry	1000	---	ND	---	---	---	30%	
3+4-Methylphenol(s)	ND	5580	11200	ug/kg dry	1000	---	ND	---	---	---	30%	
2-Nitrophenol	ND	22300	44700	ug/kg dry	1000	---	ND	---	---	---	30%	
4-Nitrophenol	ND	22300	44700	ug/kg dry	1000	---	ND	---	---	---	30%	
Pentachlorophenol (PCP)	ND	22300	44700	ug/kg dry	1000	---	ND	---	---	---	30%	
Phenol	ND	4470	8930	ug/kg dry	1000	---	ND	---	---	---	30%	

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Philip Nerenberg, Lab Director

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EPA ID: OR01039

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Portland, OR 97209

Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101343 - EPA 3546						Sediment						
Duplicate (9101343-DUP1)			Prepared: 10/19/19 09:52 Analyzed: 10/21/19 12:21									
QC Source Sample: Non-SDG (A9J0371-05)												
2,3,4,6-Tetrachlorophenol	ND	11200	22300	ug/kg dry	1000	---	ND	---	---	---	30%	
2,3,5,6-Tetrachlorophenol	ND	11200	22300	ug/kg dry	1000	---	ND	---	---	---	30%	
2,4,5-Trichlorophenol	ND	11200	22300	ug/kg dry	1000	---	ND	---	---	---	30%	
2,4,6-Trichlorophenol	ND	11200	22300	ug/kg dry	1000	---	ND	---	---	---	30%	
Bis(2-ethylhexyl)phthalate	ND	33500	67000	ug/kg dry	1000	---	ND	---	---	---	30%	
Butyl benzyl phthalate	ND	11200	22300	ug/kg dry	1000	---	ND	---	---	---	30%	
Diethylphthalate	ND	11200	22300	ug/kg dry	1000	---	ND	---	---	---	30%	
Dimethylphthalate	ND	11200	22300	ug/kg dry	1000	---	ND	---	---	---	30%	
Di-n-butylphthalate	ND	11200	22300	ug/kg dry	1000	---	ND	---	---	---	30%	
Di-n-octyl phthalate	ND	17900	22300	ug/kg dry	1000	---	ND	---	---	---	30%	
N-Nitrosodimethylamine	ND	5580	11200	ug/kg dry	1000	---	ND	---	---	---	30%	
N-Nitroso-di-n-propylamine	ND	5580	11200	ug/kg dry	1000	---	ND	---	---	---	30%	
N-Nitrosodiphenylamine	ND	5580	11200	ug/kg dry	1000	---	ND	---	---	---	30%	
Bis(2-Chloroethoxy) methane	ND	5580	11200	ug/kg dry	1000	---	ND	---	---	---	30%	
Bis(2-Chloroethyl) ether	ND	5580	11200	ug/kg dry	1000	---	ND	---	---	---	30%	
2,2'-Oxybis(1-Chloropropane)	ND	5580	11200	ug/kg dry	1000	---	ND	---	---	---	30%	
Hexachlorobenzene	ND	2230	4470	ug/kg dry	1000	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	5580	11200	ug/kg dry	1000	---	ND	---	---	---	30%	
Hexachlorocyclopentadiene	ND	11200	22300	ug/kg dry	1000	---	ND	---	---	---	30%	
Hexachloroethane	ND	5580	11200	ug/kg dry	1000	---	ND	---	---	---	30%	
2-Chloronaphthalene	ND	2230	4470	ug/kg dry	1000	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	5580	11200	ug/kg dry	1000	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	5580	11200	ug/kg dry	1000	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	5580	11200	ug/kg dry	1000	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	5580	11200	ug/kg dry	1000	---	ND	---	---	---	30%	
4-Bromophenyl phenyl ether	ND	5580	11200	ug/kg dry	1000	---	ND	---	---	---	30%	
4-Chlorophenyl phenyl ether	ND	5580	11200	ug/kg dry	1000	---	ND	---	---	---	30%	
Aniline	ND	11200	22300	ug/kg dry	1000	---	ND	---	---	---	30%	
4-Chloroaniline	ND	5580	11200	ug/kg dry	1000	---	ND	---	---	---	30%	
2-Nitroaniline	ND	44700	89300	ug/kg dry	1000	---	ND	---	---	---	30%	
3-Nitroaniline	ND	44700	89300	ug/kg dry	1000	---	ND	---	---	---	30%	
4-Nitroaniline	ND	44700	89300	ug/kg dry	1000	---	ND	---	---	---	30%	
Nitrobenzene	ND	22300	44700	ug/kg dry	1000	---	ND	---	---	---	30%	

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes	
Batch 9101343 - EPA 3546						Sediment							
Duplicate (9101343-DUP1)			Prepared: 10/19/19 09:52 Analyzed: 10/21/19 12:21										
QC Source Sample: Non-SDG (A9J0371-05)													
2,4-Dinitrotoluene	ND	22300	44700	ug/kg dry	1000	---	ND	---	---	---	30%		
2,6-Dinitrotoluene	ND	22300	44700	ug/kg dry	1000	---	ND	---	---	---	30%		
Benzoic acid	ND	280000	558000	ug/kg dry	1000	---	ND	---	---	---	30%		
Benzyl alcohol	ND	11200	22300	ug/kg dry	1000	---	11700	---	---	***	30%	Q-17	
Isophorone	ND	5580	11200	ug/kg dry	1000	---	ND	---	---	---	30%		
Azobenzene (1,2-DPH)	ND	5580	11200	ug/kg dry	1000	---	ND	---	---	---	30%		
Bis(2-Ethylhexyl) adipate	ND	55800	112000	ug/kg dry	1000	---	ND	---	---	---	30%		
3,3'-Dichlorobenzidine	ND	44700	89300	ug/kg dry	1000	---	ND	---	---	---	30%	Q-52	
1,2-Dinitrobenzene	ND	55800	112000	ug/kg dry	1000	---	ND	---	---	---	30%		
1,3-Dinitrobenzene	ND	55800	112000	ug/kg dry	1000	---	ND	---	---	---	30%		
1,4-Dinitrobenzene	ND	55800	112000	ug/kg dry	1000	---	ND	---	---	---	30%		
Pyridine	ND	11200	22300	ug/kg dry	1000	---	ND	---	---	---	30%		
Surr: Nitrobenzene-d5 (Surr)		Recovery: 69 %		Limits: 37-122 %		Dilution: 1000x							S-05
2-Fluorobiphenyl (Surr)		75 %		44-115 %		"							S-05
Phenol-d6 (Surr)		53 %		33-122 %		"							S-05
p-Terphenyl-d14 (Surr)		100 %		54-127 %		"							S-05
2-Fluorophenol (Surr)		52 %		35-115 %		"							S-05
2,4,6-Tribromophenol (Surr)		1170 %		39-132 %		"							S-05

Matrix Spike (9101343-MS1)

Prepared: 10/19/19 09:52 Analyzed: 10/21/19 13:33

QC Source Sample: Non-SDG (A9J0371-17)

EPA 8270D												
Acenaphthene	1180	240	482	ug/kg dry	100	963	557	64	40-122%	---	---	
Acenaphthylene	772	240	482	ug/kg dry	100	963	ND	80	32-132%	---	---	
Anthracene	1110	240	482	ug/kg dry	100	963	381	76	47-123%	---	---	
Benz(a)anthracene	1700	240	482	ug/kg dry	100	963	1150	58	49-126%	---	---	
Benzo(a)pyrene	1900	361	722	ug/kg dry	100	963	1690	21	45-129%	---	---	Q-03
Benzo(b)fluoranthene	1940	361	722	ug/kg dry	100	963	1560	39	45-132%	---	---	Q-03
Benzo(k)fluoranthene	1310	361	722	ug/kg dry	100	963	858	47	47-132%	---	---	
Benzo(g,h,i)perylene	1520	240	482	ug/kg dry	100	963	1130	41	43-134%	---	---	Q-03
Chrysene	1860	240	482	ug/kg dry	100	963	1380	50	50-124%	---	---	
Dibenz(a,h)anthracene	864	240	482	ug/kg dry	100	963	ND	90	45-134%	---	---	
Fluoranthene	2980	240	482	ug/kg dry	100	963	2520	48	50-127%	---	---	Q-03

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101343 - EPA 3546						Sediment						
Matrix Spike (9101343-MS1)			Prepared: 10/19/19 09:52 Analyzed: 10/21/19 13:33									
QC Source Sample: Non-SDG (A9J0371-17)												
Fluorene	1090	240	482	ug/kg dry	100	963	346	78	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	1440	240	482	ug/kg dry	100	963	1060	39	45-133%	---	---	Q-03
1-Methylnaphthalene	686	482	963	ug/kg dry	100	963	ND	71	40-120%	---	---	Ja
2-Methylnaphthalene	709	482	963	ug/kg dry	100	963	ND	74	38-122%	---	---	Ja
Naphthalene	776	482	963	ug/kg dry	100	963	ND	81	35-123%	---	---	Ja
Phenanthrene	2800	240	482	ug/kg dry	100	963	2130	71	50-121%	---	---	
Pyrene	3320	240	482	ug/kg dry	100	963	2940	40	47-127%	---	---	Q-03
Carbazole	821	361	722	ug/kg dry	100	963	ND	85	50-122%	---	---	
Dibenzofuran	816	240	482	ug/kg dry	100	963	ND	85	44-120%	---	---	
4-Chloro-3-methylphenol	ND	2400	4820	ug/kg dry	100	963	ND		45-122%	---	---	Q-11
2-Chlorophenol	ND	1200	2400	ug/kg dry	100	963	ND		34-121%	---	---	Q-11
2,4-Dichlorophenol	ND	1200	2400	ug/kg dry	100	963	ND		40-122%	---	---	Q-11
2,4-Dimethylphenol	ND	1200	2400	ug/kg dry	100	963	ND		30-127%	---	---	Q-11
2,4-Dinitrophenol	ND	6010	12000	ug/kg dry	100	963	ND		5-137%	---	---	Q-11
4,6-Dinitro-2-methylphenol	ND	6010	12000	ug/kg dry	100	963	ND		29-132%	---	---	Q-11
2-Methylphenol	ND	601	1200	ug/kg dry	100	963	ND		32-122%	---	---	Q-11
3+4-Methylphenol(s)	625	601	1200	ug/kg dry	100	963	ND	65	34-120%	---	---	Ja
2-Nitrophenol	ND	2400	4820	ug/kg dry	100	963	ND		36-123%	---	---	Q-11
4-Nitrophenol	ND	2400	4820	ug/kg dry	100	963	ND		30-132%	---	---	Q-11
Pentachlorophenol (PCP)	ND	2400	4820	ug/kg dry	100	963	ND		25-133%	---	---	Q-11
Phenol	543	482	963	ug/kg dry	100	963	ND	56	34-120%	---	---	Ja
2,3,4,6-Tetrachlorophenol	ND	1200	2400	ug/kg dry	100	963	ND		44-125%	---	---	Q-11
2,3,5,6-Tetrachlorophenol	1360	1200	2400	ug/kg dry	100	963	ND	141	40-120%	---	---	Q-11, Ja
2,4,5-Trichlorophenol	1200	1200	2400	ug/kg dry	100	963	ND		41-124%	---	---	Q-11, Ja
2,4,6-Trichlorophenol	ND	1200	2400	ug/kg dry	100	963	ND		39-126%	---	---	Q-11
Bis(2-ethylhexyl)phthalate	ND	3610	7220	ug/kg dry	100	963	ND		51-133%	---	---	Q-11
Butyl benzyl phthalate	1280	1200	2400	ug/kg dry	100	963	ND	133	48-132%	---	---	Q-11, Ja
Diethylphthalate	ND	1200	2400	ug/kg dry	100	963	ND		50-124%	---	---	Q-11
Dimethylphthalate	ND	1200	2400	ug/kg dry	100	963	ND		48-124%	---	---	Q-11
Di-n-butylphthalate	ND	1200	2400	ug/kg dry	100	963	ND		51-128%	---	---	Q-11
Di-n-octyl phthalate	2190	1930	2400	ug/kg dry	100	963	ND	227	44-140%	---	---	Q-11, Q-41, Ja
N-Nitrosodimethylamine	ND	601	1200	ug/kg dry	100	963	ND		23-120%	---	---	Q-11
N-Nitroso-di-n-propylamine	ND	601	1200	ug/kg dry	100	963	ND		36-120%	---	---	Q-11

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101343 - EPA 3546						Sediment						
Matrix Spike (9101343-MS1)			Prepared: 10/19/19 09:52		Analyzed: 10/21/19 13:33							
QC Source Sample: Non-SDG (A9J0371-17)												
N-Nitrosodiphenylamine	803	601	1200	ug/kg dry	100	963	ND	83	38-127%	---	---	Ja
Bis(2-Chloroethoxy) methane	ND	601	1200	ug/kg dry	100	963	ND		36-121%	---	---	Q-11
Bis(2-Chloroethyl) ether	ND	601	1200	ug/kg dry	100	963	ND		31-120%	---	---	Q-11
2,2'-Oxybis(1-Chloropropane)	ND	601	1200	ug/kg dry	100	963	ND		33-131%	---	---	Q-11
Hexachlorobenzene	820	240	482	ug/kg dry	100	963	ND	85	44-122%	---	---	
Hexachlorobutadiene	ND	601	1200	ug/kg dry	100	963	ND		32-123%	---	---	Q-11
Hexachlorocyclopentadiene	ND	1200	2400	ug/kg dry	100	963	ND		5-140%	---	---	Q-11, Q-31
Hexachloroethane	ND	601	1200	ug/kg dry	100	963	ND		28-120%	---	---	Q-11
2-Chloronaphthalene	668	240	482	ug/kg dry	100	963	ND	69	41-120%	---	---	
1,2-Dichlorobenzene	ND	601	1200	ug/kg dry	100	963	ND		33-120%	---	---	Q-11
1,3-Dichlorobenzene	ND	601	1200	ug/kg dry	100	963	ND		30-120%	---	---	Q-11
1,4-Dichlorobenzene	ND	601	1200	ug/kg dry	100	963	ND		31-120%	---	---	Q-11
1,2,4-Trichlorobenzene	610	601	1200	ug/kg dry	100	963	ND	63	34-120%	---	---	Ja
4-Bromophenyl phenyl ether	749	601	1200	ug/kg dry	100	963	ND	78	46-124%	---	---	Ja
4-Chlorophenyl phenyl ether	774	601	1200	ug/kg dry	100	963	ND	80	45-121%	---	---	Ja
Aniline	ND	1200	2400	ug/kg dry	100	963	ND		7-120%	---	---	Q-11
4-Chloroaniline	606	601	1200	ug/kg dry	100	963	ND	63	16-120%	---	---	Ja
2-Nitroaniline	ND	4820	9630	ug/kg dry	100	963	ND		44-127%	---	---	Q-11
3-Nitroaniline	ND	4820	9630	ug/kg dry	100	963	ND		33-120%	---	---	Q-11
4-Nitroaniline	ND	4820	9630	ug/kg dry	100	963	ND		35-120%	---	---	Q-11
Nitrobenzene	ND	2400	4820	ug/kg dry	100	963	ND		34-122%	---	---	Q-11
2,4-Dinitrotoluene	ND	2400	4820	ug/kg dry	100	963	ND		48-126%	---	---	Q-11
2,6-Dinitrotoluene	ND	2400	4820	ug/kg dry	100	963	ND		46-124%	---	---	Q-11
Benzoic acid	ND	30200	60100	ug/kg dry	100	1930	ND		5-140%	---	---	Q-11
Benzyl alcohol	ND	1200	2400	ug/kg dry	100	963	ND		29-122%	---	---	Q-11
Isophorone	ND	601	1200	ug/kg dry	100	963	ND		30-122%	---	---	Q-11
Azobenzene (1,2-DPH)	ND	601	1200	ug/kg dry	100	963	ND		39-125%	---	---	Q-11
Bis(2-Ethylhexyl) adipate	ND	6010	12000	ug/kg dry	100	963	ND		60-121%	---	---	Q-11
3,3'-Dichlorobenzidine	ND	4820	9630	ug/kg dry	100	1930	ND		22-121%	---	---	Q-11
1,2-Dinitrobenzene	ND	6010	12000	ug/kg dry	100	963	ND		44-120%	---	---	Q-11
1,3-Dinitrobenzene	ND	6010	12000	ug/kg dry	100	963	ND		42-127%	---	---	Q-11
1,4-Dinitrobenzene	ND	6010	12000	ug/kg dry	100	963	ND		37-132%	---	---	Q-11
Pvridine	ND	1200	2400	ug/kg dry	100	963	ND		5-120%	---	---	Q-11

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Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101343 - EPA 3546						Sediment						
Matrix Spike (9101343-MS1)			Prepared: 10/19/19 09:52 Analyzed: 10/21/19 13:33									
QC Source Sample: Non-SDG (A9J0371-17)												
Surr: Nitrobenzene-d5 (Surr)			Recovery: 51 %	Limits: 37-122 %		Dilution: 100x						S-05
2-Fluorobiphenyl (Surr)			61 %	44-115 %								S-05
Phenol-d6 (Surr)			53 %	33-122 %								S-05
p-Terphenyl-d14 (Surr)			67 %	54-127 %								S-05
2-Fluorophenol (Surr)			51 %	35-115 %								S-05
2,4,6-Tribromophenol (Surr)			161 %	39-132 %								S-05
Matrix Spike (9101343-MS2)												
Prepared: 10/19/19 09:53 Analyzed: 10/21/19 15:22												
QC Source Sample: SED-06-SS-1.0 (A9J0427-02)												
EPA 8270D												
Acenaphthene	723	183	367	ug/kg dry	100	732	200	71	40-122%	---	---	
Acenaphthylene	764	183	367	ug/kg dry	100	732	239	72	32-132%	---	---	
Anthracene	782	183	367	ug/kg dry	100	732	ND	107	47-123%	---	---	
Benz(a)anthracene	1420	183	367	ug/kg dry	100	732	520	123	49-126%	---	---	
Benzo(a)pyrene	2240	275	549	ug/kg dry	100	732	1450	108	45-129%	---	---	
Benzo(b)fluoranthene	2300	275	549	ug/kg dry	100	732	1500	109	45-132%	---	---	
Benzo(k)fluoranthene	1320	275	549	ug/kg dry	100	732	576	101	47-132%	---	---	
Benzo(g,h,i)perylene	2060	183	367	ug/kg dry	100	732	1330	99	43-134%	---	---	
Chrysene	1780	183	367	ug/kg dry	100	732	852	127	50-124%	---	---	Q-03
Dibenz(a,h)anthracene	668	183	367	ug/kg dry	100	732	ND	91	45-134%	---	---	
Fluoranthene	1980	183	367	ug/kg dry	100	732	830	157	50-127%	---	---	Q-03
Fluorene	703	183	367	ug/kg dry	100	732	ND	96	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	2050	183	367	ug/kg dry	100	732	1210	114	45-133%	---	---	
1-Methylnaphthalene	512	367	732	ug/kg dry	100	732	ND	70	40-120%	---	---	Ja
2-Methylnaphthalene	549	367	732	ug/kg dry	100	732	ND	75	38-122%	---	---	Ja
Naphthalene	826	367	732	ug/kg dry	100	732	ND	113	35-123%	---	---	
Phenanthrene	1770	183	367	ug/kg dry	100	732	886	121	50-121%	---	---	
Pyrene	2590	183	367	ug/kg dry	100	732	1110	202	47-127%	---	---	Q-03
Carbazole	629	275	549	ug/kg dry	100	732	ND	86	50-122%	---	---	
Dibenzofuran	539	183	367	ug/kg dry	100	732	ND	74	44-120%	---	---	
4-Chloro-3-methylphenol	ND	1830	3670	ug/kg dry	100	732	ND		45-122%	---	---	Q-11
2-Chlorophenol	ND	916	1830	ug/kg dry	100	732	ND		34-121%	---	---	Q-11
2,4-Dichlorophenol	ND	916	1830	ug/kg dry	100	732	ND		40-122%	---	---	Q-11

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Philip Nerenberg, Lab Director

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Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200
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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101343 - EPA 3546						Sediment						
Matrix Spike (9101343-MS2)			Prepared: 10/19/19 09:53		Analyzed: 10/21/19 15:22							
QC Source Sample: SED-06-SS-1.0 (A9J0427-02)												
2,4-Dimethylphenol	ND	916	1830	ug/kg dry	100	732	ND		30-127%	---	---	Q-11
2,4-Dinitrophenol	ND	4570	9160	ug/kg dry	100	732	ND		5-137%	---	---	Q-11
4,6-Dinitro-2-methylphenol	ND	4570	9160	ug/kg dry	100	732	ND		29-132%	---	---	Q-11
2-Methylphenol	ND	457	916	ug/kg dry	100	732	ND		32-122%	---	---	Q-11
3+4-Methylphenol(s)	ND	457	916	ug/kg dry	100	732	ND		34-120%	---	---	Q-11
2-Nitrophenol	ND	1830	3670	ug/kg dry	100	732	ND		36-123%	---	---	Q-11
4-Nitrophenol	ND	1830	3670	ug/kg dry	100	732	ND		30-132%	---	---	Q-11
Pentachlorophenol (PCP)	ND	1830	3670	ug/kg dry	100	732	ND		25-133%	---	---	Q-11
Phenol	ND	367	732	ug/kg dry	100	732	ND		34-120%	---	---	Q-01
2,3,4,6-Tetrachlorophenol	ND	916	1830	ug/kg dry	100	732	ND		44-125%	---	---	Q-11
2,3,5,6-Tetrachlorophenol	1020	916	1830	ug/kg dry	100	732	ND	139	40-120%	---	---	Q-11, Ja
2,4,5-Trichlorophenol	ND	916	1830	ug/kg dry	100	732	ND		41-124%	---	---	Q-11
2,4,6-Trichlorophenol	ND	916	1830	ug/kg dry	100	732	ND		39-126%	---	---	Q-11
Bis(2-ethylhexyl)phthalate	ND	2750	5490	ug/kg dry	100	732	ND		51-133%	---	---	Q-11
Butyl benzyl phthalate	962	916	1830	ug/kg dry	100	732	ND	131	48-132%	---	---	Ja
Diethylphthalate	ND	916	1830	ug/kg dry	100	732	ND		50-124%	---	---	Q-11
Dimethylphthalate	ND	916	1830	ug/kg dry	100	732	ND		48-124%	---	---	Q-11
Di-n-butylphthalate	ND	916	1830	ug/kg dry	100	732	ND		51-128%	---	---	Q-11
Di-n-octyl phthalate	1640	1470	1830	ug/kg dry	100	732	ND	224	44-140%	---	---	Q-11, Q-41, Ja
N-Nitrosodimethylamine	ND	457	916	ug/kg dry	100	732	ND		23-120%	---	---	Q-11
N-Nitroso-di-n-propylamine	ND	457	916	ug/kg dry	100	732	ND		36-120%	---	---	Q-11
N-Nitrosodiphenylamine	529	457	916	ug/kg dry	100	732	ND	72	38-127%	---	---	Ja
Bis(2-Chloroethoxy) methane	ND	457	916	ug/kg dry	100	732	ND		36-121%	---	---	Q-11
Bis(2-Chloroethyl) ether	ND	457	916	ug/kg dry	100	732	ND		31-120%	---	---	Q-11
2,2'-Oxybis(1-Chloropropane)	ND	457	916	ug/kg dry	100	732	ND		33-131%	---	---	Q-11
Hexachlorobenzene	583	183	367	ug/kg dry	100	732	ND	80	44-122%	---	---	
Hexachlorobutadiene	ND	457	916	ug/kg dry	100	732	ND		32-123%	---	---	Q-11
Hexachlorocyclopentadiene	ND	916	1830	ug/kg dry	100	732	ND		5-140%	---	---	Q-11, Q-31
Hexachloroethane	ND	457	916	ug/kg dry	100	732	ND		28-120%	---	---	Q-11
2-Chloronaphthalene	461	183	367	ug/kg dry	100	732	ND	63	41-120%	---	---	
1,2-Dichlorobenzene	ND	457	916	ug/kg dry	100	732	ND		33-120%	---	---	Q-11
1,3-Dichlorobenzene	ND	457	916	ug/kg dry	100	732	ND		30-120%	---	---	Q-11
1,4-Dichlorobenzene	ND	457	916	ug/kg dry	100	732	ND		31-120%	---	---	Q-11

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes	
Batch 9101343 - EPA 3546						Sediment							
Matrix Spike (9101343-MS2)			Prepared: 10/19/19 09:53 Analyzed: 10/21/19 15:22										
QC Source Sample: SED-06-SS-1.0 (A9J0427-02)													
1,2,4-Trichlorobenzene	ND	457	916	ug/kg dry	100	732	ND		34-120%	---	---	Q-11	
4-Bromophenyl phenyl ether	533	457	916	ug/kg dry	100	732	ND	73	46-124%	---	---	Ja	
4-Chlorophenyl phenyl ether	551	457	916	ug/kg dry	100	732	ND	75	45-121%	---	---	Ja	
Aniline	ND	916	1830	ug/kg dry	100	732	ND		7-120%	---	---	Q-11	
4-Chloroaniline	ND	457	916	ug/kg dry	100	732	ND		16-120%	---	---	Q-11	
2-Nitroaniline	ND	3670	7320	ug/kg dry	100	732	ND		44-127%	---	---	Q-11	
3-Nitroaniline	ND	3670	7320	ug/kg dry	100	732	ND		33-120%	---	---	Q-11	
4-Nitroaniline	ND	3670	7320	ug/kg dry	100	732	ND		35-120%	---	---	Q-11	
Nitrobenzene	ND	1830	3670	ug/kg dry	100	732	ND		34-122%	---	---	Q-11	
2,4-Dinitrotoluene	ND	1830	3670	ug/kg dry	100	732	ND		48-126%	---	---	Q-11	
2,6-Dinitrotoluene	ND	1830	3670	ug/kg dry	100	732	ND		46-124%	---	---	Q-11	
Benzoic acid	ND	22900	45700	ug/kg dry	100	1460	ND		5-140%	---	---	Q-11	
Benzyl alcohol	ND	916	1830	ug/kg dry	100	732	ND		29-122%	---	---	Q-11	
Isophorone	ND	457	916	ug/kg dry	100	732	ND		30-122%	---	---	Q-11	
Azobenzene (1,2-DPH)	ND	457	916	ug/kg dry	100	732	ND		39-125%	---	---	Q-11	
Bis(2-Ethylhexyl) adipate	ND	4570	9160	ug/kg dry	100	732	ND		60-121%	---	---	Q-11	
3,3'-Dichlorobenzidine	ND	3670	7320	ug/kg dry	100	1460	ND		22-121%	---	---	Q-11	
1,2-Dinitrobenzene	ND	4570	9160	ug/kg dry	100	732	ND		44-120%	---	---	Q-11	
1,3-Dinitrobenzene	ND	4570	9160	ug/kg dry	100	732	ND		42-127%	---	---	Q-11	
1,4-Dinitrobenzene	ND	4570	9160	ug/kg dry	100	732	ND		37-132%	---	---	Q-11	
Pyridine	ND	916	1830	ug/kg dry	100	732	ND		5-120%	---	---	Q-11	
Surr: Nitrobenzene-d5 (Surr)		Recovery:		48 %	Limits:		37-122 %		Dilution:		100x		S-05
2-Fluorobiphenyl (Surr)				69 %			44-115 %				"		S-05
Phenol-d6 (Surr)				48 %			33-122 %				"		S-05
p-Terphenyl-d14 (Surr)				86 %			54-127 %				"		S-05
2-Fluorophenol (Surr)				45 %			35-115 %				"		S-05
2,4,6-Tribromophenol (Surr)				165 %			39-132 %				"		S-05

Matrix Spike Dup (9101343-MSD1)

Prepared: 10/19/19 09:53 Analyzed: 10/21/19 14:10

QC Source Sample: Non-SDG (A9J0371-17)

Acenaphthene	1680	246	493	ug/kg dry	100	986	557	114	40-122%	35	30%	Q-24
Acenaphthylene	784	246	493	ug/kg dry	100	986	ND	80	32-132%	1	30%	
Anthracene	1660	246	493	ug/kg dry	100	986	381	130	47-123%	40	30%	Q-01

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101343 - EPA 3546							Sediment					
Matrix Spike Dup (9101343-MSD1)			Prepared: 10/19/19 09:53		Analyzed: 10/21/19 14:10							
QC Source Sample: Non-SDG (A9J0371-17)												
Benz(a)anthracene	2710	246	493	ug/kg dry	100	986	1150	158	49-126%	46	30%	Q-03
Benzo(a)pyrene	3040	370	739	ug/kg dry	100	986	1690	137	45-129%	46	30%	Q-03
Benzo(b)fluoranthene	2980	370	739	ug/kg dry	100	986	1560	144	45-132%	42	30%	Q-03
Benzo(k)fluoranthene	1670	370	739	ug/kg dry	100	986	858	83	47-132%	24	30%	
Benzo(g,h,i)perylene	2170	246	493	ug/kg dry	100	986	1130	106	43-134%	35	30%	Q-03
Chrysene	3010	246	493	ug/kg dry	100	986	1380	166	50-124%	47	30%	Q-03
Dibenz(a,h)anthracene	918	246	493	ug/kg dry	100	986	ND	93	45-134%	6	30%	
Fluoranthene	6180	246	493	ug/kg dry	100	986	2520	371	50-127%	70	30%	Q-03
Fluorene	1460	246	493	ug/kg dry	100	986	346	113	43-125%	28	30%	
Indeno(1,2,3-cd)pyrene	2310	246	493	ug/kg dry	100	986	1060	126	45-133%	46	30%	Q-03
1-Methylnaphthalene	636	493	985	ug/kg dry	100	986	ND	65	40-120%	7	30%	Ja
2-Methylnaphthalene	689	493	985	ug/kg dry	100	986	ND	70	38-122%	3	30%	Ja
Naphthalene	864	493	985	ug/kg dry	100	986	ND	88	35-123%	11	30%	Ja
Phenanthrene	6270	246	493	ug/kg dry	100	986	2130	421	50-121%	76	30%	Q-03
Pyrene	7430	246	493	ug/kg dry	100	986	2940	456	47-127%	76	30%	Q-03
Carbazole	828	370	739	ug/kg dry	100	986	ND	84	50-122%	0.9	30%	
Dibenzofuran	873	246	493	ug/kg dry	100	986	ND	89	44-120%	7	30%	
4-Chloro-3-methylphenol	ND	2460	4930	ug/kg dry	100	986	ND		45-122%		30%	Q-11
2-Chlorophenol	ND	1230	2460	ug/kg dry	100	986	ND		34-121%		30%	Q-11
2,4-Dichlorophenol	ND	1230	2460	ug/kg dry	100	986	ND		40-122%		30%	Q-11
2,4-Dimethylphenol	ND	1230	2460	ug/kg dry	100	986	ND		30-127%		30%	Q-11
2,4-Dinitrophenol	ND	6150	12300	ug/kg dry	100	986	ND		5-137%		30%	Q-11
4,6-Dinitro-2-methylphenol	ND	6150	12300	ug/kg dry	100	986	ND		29-132%		30%	Q-11
2-Methylphenol	ND	615	1230	ug/kg dry	100	986	ND		32-122%		30%	Q-11
3+4-Methylphenol(s)	ND	615	1230	ug/kg dry	100	986	ND		34-120%	200	30%	Q-11
2-Nitrophenol	ND	2460	4930	ug/kg dry	100	986	ND		36-123%		30%	Q-11
4-Nitrophenol	ND	2460	4930	ug/kg dry	100	986	ND		30-132%		30%	Q-11
Pentachlorophenol (PCP)	ND	2460	4930	ug/kg dry	100	986	ND		25-133%		30%	Q-11
Phenol	ND	493	985	ug/kg dry	100	986	ND		34-120%	200	30%	Q-01
2,3,4,6-Tetrachlorophenol	ND	1230	2460	ug/kg dry	100	986	ND		44-125%		30%	Q-11
2,3,5,6-Tetrachlorophenol	1410	1230	2460	ug/kg dry	100	986	ND	143	40-120%	3	30%	Q-11, Ja
2,4,5-Trichlorophenol	ND	1230	2460	ug/kg dry	100	986	ND		41-124%		30%	Q-11
2,4,6-Trichlorophenol	ND	1230	2460	ug/kg dry	100	986	ND		39-126%		30%	Q-11

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101343 - EPA 3546						Sediment						
Matrix Spike Dup (9101343-MSD1)			Prepared: 10/19/19 09:53		Analyzed: 10/21/19 14:10							
QC Source Sample: Non-SDG (A9J0371-17)												
Bis(2-ethylhexyl)phthalate	ND	3700	7390	ug/kg dry	100	986	ND		51-133%		30%	Q-11
Butyl benzyl phthalate	1310	1230	2460	ug/kg dry	100	986	ND	133	48-132%	2	30%	Q-11, Ja
Diethylphthalate	ND	1230	2460	ug/kg dry	100	986	ND		50-124%		30%	Q-11
Dimethylphthalate	ND	1230	2460	ug/kg dry	100	986	ND		48-124%		30%	Q-11
Di-n-butylphthalate	ND	1230	2460	ug/kg dry	100	986	ND		51-128%		30%	Q-11
Di-n-octyl phthalate	2260	1980	2460	ug/kg dry	100	986	ND	230	44-140%	3	30%	Q-41, Q-11, Ja
N-Nitrosodimethylamine	ND	615	1230	ug/kg dry	100	986	ND		23-120%		30%	Q-11
N-Nitroso-di-n-propylamine	ND	615	1230	ug/kg dry	100	986	ND		36-120%		30%	Q-11
N-Nitrosodiphenylamine	829	615	1230	ug/kg dry	100	986	ND	84	38-127%	3	30%	Ja
Bis(2-Chloroethoxy) methane	ND	615	1230	ug/kg dry	100	986	ND		36-121%		30%	Q-11
Bis(2-Chloroethyl) ether	ND	615	1230	ug/kg dry	100	986	ND		31-120%		30%	Q-11
2,2'-Oxybis(1-Chloropropane)	ND	615	1230	ug/kg dry	100	986	ND		33-131%		30%	Q-11
Hexachlorobenzene	778	246	493	ug/kg dry	100	986	ND	79	44-122%	5	30%	
Hexachlorobutadiene	ND	615	1230	ug/kg dry	100	986	ND		32-123%		30%	Q-11
Hexachlorocyclopentadiene	ND	1230	2460	ug/kg dry	100	986	ND		5-140%		30%	Q-31, Q-11
Hexachloroethane	ND	615	1230	ug/kg dry	100	986	ND		28-120%		30%	Q-11
2-Chloronaphthalene	611	246	493	ug/kg dry	100	986	ND	62	41-120%	9	30%	
1,2-Dichlorobenzene	ND	615	1230	ug/kg dry	100	986	ND		33-120%		30%	Q-11
1,3-Dichlorobenzene	ND	615	1230	ug/kg dry	100	986	ND		30-120%		30%	Q-11
1,4-Dichlorobenzene	ND	615	1230	ug/kg dry	100	986	ND		31-120%		30%	Q-11
1,2,4-Trichlorobenzene	ND	615	1230	ug/kg dry	100	986	ND		34-120%	200	30%	Q-11
4-Bromophenyl phenyl ether	752	615	1230	ug/kg dry	100	986	ND	76	46-124%	0.3	30%	Ja
4-Chlorophenyl phenyl ether	768	615	1230	ug/kg dry	100	986	ND	78	45-121%	0.8	30%	Ja
Aniline	ND	1230	2460	ug/kg dry	100	986	ND		7-120%		30%	Q-11
4-Chloroaniline	ND	615	1230	ug/kg dry	100	986	ND		16-120%		30%	Q-11
2-Nitroaniline	ND	4930	9850	ug/kg dry	100	986	ND		44-127%		30%	Q-11
3-Nitroaniline	ND	4930	9850	ug/kg dry	100	986	ND		33-120%		30%	Q-11
4-Nitroaniline	ND	4930	9850	ug/kg dry	100	986	ND		35-120%		30%	Q-11
Nitrobenzene	ND	2460	4930	ug/kg dry	100	986	ND		34-122%		30%	Q-11
2,4-Dinitrotoluene	ND	2460	4930	ug/kg dry	100	986	ND		48-126%		30%	Q-11
2,6-Dinitrotoluene	ND	2460	4930	ug/kg dry	100	986	ND		46-124%		30%	Q-11
Benzoic acid	ND	30900	61500	ug/kg dry	100	1970	ND		5-140%		30%	Q-11
Benzyl alcohol	ND	1230	2460	ug/kg dry	100	986	ND		29-122%		30%	Q-11

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101343 - EPA 3546						Sediment						
Matrix Spike Dup (9101343-MSD1)			Prepared: 10/19/19 09:53 Analyzed: 10/21/19 14:10									
QC Source Sample: Non-SDG (A9J0371-17)												
Isophorone	ND	615	1230	ug/kg dry	100	986	ND		30-122%		30%	Q-11
Azobenzene (1,2-DPH)	ND	615	1230	ug/kg dry	100	986	ND		39-125%		30%	Q-11
Bis(2-Ethylhexyl) adipate	ND	6150	12300	ug/kg dry	100	986	ND		60-121%		30%	Q-11
3,3'-Dichlorobenzidine	ND	4930	9850	ug/kg dry	100	1970	ND		22-121%		30%	Q-11
1,2-Dinitrobenzene	ND	6150	12300	ug/kg dry	100	986	ND		44-120%		30%	Q-11
1,3-Dinitrobenzene	ND	6150	12300	ug/kg dry	100	986	ND		42-127%		30%	Q-11
1,4-Dinitrobenzene	ND	6150	12300	ug/kg dry	100	986	ND		37-132%		30%	Q-11
Pyridine	ND	1230	2460	ug/kg dry	100	986	ND		5-120%		30%	Q-11
Surr: Nitrobenzene-d5 (Surr)		Recovery: 39 %		Limits: 37-122 %		Dilution: 100x					S-05	
2-Fluorobiphenyl (Surr)		56 %		44-115 %		"					S-05	
Phenol-d6 (Surr)		43 %		33-122 %		"					S-05	
p-Terphenyl-d14 (Surr)		74 %		54-127 %		"					S-05	
2-Fluorophenol (Surr)		38 %		35-115 %		"					S-05	
2,4,6-Tribromophenol (Surr)		160 %		39-132 %		"					S-05	
Matrix Spike Dup (9101343-MSD2)						Prepared: 10/19/19 09:53 Analyzed: 10/21/19 15:58						
QC Source Sample: SED-06-SS-1.0 (A9J0427-02)												
EPA 8270D												
Acenaphthene	752	186	372	ug/kg dry	100	744	200	74	40-122%	4	30%	
Acenaphthylene	666	186	372	ug/kg dry	100	744	239	57	32-132%	14	30%	
Anthracene	671	186	372	ug/kg dry	100	744	ND	90	47-123%	15	30%	
Benzo(a)anthracene	1270	186	372	ug/kg dry	100	744	520	101	49-126%	11	30%	
Benzo(a)pyrene	1960	279	558	ug/kg dry	100	744	1450	68	45-129%	14	30%	
Benzo(b)fluoranthene	1980	279	558	ug/kg dry	100	744	1500	64	45-132%	15	30%	
Benzo(k)fluoranthene	1020	279	558	ug/kg dry	100	744	576	60	47-132%	25	30%	
Benzo(g,h,i)perylene	1800	186	372	ug/kg dry	100	744	1330	63	43-134%	13	30%	
Chrysene	1600	186	372	ug/kg dry	100	744	852	101	50-124%	11	30%	
Dibenz(a,h)anthracene	701	186	372	ug/kg dry	100	744	ND	94	45-134%	5	30%	
Fluoranthene	2010	186	372	ug/kg dry	100	744	830	158	50-127%	1	30%	Q-03
Fluorene	720	186	372	ug/kg dry	100	744	ND	97	43-125%	2	30%	
Indeno(1,2,3-cd)pyrene	1820	186	372	ug/kg dry	100	744	1210	82	45-133%	12	30%	
1-Methylnaphthalene	488	372	743	ug/kg dry	100	744	ND	66	40-120%	5	30%	Ja
2-Methylnaphthalene	505	372	743	ug/kg dry	100	744	ND	68	38-122%	8	30%	Ja

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Philip Nerenberg, Lab Director

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503-718-2323

EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200

Portland, OR 97209

Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101343 - EPA 3546						Sediment						
Matrix Spike Dup (9101343-MSD2)			Prepared: 10/19/19 09:53 Analyzed: 10/21/19 15:58									
QC Source Sample: SED-06-SS-1.0 (A9J0427-02)												
Naphthalene	675	372	743	ug/kg dry	100	744	ND	91	35-123%	20	30%	Ja
Phenanthrene	1640	186	372	ug/kg dry	100	744	886	101	50-121%	8	30%	
Pyrene	2460	186	372	ug/kg dry	100	744	1110	181	47-127%	5	30%	Q-03
Carbazole	591	279	558	ug/kg dry	100	744	ND	79	50-122%	6	30%	
Dibenzofuran	536	186	372	ug/kg dry	100	744	ND	72	44-120%	0.6	30%	
4-Chloro-3-methylphenol	ND	1860	3720	ug/kg dry	100	744	ND		45-122%		30%	Q-11
2-Chlorophenol	ND	930	1860	ug/kg dry	100	744	ND		34-121%		30%	Q-11
2,4-Dichlorophenol	ND	930	1860	ug/kg dry	100	744	ND		40-122%		30%	Q-11
2,4-Dimethylphenol	ND	930	1860	ug/kg dry	100	744	ND		30-127%		30%	Q-11
2,4-Dinitrophenol	ND	4640	9300	ug/kg dry	100	744	ND		5-137%		30%	Q-11
4,6-Dinitro-2-methylphenol	ND	4640	9300	ug/kg dry	100	744	ND		29-132%		30%	Q-11
2-Methylphenol	ND	464	930	ug/kg dry	100	744	ND		32-122%		30%	Q-11
3+4-Methylphenol(s)	ND	464	930	ug/kg dry	100	744	ND		34-120%		30%	Q-11
2-Nitrophenol	ND	1860	3720	ug/kg dry	100	744	ND		36-123%		30%	Q-11
4-Nitrophenol	ND	1860	3720	ug/kg dry	100	744	ND		30-132%		30%	Q-11
Pentachlorophenol (PCP)	ND	1860	3720	ug/kg dry	100	744	ND		25-133%		30%	Q-11
Phenol	394	372	743	ug/kg dry	100	744	ND	53	34-120%	200	30%	Q-01, Ja
2,3,4,6-Tetrachlorophenol	ND	930	1860	ug/kg dry	100	744	ND		44-125%		30%	Q-11
2,3,5,6-Tetrachlorophenol	1060	930	1860	ug/kg dry	100	744	ND	142	40-120%	4	30%	Q-11, Ja
2,4,5-Trichlorophenol	ND	930	1860	ug/kg dry	100	744	ND		41-124%		30%	Q-11
2,4,6-Trichlorophenol	ND	930	1860	ug/kg dry	100	744	ND		39-126%		30%	Q-11
Bis(2-ethylhexyl)phthalate	ND	2790	5580	ug/kg dry	100	744	ND		51-133%		30%	Q-11
Butyl benzyl phthalate	972	930	1860	ug/kg dry	100	744	ND	131	48-132%	0.9	30%	Ja
Diethylphthalate	ND	930	1860	ug/kg dry	100	744	ND		50-124%		30%	Q-11
Dimethylphthalate	ND	930	1860	ug/kg dry	100	744	ND		48-124%		30%	Q-11
Di-n-butylphthalate	ND	930	1860	ug/kg dry	100	744	ND		51-128%		30%	Q-11
Di-n-octyl phthalate	1660	1490	1860	ug/kg dry	100	744	ND	223	44-140%	1	30%	Q-11, Q-41, Ja
N-Nitrosodimethylamine	ND	464	930	ug/kg dry	100	744	ND		23-120%		30%	Q-11
N-Nitroso-di-n-propylamine	ND	464	930	ug/kg dry	100	744	ND		36-120%		30%	Q-11
N-Nitrosodiphenylamine	503	464	930	ug/kg dry	100	744	ND	68	38-127%	5	30%	Ja
Bis(2-Chloroethoxy) methane	ND	464	930	ug/kg dry	100	744	ND		36-121%		30%	Q-11
Bis(2-Chloroethyl) ether	ND	464	930	ug/kg dry	100	744	ND		31-120%		30%	Q-11
2,2'-Oxybis(1-Chloropropane)	ND	464	930	ug/kg dry	100	744	ND		33-131%		30%	Q-11

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Philip Nerenberg, Lab Director

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101343 - EPA 3546						Sediment						
Matrix Spike Dup (9101343-MSD2)			Prepared: 10/19/19 09:53		Analyzed: 10/21/19 15:58							
QC Source Sample: SED-06-SS-1.0 (A9J0427-02)												
Hexachlorobenzene	582	186	372	ug/kg dry	100	744	ND	78	44-122%	0.3	30%	
Hexachlorobutadiene	ND	464	930	ug/kg dry	100	744	ND		32-123%		30%	Q-11
Hexachlorocyclopentadiene	ND	930	1860	ug/kg dry	100	744	ND		5-140%		30%	Q-11, Q-31
Hexachloroethane	ND	464	930	ug/kg dry	100	744	ND		28-120%		30%	Q-11
2-Chloronaphthalene	464	186	372	ug/kg dry	100	744	ND	62	41-120%	0.5	30%	
1,2-Dichlorobenzene	ND	464	930	ug/kg dry	100	744	ND		33-120%		30%	Q-11
1,3-Dichlorobenzene	ND	464	930	ug/kg dry	100	744	ND		30-120%		30%	Q-11
1,4-Dichlorobenzene	ND	464	930	ug/kg dry	100	744	ND		31-120%		30%	Q-11
1,2,4-Trichlorobenzene	ND	464	930	ug/kg dry	100	744	ND		34-120%		30%	Q-11
4-Bromophenyl phenyl ether	530	464	930	ug/kg dry	100	744	ND	71	46-124%	0.5	30%	Ja
4-Chlorophenyl phenyl ether	549	464	930	ug/kg dry	100	744	ND	74	45-121%	0.3	30%	Ja
Aniline	ND	930	1860	ug/kg dry	100	744	ND		7-120%		30%	Q-11
4-Chloroaniline	ND	464	930	ug/kg dry	100	744	ND		16-120%		30%	Q-11
2-Nitroaniline	ND	3720	7430	ug/kg dry	100	744	ND		44-127%		30%	Q-11
3-Nitroaniline	ND	3720	7430	ug/kg dry	100	744	ND		33-120%		30%	Q-11
4-Nitroaniline	ND	3720	7430	ug/kg dry	100	744	ND		35-120%		30%	Q-11
Nitrobenzene	ND	1860	3720	ug/kg dry	100	744	ND		34-122%		30%	Q-11
2,4-Dinitrotoluene	ND	1860	3720	ug/kg dry	100	744	ND		48-126%		30%	Q-11
2,6-Dinitrotoluene	ND	1860	3720	ug/kg dry	100	744	ND		46-124%		30%	Q-11
Benzoic acid	ND	23300	46400	ug/kg dry	100	1490	ND		5-140%		30%	Q-11
Benzyl alcohol	ND	930	1860	ug/kg dry	100	744	ND		29-122%		30%	Q-11
Isophorone	ND	464	930	ug/kg dry	100	744	ND		30-122%		30%	Q-11
Azobenzene (1,2-DPH)	ND	464	930	ug/kg dry	100	744	ND		39-125%		30%	Q-11
Bis(2-Ethylhexyl) adipate	ND	4640	9300	ug/kg dry	100	744	ND		60-121%		30%	Q-11
3,3'-Dichlorobenzidine	ND	3720	7430	ug/kg dry	100	1490	ND		22-121%		30%	Q-11
1,2-Dinitrobenzene	ND	4640	9300	ug/kg dry	100	744	ND		44-120%		30%	Q-11
1,3-Dinitrobenzene	ND	4640	9300	ug/kg dry	100	744	ND		42-127%		30%	Q-11
1,4-Dinitrobenzene	ND	4640	9300	ug/kg dry	100	744	ND		37-132%		30%	Q-11
Pyridine	ND	930	1860	ug/kg dry	100	744	ND		5-120%		30%	Q-11
Surr: Nitrobenzene-d5 (Surr)		Recovery: 43 %		Limits: 37-122 %		Dilution: 100x		S-05				
2-Fluorobiphenyl (Surr)		60 %		44-115 %		"		S-05				
Phenol-d6 (Surr)		48 %		33-122 %		"		S-05				
p-Terphenyl-d14 (Surr)		72 %		54-127 %		"		S-05				

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Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200

Portland, OR 97209

Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101343 - EPA 3546						Sediment						
Matrix Spike Dup (9101343-MSD2)			Prepared: 10/19/19 09:53 Analyzed: 10/21/19 15:58									
QC Source Sample: SED-06-SS-1.0 (A9J0427-02)												
Surr: 2-Fluorophenol (Surr)		Recovery: 45 %		Limits: 35-115 %		Dilution: 100x		S-05				
2,4,6-Tribromophenol (Surr)		160 %		39-132 %		"		S-05				

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Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101492 - EPA 3546						Sediment						
Blank (9101492-BLK1)			Prepared: 10/23/19 12:37 Analyzed: 10/23/19 15:40									
EPA 8270D												
Acenaphthene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Anthracene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	1.87	3.75	ug/kg wet	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	1.87	3.75	ug/kg wet	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	1.87	3.75	ug/kg wet	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Chrysene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Fluoranthene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Fluorene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	2.50	5.00	ug/kg wet	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	2.50	5.00	ug/kg wet	1	---	---	---	---	---	---	
Naphthalene	ND	2.50	5.00	ug/kg wet	1	---	---	---	---	---	---	
Phenanthrene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Pyrene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Carbazole	ND	1.87	3.75	ug/kg wet	1	---	---	---	---	---	---	
Dibenzofuran	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
4-Chloro-3-methylphenol	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
2-Chlorophenol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dichlorophenol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dimethylphenol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dinitrophenol	ND	31.2	62.5	ug/kg wet	1	---	---	---	---	---	---	
4,6-Dinitro-2-methylphenol	ND	31.2	62.5	ug/kg wet	1	---	---	---	---	---	---	
2-Methylphenol	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
3+4-Methylphenol(s)	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
2-Nitrophenol	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
4-Nitrophenol	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
Pentachlorophenol (PCP)	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
Phenol	ND	2.50	5.00	ug/kg wet	1	---	---	---	---	---	---	
2,3,4,6-Tetrachlorophenol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101492 - EPA 3546						Sediment						
Blank (9101492-BLK1)						Prepared: 10/23/19 12:37 Analyzed: 10/23/19 15:40						
2,3,5,6-Tetrachlorophenol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
2,4,5-Trichlorophenol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
2,4,6-Trichlorophenol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-ethylhexyl)phthalate	ND	18.7	37.5	ug/kg wet	1	---	---	---	---	---	---	
Butyl benzyl phthalate	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
Diethylphthalate	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
Dimethylphthalate	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
Di-n-butylphthalate	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
Di-n-octyl phthalate	ND	10.0	12.5	ug/kg wet	1	---	---	---	---	---	---	
N-Nitrosodimethylamine	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
N-Nitroso-di-n-propylamine	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
N-Nitrosodiphenylamine	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-Chloroethoxy) methane	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-Chloroethyl) ether	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
2,2'-Oxybis(1-Chloropropane)	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
Hexachlorobenzene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
Hexachlorocyclopentadiene	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
Hexachloroethane	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
2-Chloronaphthalene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
4-Bromophenyl phenyl ether	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
4-Chlorophenyl phenyl ether	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
Aniline	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
4-Chloroaniline	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
2-Nitroaniline	ND	25.0	50.0	ug/kg wet	1	---	---	---	---	---	---	
3-Nitroaniline	ND	25.0	50.0	ug/kg wet	1	---	---	---	---	---	---	
4-Nitroaniline	ND	25.0	50.0	ug/kg wet	1	---	---	---	---	---	---	
Nitrobenzene	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
2,4-Dinitrotoluene	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	
2,6-Dinitrotoluene	ND	12.5	25.0	ug/kg wet	1	---	---	---	---	---	---	

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101492 - EPA 3546						Sediment						
Blank (9101492-BLK1)			Prepared: 10/23/19 12:37		Analyzed: 10/23/19 15:40							
Benzoic acid	ND	157	312	ug/kg wet	1	---	---	---	---	---	---	Q-52
Benzyl alcohol	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
Isophorone	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
Azobenzene (1,2-DPH)	ND	3.12	6.25	ug/kg wet	1	---	---	---	---	---	---	
Bis(2-Ethylhexyl) adipate	ND	31.2	62.5	ug/kg wet	1	---	---	---	---	---	---	
3,3'-Dichlorobenzidine	ND	25.0	50.0	ug/kg wet	1	---	---	---	---	---	---	
1,2-Dinitrobenzene	ND	31.2	62.5	ug/kg wet	1	---	---	---	---	---	---	
1,3-Dinitrobenzene	ND	31.2	62.5	ug/kg wet	1	---	---	---	---	---	---	
1,4-Dinitrobenzene	ND	31.2	62.5	ug/kg wet	1	---	---	---	---	---	---	
Pyridine	ND	6.25	12.5	ug/kg wet	1	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)		Recovery: 83 %		Limits: 37-122 %		Dilution: 1x						
2-Fluorobiphenyl (Surr)		87 %		44-115 %		"						
Phenol-d6 (Surr)		85 %		33-122 %		"						
p-Terphenyl-d14 (Surr)		96 %		54-127 %		"						
2-Fluorophenol (Surr)		92 %		35-115 %		"						
2,4,6-Tribromophenol (Surr)		88 %		39-132 %		"						
LCS (9101492-BS2)						Prepared: 10/23/19 12:37 Analyzed: 10/23/19 16:58						
EPA 8270D												
Acenaphthene	482	5.32	10.7	ug/kg wet	4	533	---	90	40-122%	---	---	
Acenaphthylene	507	5.32	10.7	ug/kg wet	4	533	---	95	32-132%	---	---	
Anthracene	511	5.32	10.7	ug/kg wet	4	533	---	96	47-123%	---	---	
Benz(a)anthracene	527	5.32	10.7	ug/kg wet	4	533	---	99	49-126%	---	---	
Benzo(a)pyrene	500	8.00	16.0	ug/kg wet	4	533	---	94	45-129%	---	---	
Benzo(b)fluoranthene	520	8.00	16.0	ug/kg wet	4	533	---	98	45-132%	---	---	
Benzo(k)fluoranthene	505	8.00	16.0	ug/kg wet	4	533	---	95	47-132%	---	---	
Benzo(g,h,i)perylene	566	5.32	10.7	ug/kg wet	4	533	---	106	43-134%	---	---	
Chrysene	520	5.32	10.7	ug/kg wet	4	533	---	98	50-124%	---	---	
Dibenz(a,h)anthracene	525	5.32	10.7	ug/kg wet	4	533	---	98	45-134%	---	---	
Fluoranthene	552	5.32	10.7	ug/kg wet	4	533	---	103	50-127%	---	---	
Fluorene	499	5.32	10.7	ug/kg wet	4	533	---	94	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	505	5.32	10.7	ug/kg wet	4	533	---	95	45-133%	---	---	
1-Methylnaphthalene	496	10.7	21.3	ug/kg wet	4	533	---	93	40-120%	---	---	
2-Methylnaphthalene	512	10.7	21.3	ug/kg wet	4	533	---	96	38-122%	---	---	

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Philip Nerenberg, Lab Director

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Maul Foster & Alongi, INC.

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Portland, OR 97209

Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101492 - EPA 3546						Sediment						
LCS (9101492-BS2)						Prepared: 10/23/19 12:37 Analyzed: 10/23/19 16:58						
Naphthalene	501	10.7	21.3	ug/kg wet	4	533	---	94	35-123%	---	---	
Phenanthrene	496	5.32	10.7	ug/kg wet	4	533	---	93	50-121%	---	---	
Pyrene	562	5.32	10.7	ug/kg wet	4	533	---	105	47-127%	---	---	
Carbazole	581	8.00	16.0	ug/kg wet	4	533	---	109	50-122%	---	---	
Dibenzofuran	512	5.32	10.7	ug/kg wet	4	533	---	96	44-120%	---	---	
4-Chloro-3-methylphenol	509	53.2	107	ug/kg wet	4	533	---	95	45-122%	---	---	
2-Chlorophenol	487	26.7	53.2	ug/kg wet	4	533	---	91	34-121%	---	---	
2,4-Dichlorophenol	535	26.7	53.2	ug/kg wet	4	533	---	100	40-122%	---	---	
2,4-Dimethylphenol	580	26.7	53.2	ug/kg wet	4	533	---	109	30-127%	---	---	
2,4-Dinitrophenol	613	133	267	ug/kg wet	4	533	---	115	5-137%	---	---	Q-41
4,6-Dinitro-2-methylphenol	669	133	267	ug/kg wet	4	533	---	125	29-132%	---	---	Q-41
2-Methylphenol	504	13.3	26.7	ug/kg wet	4	533	---	95	32-122%	---	---	
3+4-Methylphenol(s)	505	13.3	26.7	ug/kg wet	4	533	---	95	34-120%	---	---	
2-Nitrophenol	548	53.2	107	ug/kg wet	4	533	---	103	36-123%	---	---	
4-Nitrophenol	604	53.2	107	ug/kg wet	4	533	---	113	30-132%	---	---	
Pentachlorophenol (PCP)	489	53.2	107	ug/kg wet	4	533	---	92	25-133%	---	---	
Phenol	468	10.7	21.3	ug/kg wet	4	533	---	88	34-120%	---	---	
2,3,4,6-Tetrachlorophenol	517	26.7	53.2	ug/kg wet	4	533	---	97	44-125%	---	---	
2,3,5,6-Tetrachlorophenol	553	26.7	53.2	ug/kg wet	4	533	---	104	40-120%	---	---	
2,4,5-Trichlorophenol	549	26.7	53.2	ug/kg wet	4	533	---	103	41-124%	---	---	
2,4,6-Trichlorophenol	540	26.7	53.2	ug/kg wet	4	533	---	101	39-126%	---	---	
Bis(2-ethylhexyl)phthalate	529	80.0	160	ug/kg wet	4	533	---	99	51-133%	---	---	
Butyl benzyl phthalate	506	26.7	53.2	ug/kg wet	4	533	---	95	48-132%	---	---	
Diethylphthalate	534	26.7	53.2	ug/kg wet	4	533	---	100	50-124%	---	---	
Dimethylphthalate	520	26.7	53.2	ug/kg wet	4	533	---	97	48-124%	---	---	
Di-n-butylphthalate	524	26.7	53.2	ug/kg wet	4	533	---	98	51-128%	---	---	
Di-n-octyl phthalate	502	42.8	53.2	ug/kg wet	4	533	---	94	44-140%	---	---	
N-Nitrosodimethylamine	407	13.3	26.7	ug/kg wet	4	533	---	76	23-120%	---	---	
N-Nitroso-di-n-propylamine	421	13.3	26.7	ug/kg wet	4	533	---	79	36-120%	---	---	
N-Nitrosodiphenylamine	505	13.3	26.7	ug/kg wet	4	533	---	95	38-127%	---	---	
Bis(2-Chloroethoxy) methane	470	13.3	26.7	ug/kg wet	4	533	---	88	36-121%	---	---	
Bis(2-Chloroethyl) ether	490	13.3	26.7	ug/kg wet	4	533	---	92	31-120%	---	---	Q-41
2,2'-Oxybis(1-Chloropropane)	369	13.3	26.7	ug/kg wet	4	533	---	69	33-131%	---	---	
Hexachlorobenzene	499	5.32	10.7	ug/kg wet	4	533	---	94	44-122%	---	---	

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Philip Nerenberg, Lab Director

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101492 - EPA 3546						Sediment						
LCS (9101492-BS2)						Prepared: 10/23/19 12:37 Analyzed: 10/23/19 16:58						
Hexachlorobutadiene	518	13.3	26.7	ug/kg wet	4	533	---	97	32-123%	---	---	
Hexachlorocyclopentadiene	642	26.7	53.2	ug/kg wet	4	533	---	120	5-140%	---	---	Q-41
Hexachloroethane	492	13.3	26.7	ug/kg wet	4	533	---	92	28-120%	---	---	
2-Chloronaphthalene	513	5.32	10.7	ug/kg wet	4	533	---	96	41-120%	---	---	
1,2-Dichlorobenzene	480	13.3	26.7	ug/kg wet	4	533	---	90	33-120%	---	---	
1,3-Dichlorobenzene	476	13.3	26.7	ug/kg wet	4	533	---	89	30-120%	---	---	
1,4-Dichlorobenzene	477	13.3	26.7	ug/kg wet	4	533	---	89	31-120%	---	---	
1,2,4-Trichlorobenzene	507	13.3	26.7	ug/kg wet	4	533	---	95	34-120%	---	---	
4-Bromophenyl phenyl ether	512	13.3	26.7	ug/kg wet	4	533	---	96	46-124%	---	---	
4-Chlorophenyl phenyl ether	515	13.3	26.7	ug/kg wet	4	533	---	97	45-121%	---	---	
Aniline	251	26.7	53.2	ug/kg wet	4	533	---	47	7-120%	---	---	Q-31
4-Chloroaniline	182	13.3	26.7	ug/kg wet	4	533	---	34	16-120%	---	---	Q-31
2-Nitroaniline	539	107	213	ug/kg wet	4	533	---	101	44-127%	---	---	
3-Nitroaniline	406	107	213	ug/kg wet	4	533	---	76	33-120%	---	---	
4-Nitroaniline	688	107	213	ug/kg wet	4	533	---	129	35-120%	---	---	Q-29, Q-41
Nitrobenzene	452	53.2	107	ug/kg wet	4	533	---	85	34-122%	---	---	
2,4-Dinitrotoluene	539	53.2	107	ug/kg wet	4	533	---	101	48-126%	---	---	
2,6-Dinitrotoluene	528	53.2	107	ug/kg wet	4	533	---	99	46-124%	---	---	
Benzoic acid	890	668	668	ug/kg wet	4	1070	---	83	5-140%	---	---	
Benzyl alcohol	466	26.7	53.2	ug/kg wet	4	533	---	87	29-122%	---	---	
Isophorone	457	13.3	26.7	ug/kg wet	4	533	---	86	30-122%	---	---	
Azobenzene (1,2-DPH)	440	13.3	26.7	ug/kg wet	4	533	---	83	39-125%	---	---	
Bis(2-Ethylhexyl) adipate	612	133	267	ug/kg wet	4	533	---	115	60-121%	---	---	
3,3'-Dichlorobenzidine	1420	107	213	ug/kg wet	4	1070	---	133	22-121%	---	---	Q-29, Q-31
1,2-Dinitrobenzene	516	133	267	ug/kg wet	4	533	---	97	44-120%	---	---	
1,3-Dinitrobenzene	559	133	267	ug/kg wet	4	533	---	105	42-127%	---	---	
1,4-Dinitrobenzene	599	133	267	ug/kg wet	4	533	---	112	37-132%	---	---	Q-41
Pyridine	310	26.7	53.2	ug/kg wet	4	533	---	58	5-120%	---	---	
Surr: Nitrobenzene-d5 (Surr)		Recovery: 82 %		Limits: 37-122 %		Dilution: 4x						
2-Fluorobiphenyl (Surr)		93 %		44-115 %		"						
Phenol-d6 (Surr)		87 %		33-122 %		"						
p-Terphenyl-d14 (Surr)		97 %		54-127 %		"						
2-Fluorophenol (Surr)		91 %		35-115 %		"						
2,4,6-Tribromophenol (Surr)		89 %		39-132 %		"						

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Philip Nerenberg, Lab Director

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101492 - EPA 3546						Sediment						
Duplicate (9101492-DUP1)						Prepared: 10/23/19 12:37 Analyzed: 10/23/19 18:49						
QC Source Sample: SED-10-SS-1.0 (A9J0427-07RE1)												
EPA 8270D												
Acenaphthene	83.0	22.7	45.7	ug/kg dry	10	---	69.2	---	---	18	30%	
Acenaphthylene	ND	22.7	45.7	ug/kg dry	10	---	43.3	---	---	***	30%	Q-04
Anthracene	48.9	22.7	45.7	ug/kg dry	10	---	71.1	---	---	37	30%	Q-04
Benz(a)anthracene	109	22.7	45.7	ug/kg dry	10	---	210	---	---	63	30%	Q-04
Benzo(a)pyrene	152	34.2	68.4	ug/kg dry	10	---	318	---	---	71	30%	Q-04
Benzo(b)fluoranthene	143	34.2	68.4	ug/kg dry	10	---	311	---	---	74	30%	Q-04
Benzo(k)fluoranthene	62.5	34.2	68.4	ug/kg dry	10	---	107	---	---	52	30%	Q-04, Ja
Benzo(g,h,i)perylene	113	22.7	45.7	ug/kg dry	10	---	258	---	---	78	30%	Q-04
Chrysene	118	22.7	45.7	ug/kg dry	10	---	343	---	---	98	30%	Q-04
Dibenz(a,h)anthracene	ND	22.7	45.7	ug/kg dry	10	---	34.0	---	---	***	30%	Q-04
Fluoranthene	214	22.7	45.7	ug/kg dry	10	---	248	---	---	15	30%	
Fluorene	27.1	22.7	45.7	ug/kg dry	10	---	46.7	---	---	53	30%	Q-04, Ja
Indeno(1,2,3-cd)pyrene	90.1	22.7	45.7	ug/kg dry	10	---	200	---	---	76	30%	Q-04
1-Methylnaphthalene	ND	45.7	91.2	ug/kg dry	10	---	ND	---	---	---	30%	
2-Methylnaphthalene	ND	45.7	91.2	ug/kg dry	10	---	ND	---	---	---	30%	
Naphthalene	ND	45.7	91.2	ug/kg dry	10	---	ND	---	---	---	30%	
Phenanthrene	122	22.7	45.7	ug/kg dry	10	---	121	---	---	0.6	30%	
Pyrene	258	22.7	45.7	ug/kg dry	10	---	336	---	---	26	30%	
Carbazole	ND	34.2	68.4	ug/kg dry	10	---	ND	---	---	---	30%	
Dibenzofuran	ND	22.7	45.7	ug/kg dry	10	---	29.1	---	---	***	30%	Q-04
4-Chloro-3-methylphenol	ND	227	457	ug/kg dry	10	---	ND	---	---	---	30%	
2-Chlorophenol	ND	114	227	ug/kg dry	10	---	ND	---	---	---	30%	
2,4-Dichlorophenol	ND	114	227	ug/kg dry	10	---	ND	---	---	---	30%	
2,4-Dimethylphenol	ND	114	227	ug/kg dry	10	---	ND	---	---	---	30%	
2,4-Dinitrophenol	ND	570	1140	ug/kg dry	10	---	ND	---	---	---	30%	
4,6-Dinitro-2-methylphenol	ND	570	1140	ug/kg dry	10	---	ND	---	---	---	30%	
2-Methylphenol	ND	57.0	114	ug/kg dry	10	---	ND	---	---	---	30%	
3+4-Methylphenol(s)	ND	57.0	114	ug/kg dry	10	---	ND	---	---	---	30%	
2-Nitrophenol	ND	227	457	ug/kg dry	10	---	ND	---	---	---	30%	
4-Nitrophenol	ND	227	457	ug/kg dry	10	---	ND	---	---	---	30%	
Pentachlorophenol (PCP)	ND	227	457	ug/kg dry	10	---	ND	---	---	---	30%	

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Philip Nerenberg, Lab Director

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101492 - EPA 3546						Sediment						
Duplicate (9101492-DUP1)			Prepared: 10/23/19 12:37 Analyzed: 10/23/19 18:49									
QC Source Sample: SED-10-SS-1.0 (A9J0427-07RE1)												
Phenol	ND	45.7	91.2	ug/kg dry	10	---	ND	---	---	---	30%	Q-04, Ja
2,3,4,6-Tetrachlorophenol	ND	114	227	ug/kg dry	10	---	ND	---	---	---	30%	
2,3,5,6-Tetrachlorophenol	ND	114	227	ug/kg dry	10	---	ND	---	---	---	30%	
2,4,5-Trichlorophenol	ND	114	227	ug/kg dry	10	---	ND	---	---	---	30%	
2,4,6-Trichlorophenol	ND	114	227	ug/kg dry	10	---	ND	---	---	---	30%	
Bis(2-ethylhexyl)phthalate	ND	342	684	ug/kg dry	10	---	ND	---	---	---	30%	
Butyl benzyl phthalate	ND	114	227	ug/kg dry	10	---	ND	---	---	---	30%	
Diethylphthalate	ND	114	227	ug/kg dry	10	---	ND	---	---	---	30%	
Dimethylphthalate	ND	114	227	ug/kg dry	10	---	ND	---	---	---	30%	
Di-n-butylphthalate	ND	114	227	ug/kg dry	10	---	ND	---	---	---	30%	
Di-n-octyl phthalate	ND	183	227	ug/kg dry	10	---	ND	---	---	---	30%	
N-Nitrosodimethylamine	ND	57.0	114	ug/kg dry	10	---	ND	---	---	---	30%	
N-Nitroso-di-n-propylamine	ND	57.0	114	ug/kg dry	10	---	ND	---	---	---	30%	
N-Nitrosodiphenylamine	ND	57.0	114	ug/kg dry	10	---	ND	---	---	---	30%	
Bis(2-Chloroethoxy) methane	ND	57.0	114	ug/kg dry	10	---	ND	---	---	---	30%	
Bis(2-Chloroethyl) ether	ND	57.0	114	ug/kg dry	10	---	ND	---	---	---	30%	
2,2'-Oxybis(1-Chloropropane)	ND	57.0	114	ug/kg dry	10	---	ND	---	---	---	30%	
Hexachlorobenzene	ND	22.7	45.7	ug/kg dry	10	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	57.0	114	ug/kg dry	10	---	ND	---	---	---	30%	
Hexachlorocyclopentadiene	ND	114	227	ug/kg dry	10	---	ND	---	---	---	30%	
Hexachloroethane	71.8	57.0	114	ug/kg dry	10	---	ND	---	---	---	30%	
2-Chloronaphthalene	ND	22.7	45.7	ug/kg dry	10	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	57.0	114	ug/kg dry	10	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	57.0	114	ug/kg dry	10	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	57.0	114	ug/kg dry	10	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	57.0	114	ug/kg dry	10	---	ND	---	---	---	30%	
4-Bromophenyl phenyl ether	ND	57.0	114	ug/kg dry	10	---	ND	---	---	---	30%	
4-Chlorophenyl phenyl ether	ND	57.0	114	ug/kg dry	10	---	ND	---	---	---	30%	
Aniline	ND	114	227	ug/kg dry	10	---	ND	---	---	---	30%	
4-Chloroaniline	ND	57.0	114	ug/kg dry	10	---	ND	---	---	---	30%	
2-Nitroaniline	ND	457	912	ug/kg dry	10	---	ND	---	---	---	30%	
3-Nitroaniline	ND	457	912	ug/kg dry	10	---	ND	---	---	---	30%	
4-Nitroaniline	ND	457	912	ug/kg dry	10	---	ND	---	---	---	30%	

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Project: **Siltronic Sediment Sampling**
Project Number: **8128.02.19-04**
Project Manager: **Phil Wiescher**

Report ID:
A9J0427 - 11 21 19 1543

QUALITY CONTROL (QC) SAMPLE RESULTS**Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101492 - EPA 3546						Sediment						
Duplicate (9101492-DUP1)			Prepared: 10/23/19 12:37 Analyzed: 10/23/19 18:49									
QC Source Sample: SED-10-SS-1.0 (A9J0427-07RE1)												
Nitrobenzene	ND	227	457	ug/kg dry	10	---	ND	---	---	---	30%	Q-52
2,4-Dinitrotoluene	ND	227	457	ug/kg dry	10	---	ND	---	---	---	30%	
2,6-Dinitrotoluene	ND	227	457	ug/kg dry	10	---	ND	---	---	---	30%	
Benzoic acid	ND	2860	5700	ug/kg dry	10	---	ND	---	---	---	30%	
Benzyl alcohol	ND	114	227	ug/kg dry	10	---	ND	---	---	---	30%	
Isophorone	ND	57.0	114	ug/kg dry	10	---	ND	---	---	---	30%	
Azobenzene (1,2-DPH)	ND	57.0	114	ug/kg dry	10	---	ND	---	---	---	30%	
Bis(2-Ethylhexyl) adipate	ND	570	1140	ug/kg dry	10	---	ND	---	---	---	30%	
3,3'-Dichlorobenzidine	ND	457	912	ug/kg dry	10	---	ND	---	---	---	30%	
1,2-Dinitrobenzene	ND	570	1140	ug/kg dry	10	---	ND	---	---	---	30%	
1,3-Dinitrobenzene	ND	570	1140	ug/kg dry	10	---	ND	---	---	---	30%	
1,4-Dinitrobenzene	ND	570	1140	ug/kg dry	10	---	ND	---	---	---	30%	
Pyridine	ND	114	227	ug/kg dry	10	---	ND	---	---	---	30%	
Surr: Nitrobenzene-d5 (Surr)		Recovery: 59 %		Limits: 37-122 %		Dilution: 10x						
2-Fluorobiphenyl (Surr)		54 %		44-115 %		"						
Phenol-d6 (Surr)		64 %		33-122 %		"						
p-Terphenyl-d14 (Surr)		65 %		54-127 %		"						
2-Fluorophenol (Surr)		64 %		35-115 %		"						
2,4,6-Tribromophenol (Surr)		80 %		39-132 %		"						

Matrix Spike (9101492-MS1)

Prepared: 10/23/19 12:37 Analyzed: 10/23/19 19:25

QC Source Sample: SED-10-SS-1.0 (A9J0427-07RE1)**EPA 8270D**

Acenaphthene	812	22.7	45.7	ug/kg dry	10	912	69.2	81	40-122%	---	---
Acenaphthylene	779	22.7	45.7	ug/kg dry	10	912	43.3	81	32-132%	---	---
Anthracene	890	22.7	45.7	ug/kg dry	10	912	71.1	90	47-123%	---	---
Benz(a)anthracene	952	22.7	45.7	ug/kg dry	10	912	210	81	49-126%	---	---
Benzo(a)pyrene	930	34.2	68.4	ug/kg dry	10	912	318	67	45-129%	---	---
Benzo(b)fluoranthene	981	34.2	68.4	ug/kg dry	10	912	311	73	45-132%	---	---
Benzo(k)fluoranthene	845	34.2	68.4	ug/kg dry	10	912	107	81	47-132%	---	---
Benzo(g,h,i)perylene	974	22.7	45.7	ug/kg dry	10	912	258	79	43-134%	---	---
Chrysene	989	22.7	45.7	ug/kg dry	10	912	343	71	50-124%	---	---
Dibenz(a,h)anthracene	861	22.7	45.7	ug/kg dry	10	912	34.0	91	45-134%	---	---

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Philip Nerenberg, Lab Director

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EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101492 - EPA 3546						Sediment						
Matrix Spike (9101492-MS1)			Prepared: 10/23/19 12:37 Analyzed: 10/23/19 19:25									
QC Source Sample: SED-10-SS-1.0 (A9J0427-07RE1)												
Fluoranthene	1130	22.7	45.7	ug/kg dry	10	912	248	97	50-127%	---	---	
Fluorene	828	22.7	45.7	ug/kg dry	10	912	46.7	86	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	875	22.7	45.7	ug/kg dry	10	912	200	74	45-133%	---	---	
1-Methylnaphthalene	718	45.7	91.2	ug/kg dry	10	912	ND	79	40-120%	---	---	
2-Methylnaphthalene	708	45.7	91.2	ug/kg dry	10	912	ND	78	38-122%	---	---	
Naphthalene	690	45.7	91.2	ug/kg dry	10	912	ND	76	35-123%	---	---	
Phenanthrene	1040	22.7	45.7	ug/kg dry	10	912	121	101	50-121%	---	---	
Pyrene	1170	22.7	45.7	ug/kg dry	10	912	336	91	47-127%	---	---	
Carbazole	822	34.2	68.4	ug/kg dry	10	912	ND	90	50-122%	---	---	
Dibenzofuran	761	22.7	45.7	ug/kg dry	10	912	29.1	80	44-120%	---	---	
4-Chloro-3-methylphenol	773	227	457	ug/kg dry	10	912	ND	85	45-122%	---	---	
2-Chlorophenol	611	114	227	ug/kg dry	10	912	ND	67	34-121%	---	---	
2,4-Dichlorophenol	808	114	227	ug/kg dry	10	912	ND	89	40-122%	---	---	
2,4-Dimethylphenol	829	114	227	ug/kg dry	10	912	ND	91	30-127%	---	---	
2,4-Dinitrophenol	ND	570	1140	ug/kg dry	10	912	ND		5-137%	---	---	Q-11, Q-41
4,6-Dinitro-2-methylphenol	853	570	1140	ug/kg dry	10	912	ND	94	29-132%	---	---	Q-41, Ja
2-Methylphenol	704	57.0	114	ug/kg dry	10	912	ND	77	32-122%	---	---	
3+4-Methylphenol(s)	724	57.0	114	ug/kg dry	10	912	ND	79	34-120%	---	---	
2-Nitrophenol	782	227	457	ug/kg dry	10	912	ND	86	36-123%	---	---	
4-Nitrophenol	877	227	457	ug/kg dry	10	912	ND	96	30-132%	---	---	
Pentachlorophenol (PCP)	896	227	457	ug/kg dry	10	912	ND	98	25-133%	---	---	
Phenol	603	45.7	91.2	ug/kg dry	10	912	ND	66	34-120%	---	---	
2,3,4,6-Tetrachlorophenol	848	114	227	ug/kg dry	10	912	ND	93	44-125%	---	---	
2,3,5,6-Tetrachlorophenol	910	114	227	ug/kg dry	10	912	ND	100	40-120%	---	---	
2,4,5-Trichlorophenol	862	114	227	ug/kg dry	10	912	ND	94	41-124%	---	---	
2,4,6-Trichlorophenol	874	114	227	ug/kg dry	10	912	ND	96	39-126%	---	---	
Bis(2-ethylhexyl)phthalate	954	342	684	ug/kg dry	10	912	ND	105	51-133%	---	---	
Butyl benzyl phthalate	933	114	227	ug/kg dry	10	912	ND	102	48-132%	---	---	
Diethylphthalate	869	114	227	ug/kg dry	10	912	ND	95	50-124%	---	---	
Dimethylphthalate	798	114	227	ug/kg dry	10	912	ND	87	48-124%	---	---	
Di-n-butylphthalate	913	114	227	ug/kg dry	10	912	ND	100	51-128%	---	---	
Di-n-octyl phthalate	1060	183	227	ug/kg dry	10	912	ND	116	44-140%	---	---	
N-Nitrosodimethylamine	431	57.0	114	ug/kg dry	10	912	ND	47	23-120%	---	---	

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Semivolatile Organic Compounds by EPA 8270D**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101492 - EPA 3546						Sediment						
Matrix Spike (9101492-MS1)			Prepared: 10/23/19 12:37		Analyzed: 10/23/19 19:25							
QC Source Sample: SED-10-SS-1.0 (A9J0427-07RE1)												
N-Nitroso-di-n-propylamine	575	57.0	114	ug/kg dry	10	912	ND	63	36-120%	---	---	
N-Nitrosodiphenylamine	801	57.0	114	ug/kg dry	10	912	ND	88	38-127%	---	---	
Bis(2-Chloroethoxy) methane	591	57.0	114	ug/kg dry	10	912	ND	65	36-121%	---	---	
Bis(2-Chloroethyl) ether	454	57.0	114	ug/kg dry	10	912	ND	50	31-120%	---	---	Q-41
2,2'-Oxybis(1-Chloropropane)	485	57.0	114	ug/kg dry	10	912	ND	53	33-131%	---	---	
Hexachlorobenzene	804	22.7	45.7	ug/kg dry	10	912	ND	88	44-122%	---	---	
Hexachlorobutadiene	663	57.0	114	ug/kg dry	10	912	ND	73	32-123%	---	---	
Hexachlorocyclopentadiene	ND	114	227	ug/kg dry	10	912	ND		5-140%	---	---	Q-41, Q-01
Hexachloroethane	561	57.0	114	ug/kg dry	10	912	ND	62	28-120%	---	---	
2-Chloronaphthalene	725	22.7	45.7	ug/kg dry	10	912	ND	79	41-120%	---	---	
1,2-Dichlorobenzene	608	57.0	114	ug/kg dry	10	912	ND	67	33-120%	---	---	
1,3-Dichlorobenzene	534	57.0	114	ug/kg dry	10	912	ND	59	30-120%	---	---	
1,4-Dichlorobenzene	567	57.0	114	ug/kg dry	10	912	ND	62	31-120%	---	---	
1,2,4-Trichlorobenzene	637	57.0	114	ug/kg dry	10	912	ND	70	34-120%	---	---	
4-Bromophenyl phenyl ether	795	57.0	114	ug/kg dry	10	912	ND	87	46-124%	---	---	
4-Chlorophenyl phenyl ether	784	57.0	114	ug/kg dry	10	912	ND	86	45-121%	---	---	
Aniline	407	114	227	ug/kg dry	10	912	ND	45	7-120%	---	---	Q-31
4-Chloroaniline	236	57.0	114	ug/kg dry	10	912	ND	26	16-120%	---	---	Q-31
2-Nitroaniline	902	457	912	ug/kg dry	10	912	ND	99	44-127%	---	---	Ja
3-Nitroaniline	ND	457	912	ug/kg dry	10	912	ND		33-120%	---	---	Q-01
4-Nitroaniline	696	457	912	ug/kg dry	10	912	ND	76	35-120%	---	---	Q-41, Ja
Nitrobenzene	535	227	457	ug/kg dry	10	912	ND	59	34-122%	---	---	
2,4-Dinitrotoluene	814	227	457	ug/kg dry	10	912	ND	89	48-126%	---	---	
2,6-Dinitrotoluene	794	227	457	ug/kg dry	10	912	ND	87	46-124%	---	---	
Benzoic acid	ND	2860	5700	ug/kg dry	10	1820	ND		5-140%	---	---	Q-11
Benzyl alcohol	653	114	227	ug/kg dry	10	912	ND	72	29-122%	---	---	
Isophorone	668	57.0	114	ug/kg dry	10	912	ND	73	30-122%	---	---	
Azobenzene (1,2-DPH)	701	57.0	114	ug/kg dry	10	912	ND	77	39-125%	---	---	
Bis(2-Ethylhexyl) adipate	1010	570	1140	ug/kg dry	10	912	ND	111	60-121%	---	---	Ja
3,3'-Dichlorobenzidine	ND	457	912	ug/kg dry	10	1820	ND		22-121%	---	---	Q-01, Q-31
1,2-Dinitrobenzene	670	570	1140	ug/kg dry	10	912	ND	73	44-120%	---	---	Ja
1,3-Dinitrobenzene	833	570	1140	ug/kg dry	10	912	ND	91	42-127%	---	---	Ja
1,4-Dinitrobenzene	833	570	1140	ug/kg dry	10	912	ND	91	37-132%	---	---	Q-41, Ja

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Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101492 - EPA 3546						Sediment						
Matrix Spike (9101492-MS1)			Prepared: 10/23/19 12:37 Analyzed: 10/23/19 19:25									
QC Source Sample: SED-10-SS-1.0 (A9J0427-07RE1)												
Pyridine	326	114	227	ug/kg dry	10	912	ND	36	5-120%	---	---	
Surr: Nitrobenzene-d5 (Surr)		Recovery:		55 %	Limits: 37-122 %		Dilution: 10x					
2-Fluorobiphenyl (Surr)				65 %	44-115 %		"					
Phenol-d6 (Surr)				62 %	33-122 %		"					
p-Terphenyl-d14 (Surr)				73 %	54-127 %		"					
2-Fluorophenol (Surr)				61 %	35-115 %		"					
2,4,6-Tribromophenol (Surr)				89 %	39-132 %		"					

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Alkylated PAH Homologs by 8270D Modified**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9110582 - EPA 3546						Sediment						
Blank (9110582-BLK1)			Prepared: 11/07/19 11:42 Analyzed: 11/11/19 09:54									
EPA 8270Dm												
C1-Chrysenes/Benz(a)anthracenes	ND	18.2	18.2	ug/kg wet	1	---	---	---	---	---	---	
C1-Fluoranthrenes/Pyrenes	ND	18.2	18.2	ug/kg wet	1	---	---	---	---	---	---	
C1-Fluorenes	ND	18.2	18.2	ug/kg wet	1	---	---	---	---	---	---	
C1-Phenanthrenes/Anthracenes	ND	18.2	18.2	ug/kg wet	1	---	---	---	---	---	---	
C2-Chrysenes/Benz(a)anthracenes	ND	18.2	18.2	ug/kg wet	1	---	---	---	---	---	---	
C2-Fluorenes	ND	18.2	18.2	ug/kg wet	1	---	---	---	---	---	---	
C2-Naphthalenes	ND	18.2	18.2	ug/kg wet	1	---	---	---	---	---	---	
C2-Phenanthrenes/Anthracenes	ND	18.2	18.2	ug/kg wet	1	---	---	---	---	---	---	
C3-Chrysenes/Benz(a)anthracenes	ND	18.2	18.2	ug/kg wet	1	---	---	---	---	---	---	
C3-Fluorenes	ND	18.2	18.2	ug/kg wet	1	---	---	---	---	---	---	
C3-Naphthalenes	ND	18.2	18.2	ug/kg wet	1	---	---	---	---	---	---	
C3-Phenanthrenes/Anthracenes	ND	18.2	18.2	ug/kg wet	1	---	---	---	---	---	---	
C4-Chrysenes/Benz(a)anthracenes	ND	36.4	36.4	ug/kg wet	1	---	---	---	---	---	---	
C4-Naphthalenes	ND	18.2	18.2	ug/kg wet	1	---	---	---	---	---	---	
C4-Phenanthrenes/Anthracenes	ND	36.4	36.4	ug/kg wet	1	---	---	---	---	---	---	
Surr: Acenaphthylene-d8 (Surr)		Recovery: 85 %		Limits: 40-120 %		Dilution: 1x						
Benzo(a)pyrene-d12 (Surr)		95 %		40-120 %		"						
LCS (9110582-BS1)			Prepared: 11/07/19 11:42 Analyzed: 11/11/19 10:28									
EPA 8270Dm												
2-Methylnaphthalene	601	20.0	20.0	ug/kg wet	1	800	---	75	38-122%	---	---	
2,6-Dimethylnaphthalene	597	20.0	20.0	ug/kg wet	1	800	---	75	40-125%	---	---	
1,6,7-Trimethylnaphthalene	640	20.0	20.0	ug/kg wet	1	800	---	80	45-125%	---	---	
Fluorene	592	20.0	20.0	ug/kg wet	1	800	---	74	43-125%	---	---	
1-Methylphenanthrene	700	20.0	20.0	ug/kg wet	1	800	---	87	45-125%	---	---	
Pyrene	704	20.0	20.0	ug/kg wet	1	800	---	88	47-127%	---	---	
Chrysene	706	20.0	20.0	ug/kg wet	1	800	---	88	50-124%	---	---	
Surr: Acenaphthylene-d8 (Surr)		Recovery: 86 %		Limits: 40-120 %		Dilution: 1x						
Benzo(a)pyrene-d12 (Surr)		97 %		40-120 %		"						

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Alkylated PAH Homologs by 8270D Modified**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9110582 - EPA 3546						Sediment						
Duplicate (9110582-DUP1)			Prepared: 11/07/19 11:42		Analyzed: 11/11/19 11:37		H-08					
QC Source Sample: Non-SDG (A9J0321-15)												
C1-Chrysenes/Benz(a)anthracenes	2890	375	375	ug/kg dry	10	---	3550	---	---	20	30%	
C1-Fluoranthrenes/Pyrenes	6190	375	375	ug/kg dry	10	---	6560	---	---	6	30%	
C1-Fluorenes	2070	375	375	ug/kg dry	10	---	1910	---	---	8	30%	
C1-Phenanthrenes/Anthracenes	15200	375	375	ug/kg dry	10	---	15100	---	---	0.6	30%	
C2-Chrysenes/Benz(a)anthracenes	1650	375	375	ug/kg dry	10	---	2010	---	---	20	30%	
C2-Fluorenes	2490	375	375	ug/kg dry	10	---	2470	---	---	0.7	30%	
C2-Naphthalenes	8190	375	375	ug/kg dry	10	---	7290	---	---	12	30%	
C2-Phenanthrenes/Anthracenes	10000	375	375	ug/kg dry	10	---	10800	---	---	8	30%	
C3-Chrysenes/Benz(a)anthracenes	1040	375	375	ug/kg dry	10	---	1270	---	---	20	30%	
C3-Fluorenes	1170	375	375	ug/kg dry	10	---	1130	---	---	4	30%	
C3-Naphthalenes	8940	375	375	ug/kg dry	10	---	8320	---	---	7	30%	
C3-Phenanthrenes/Anthracenes	4530	375	375	ug/kg dry	10	---	4730	---	---	4	30%	
C4-Chrysenes/Benz(a)anthracenes	831	750	750	ug/kg dry	10	---	866	---	---	4	30%	
C4-Naphthalenes	4600	375	375	ug/kg dry	10	---	4330	---	---	6	30%	
C4-Phenanthrenes/Anthracenes	2820	750	750	ug/kg dry	10	---	2470	---	---	13	30%	
Surr: Acenaphthylene-d8 (Surr)		Recovery: 78 %		Limits: 40-120 %		Dilution: 10x						
Benzo(a)pyrene-d12 (Surr)		84 %		40-120 %		"						

Matrix Spike (9110582-MS1)

Prepared: 11/07/19 11:47 Analyzed: 11/11/19 12:45

H-08**QC Source Sample: SED-10-SS-1.0 (A9J0427-07)****EPA 8270Dm**

2-Methylnaphthalene	1040	131	131	ug/kg dry	4	1310	ND	79	38-122%	---	---	
2,6-Dimethylnaphthalene	1040	131	131	ug/kg dry	4	1310	ND	79	40-125%	---	---	
1,6,7-Trimethylnaphthalene	1050	131	131	ug/kg dry	4	1310	ND	80	45-125%	---	---	
Fluorene	1080	131	131	ug/kg dry	4	1310	ND	82	43-125%	---	---	
1-Methylphenanthrene	1210	131	131	ug/kg dry	4	1310	ND	92	45-125%	---	---	
Pyrene	1520	131	131	ug/kg dry	4	1310	320	92	47-127%	---	---	
Chrysene	1320	131	131	ug/kg dry	4	1310	264	80	50-124%	---	---	
Surr: Acenaphthylene-d8 (Surr)		Recovery: 81 %		Limits: 40-120 %		Dilution: 4x						

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Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

QUALITY CONTROL (QC) SAMPLE RESULTS

Alkylated PAH Homologs by 8270D Modified

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9110582 - EPA 3546						Sediment						
Matrix Spike (9110582-MS1)			Prepared: 11/07/19 11:47 Analyzed: 11/11/19 12:45									H-08
QC Source Sample: SED-10-SS-1.0 (A9J0427-07)												
Surr: Benzo(a)pyrene-d12 (Surr)				Recovery: 82 %		Limits: 40-120 %		Dilution: 4x				

Apex Laboratories

Philip Nerenberg, Lab Director

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**Apex Laboratories, LLC**

6700 S.W. Sandburg Street
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503-718-2323
EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Total Metals by EPA 6020A (ICPMS)**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101165 - EPA 3051A												
Sediment												
Blank (9101165-BLK1)												
Prepared: 10/16/19 10:34 Analyzed: 10/16/19 20:47												
EPA 6020A												
Arsenic	ND	0.240	0.481	mg/kg wet	5	---	---	---	---	---	---	
Barium	ND	0.240	0.481	mg/kg wet	5	---	---	---	---	---	---	
Cadmium	ND	0.0481	0.0962	mg/kg wet	5	---	---	---	---	---	---	
Chromium	ND	0.240	0.481	mg/kg wet	5	---	---	---	---	---	---	
Copper	ND	0.240	0.481	mg/kg wet	5	---	---	---	---	---	---	
Lead	ND	0.0481	0.0962	mg/kg wet	5	---	---	---	---	---	---	
Mercury	ND	0.0192	0.0385	mg/kg wet	5	---	---	---	---	---	---	
Selenium	ND	0.240	0.481	mg/kg wet	5	---	---	---	---	---	---	
Silver	ND	0.0481	0.0962	mg/kg wet	5	---	---	---	---	---	---	
Zinc	ND	0.962	1.92	mg/kg wet	5	---	---	---	---	---	---	

LCS (9101165-BS1)

Prepared: 10/16/19 10:34 Analyzed: 10/16/19 20:52

EPA 6020A												
Arsenic	23.0	0.250	0.500	mg/kg wet	5	25.0	---	92	80-120%	---	---	
Barium	24.5	0.250	0.500	mg/kg wet	5	25.0	---	98	80-120%	---	---	
Cadmium	23.7	0.0500	0.100	mg/kg wet	5	25.0	---	95	80-120%	---	---	
Chromium	24.6	0.250	0.500	mg/kg wet	5	25.0	---	98	80-120%	---	---	
Copper	25.4	0.250	0.500	mg/kg wet	5	25.0	---	102	80-120%	---	---	
Lead	25.4	0.0500	0.100	mg/kg wet	5	25.0	---	101	80-120%	---	---	
Mercury	0.477	0.0200	0.0400	mg/kg wet	5	0.500	---	95	80-120%	---	---	
Selenium	11.3	0.250	0.500	mg/kg wet	5	12.5	---	91	80-120%	---	---	
Silver	12.8	0.0500	0.100	mg/kg wet	5	12.5	---	102	80-120%	---	---	
Zinc	23.9	1.00	2.00	mg/kg wet	5	25.0	---	96	80-120%	---	---	

Matrix Spike (9101165-MS1)

Prepared: 10/16/19 10:34 Analyzed: 10/16/19 21:10

QC Source Sample: Non-SDG (A9J0417-31)

EPA 6020A												
Arsenic	41.1	0.408	0.816	mg/kg dry	5	40.8	3.23	93	75-125%	---	---	
Barium	195	0.408	0.816	mg/kg dry	5	40.8	149	112	75-125%	---	---	
Cadmium	39.1	0.0816	0.163	mg/kg dry	5	40.8	0.159	95	75-125%	---	---	
Chromium	66.6	0.408	0.816	mg/kg dry	5	40.8	20.6	113	75-125%	---	---	
Copper	79.3	0.408	0.816	mg/kg dry	5	40.8	31.3	117	75-125%	---	---	
Lead	57.6	0.0816	0.163	mg/kg dry	5	40.8	18.6	95	75-125%	---	---	

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Philip Nerenberg, Lab Director

**Apex Laboratories, LLC**

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EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Total Metals by EPA 6020A (ICPMS)**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101165 - EPA 3051A						Sediment						
Matrix Spike (9101165-MS1)			Prepared: 10/16/19 10:34 Analyzed: 10/16/19 21:10									
QC Source Sample: Non-SDG (A9J0417-31)												
Mercury	1.06	0.0326	0.0653	mg/kg dry	5	0.816	0.191	107	75-125%	---	---	
Selenium	17.9	0.408	0.816	mg/kg dry	5	20.4	0.737	84	75-125%	---	---	
Silver	20.5	0.0816	0.163	mg/kg dry	5	20.4	0.204	100	75-125%	---	---	
Zinc	124	1.63	3.26	mg/kg dry	5	40.8	75.1	119	75-125%	---	---	
Matrix Spike Dup (9101165-MSD1)			Prepared: 10/16/19 10:34 Analyzed: 10/16/19 21:14									
QC Source Sample: Non-SDG (A9J0417-31)												
Arsenic	38.8	0.398	0.796	mg/kg dry	5	39.8	3.23	89	75-125%	6	40%	
Barium	185	0.398	0.796	mg/kg dry	5	39.8	149	90	75-125%	5	40%	
Cadmium	37.0	0.0796	0.159	mg/kg dry	5	39.8	0.159	92	75-125%	6	40%	
Chromium	61.2	0.398	0.796	mg/kg dry	5	39.8	20.6	102	75-125%	9	40%	
Copper	73.3	0.398	0.796	mg/kg dry	5	39.8	31.3	105	75-125%	8	40%	
Lead	55.4	0.0796	0.159	mg/kg dry	5	39.8	18.6	92	75-125%	4	40%	
Mercury	0.920	0.0319	0.0637	mg/kg dry	5	0.796	0.191	92	75-125%	14	40%	
Selenium	16.9	0.398	0.796	mg/kg dry	5	19.9	0.737	81	75-125%	6	40%	
Silver	19.6	0.0796	0.159	mg/kg dry	5	19.9	0.204	97	75-125%	5	40%	
Zinc	119	1.59	3.19	mg/kg dry	5	39.8	75.1	111	75-125%	4	40%	

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Philip Nerenberg, Lab Director

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Project: **Siltronic Sediment Sampling**
Project Number: **8128.02.19-04**
Project Manager: **Phil Wiescher**

Report ID:
A9J0427 - 11 21 19 1543

QUALITY CONTROL (QC) SAMPLE RESULTS**Total Metals by EPA 6020A (ICPMS)**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101189 - EPA 3015A						Water						
Blank (9101189-BLK1)			Prepared: 10/16/19 14:25		Analyzed: 10/16/19 21:48							
EPA 6020A												
Arsenic	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Barium	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Cadmium	ND	0.0400	0.200	ug/L	1	---	---	---	---	---	---	
Chromium	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Copper	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Lead	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Mercury	ND	0.0400	0.0800	ug/L	1	---	---	---	---	---	---	
Selenium	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Silver	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Zinc	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	

LCS (9101189-BS1)					Prepared: 10/16/19 14:25 Analyzed: 10/16/19 21:53						
<u>EPA 6020A</u>											
Arsenic	53.6	0.500	1.00	ug/L	1	55.6	---	97	80-120%	---	---
Barium	56.4	0.500	1.00	ug/L	1	55.6	---	101	80-120%	---	---
Cadmium	54.1	0.0400	0.200	ug/L	1	55.6	---	97	80-120%	---	---
Chromium	53.5	0.500	1.00	ug/L	1	55.6	---	96	80-120%	---	---
Copper	59.0	0.500	1.00	ug/L	1	55.6	---	106	80-120%	---	---
Lead	55.3	0.100	0.200	ug/L	1	55.6	---	100	80-120%	---	---
Mercury	1.11	0.0400	0.0800	ug/L	1	1.11	---	100	80-120%	---	---
Selenium	26.2	0.500	1.00	ug/L	1	27.8	---	94	80-120%	---	---
Silver	28.7	0.100	0.200	ug/L	1	27.8	---	103	80-120%	---	---
Zinc	54.4	2.00	4.00	ug/L	1	55.6	---	98	80-120%	---	---

Duplicate (9101189-DUP1)				Prepared: 10/16/19 14:25 Analyzed: 10/16/19 22:45							
QC Source Sample: Non-SDG (A9J0419-03)											
Barium	88.6	0.500	1.00	ug/L	1	---	88.7	---	---	0.2	20%
Lead	0.426	0.100	0.200	ug/L	1	---	0.416	---	---	2	20%
Mercury	ND	0.0400	0.0800	ug/L	1	---	ND	---	---	---	20%

Duplicate (9101189-DUP2)										Prepared: 10/16/19 14:25 Analyzed: 10/18/19 16:47									
QC Source Sample: Non-SDG (A9J0419-03RE1)																			

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Total Metals by EPA 6020A (ICPMS)**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101189 - EPA 3015A												
Water												
Duplicate (9101189-DUP2)												
Prepared: 10/16/19 14:25 Analyzed: 10/18/19 16:47												
QC Source Sample: Non-SDG (A9J0419-03RE1)												
Arsenic	ND	2.50	5.00	ug/L	5	---	ND	---	---	---	20%	Q-16, R-04
Cadmium	ND	0.200	1.00	ug/L	5	---	ND	---	---	---	20%	Q-16, R-04
Chromium	4.42	2.50	5.00	ug/L	5	---	4.77	---	---	8	20%	Q-16, R-04, Ja
Copper	3.71	2.50	5.00	ug/L	5	---	3.54	---	---	5	20%	Q-16, R-04, Ja
Selenium	ND	2.50	5.00	ug/L	5	---	ND	---	---	---	20%	Q-16, R-04
Silver	ND	0.500	1.00	ug/L	5	---	ND	---	---	---	20%	Q-16, R-04
Zinc	ND	10.0	20.0	ug/L	5	---	ND	---	---	---	20%	Q-16, R-04

Matrix Spike (9101189-MS1)

Prepared: 10/16/19 14:25 Analyzed: 10/16/19 22:49

QC Source Sample: Non-SDG (A9J0419-03)**EPA 6020A**

Barium	140	0.500	1.00	ug/L	1	55.6	88.7	93	75-125%	---	---	
Lead	53.2	0.100	0.200	ug/L	1	55.6	0.416	95	75-125%	---	---	
Mercury	1.12	0.0400	0.0800	ug/L	1	1.11	ND	101	75-125%	---	---	

Matrix Spike (9101189-MS2)

Prepared: 10/16/19 14:25 Analyzed: 10/17/19 00:09

QC Source Sample: Non-SDG (A9J0575-01)**EPA 6020A**

Arsenic	69.9	2.50	5.00	ug/L	5	55.6	10.8	106	75-125%	---	---	
Barium	61.3	2.50	5.00	ug/L	5	55.6	ND	110	75-125%	---	---	
Cadmium	61.6	0.200	1.00	ug/L	5	55.6	ND	111	75-125%	---	---	
Chromium	58.5	2.50	5.00	ug/L	5	55.6	ND	105	75-125%	---	---	
Copper	79.0	2.50	5.00	ug/L	5	55.6	12.6	119	75-125%	---	---	
Lead	62.2	0.500	1.00	ug/L	5	55.6	ND	112	75-125%	---	---	
Mercury	1.32	0.200	0.400	ug/L	5	1.11	ND	119	75-125%	---	---	
Selenium	28.0	2.50	5.00	ug/L	5	27.8	ND	101	75-125%	---	---	
Silver	32.0	0.500	1.00	ug/L	5	27.8	ND	115	75-125%	---	---	
Zinc	61.2	10.0	20.0	ug/L	5	55.6	ND	110	75-125%	---	---	

Matrix Spike (9101189-MS3)

Prepared: 10/16/19 14:25 Analyzed: 10/18/19 16:51

QC Source Sample: Non-SDG (A9J0419-03RE1)

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Total Metals by EPA 6020A (ICPMS)**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101189 - EPA 3015A						Water						
Matrix Spike (9101189-MS3)			Prepared: 10/16/19 14:25		Analyzed: 10/18/19 16:51							
QC Source Sample: Non-SDG (A9J0419-03RE1)												
EPA 6020A												
Arsenic	60.6	2.50	5.00	ug/L	5	55.6	ND	109	75-125%	---	---	Q-16
Cadmium	59.5	0.200	1.00	ug/L	5	55.6	ND	107	75-125%	---	---	Q-16
Chromium	62.8	2.50	5.00	ug/L	5	55.6	4.77	105	75-125%	---	---	Q-16
Copper	65.0	2.50	5.00	ug/L	5	55.6	3.54	111	75-125%	---	---	Q-16
Selenium	28.3	2.50	5.00	ug/L	5	27.8	ND	102	75-125%	---	---	Q-16
Silver	30.7	0.500	1.00	ug/L	5	27.8	ND	111	75-125%	---	---	Q-16
Zinc	64.6	10.0	20.0	ug/L	5	55.6	ND	116	75-125%	---	---	Q-16

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Total Metals by EPA 6020A (ICPMS)**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101236 - EPA 3051A												
Sediment												
Blank (9101236-BLK1)												
Prepared: 10/17/19 09:50 Analyzed: 10/17/19 16:34												
EPA 6020A												
Arsenic	ND	0.240	0.481	mg/kg wet	5	---	---	---	---	---	---	
Barium	ND	0.240	0.481	mg/kg wet	5	---	---	---	---	---	---	
Cadmium	ND	0.0481	0.0962	mg/kg wet	5	---	---	---	---	---	---	
Chromium	ND	0.240	0.481	mg/kg wet	5	---	---	---	---	---	---	
Copper	ND	0.240	0.481	mg/kg wet	5	---	---	---	---	---	---	
Lead	ND	0.0481	0.0962	mg/kg wet	5	---	---	---	---	---	---	
Mercury	ND	0.0192	0.0385	mg/kg wet	5	---	---	---	---	---	---	
Selenium	ND	0.240	0.481	mg/kg wet	5	---	---	---	---	---	---	
Silver	ND	0.0481	0.0962	mg/kg wet	5	---	---	---	---	---	---	
Zinc	ND	0.962	1.92	mg/kg wet	5	---	---	---	---	---	---	

LCS (9101236-BS1)

Prepared: 10/17/19 09:50 Analyzed: 10/17/19 16:39

EPA 6020A												
Arsenic	23.9	0.250	0.500	mg/kg wet	5	25.0	---	96	80-120%	---	---	
Barium	25.9	0.250	0.500	mg/kg wet	5	25.0	---	103	80-120%	---	---	
Cadmium	24.0	0.0500	0.100	mg/kg wet	5	25.0	---	96	80-120%	---	---	
Chromium	25.2	0.250	0.500	mg/kg wet	5	25.0	---	101	80-120%	---	---	
Copper	26.8	0.250	0.500	mg/kg wet	5	25.0	---	107	80-120%	---	---	
Lead	24.5	0.0500	0.100	mg/kg wet	5	25.0	---	98	80-120%	---	---	
Mercury	0.465	0.0200	0.0400	mg/kg wet	5	0.500	---	93	80-120%	---	---	
Selenium	11.0	0.250	0.500	mg/kg wet	5	12.5	---	88	80-120%	---	---	
Silver	12.9	0.0500	0.100	mg/kg wet	5	12.5	---	103	80-120%	---	---	
Zinc	24.5	1.00	2.00	mg/kg wet	5	25.0	---	98	80-120%	---	---	

Matrix Spike (9101236-MS1)

Prepared: 10/17/19 09:50 Analyzed: 10/17/19 16:57

QC Source Sample: SED-06-SS-1.0 (A9J0427-02)

EPA 6020A												
Arsenic	35.6	0.359	0.717	mg/kg dry	5	35.9	2.91	91	75-125%	---	---	
Barium	120	0.359	0.717	mg/kg dry	5	35.9	80.0	113	75-125%	---	---	
Cadmium	34.0	0.0717	0.143	mg/kg dry	5	35.9	ND	95	75-125%	---	---	
Chromium	45.6	0.359	0.717	mg/kg dry	5	35.9	11.1	96	75-125%	---	---	
Copper	50.3	0.359	0.717	mg/kg dry	5	35.9	14.3	100	75-125%	---	---	
Lead	41.6	0.0717	0.143	mg/kg dry	5	35.9	7.59	95	75-125%	---	---	

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Total Metals by EPA 6020A (ICPMS)**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101236 - EPA 3051A						Sediment						
Matrix Spike (9101236-MS1)			Prepared: 10/17/19 09:50		Analyzed: 10/17/19 16:57							
QC Source Sample: SED-06-SS-1.0 (A9J0427-02)												
Mercury	0.719	0.0287	0.0574	mg/kg dry	5	0.717	ND	100	75-125%	---	---	
Selenium	15.4	0.359	0.717	mg/kg dry	5	17.9	0.555	83	75-125%	---	---	
Silver	18.0	0.0717	0.143	mg/kg dry	5	17.9	ND	100	75-125%	---	---	
Zinc	87.4	1.43	2.87	mg/kg dry	5	35.9	55.8	88	75-125%	---	---	
Matrix Spike Dup (9101236-MSD1)			Prepared: 10/17/19 09:50		Analyzed: 10/17/19 17:02							
QC Source Sample: SED-06-SS-1.0 (A9J0427-02)												
EPA 6020A												
Arsenic	33.2	0.343	0.685	mg/kg dry	5	34.3	2.91	88	75-125%	7	40%	
Barium	114	0.343	0.685	mg/kg dry	5	34.3	80.0	98	75-125%	6	40%	
Cadmium	32.3	0.0685	0.137	mg/kg dry	5	34.3	ND	94	75-125%	5	40%	
Chromium	43.3	0.343	0.685	mg/kg dry	5	34.3	11.1	94	75-125%	5	40%	
Copper	47.8	0.343	0.685	mg/kg dry	5	34.3	14.3	98	75-125%	5	40%	
Lead	39.3	0.0685	0.137	mg/kg dry	5	34.3	7.59	93	75-125%	6	40%	
Mercury	0.636	0.0274	0.0548	mg/kg dry	5	0.685	ND	93	75-125%	12	40%	
Selenium	14.6	0.343	0.685	mg/kg dry	5	17.1	0.555	82	75-125%	5	40%	
Silver	17.3	0.0685	0.137	mg/kg dry	5	17.1	ND	101	75-125%	4	40%	
Zinc	84.4	1.37	2.74	mg/kg dry	5	34.3	55.8	84	75-125%	3	40%	

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Philip Nerenberg, Lab Director

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Apex Laboratories, LLC

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503-718-2323
EPA ID: OR01039

Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Siltronic Sediment Sampling**
Project Number: **8128.02.19-04**
Project Manager: **Phil Wiescher**

Report ID:
A9J0427 - 11 21 19 1543

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101029 - ASTM D7511-12mod (S)						Soil						
Blank (9101029-BLK1)			Prepared: 10/14/19 07:12 Analyzed: 10/15/19 12:31									
<u>D7511-12</u>												
Total Cyanide	ND	0.0500	0.100	mg/kg wet	1	---	---	---	---	---	---	
LCS (9101029-BS1)			Prepared: 10/14/19 07:12 Analyzed: 10/15/19 12:33									
<u>D7511-12</u>												
Total Cyanide	0.405	0.0500	0.100	mg/kg wet	1	0.400	---	101	84-116%	---	---	
Matrix Spike (9101029-MS1)			Prepared: 10/14/19 07:12 Analyzed: 10/15/19 12:41									
<u>QC Source Sample: SED-06-SS-1.0 (A9J0427-02)</u>												
<u>D7511-12</u>												
Total Cyanide	0.628	0.0692	0.138	mg/kg dry	1	0.554	0.351	50	64-136%	---	---	Q-01
Matrix Spike Dup (9101029-MSD1)			Prepared: 10/14/19 07:12 Analyzed: 10/15/19 12:51									
<u>QC Source Sample: SED-06-SS-1.0 (A9J0427-02)</u>												
<u>D7511-12</u>												
Total Cyanide	0.590	0.0690	0.138	mg/kg dry	1	0.552	0.351	43	64-136%	6	47%	Q-01

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Total Cyanide by Flow Analysis (Aqueous)**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101032 - Lachat Micro Dist - aqueous						Water						
Blank (9101032-BLK1)			Prepared: 10/14/19 08:08 Analyzed: 10/14/19 11:02									
EPA 335.4												
Total Cyanide	ND	0.00500	0.00500	mg/L	1	---	---	---	---	---	---	
LCS (9101032-BS1)			Prepared: 10/14/19 08:08 Analyzed: 10/14/19 11:04									
EPA 335.4												
Total Cyanide	0.229	0.00500	0.00500	mg/L	1	0.250	---	92	90-110%	---	---	
Duplicate (9101032-DUP2)			Prepared: 10/14/19 08:08 Analyzed: 10/14/19 11:12									
QC Source Sample: Non-SDG (A9J0296-01)												
Total Cyanide	0.0201	0.00500	0.00500	mg/L	1	---	0.0192	---	---	5	10%	
Matrix Spike (9101032-MS1)			Prepared: 10/14/19 08:08 Analyzed: 10/14/19 11:34									
QC Source Sample: Non-SDG (A9J0350-01)												
EPA 335.4												
Total Cyanide	0.537	0.00500	0.00500	mg/L	1	0.250	0.307	92	90-110%	---	---	E
Matrix Spike (9101032-MS2)			Prepared: 10/14/19 08:08 Analyzed: 10/14/19 11:14									
QC Source Sample: Non-SDG (A9J0296-01)												
EPA 335.4												
Total Cyanide	0.255	0.00500	0.00500	mg/L	1	0.250	0.0192	94	90-110%	---	---	
Matrix Spike Dup (9101032-MSD1)			Prepared: 10/14/19 08:08 Analyzed: 10/14/19 11:36									
QC Source Sample: Non-SDG (A9J0350-01)												
Total Cyanide	0.540	0.00500	0.00500	mg/L	1	0.250	0.307	93	90-110%	0.6	10%	E

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Demand Parameters**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101455 - PSEP-5310B TOC						Sediment						
Blank (9101455-BLK1)			Prepared: 10/22/19 15:55 Analyzed: 10/24/19 16:54									
EPA 9060Amod												
Total Organic Carbon	ND	200	200	mg/kg	1	---	---	---	---	---	---	
LCS (9101455-BS1)			Prepared: 10/22/19 15:55 Analyzed: 10/24/19 17:05									
EPA 9060Amod												
Total Organic Carbon	10000			mg/kg	1	10000	---	100	90-110%	---	---	
Duplicate (9101455-DUP1)			Prepared: 10/22/19 15:55 Analyzed: 10/24/19 18:53									
QC Source Sample: Non-SDG (A9J0371-17)												
Total Organic Carbon	19000	200	200	mg/kg	1	---	16000	---	---	17	20%	
Duplicate (9101455-DUP2)			Prepared: 10/22/19 15:55 Analyzed: 10/24/19 20:31									
QC Source Sample: SED-06-SS-1.0 (A9J0427-02)												
EPA 9060Amod												
Total Organic Carbon	7900	200	200	mg/kg	1	---	9400	---	---	17	20%	
Duplicate (9101455-DUP3)			Prepared: 10/22/19 15:55 Analyzed: 10/24/19 20:42									
QC Source Sample: SED-06-SS-1.0 (A9J0427-02)												
EPA 9060Amod												
Total Organic Carbon	6900	200	200	mg/kg	1	---	9400	---	---	30	20%	Q-04

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****QUALITY CONTROL (QC) SAMPLE RESULTS****Total Organic Carbon (Non-Purgeable) by Persulfate Oxidation by Standard Method 5310C**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101080 - Method Prep: Aq						Water						
Blank (9101080-BLK1)			Prepared: 10/14/19 15:16 Analyzed: 10/14/19 20:16									
SM 5310 C												
Total Organic Carbon	ND	1.00	1.00	mg/L	1	---	---	---	---	---	---	
LCS (9101080-BS1)			Prepared: 10/14/19 15:16 Analyzed: 10/14/19 21:14									
SM 5310 C												
Total Organic Carbon	9.88	1.00	1.00	mg/L	1	10.0	---	99	85-115%	---	---	
LCS (9101080-BS2)			Prepared: 10/14/19 15:16 Analyzed: 10/14/19 19:47									
SM 5310 C												
Total Organic Carbon	ND	1.00	1.00	mg/L	1	0.00	---		85-115%	---	---	TOC_I
Duplicate (9101080-DUP1)			Prepared: 10/14/19 15:16 Analyzed: 10/14/19 22:42									
QC Source Sample: Non-SDG (A9J0305-01)												
Total Organic Carbon	4.52	1.00	1.00	mg/L	1	---	4.46	---	---	1	10%	
Matrix Spike (9101080-MS1)			Prepared: 10/14/19 15:16 Analyzed: 10/14/19 23:11									
QC Source Sample: Non-SDG (A9J0305-01)												
SM 5310 C												
Total Organic Carbon	14.3	1.01	1.01	mg/L	1	10.0	4.46	98	85-115%	---	---	

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Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

QUALITY CONTROL (QC) SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101456 - Total Solids (SM2540G/PSEP)							Sediment					
Duplicate (9101456-DUP1)			Prepared: 10/22/19 16:03		Analyzed: 10/23/19 13:17							
QC Source Sample: SED-06-SS-1.0 (A9J0427-02)												
PSEP 1986												
Total Solids	72.2	1.00	1.00	% by Weight	1	---	71.6	---	---	0.8	20%	

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Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9101456 - Total Solids (SM2540G/PSEP)							Sediment					
Duplicate (9101456-DUP1)			Prepared: 10/22/19 16:03 Analyzed: 10/23/19 13:17									
QC Source Sample: SED-06-SS-1.0 (A9J0427-02)												
EPA 8000C												
% Solids	72.2	1.00	1.00	% by Weight	1	---	71.6	---	---	0.8	10%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****Weck Laboratories, Inc.****QUALITY CONTROL (QC) SAMPLE RESULTS****Chlorinated Herbicides by GC/ECD**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W9J0967 - EPA 3510/L-L SF						Water						
Blank (W9J0967-BLK1)			Prepared: 10/15/19 18:22		Analyzed: 10/31/19 13:59							
EPA 8151A												
2,4-D	ND	0.21	0.50	ug/l	1	---	---	---	---	---	---	
2,4-DB	ND	1.3	2.5	ug/l	1	---	---	---	---	---	---	
2,4,5-T	ND	0.13	0.25	ug/l	1	---	---	---	---	---	---	
2,4,5-TP (Silvex)	ND	0.11	0.25	ug/l	1	---	---	---	---	---	---	
3,5-Dichlorobenzoic acid	ND	0.56	1.2	ug/l	1	---	---	---	---	---	---	
4-Nitrophenol	ND	0.52	1.2	ug/l	1	---	---	---	---	---	---	
Acifluorfen	ND	0.15	0.50	ug/l	1	---	---	---	---	---	---	
Bentazon	ND	1.1	2.5	ug/l	1	---	---	---	---	---	---	
Dalapon	ND	0.15	0.50	ug/l	1	---	---	---	---	---	---	
Dicamba	ND	0.40	0.75	ug/l	1	---	---	---	---	---	---	
Dichloroprop	ND	0.49	1.0	ug/l	1	---	---	---	---	---	---	
Dinoseb	ND	0.19	0.50	ug/l	1	---	---	---	---	---	---	
DCPA	ND	0.14	0.25	ug/l	1	---	---	---	---	---	---	
MCPA	ND	45	100	ug/l	1	---	---	---	---	---	---	
MCPP	ND	63	100	ug/l	1	---	---	---	---	---	---	
Pentachlorophenol	ND	0.11	0.25	ug/l	1	---	---	---	---	---	---	
Picloram	ND	0.31	0.75	ug/l	1	---	---	---	---	---	---	
Surr: 2,4-DCAA		Recovery: 85 %		Limits: 56-156 %		Dilution: 1x						

LCS (W9J0967-BS1)

Prepared: 10/15/19 18:22 Analyzed: 10/31/19 14:36

EPA 8151A												
2,4-D	4.53	0.21	0.50	ug/l	1	5.00	---	91	56-164%	---	---	
2,4-DB	7.37	1.3	2.5	ug/l	1	10.0	---	74	27-161%	---	---	
2,4,5-T	2.53	0.13	0.25	ug/l	1	2.50	---	101	39-151%	---	---	
2,4,5-TP (Silvex)	2.29	0.11	0.25	ug/l	1	2.50	---	91	46-142%	---	---	
3,5-Dichlorobenzoic acid	4.71	0.56	1.2	ug/l	1	5.00	---	94	54-154%	---	---	
4-Nitrophenol	4.07	0.52	1.2	ug/l	1	10.0	---	41	3-105%	---	---	
Acifluorfen	2.42	0.15	0.50	ug/l	1	2.50	---	97	39-134%	---	---	
Bentazon	9.08	1.1	2.5	ug/l	1	10.0	---	91	44-139%	---	---	
Dalapon	4.67	0.15	0.50	ug/l	1	5.00	---	93	40-139%	---	---	
Dicamba	4.92	0.40	0.75	ug/l	1	5.00	---	98	46-140%	---	---	

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Project: **Siltronic Sediment Sampling**
Project Number: **8128.02.19-04**
Project Manager: **Phil Wiescher**

Report ID:
A9J0427 - 11 21 19 1543

Weck Laboratories, Inc.

QUALITY CONTROL (QC) SAMPLE RESULTS

Chlorinated Herbicides by GC/ECD

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W9J0967 - EPA 3510/L-L SF						Water						
LCS (W9J0967-BS1)						Prepared: 10/15/19 18:22 Analyzed: 10/31/19 14:36						
Dichloroprop	3.86	0.49	1.0	ug/l	1	5.00	---	77	43-158%	---	---	
Dinoseb	2.20	0.19	0.50	ug/l	1	2.50	---	88	42-146%	---	---	
DCPA	2.38	0.14	0.25	ug/l	1	2.50	---	95	34-135%	---	---	
MCPA	588	45	100	ug/l	1	500	---	118	28-144%	---	---	
MCP	433	63	100	ug/l	1	500	---	87	31-153%	---	---	
Pentachlorophenol	2.29	0.11	0.25	ug/l	1	2.50	---	92	37-136%	---	---	
Picloram	2.18	0.31	0.75	ug/l	1	2.50	---	87	35-138%	---	---	
Surr: 2,4-DCAA		Recovery: 88 %		Limits: 56-156 %		Dilution: 1x						

LCS Dup (W9J0967-BSD1)				Prepared: 10/15/19 18:22 Analyzed: 10/31/19 15:12							
EPA 8151A											
2,4-D	4.52	0.21	0.50	ug/l	1	5.00	---	90	56-164%	0.1	25%
2,4-DB	8.45	1.3	2.5	ug/l	1	10.0	---	84	27-161%	14	25%
2,4,5-T	2.53	0.13	0.25	ug/l	1	2.50	---	101	39-151%	0.2	25%
2,4,5-TP (Silvex)	2.28	0.11	0.25	ug/l	1	2.50	---	91	46-142%	0.4	25%
3,5-Dichlorobenzoic acid	4.66	0.56	1.2	ug/l	1	5.00	---	93	54-154%	1	25%
4-Nitrophenol	5.24	0.52	1.2	ug/l	1	10.0	---	52	3-105%	25	25%
Acifluorfen	2.45	0.15	0.50	ug/l	1	2.50	---	98	39-134%	1	25%
Bentazon	9.01	1.1	2.5	ug/l	1	10.0	---	90	44-139%	0.8	25%
Dalapon	4.56	0.15	0.50	ug/l	1	5.00	---	91	40-139%	2	25%
Dicamba	4.86	0.40	0.75	ug/l	1	5.00	---	97	46-140%	1	25%
Dichloroprop	3.79	0.49	1.0	ug/l	1	5.00	---	76	43-158%	2	25%
Dinoseb	2.30	0.19	0.50	ug/l	1	2.50	---	92	42-146%	4	25%
DCPA	2.36	0.14	0.25	ug/l	1	2.50	---	94	34-135%	0.9	25%
MCPA	572	45	100	ug/l	1	500	---	114	28-144%	3	25%
MCPP	427	63	100	ug/l	1	500	---	85	31-153%	1	25%
Pentachlorophenol	2.30	0.11	0.25	ug/l	1	2.50	---	92	37-136%	0.2	25%
Picloram	2.20	0.31	0.75	ug/l	1	2.50	---	88	35-138%	1	25%
Surr: 2,4-DCAA				Recovery: 86 %		Limits: 56-156 %		Dilution: 1x			

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Philip Nerenberg

Philip Nerenberg, Lab Director

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****Weck Laboratories, Inc.****QUALITY CONTROL (QC) SAMPLE RESULTS****Chlorinated Herbicides by GC/ECD**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W9J0978 - EPA 3550/Sonication						Soil						
Blank (W9J0978-BLK1)			Prepared: 10/16/19 09:12		Analyzed: 10/22/19 12:03							
EPA 8151A												
2,4-D	ND	0.0069	0.10	mg/kg wet	1	---	---	---	---	---	---	
2,4-DB	ND	0.017	0.10	mg/kg wet	1	---	---	---	---	---	---	
2,4,5-T	ND	0.0056	0.10	mg/kg wet	1	---	---	---	---	---	---	
2,4,5-TP (Silvex)	ND	0.0072	0.10	mg/kg wet	1	---	---	---	---	---	---	
Dalapon	ND	0.019	0.10	mg/kg wet	1	---	---	---	---	---	---	
Dicamba	ND	0.0090	0.10	mg/kg wet	1	---	---	---	---	---	---	
Dichloroprop	ND	0.0071	0.10	mg/kg wet	1	---	---	---	---	---	---	
Dinoseb	ND	0.0038	0.15	mg/kg wet	1	---	---	---	---	---	---	
MCPA	ND	0.79	15	mg/kg wet	1	---	---	---	---	---	---	
MCPP	ND	0.68	15	mg/kg wet	1	---	---	---	---	---	---	
Pentachlorophenol	ND	0.0063	0.10	mg/kg wet	1	---	---	---	---	---	---	
Picloram	ND	0.0072	0.10	mg/kg wet	1	---	---	---	---	---	---	
Surr: 2,4-DCAA		Recovery: 87 %		Limits: 13-119 %		Dilution: 1x						

LCS (W9J0978-BS1)				Prepared: 10/16/19 09:12 Analyzed: 10/22/19 12:39								
EPA 8151A												
2,4-D	0.252	0.0069	0.10	mg/kg wet	1	0.250	---	101	53-130%	---	---	
2,4-DB	0.246	0.017	0.10	mg/kg wet	1	0.500	---	49	28-119%	---	---	
2,4,5-T	0.142	0.0056	0.10	mg/kg wet	1	0.125	---	114	40-108%	---	---	Q-08
2,4,5-TP (Silvex)	0.129	0.0072	0.10	mg/kg wet	1	0.125	---	103	38-108%	---	---	
Dalapon	0.279	0.019	0.10	mg/kg wet	1	0.250	---	112	17-122%	---	---	
Dicamba	0.300	0.0090	0.10	mg/kg wet	1	0.250	---	120	48-107%	---	---	Q-08
Dichloroprop	0.217	0.0071	0.10	mg/kg wet	1	0.250	---	87	45-117%	---	---	
Dinoseb	0.105	0.0038	0.15	mg/kg wet	1	0.125	---	84	0.1-83%	---	---	J, Q-08
MCPA	24.6	0.79	15	mg/kg wet	1	25.0	---	99	33-107%	---	---	
MCP	24.5	0.68	15	mg/kg wet	1	25.0	---	98	34-117%	---	---	
Pentachlorophenol	0.141	0.0063	0.10	mg/kg wet	1	0.125	---	113	40-102%	---	---	Q-08
Picloram	0.126	0.0072	0.10	mg/kg wet	1	0.125	---	101	22-139%	---	---	
Surr: 2,4-DCAA		Recovery: 103 %		Limits: 13-119 %		Dilution: 1x						

Matrix Spike (W9J0978-MS1)						Prepared: 10/16/19 09:12 Analyzed: 10/22/19 13:16						
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Philip Nerenberg, Lab Director

**Apex Laboratories, LLC**

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EPA ID: OR01039

Maul Foster & Alongi, INC.
2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Siltronic Sediment Sampling**
Project Number: **8128.02.19-04**
Project Manager: **Phil Wiescher**

Report ID:
A9J0427 - 11 21 19 1543

Weck Laboratories, Inc.**QUALITY CONTROL (QC) SAMPLE RESULTS****Chlorinated Herbicides by GC/ECD**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W9J0978 - EPA 3550/Sonication						Soil						
Matrix Spike (W9J0978-MS1)			Prepared: 10/16/19 09:12		Analyzed: 10/22/19 13:16							
QC Source Sample: Non-SDG (9J14015-13)												
EPA 8151A												
2,4-D	0.888	0.043	0.62	mg/kg dry	1	1.56	ND	57	21-126%	---	---	M-02
2,4-DB	0.817	0.11	0.62	mg/kg dry	1	3.11	ND	26	13-133%	---	---	M-02
2,4,5-T	0.416	0.035	0.62	mg/kg dry	1	0.778	ND	53	17-123%	---	---	J, M-02
2,4,5-TP (Silvex)	0.358	0.045	0.62	mg/kg dry	1	0.778	ND	46	15-126%	---	---	J, M-02
Dalapon	1.28	0.12	0.62	mg/kg dry	1	1.56	ND	83	9.6-101%	---	---	M-02
Dicamba	1.01	0.056	0.62	mg/kg dry	1	1.56	ND	65	11-107%	---	---	M-02
Dichloroprop	0.680	0.044	0.62	mg/kg dry	1	1.56	ND	44	44-133%	---	---	M-02
Dinoseb	0.131	0.024	0.93	mg/kg dry	1	0.778	ND	17	0.1-72%	---	---	J, M-02
MCPA	94.5	4.9	93	mg/kg dry	1	156	ND	61	23-123%	---	---	M-02
MCPP	76.2	4.2	93	mg/kg dry	1	156	ND	49	24-120%	---	---	J, M-02
Pentachlorophenol	0.341	0.039	0.62	mg/kg dry	1	0.778	ND	44	10-103%	---	---	J, M-02
Picloram	0.429	0.045	0.62	mg/kg dry	1	0.778	ND	55	17-155%	---	---	J, M-02
Surr: 2,4-DCAA		Recovery: 53 %		Limits: 13-119 %		Dilution: 1x		M-02				

Matrix Spike Dup (W9J0978-MSD1)					Prepared: 10/16/19 09:12 Analyzed: 10/22/19 13:52							
QC Source Sample: Non-SDG (9J14015-13)												
2,4-D	0.852	0.043	0.63	mg/kg dry	1	1.56	ND	54	21-126%	4	25%	M-02
2,4-DB	0.868	0.11	0.63	mg/kg dry	1	3.13	ND	28	13-133%	6	25%	M-02
2,4,5-T	0.425	0.035	0.63	mg/kg dry	1	0.782	ND	54	17-123%	2	25%	J, M-02
2,4,5-TP (Silvex)	0.368	0.045	0.63	mg/kg dry	1	0.782	ND	47	15-126%	3	25%	J, M-02
Dalapon	1.15	0.12	0.63	mg/kg dry	1	1.56	ND	73	9.6-101%	11	25%	M-02
Dicamba	0.923	0.056	0.63	mg/kg dry	1	1.56	ND	59	11-107%	9	25%	M-02
Dichloroprop	0.677	0.044	0.63	mg/kg dry	1	1.56	ND	43	44-133%	0.4	25%	M-02, MS-05
Dinoseb	0.152	0.024	0.94	mg/kg dry	1	0.782	ND	19	0.1-72%	15	25%	J, M-02
MCPA	111	4.9	94	mg/kg dry	1	156	ND	71	23-123%	16	25%	M-02
MCPP	74.8	4.3	94	mg/kg dry	1	156	ND	48	24-120%	2	25%	J, M-02
Pentachlorophenol	0.359	0.039	0.63	mg/kg dry	1	0.782	ND	46	10-103%	5	25%	J, M-02
Picloram	0.422	0.045	0.63	mg/kg dry	1	0.782	ND	54	17-155%	2	25%	J, M-02
Surr: 2,4-DCAA		Recovery: 58 %		Limits: 13-119 %		Dilution: 1x		M-02				

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Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

Weck Laboratories, Inc.

QUALITY CONTROL (QC) SAMPLE RESULTS

Chlorinated Herbicides by GC/ECD

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W9J0978 - EPA 3550/Sonication							Soil					

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Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W9J1359 - EPA 3550/Sonication						Soil						
Blank (W9J1359-BLK1)			Prepared: 10/22/19 14:38		Analyzed: 10/31/19 23:37							
EPA 8151A												
2,4-D	ND	0.0069	0.10	mg/kg wet	1	---	---	---	---	---	---	
2,4-DB	ND	0.017	0.10	mg/kg wet	1	---	---	---	---	---	---	
2,4,5-T	ND	0.0056	0.10	mg/kg wet	1	---	---	---	---	---	---	
2,4,5-TP (Silvex)	ND	0.0072	0.10	mg/kg wet	1	---	---	---	---	---	---	
Dalapon	ND	0.019	0.10	mg/kg wet	1	---	---	---	---	---	---	
Dicamba	ND	0.0090	0.10	mg/kg wet	1	---	---	---	---	---	---	
Dichloroprop	ND	0.0071	0.10	mg/kg wet	1	---	---	---	---	---	---	
Dinoseb	ND	0.0038	0.15	mg/kg wet	1	---	---	---	---	---	---	
MCPA	ND	0.79	15	mg/kg wet	1	---	---	---	---	---	---	
MCPP	ND	0.68	15	mg/kg wet	1	---	---	---	---	---	---	
Pentachlorophenol	ND	0.0063	0.10	mg/kg wet	1	---	---	---	---	---	---	
Picloram	ND	0.0072	0.10	mg/kg wet	1	---	---	---	---	---	---	
Surr: 2,4-DCAA		Recovery: 83 %		Limits: 13-119 %		Dilution: 1x						

LCS (W9J1359-BS1)

Prepared: 10/22/19 14:38 Analyzed: 11/01/19 00:13

EPA 8151A												
2,4-D	0.176	0.0069	0.10	mg/kg wet	1	0.250	---	70	53-130%	---	---	
2,4-DB	0.141	0.017	0.10	mg/kg wet	1	0.500	---	28	28-119%	---	---	
2,4,5-T	0.102	0.0056	0.10	mg/kg wet	1	0.125	---	81	40-108%	---	---	
2,4,5-TP (Silvex)	0.0951	0.0072	0.10	mg/kg wet	1	0.125	---	76	38-108%	---	---	J
Dalapon	0.207	0.019	0.10	mg/kg wet	1	0.250	---	83	17-122%	---	---	
Dicamba	0.222	0.0090	0.10	mg/kg wet	1	0.250	---	89	48-107%	---	---	
Dichloroprop	0.156	0.0071	0.10	mg/kg wet	1	0.250	---	63	45-117%	---	---	
Dinoseb	0.0564	0.0038	0.15	mg/kg wet	1	0.125	---	45	0.1-83%	---	---	J
MCPA	22.3	0.79	15	mg/kg wet	1	25.0	---	89	33-107%	---	---	
MCPP	17.8	0.68	15	mg/kg wet	1	25.0	---	71	34-117%	---	---	
Pentachlorophenol	0.0996	0.0063	0.10	mg/kg wet	1	0.125	---	80	40-102%	---	---	J
Picloram	0.0965	0.0072	0.10	mg/kg wet	1	0.125	---	77	22-139%	---	---	J
Surr: 2,4-DCAA		Recovery: 81 %		Limits: 13-119 %		Dilution: 1x						

Matrix Spike (W9J1359-MS1)

Prepared: 10/22/19 14:38 Analyzed: 11/01/19 00:49

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EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200
Portland, OR 97209

Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****Weck Laboratories, Inc.****QUALITY CONTROL (QC) SAMPLE RESULTS****Chlorinated Herbicides by GC/ECD**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W9J1359 - EPA 3550/Sonication						Soil						
Matrix Spike (W9J1359-MS1)			Prepared: 10/22/19 14:38		Analyzed: 11/01/19 00:49							
QC Source Sample: A9J0427-02 (A9J0427-02)												
EPA 8151A												
2,4-D	0.767	0.033	0.48	mg/kg dry	1	1.20	ND	64	21-126%	---	---	M-02
2,4-DB	0.584	0.081	0.48	mg/kg dry	1	2.39	ND	24	13-133%	---	---	M-02
2,4,5-T	0.398	0.027	0.48	mg/kg dry	1	0.598	ND	66	17-123%	---	---	J, M-02
2,4,5-TP (Silvex)	0.335	0.034	0.48	mg/kg dry	1	0.598	ND	56	15-126%	---	---	J, M-02
Dalapon	0.632	0.091	0.48	mg/kg dry	1	1.20	ND	53	9.6-101%	---	---	M-02
Dicamba	0.844	0.043	0.48	mg/kg dry	1	1.20	ND	71	11-107%	---	---	M-02
Dichloroprop	0.600	0.034	0.48	mg/kg dry	1	1.20	ND	50	44-133%	---	---	M-02
Dinoseb	0.154	0.018	0.72	mg/kg dry	1	0.598	ND	26	0.1-72%	---	---	J, M-02
MCPA	117	3.8	72	mg/kg dry	1	120	ND	98	23-123%	---	---	M-02
MCPP	81.3	3.3	72	mg/kg dry	1	120	ND	68	24-120%	---	---	M-02
Pentachlorophenol	0.305	0.030	0.48	mg/kg dry	1	0.598	ND	51	10-103%	---	---	J, M-02
Picloram	0.369	0.034	0.48	mg/kg dry	1	0.598	ND	62	17-155%	---	---	J, M-02
Surr: 2,4-DCAA		Recovery: 67 %		Limits: 13-119 %		Dilution: 1x		M-02				

Matrix Spike Dup (W9J1359-MSD1)

Prepared: 10/22/19 14:38 Analyzed: 11/01/19 01:25

QC Source Sample: A9J0427-02 (A9J0427-02)

<u>EPA 8151A</u>												
2,4-D	0.774	0.033	0.48	mg/kg dry	1	1.20	ND	64	21-126%	1	25%	M-02
2,4-DB	0.653	0.082	0.48	mg/kg dry	1	2.40	ND	27	13-133%	11	25%	M-02
2,4,5-T	0.413	0.027	0.48	mg/kg dry	1	0.600	ND	69	17-123%	4	25%	J, M-02
2,4,5-TP (Silvex)	0.355	0.035	0.48	mg/kg dry	1	0.600	ND	59	15-126%	6	25%	J, M-02
Dalapon	0.671	0.091	0.48	mg/kg dry	1	1.20	ND	56	9.6-101%	6	25%	M-02
Dicamba	0.861	0.043	0.48	mg/kg dry	1	1.20	ND	72	11-107%	2	25%	M-02
Dichloroprop	0.626	0.034	0.48	mg/kg dry	1	1.20	ND	52	44-133%	4	25%	M-02
Dinoseb	0.208	0.018	0.72	mg/kg dry	1	0.600	ND	35	0.1-72%	30	25%	M-02, MS-05, J
MCPA	99.4	3.8	72	mg/kg dry	1	120	ND	83	23-123%	16	25%	M-02
MCPP	80.5	3.3	72	mg/kg dry	1	120	ND	67	24-120%	0.9	25%	M-02
Pentachlorophenol	0.363	0.030	0.48	mg/kg dry	1	0.600	ND	60	10-103%	17	25%	M-02, J
Picloram	0.384	0.035	0.48	mg/kg dry	1	0.600	ND	64	17-155%	4	25%	M-02, J

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Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

Weck Laboratories, Inc.

QUALITY CONTROL (QC) SAMPLE RESULTS

Chlorinated Herbicides by GC/ECD

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W9J1359 - EPA 3550/Sonication							Soil					
Matrix Spike Dup (W9J1359-MSD1)			Prepared: 10/22/19 14:38 Analyzed: 11/01/19 01:25									
QC Source Sample: A9J0427-02 (A9J0427-02)												
Surr: 2,4-DCAA		Recovery: 73 %		Limits: 13-119 %		Dilution: 1x		M-02				

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Weck Laboratories, Inc.

QUALITY CONTROL (QC) SAMPLE RESULTS

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W9J1001 - General Preparation							Solid					
Duplicate (W9J1001-DUP1)			Prepared: 10/16/19 10:44 Analyzed: 10/18/19 16:16									
QC Source Sample: Non-SDG (9J14015-01)												
% Solids	62.4		0.100	% by Weight	1	---	61.3	---	---	2	20%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch W9J1007 - General Preparation							Solid					
Duplicate (W9J1007-DUP1)			Prepared: 10/16/19 10:47 Analyzed: 10/18/19 17:03									
QC Source Sample: A9J0427-05 (A9J0427-05)												
EPA 160.3M												
% Solids	74.8		0.100	% by Weight	1	---	72.2	---	---	4	20%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****SAMPLE PREPARATION INFORMATION****Diesel and/or Oil Hydrocarbons by NWTPH-Dx****Prep: EPA 3510C (Fuels/Acid Ext.)**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 9101068</u>							
A9J0427-08	Water	NWTPH-Dx	10/10/19 17:00	10/14/19 15:54	1060mL/5mL	1000mL/5mL	0.94

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 9101214</u>							
A9J0427-01	Sediment	NWTPH-Dx	10/10/19 09:00	10/17/19 07:04	10.31g/5mL	10g/5mL	0.97
A9J0427-02	Sediment	NWTPH-Dx	10/10/19 10:00	10/17/19 07:04	10.11g/5mL	10g/5mL	0.99
A9J0427-03	Sediment	NWTPH-Dx	10/10/19 11:00	10/17/19 07:04	10.14g/5mL	10g/5mL	0.99
A9J0427-04	Sediment	NWTPH-Dx	10/10/19 11:00	10/17/19 07:04	10.54g/5mL	10g/5mL	0.95
A9J0427-05	Sediment	NWTPH-Dx	10/10/19 13:10	10/17/19 07:04	10.17g/5mL	10g/5mL	0.98
A9J0427-06	Sediment	NWTPH-Dx	10/10/19 15:15	10/17/19 07:04	10.42g/5mL	10g/5mL	0.96
A9J0427-07	Sediment	NWTPH-Dx	10/10/19 14:15	10/17/19 07:04	10.06g/5mL	10g/5mL	0.99

Semivolatile Organic Compounds by EPA 8270D**Prep: EPA 3510C (Acid/Base Neutral)**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 9101073</u>							
A9J0427-08	Water	EPA 8270D	10/10/19 17:00	10/14/19 13:02	990mL/1mL	1000mL/1mL	1.01

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 9101343</u>							
A9J0427-01	Sediment	EPA 8270D	10/10/19 09:00	10/19/19 09:52	15.21g/2mL	15g/2mL	0.99
A9J0427-02	Sediment	EPA 8270D	10/10/19 10:00	10/19/19 09:52	15.14g/2mL	15g/2mL	0.99
A9J0427-03RE1	Sediment	EPA 8270D	10/10/19 11:00	10/19/19 09:52	15.63g/2mL	15g/2mL	0.96
A9J0427-04	Sediment	EPA 8270D	10/10/19 11:00	10/19/19 09:52	15.31g/2mL	15g/2mL	0.98
A9J0427-05	Sediment	EPA 8270D	10/10/19 13:10	10/19/19 09:52	15.62g/2mL	15g/2mL	0.96
A9J0427-06	Sediment	EPA 8270D	10/10/19 15:15	10/19/19 09:52	15.57g/2mL	15g/2mL	0.96
<u>Batch: 9101492</u>							
A9J0427-07RE1	Sediment	EPA 8270D	10/10/19 14:15	10/23/19 12:37	15.45g/2mL	15g/2mL	0.97

Alkylated PAH Homologs by 8270D Modified

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Portland, OR 97209

Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****SAMPLE PREPARATION INFORMATION****Alkylated PAH Homologs by 8270D Modified****Prep: EPA 3546**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 9110582</u>							
A9J0427-01	Sediment	EPA 8270Dm	10/10/19 09:00	11/07/19 11:42	10.01g/2mL	10g/2mL	1.00
A9J0427-02	Sediment	EPA 8270Dm	10/10/19 10:00	11/07/19 11:47	10.13g/2mL	10g/2mL	0.99
A9J0427-03	Sediment	EPA 8270Dm	10/10/19 11:00	11/07/19 11:42	10.66g/2mL	10g/2mL	0.94
A9J0427-05	Sediment	EPA 8270Dm	10/10/19 13:10	11/07/19 11:42	10.49g/2mL	10g/2mL	0.95
A9J0427-06	Sediment	EPA 8270Dm	10/10/19 15:15	11/07/19 11:42	10.03g/2mL	10g/2mL	1.00
A9J0427-07	Sediment	EPA 8270Dm	10/10/19 14:15	11/07/19 11:42	10.83g/2mL	10g/2mL	0.92

Total Metals by EPA 6020A (ICPMS)**Prep: EPA 3015A**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 9101189</u>							
A9J0427-08	Water	EPA 6020A	10/10/19 17:00	10/16/19 14:25	45mL/50mL	45mL/50mL	1.00

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 9101165</u>							
A9J0427-01	Sediment	EPA 6020A	10/10/19 09:00	10/16/19 10:34	0.512g/50mL	0.5g/50mL	0.98
A9J0427-01RE1	Sediment	EPA 6020A	10/10/19 09:00	10/16/19 10:34	0.512g/50mL	0.5g/50mL	0.98
A9J0427-03	Sediment	EPA 6020A	10/10/19 11:00	10/16/19 10:34	0.517g/50mL	0.5g/50mL	0.97
A9J0427-03RE1	Sediment	EPA 6020A	10/10/19 11:00	10/16/19 10:34	0.517g/50mL	0.5g/50mL	0.97
A9J0427-04	Sediment	EPA 6020A	10/10/19 11:00	10/16/19 10:34	0.496g/50mL	0.5g/50mL	1.01
A9J0427-04RE1	Sediment	EPA 6020A	10/10/19 11:00	10/16/19 10:34	0.496g/50mL	0.5g/50mL	1.01
A9J0427-05	Sediment	EPA 6020A	10/10/19 13:10	10/16/19 10:34	0.5g/50mL	0.5g/50mL	1.00
A9J0427-05RE1	Sediment	EPA 6020A	10/10/19 13:10	10/16/19 10:34	0.5g/50mL	0.5g/50mL	1.00
A9J0427-05RE2	Sediment	EPA 6020A	10/10/19 13:10	10/16/19 10:34	0.5g/50mL	0.5g/50mL	1.00
A9J0427-06	Sediment	EPA 6020A	10/10/19 15:15	10/16/19 10:34	0.52g/50mL	0.5g/50mL	0.96
A9J0427-06RE1	Sediment	EPA 6020A	10/10/19 15:15	10/16/19 10:34	0.52g/50mL	0.5g/50mL	0.96
A9J0427-07	Sediment	EPA 6020A	10/10/19 14:15	10/16/19 10:34	0.504g/50mL	0.5g/50mL	0.99
A9J0427-07RE1	Sediment	EPA 6020A	10/10/19 14:15	10/16/19 10:34	0.504g/50mL	0.5g/50mL	0.99
<u>Batch: 9101236</u>							
A9J0427-02	Sediment	EPA 6020A	10/10/19 10:00	10/17/19 09:50	0.498g/50mL	0.5g/50mL	1.00

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Apex Laboratories

Philip Nerenberg, Lab Director

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Apex Laboratories, LLC

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200

Portland, OR 97209

Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

SAMPLE PREPARATION INFORMATION

Total Cyanide by UV Digestion/Gas Diffusion/Amperometric Detection

Prep: ASTM D7511-12mod (S)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9101029							
A9J0427-01	Sediment	D7511-12	10/10/19 09:00	10/14/19 07:12	2.516g/50mL	2.5g/50mL	0.99
A9J0427-02	Sediment	D7511-12	10/10/19 10:00	10/14/19 07:12	2.5826g/50mL	2.5g/50mL	0.97
A9J0427-03	Sediment	D7511-12	10/10/19 11:00	10/14/19 07:12	2.5263g/50mL	2.5g/50mL	0.99
A9J0427-04	Sediment	D7511-12	10/10/19 11:00	10/14/19 07:12	2.5601g/50mL	2.5g/50mL	0.98
A9J0427-05	Sediment	D7511-12	10/10/19 13:10	10/14/19 07:12	2.5643g/50mL	2.5g/50mL	0.98
A9J0427-06	Sediment	D7511-12	10/10/19 15:15	10/14/19 07:12	2.5321g/50mL	2.5g/50mL	0.99
A9J0427-07	Sediment	D7511-12	10/10/19 14:15	10/14/19 07:12	2.5172g/50mL	2.5g/50mL	0.99

Total Cyanide by Flow Analysis (Aqueous)

Prep: Lachat Micro Dist - aqueous

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9101032							
A9J0427-08	Water	EPA 335.4	10/10/19 17:00	10/14/19 08:08	6mL/6mL	6mL/6mL	1.00

Demand Parameters

Prep: PSEP-5310B TOC

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9101455							
A9J0427-01	Sediment	EPA 9060Amod	10/10/19 09:00	10/22/19 15:55			NA
A9J0427-02	Sediment	EPA 9060Amod	10/10/19 10:00	10/22/19 15:55			NA
A9J0427-03	Sediment	EPA 9060Amod	10/10/19 11:00	10/22/19 15:55			NA
A9J0427-04	Sediment	EPA 9060Amod	10/10/19 11:00	10/22/19 15:55			NA
A9J0427-05	Sediment	EPA 9060Amod	10/10/19 13:10	10/22/19 15:55			NA
A9J0427-06	Sediment	EPA 9060Amod	10/10/19 15:15	10/22/19 15:55			NA
A9J0427-07	Sediment	EPA 9060Amod	10/10/19 14:15	10/22/19 15:55			NA

Total Organic Carbon (Non-Purgeable) by Persulfate Oxidation by Standard Method 5310C

Prep: Method Prep: Aq

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9101080							
A9J0427-08	Water	SM 5310 C	10/10/19 17:00	10/14/19 15:16	40mL/40mL	40mL/40mL	1.00

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SAMPLE PREPARATION INFORMATION

Solid and Moisture Determinations

Prep: Total Solids (SM2540G/PSEP)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 9101456</u>							
A9J0427-01	Sediment	PSEP 1986	10/10/19 09:00	10/22/19 16:03			NA
A9J0427-02	Sediment	PSEP 1986	10/10/19 10:00	10/22/19 16:03			NA
A9J0427-03	Sediment	PSEP 1986	10/10/19 11:00	10/22/19 16:03			NA
A9J0427-04	Sediment	PSEP 1986	10/10/19 11:00	10/22/19 16:03			NA
A9J0427-05	Sediment	PSEP 1986	10/10/19 13:10	10/22/19 16:03			NA
A9J0427-06	Sediment	PSEP 1986	10/10/19 15:15	10/22/19 16:03			NA
A9J0427-07	Sediment	PSEP 1986	10/10/19 14:15	10/22/19 16:03			NA

Grain Size by ASTM D 422m/PSET Parameters

Prep: ASTM D 421

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 9101813</u>							
A9J0427-01	Sediment	D422mod	10/10/19 09:00	10/31/19 10:00			NA
A9J0427-02	Sediment	D422mod	10/10/19 10:00	10/31/19 09:36			NA
A9J0427-03	Sediment	D422mod	10/10/19 11:00	10/31/19 09:18			NA
A9J0427-04	Sediment	D422mod	10/10/19 11:00	10/31/19 10:11			NA
A9J0427-05	Sediment	D422mod	10/10/19 13:10	10/31/19 09:48			NA
A9J0427-06	Sediment	D422mod	10/10/19 15:15	10/31/19 09:28			NA
A9J0427-07	Sediment	D422mod	10/10/19 14:15	10/31/19 09:08			NA

Percent Dry Weight

Prep: Total Solids (SM2540G/PSEP)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 9101456</u>							
A9J0427-01	Sediment	EPA 8000C	10/10/19 09:00	10/22/19 16:03			NA
A9J0427-02	Sediment	EPA 8000C	10/10/19 10:00	10/22/19 16:03			NA
A9J0427-03	Sediment	EPA 8000C	10/10/19 11:00	10/22/19 16:03			NA
A9J0427-04	Sediment	EPA 8000C	10/10/19 11:00	10/22/19 16:03			NA
A9J0427-05	Sediment	EPA 8000C	10/10/19 13:10	10/22/19 16:03			NA
A9J0427-06	Sediment	EPA 8000C	10/10/19 15:15	10/22/19 16:03			NA
A9J0427-07	Sediment	EPA 8000C	10/10/19 14:15	10/22/19 16:03			NA

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Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543****Weck Laboratories, Inc.****SAMPLE PREPARATION INFORMATION****Chlorinated Herbicides by GC/ECD****Prep: EPA 3510/L-L SF**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: W9J0967</u>							
A9J0427-08	Water	EPA 8151A	10/10/19 17:00	10/15/19 18:22	1000ml/10ml	1000ml/10ml	1.00

Prep: EPA 3550/Sonication

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: W9J0978</u>							
A9J0427-01	Sediment	EPA 8151A	10/10/19 09:00	10/16/19 09:12	8.05g/10ml	30g/10ml	3.73
A9J0427-03	Sediment	EPA 8151A	10/10/19 11:00	10/16/19 09:12	8.51g/10ml	30g/10ml	3.53
A9J0427-04	Sediment	EPA 8151A	10/10/19 11:00	10/16/19 09:12	8.18g/10ml	30g/10ml	3.67
A9J0427-05	Sediment	EPA 8151A	10/10/19 13:10	10/16/19 09:12	9.13g/10ml	30g/10ml	3.29
A9J0427-06	Sediment	EPA 8151A	10/10/19 15:15	10/16/19 09:12	8.73g/10ml	30g/10ml	3.44
A9J0427-07	Sediment	EPA 8151A	10/10/19 14:15	10/16/19 09:12	8.39g/10ml	30g/10ml	3.58
<u>Batch: W9J1359</u>							
A9J0427-02	Sediment	EPA 8151A	10/10/19 10:00	10/22/19 14:38	8.89g/10ml	30g/10ml	3.37

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods**Prep: General Preparation**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: W9J1001</u>							
A9J0427-01	Sediment	EPA 160.3M	10/10/19 09:00	10/16/19 10:44	1g/1ml	1g/1ml	NA
A9J0427-02	Sediment	EPA 160.3M	10/10/19 10:00	10/16/19 10:44	1g/1ml	1g/1ml	NA
A9J0427-03	Sediment	EPA 160.3M	10/10/19 11:00	10/16/19 10:44	1g/1ml	1g/1ml	NA
A9J0427-04	Sediment	EPA 160.3M	10/10/19 11:00	10/16/19 10:44	1g/1ml	1g/1ml	NA
<u>Batch: W9J1007</u>							
A9J0427-05	Sediment	EPA 160.3M	10/10/19 13:10	10/16/19 10:47	1g/1ml	1g/1ml	NA
A9J0427-06	Sediment	EPA 160.3M	10/10/19 15:15	10/16/19 10:47	1g/1ml	1g/1ml	NA
A9J0427-07	Sediment	EPA 160.3M	10/10/19 14:15	10/16/19 10:47	1g/1ml	1g/1ml	NA

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QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- B** Analyte detected in an associated blank at a level above the MRL. (See Notes and Conventions below.)
- B-02** Analyte detected in an associated blank at a level between one-half the MRL and the MRL. (See Notes and Conventions below.)
- E** Estimated Value. The result is above the calibration range of the instrument.
- F-03** The result for this hydrocarbon range is elevated due to the presence of individual analyte peaks in the quantitation range that are not representative of the fuel pattern reported.
- F-15** Results for diesel are estimated due to overlap from the reported oil result.
- F-16** Results for oil are estimated due to overlap from the reported diesel result.
- H-08** Sample hold time extended by freezing at -18 degrees C. Total time at 4 degrees C was less than the standard hold time.
- Ja** Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
- M-05** Estimated results. Peak separation for structural isomers is insufficient for accurate quantification.
- Q-01** Spike recovery and/or RPD is outside acceptance limits.
- Q-03** Spike recovery and/or RPD is outside control limits due to the high concentration of analyte present in the sample.
- Q-04** Spike recovery and/or RPD is outside control limits due to a non-homogeneous sample matrix.
- Q-05** Analyses are not controlled on RPD values from sample and duplicate concentrations that are below 5 times the reporting level.
- Q-11** Spike recovery cannot be accurately quantified due to sample dilution required for high analyte concentration and/or matrix interference.
- Q-16** Reanalysis of an original Batch QC sample.
- Q-17** RPD between original and duplicate sample is outside of established control limits.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- Q-24** The RPD for this spike and spike duplicate is above established control limits. Recoveries for both the spike and spike duplicate are within control limits.
- Q-29** Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
- Q-30** Recovery for Lab Control Spike (LCS) is below the lower control limit. Data may be biased low.
- Q-31** Estimated Results. Recovery of Continuing Calibration Verification sample below lower control limit for this analyte. Results are likely biased low.
- Q-41** Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
- Q-42** Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or RPD for this analyte is outside laboratory control limits. (Refer to the QC Section of Analytical Report.)
- Q-52** Due to erratic or low blank spike recoveries, results for this analyte are considered Estimated Values.

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- R-04** Reporting levels elevated due to preparation and/or analytical dilution necessary for analysis.
- S-05** Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.
- TOC_I** Inorganic Carbon Spike Check. Results are valid if Non Detect (No Inorganic Carbon detected.)

Weck Laboratories, Inc.

- J** Estimated conc. detected <MRL and >MDL.
- M-02** Due to the nature of matrix interferences, sample was diluted prior to preparation. The MDL and MRL were raised due to the dilution.
- MS-05** The spike recovery and/or RPD were outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
- Q-08** High bias in the QC sample does not affect sample result since analyte was not detected or below the reporting limit.

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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET Analyte DETECTED at or above the detection or reporting limit.
ND Analyte NOT DETECTED at or above the detection or reporting limit.
NR Result Not Reported
RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as "dry", "wet", or " " (blank) designation.

"dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
"wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) may not be included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

" *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).
-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.

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REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

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A9J0427 - 11 21 19 1543

LABORATORY ACCREDITATION INFORMATION**TNI Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039**

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
Sediment	EPA 8270Dm		C1-Chrysenes/Benz(a)anthracenes	6639	
Sediment	EPA 8270Dm		C1-Fluoranthrenes/Pyrenes	6606	
Sediment	EPA 8270Dm		C1-Fluorenes	6607	
Sediment	EPA 8270Dm		C1-Phenanthrenes/Anthracenes	6611	
Sediment	EPA 8270Dm		C2-Chrysenes/Benz(a)anthracenes	6641	
Sediment	EPA 8270Dm		C2-Fluorenes	6618	
Sediment	EPA 8270Dm		C2-Naphthalenes	6619	
Sediment	EPA 8270Dm		C2-Phenanthrenes/Anthracenes	6621	
Sediment	EPA 8270Dm		C3-Chrysenes/Benz(a)anthracenes	6643	
Sediment	EPA 8270Dm		C3-Fluorenes	6628	
Sediment	EPA 8270Dm		C3-Naphthalenes	6629	
Sediment	EPA 8270Dm		C3-Phenanthrenes/Anthracenes	6631	
Sediment	EPA 8270Dm		C4-Chrysenes/Benz(a)anthracenes	6649	
Sediment	EPA 8270Dm		C4-Naphthalenes	6637	
Sediment	EPA 8270Dm		C4-Phenanthrenes/Anthracenes	6638	

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Apex Laboratories

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Apex Laboratories, LLC

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

EPA ID: OR01039

Maul Foster & Alongi, INC.

2001 NW 19th Ave, STE 200

Portland, OR 97209

Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.

Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

A handwritten signature in black ink that reads "Philip Nerenberg".

Philip Nerenberg, Lab Director

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Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

APEX LABS COOLER RECEIPT FORM

Client: MFA Element WO#: A9 J0427

Project/Project #: Siltronic Sediment Sampling 8128.02.19-04

Delivery Info:

Date/time received: 10-11-19 @ 1133 By: EJ

Delivered by: Apex ☒ Client ☐ ESS ☐ FedEx ☐ UPS ☐ Swift ☐ Senvoy ☐ SDS ☐ Other ☐

Cooler Inspection Date/time inspected: 10-11-19 @ 1225 By: EJ

Chain of Custody included? Yes ☒ No ☐ Custody seals? Yes ☒ No ☐

Signed/dated by client? Yes ☒ No ☐

Signed/dated by Apex? Yes ☒ No ☐

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>2.2</u>	<u>1.1</u>	<u>1.8</u>	<u>1.4</u>			
Received on ice? (Y/N)	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>			
Temp. blanks? (Y/N)	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>			
Ice type: (Gel/Real/Other)	<u>Real</u>	<u>Real</u>	<u>Real</u>	<u>Real</u>			
Condition:	<u>Good</u>	<u>Good</u>	<u>Good</u>	<u>Good</u>			

Cooler out of temp? (Y/N) ☒ Possible reason why:

If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No ☒ NA

Out of temperature samples form initiated? Yes/No/NA ☒

Samples Inspection: Date/time inspected: 10/11/19 @ 1450 By: OB

All samples intact? Yes ☒ No ☐ Comments: _____

Bottle labels/COCs agree? Yes ☒ No ☐ Comments: _____

COC/container discrepancies form initiated? Yes ☐ No ☐ NA ☐

Containers/volumes received appropriate for analysis? Yes ☒ No ☐ Comments: _____

Do VOA vials have visible headspace? Yes ☐ No ☐ NA ☒

Comments: _____

Water samples: pH checked: Yes ☒ No ☐ NA ☐ pH appropriate? Yes ☒ No ☐ NA ☐

Comments: _____

Additional information: _____

Labeled by: OB

Witness: OB

Cooler Inspected by: OB

See Project Contact Form: Y

Subsampler: OB
Witness: OB

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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**Maul Foster & Alongi, INC.**

2001 NW 19th Ave, STE 200

Portland, OR 97209

Project: **Siltronic Sediment Sampling**Project Number: **8128.02.19-04**Project Manager: **Phil Wiescher****Report ID:****A9J0427 - 11 21 19 1543**

A9J0427

1/2

Susan Treat

From: Philip Nerenberg
Sent: Tuesday, November 05, 2019 1:52 PM
To: Susan Treat
Subject: FW: Siltronic - PAH homologs sediment

From: Mary Benzinger [mailto:mbenzinger@maulfoster.com]
Sent: Tuesday, November 05, 2019 1:49 PM
To: Philip Nerenberg
Cc: Phil Wiescher; Carolyn Wise
Subject: Siltronic - PAH homologs sediment

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Philip,

Thank you for the information. We would like to add SW8270D PAH homolog analysis to all sediment samples that were previously submitted for analysis, with the exception of the field duplicate samples and the rinsate blanks. Samples submitted for archive-only are not being analyzed at this time.

Once this additional analysis has been completed, the four reports can be finalized. The samples that will need to be analyzed are summarized below by lab report.

Lab Report	Sample Name
A9J0277	SED05-SB-2
	SED05-SB-5
	SED05-SB-7
A9J0321	SED-06-SB-2.0
	SED-06-SB-5.5
	SED-06-SB-8.5
	SED-04-SB-2.0
	SED-04-SB-4.75
	SED-04-SB-7.75
	SED-07-SB-2.0
	SED-07-SB-4.35
	SED-07-SB-6.35
	SED-01-SB-2.0
	SED-01-SB-5.5
	SED-01-SB-8.65
	SED-02-SB-2.0
	SED-02-SB-5.0
	SED-02-SB-8.25
A9J0371	SED-03-SB-2.0
	SED-03-SB-5.0

1



Apex Laboratories, LLC

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Tigard, OR 97223

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Project: **Siltronic Sediment Sampling**

Project Number: **8128.02.19-04**

Project Manager: **Phil Wiescher**

Report ID:

A9J0427 - 11 21 19 1543

A9J0427
2/2

	SED-03-SB-8.45
	SED-08-SB-2.0
	SED-08-SB-3.25
	SED-09-SB-2.0
	SED-09-SB-4.85
	SED-09-SB-6.85
	SED-10-SB-2.0
	SED-10-SB-5.2
	SED-10-SB-7.2
	SED-01-SS-1.0
	SED-02-SS-1.0
	SED-03-SS-1.0
	SED-04-SS-1.0
A9J0427	SED-05-SS-1.0
	SED-06-SS-1.0
	SED-07-SS-1.0
	SED-08-SS-1.0
	SED-09-SS-1.0
	SED-10-SS-1.0

Could you include a copy of this request with the COC in each final lab report?
Thank you,

Mary Benzinger | MAUL FOSTER & ALONGI, INC.

c. 503 319 7132 | p. 971 544 2139
2001 NW 19th Avenue, Suite 200, Portland, OR 97209
www.maulfoster.com

Apex Laboratories, LLC							
Particle Size Analysis of Soil by ASTM D 422							
Sample ID:	A9J0427-01		Client Sample ID:		SED-05-SS-1.0		Batch Number: 9101813
Data Entered by:	ID	Date:	11/04/19	Data Reviewed by:	JW	Date:	11/06/19
Sample Description:	SAND with some Silt and trace Gravel and Clay			Max Particle Size:	Gravel		
Particle Shape:	Angular to Rounded			Hardness	Hard and Durable		

Whole Sample	Tare	Air Dry + Tare	Air Dry	Moisture	Dry Wt.
	11.836	588.486	576.65	0.97	571.1

Sieve Number	Opening (mm)	Tare	Dry + Tare	Weight Retained	Cumulative Wt. Retained	% Retained	% Passing
4	4.75	1.304	18.760	17.46	17.46	3.1	96.9
10	2.00	1.313	25.563	24.25	41.71	4.2	92.7
Pan		11.848	545.908	534.06	575.77	92.6	

Hygroscopic Moisture Correction								
	Hygroscopic Correction Factor	Oven Sample	Pan No.	Tare	Air Dry + Tare	Oven Dry + Tare	Moisture	
	0.9904		J427-01	1.313	22.776	22.570	0.97	

Hydrometer Analysis				
Start Date/Time	10/31/2019	10:00	Dispersing Agent	NaPO ₃
Air Dry Sample Wt. for Hydrometer Test (g)	100.688		G _s Correction Factor (α)	1.000
Percent Passing No.10 Sieve	92.7		Specific Gravity (G _s)	2.65
Dry Weight of Soil Tested (g)	99.72		Corrected Dry Weight of Soil Tested (g) (W)	107.58

Elapsed Time (min)	Hydrometer Reading	Temperature (°C)	Corrected Hydrometer Reading [R]	% Finer of Hydrometer Sample	L	K	Particle Diameter (mm)	Percent Passing
1	13	19.1	6.78	6.3	14	0.01382	0.052	5.84
2	12.5	19.1	6.28	5.8	14	0.01382	0.037	5.41
4	12.5	19.1	6.28	5.8	14	0.01382	0.026	5.41
8	11.5	19.2	5.31	4.9	14.2	0.01382	0.018	4.57
15	10.5	19.2	4.31	4.0	14.3	0.01382	0.013	3.71
30	10	19.2	3.81	3.5	14.5	0.01382	0.010	3.28
60	9	19.1	2.78	2.6	14.7	0.01382	0.007	2.40
90	8.5	19.1	2.28	2.1	14.7	0.01382	0.006	1.96
120	8.5	19.1	2.28	2.1	14.7	0.01382	0.005	1.96
240	8	19.4	1.87	1.7	14.8	0.01382	0.003	1.61
360	7.5	19.3	1.34	1.2	14.8	0.01382	0.003	1.15
1440	7.5	18.5	1.11	1.0	14.8	0.01382	0.001	0.95

Sieve Analysis of Portion Finer Than No. 10 Sieve							
Sieve Number	Opening (mm)	Tare	Dry + Tare	Weight Retained	Cumulative Retained	% Retained	% Passing
20	0.850	1.330	7.457	6.13	74.20	5.7	87.0
40	0.425	1.305	40.739	39.43	283.37	36.7	50.3
60	0.250	1.313	33.582	32.27	454.52	30.0	20.3
100	0.150	1.314	8.747	7.43	493.95	6.9	13.4
140	0.105	1.311	3.814	2.50	507.23	2.3	11.1
200	0.075	1.321	3.702	2.38	519.86	2.2	8.9
230	0.063	1.320	2.619	1.30	526.75	1.2	7.7
Sum				91.45	230 Minus	8.28	

Apex Laboratories, LLC
Particle Size Analysis of Soil by ASTM D 422 Modified

Sample ID: SED-05-SS-1.0 (A9J0427-01)

Grain Size Analysis Summary from Sieving and Hydrometer Testing	Particle Size (mm)	Percent Finer	Total Percent of Sample
Gravel			7.3
Retained on No. 4 sieve	4.75	96.94	3.06
Gravel, passing No. 4 sieve and retained on No. 10 sieve	2.00	92.7	4.25
Sand			85
Coarse sand, passing No. 10 sieve and retained on No. 20 sieve	0.8500	87	5.7
Medium sand, passing No. 20 sieve and retained on No. 40 sieve	0.4250	50.35	36.66
Medium sand, passing No. 40 sieve and retained on No. 60 sieve	0.2500	20.35	30
Medium sand, passing No. 60 sieve and retained on No. 100 sieve	0.1500	13.44	6.91
Fine sand, passing No. 100 sieve and retained on No. 140 sieve	0.1050	11.11	2.33
Fine sand, passing No. 140 sieve and retained on No. 200 sieve	0.0750	8.9	2.21
Fine sand, passing No. 200 sieve and retained on No. 230 sieve	0.0630	7.69	1.21
Silt and Clay (Measurements in the Clay fraction are noted)			7.69
Hydrometer Test	0.0517	5.84	1.85
Hydrometer Test	0.0366	5.41	0.43
Hydrometer Test	0.0259	5.41	0
Hydrometer Test	0.0184	4.57	0.84
Hydrometer Test	0.0135	3.71	0.86
Hydrometer Test	0.0096	3.28	0.43
Hydrometer Test	0.0068	2.4	0.89
Hydrometer Test	0.0056	1.96	0.43
Hydrometer Test Clay	0.0048	1.96	0
Hydrometer Test Clay	0.0034	1.61	0.36
Hydrometer Test Clay	0.0028	1.15	0.46
Hydrometer Test Clay	0.0014	0.95	0.2

Grain Size Summary	Percent of Total Sample
Gravel	7.3
Sand	85.0
Coarse sand	5.7
Medium sand	73.6
Fine sand	5.7
Silt	5.7
Clay	2.0

Case Narrative for Sample ID: SED-05-SS-1.0 (A9J0427-01)

This data is not to be used for engineering purposes.

No difficulty dispersing the fraction passing the No. 10 sieve.

Dispersion device used: Commercial drink mixer operating at least 10,000 rpm for one minute.

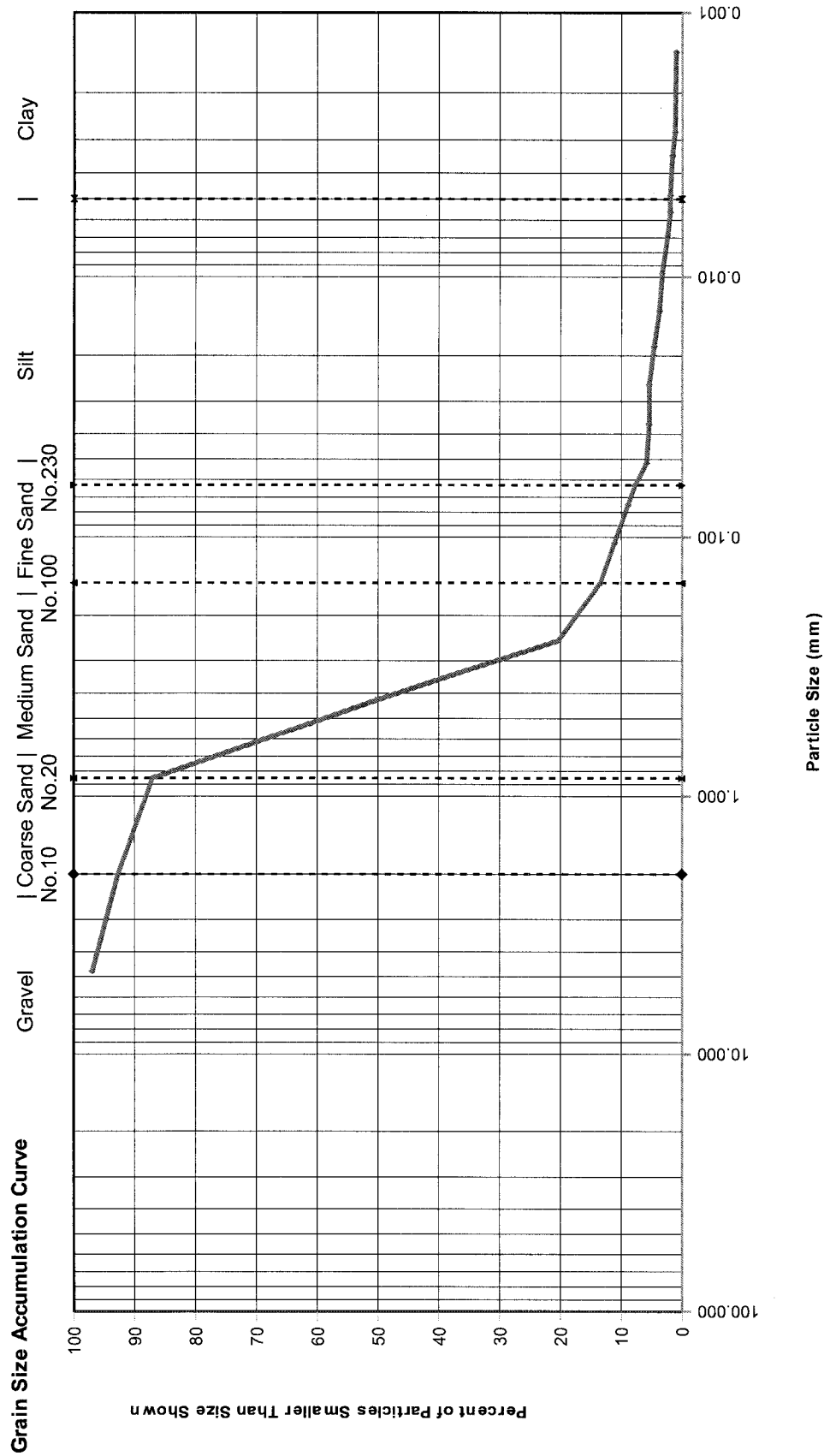
The assumed specific gravity used in the calculations was 2.65.

Organic material present in +10 fraction.



Expires 12/31/19

Apex Laboratories, LLC
Particle Size Analysis of Soil by ASTM D 422 Modified



Sample ID:	SED-05-SS-1.0 (A9J0427-01)			
Specific Gravity	MAXIMUM PARTICLE SIZE	GRAVEL & SAND		SOIL DESCRIPTION
		PARTICLE SHAPE	HARDNESS	
2.65	Gravel	Angular to Rounded	Hard and Durable	SAND with some Silt and trace Gravel and Clay

Apex Laboratories, LLC							
Particle Size Analysis of Soil by ASTM D 422							
Sample ID:	A9J0427-02		Client Sample ID:		SED-06-SS-1.0	Batch Number:	9101813
Data Entered by:	ID	Date:	11/05/19	Data Reviewed by:	JW	Date:	11/06/19
Sample Description:	SAND with some Silt and trace Gravel and Clay			Max Particle Size:	Gravel		
Particle Shape:	Angular to Sub-rounded			Hardness	Hard and Durable		

Whole Sample	Tare	Air Dry + Tare	Air Dry	Moisture	Dry Wt.
	11.573	537.113	525.54	1.10	519.8

Sieve Number	Opening (mm)	Tare	Dry + Tare	Weight Retained	Cumulative Wt. Retained	% Retained	% Passing
4	4.75	1.306	13.211	11.91	11.91	2.3	97.7
10	2.00	1.307	17.815	16.51	28.41	3.2	94.5
Pan		11.593	507.956	496.36	524.78	94.4	

Hygroscopic Moisture Correction							
	Hygroscopic Correction Factor	Oven Sample	Pan No.	Tare	Air Dry + Tare	Oven Dry + Tare	Moisture
	0.9891		J427-02	1.312	24.304	24.053	1.10

Hydrometer Analysis				
Start Date/Time	10/31/2019	9:36	Dispersing Agent	NaPO ₃
Air Dry Sample Wt. for Hydrometer Test (g)	50.459		G _s Correction Factor (α)	1.000
Percent Passing No.10 Sieve	94.5		Specific Gravity (G _s)	2.65
Dry Weight of Soil Tested (g)	49.91		Corrected Dry Weight of Soil Tested (g) (W)	52.79

Elapsed Time (min)	Hydrometer Reading	Temperature (°C)	Corrected Hydrometer Reading [R]	% Finer of Hydrometer Sample	L	K	Particle Diameter (mm)	Percent Passing
1	11	19	4.75	9.0	14.3	0.01382	0.052	8.51
2	10	19	3.75	7.1	14.5	0.01382	0.037	6.72
4	9.5	19.1	3.28	6.2	14.5	0.01382	0.026	5.87
8	9	19	2.75	5.2	14.7	0.01382	0.019	4.93
15	9	19	2.75	5.2	14.7	0.01382	0.014	4.93
30	9	19	2.75	5.2	14.7	0.01382	0.010	4.93
60	8.5	19.1	2.28	4.3	14.7	0.01382	0.007	4.08
90	8	19.2	1.81	3.4	14.8	0.01382	0.006	3.24
120	8	19.1	1.78	3.4	14.8	0.01382	0.005	3.19
240	7.5	19.2	1.31	2.5	14.8	0.01382	0.003	2.34
360	7.5	19.5	1.4	2.6	14.8	0.01365	0.003	2.50
1440	7.5	18.5	1.11	2.1	14.8	0.01382	0.001	1.98

Sieve Analysis of Portion Finer Than No. 10 Sieve							
Sieve Number	Opening (mm)	Tare	Dry + Tare	Weight Retained	Cumulative Retained	% Retained	% Passing
20	0.850	1.309	4.308	3.00	57.91	5.7	88.9
40	0.425	1.307	18.350	17.04	225.57	32.3	56.6
60	0.250	1.335	16.378	15.04	373.54	28.5	28.1
100	0.150	1.303	5.596	4.29	415.77	8.1	19.9
140	0.105	1.313	3.237	1.92	434.70	3.6	16.3
200	0.075	1.318	3.363	2.05	454.82	3.9	12.4
230	0.063	1.310	2.347	1.04	465.02	2.0	10.5
Sum				44.38	230 Minus	5.52	

Apex Laboratories, LLC
Particle Size Analysis of Soil by ASTM D 422 Modified

Sample ID: SED-06-SS-1.0 (A9J0427-02)

Grain Size Analysis Summary from Sieving and Hydrometer Testing	Particle Size (mm)	Percent Finer	Total Percent of Sample
Gravel			5.47
Retained on No. 4 sieve	4.75	97.71	2.29
Gravel, passing No. 4 sieve and retained on No. 10 sieve	2.00	94.53	3.18
Sand			84.07
Coarse sand, passing No. 10 sieve and retained on No. 20 sieve	0.8500	88.85	5.68
Medium sand, passing No. 20 sieve and retained on No. 40 sieve	0.4250	56.57	32.28
Medium sand, passing No. 40 sieve and retained on No. 60 sieve	0.2500	28.08	28.49
Medium sand, passing No. 60 sieve and retained on No. 100 sieve	0.1500	19.95	8.13
Fine sand, passing No. 100 sieve and retained on No. 140 sieve	0.1050	16.3	3.64
Fine sand, passing No. 140 sieve and retained on No. 200 sieve	0.0750	12.43	3.87
Fine sand, passing No. 200 sieve and retained on No. 230 sieve	0.0630	10.46	1.96
Silt and Clay (Measurements in the Clay fraction are noted)			10.46
Hydrometer Test	0.0523	8.51	1.96
Hydrometer Test	0.0372	6.72	1.79
Hydrometer Test	0.0263	5.87	0.84
Hydrometer Test	0.0187	4.93	0.95
Hydrometer Test	0.0137	4.93	0
Hydrometer Test	0.0097	4.93	0
Hydrometer Test	0.0068	4.08	0.84
Hydrometer Test	0.0056	3.24	0.84
Hydrometer Test Clay	0.0049	3.19	0.05
Hydrometer Test Clay	0.0034	2.34	0.84
Hydrometer Test Clay	0.0028	2.5	0
Hydrometer Test Clay	0.0014	1.98	0.36

Grain Size Summary	Percent of Total Sample
Gravel	5.5
Sand	84.1
Coarse sand	5.7
Medium sand	68.9
Fine sand	9.5
Silt	7.2
Clay	3.2

Case Narrative for Sample ID: SED-06-SS-1.0 (A9J0427-02)

This data is not to be used for engineering purposes.

No difficulty dispersing the fraction passing the No. 10 sieve.

Dispersion device used: Commercial drink mixer operating at least 10,000 rpm for one minute.

The assumed specific gravity used in the calculations was 2.65.

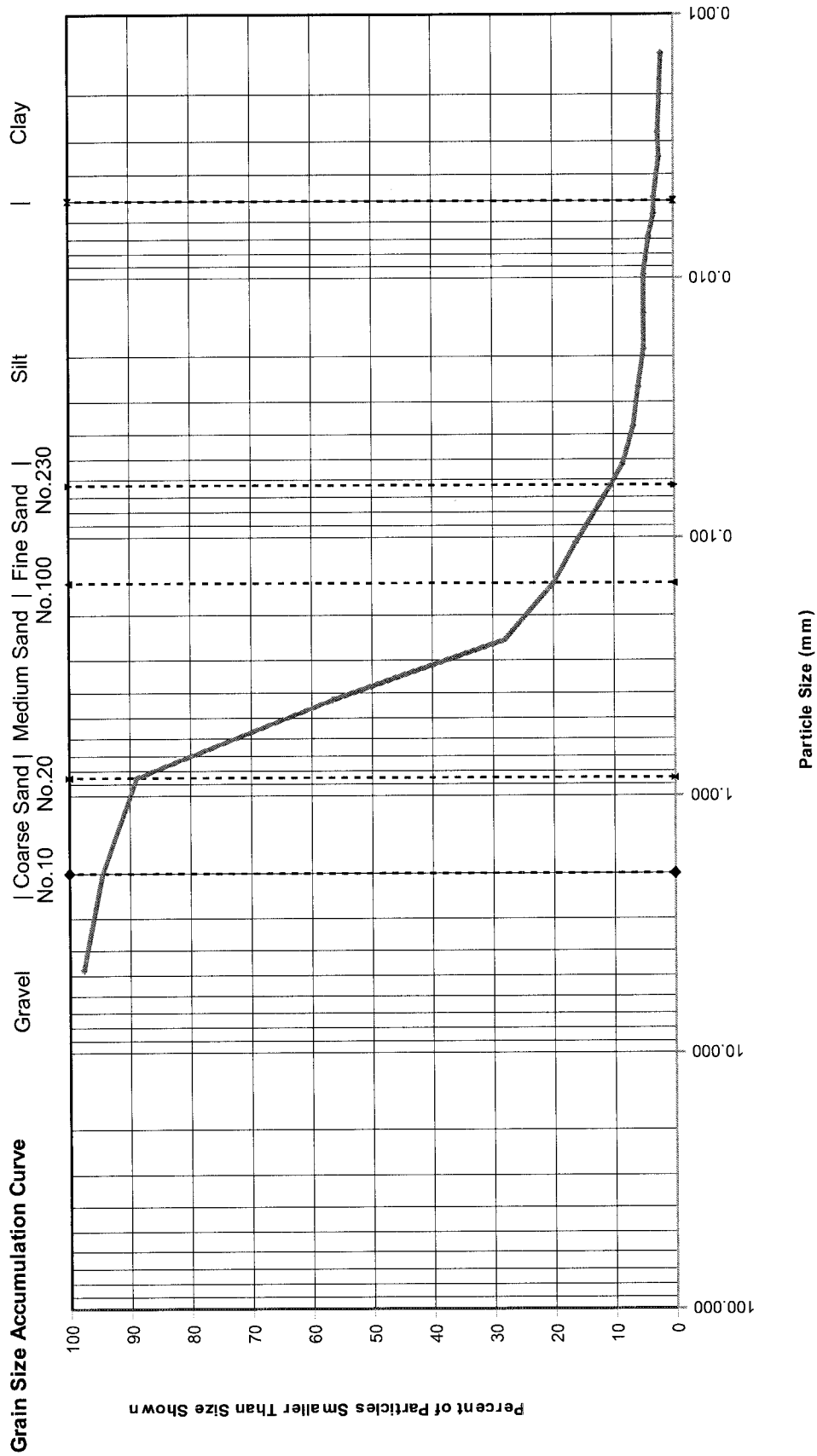
Organic material present in +4 and +10 fractions.

Trace anthropogenic material present in +10 fraction.



Expires 12/31/19

Apex Laboratories, LLC Particle Size Analysis of Soil by ASTM D 422 Modified



Sample ID: SED-06-SS-1.0 (A9J0427-02)				
Specific Gravity	MAXIMUM PARTICLE SIZE	GRAVEL & SAND		SOIL DESCRIPTION
		PARTICLE SHAPE	HARDNESS	
2.65	Gravel	Angular to Sub-rounded	Hard and Durable	SAND with some Silt and trace Gravel and Clay

Apex Laboratories, LLC							
Particle Size Analysis of Soil by ASTM D 422							
Sample ID:	A9J0427-03		Client Sample ID:		SED-07-SS-1.0	Batch Number:	9101813
Data Entered by:	ID	Date:	11/05/19	Data Reviewed by:	JW	Date:	11/06/19
Sample Description:	Clayey Sandy SILT with trace Gravel			Max Particle Size:	Gravel		
Particle Shape:	Angular to Sub-rounded			Hardness	Hard and Durable		

Whole Sample	Tare	Air Dry + Tare	Air Dry	Moisture	Dry Wt.
	11.468	420.957	409.49	2.05	401.2

Sieve Number	Opening (mm)	Tare	Dry + Tare	Weight Retained	Cumulative Wt. Retained	% Retained	% Passing
4	4.75	1.295	19.119	17.82	17.82	4.4	95.6
10	2.00	1.325	13.104	11.78	29.60	2.9	92.6
Pan		11.679	389.634	377.96	407.56	92.3	

Hygroscopic Moisture Correction							
	Hygroscopic Correction Factor	Oven Sample	Pan No.	Tare	Air Dry + Tare	Oven Dry + Tare	Moisture
	0.9799		J427-03	1.330	21.347	20.944	2.05

Hydrometer Analysis					
Start Date/Time	10/31/2019	9:18	Dispersing Agent	NaPO ₃	
Air Dry Sample Wt. for Hydrometer Test (g)	50.862		G _s Correction Factor (α)	1.000	
Percent Passing No.10 Sieve	92.6		Specific Gravity (G _s)	2.65	
Dry Weight of Soil Tested (g)	49.84		Corrected Dry Weight of Soil Tested (g) (W)	53.81	

Elapsed Time (min)	Hydrometer Reading	Temperature (°C)	Corrected Hydrometer Reading [R]	% Finer of Hydrometer Sample	L	K	Particle Diameter (mm)	Percent Passing
1	33	19	26.75	49.7	10.7	0.01382	0.045	46.05
2	29	19	22.75	42.3	11.4	0.01382	0.033	39.16
4	26.5	19	20.25	37.6	11.7	0.01382	0.024	34.86
8	23	19	16.75	31.1	12.4	0.01382	0.017	28.83
15	20	19.1	13.78	25.6	12.9	0.01382	0.013	23.72
30	18	19	11.75	21.8	13.2	0.01382	0.009	20.23
60	16	19.1	9.78	18.2	13.5	0.01382	0.007	16.83
90	14	19.2	7.81	14.5	13.8	0.01382	0.005	13.44
120	13.5	19.1	7.28	13.5	13.8	0.01382	0.005	12.53
240	12.5	19.2	6.31	11.7	14	0.01382	0.003	10.86
360	11.5	19.7	5.45	10.1	14.2	0.01365	0.003	9.39
1440	10	18.5	3.61	6.7	14.5	0.01382	0.001	6.21

Sieve Analysis of Portion Finer Than No. 10 Sieve							
Sieve Number	Opening (mm)	Tare	Dry + Tare	Weight Retained	Cumulative Retained	% Retained	% Passing
20	0.850	1.325	2.329	1.00	37.06	1.9	90.8
40	0.425	1.330	3.959	2.63	56.60	4.9	85.9
60	0.250	1.332	7.308	5.98	101.01	11.1	74.8
100	0.150	1.319	6.040	4.72	136.09	8.8	66.0
140	0.105	1.324	3.938	2.61	155.51	4.9	61.1
200	0.075	1.330	3.757	2.43	173.55	4.5	56.6
230	0.063	1.326	2.600	1.27	183.02	2.4	54.3
		Sum	20.65	230 Minus	29.19		

Apex Laboratories, LLC
Particle Size Analysis of Soil by ASTM D 422 Modified

Sample ID: SED-07-SS-1.0 (A9J0427-03)

Grain Size Analysis Summary from Sieving and Hydrometer Testing	Particle Size (mm)	Percent Finer	Total Percent of Sample
Gravel			7.38
Retained on No. 4 sieve	4.75	95.56	4.44
Gravel, passing No. 4 sieve and retained on No. 10 sieve	2.00	92.62	2.94
Sand			38.37
Coarse sand, passing No. 10 sieve and retained on No. 20 sieve	0.8500	90.76	1.87
Medium sand, passing No. 20 sieve and retained on No. 40 sieve	0.4250	85.87	4.89
Medium sand, passing No. 40 sieve and retained on No. 60 sieve	0.2500	74.76	11.11
Medium sand, passing No. 60 sieve and retained on No. 100 sieve	0.1500	65.99	8.77
Fine sand, passing No. 100 sieve and retained on No. 140 sieve	0.1050	61.13	4.86
Fine sand, passing No. 140 sieve and retained on No. 200 sieve	0.0750	56.62	4.51
Fine sand, passing No. 200 sieve and retained on No. 230 sieve	0.0630	54.25	2.37
Silt and Clay (Measurements in the Clay fraction are noted)			54.25
Hydrometer Test	0.0452	46.05	8.21
Hydrometer Test	0.0330	39.16	6.89
Hydrometer Test	0.0236	34.86	4.3
Hydrometer Test	0.0172	28.83	6.02
Hydrometer Test	0.0128	23.72	5.11
Hydrometer Test	0.0092	20.23	3.49
Hydrometer Test	0.0066	16.83	3.39
Hydrometer Test	0.0054	13.44	3.39
Hydrometer Test Clay	0.0047	12.53	0.91
Hydrometer Test Clay	0.0033	10.86	1.67
Hydrometer Test Clay	0.0027	9.39	1.47
Hydrometer Test Clay	0.0014	6.21	3.18

Grain Size Summary	Percent of Total Sample
Gravel	7.4
Sand	38.4
Coarse sand	1.9
Medium sand	24.8
Fine sand	11.7
Silt	40.8
Clay	13.4

Case Narrative for Sample ID: SED-07-SS-1.0 (A9J0427-03)

This data is not to be used for engineering purposes.

No difficulty dispersing the fraction passing the No. 10 sieve.

Dispersion device used: Commercial drink mixer operating at least 10,000 rpm for one minute.

The assumed specific gravity used in the calculations was 2.65.

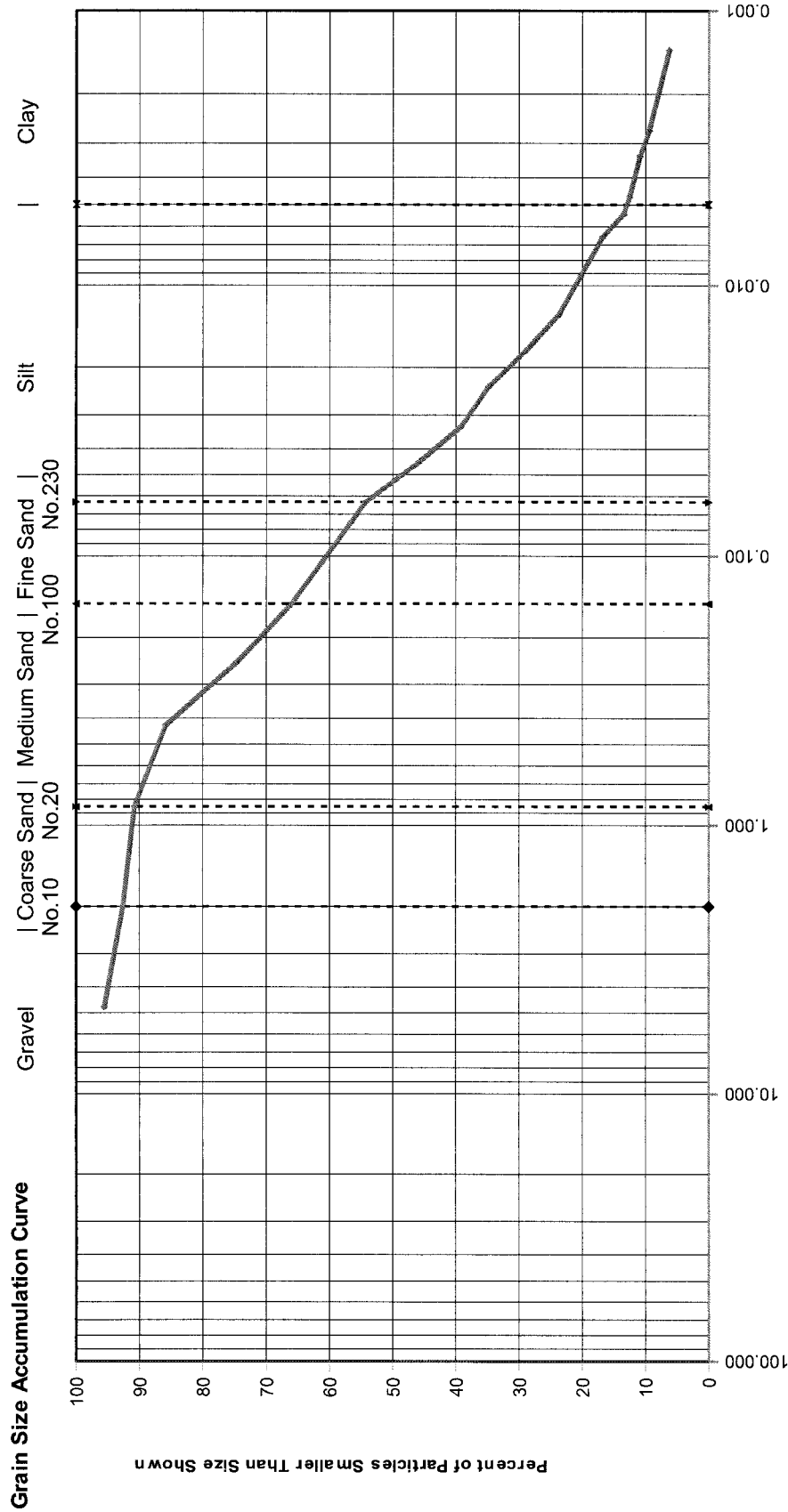
Trace organic material present in +10 fraction.

Trace anthropogenic material present in +4 and +10 fractions.



Expires 12/31/19

Apex Laboratories, LLC
Particle Size Analysis of Soil by ASTM D 422 Modified



Sample ID: SED-07-SS-1.0 (A9J0427-03)				
Specific Gravity	MAXIMUM PARTICLE SIZE	GRAVEL & SAND		SOIL DESCRIPTION
		PARTICLE SHAPE	HARDNESS	
2.65	Gravel	Angular to Sub-rounded	Hard and Durable	Clayey Sandy SILT with trace Gravel

Apex Laboratories, LLC							
Particle Size Analysis of Soil by ASTM D 422							
Sample ID:	A9J0427-04		Client Sample ID:		SED-07-SS-1.0-DUP		Batch Number: 9101813
Data Entered by:	ID	Date:	11/05/19	Data Reviewed by:	JW	Date:	11/06/19
Sample Description:	Clayey Sandy SILT with some Gravel			Max Particle Size:	Gravel		
Particle Shape:	Sub-angular to Sub-rounded			Hardness	Hard and Durable		

Whole Sample	Tare	Air Dry + Tare	Air Dry	Moisture	Dry Wt.
	11.607	470.054	458.45	2.28	448.2

Sieve Number	Opening (mm)	Tare	Dry + Tare	Weight Retained	Cumulative Wt. Retained	% Retained	% Passing
4	4.75	6.049	68.503	62.45	62.45	13.9	86.1
10	2.00	1.320	12.023	10.70	73.16	2.4	83.7
Pan		11.611	395.439	383.83	456.99	83.7	

Hygroscopic Moisture Correction							
	Hygroscopic Correction Factor	Oven Sample	Pan No.	Tare	Air Dry + Tare	Oven Dry + Tare	Moisture
	0.9777		J427-04	1.329	21.873	21.415	2.28

Hydrometer Analysis				
Start Date/Time	10/31/2019	10:11	Dispersing Agent	NaPO ₃
Air Dry Sample Wt. for Hydrometer Test (g)	52.713		G _s Correction Factor (α)	1.000
Percent Passing No.10 Sieve	83.7		Specific Gravity (G _s)	2.65
Dry Weight of Soil Tested (g)	51.54		Corrected Dry Weight of Soil Tested (g) (W)	61.59

Elapsed Time (min)	Hydrometer Reading	Temperature (°C)	Corrected Hydrometer Reading [R]	% Finer of Hydrometer Sample	L	K	Particle Diameter (mm)	Percent Passing
1	34	19.1	26.86	43.6	10.5	0.01382	0.045	36.49
2	32	19.1	24.86	40.4	10.9	0.01382	0.032	33.78
4	28	19.1	20.86	33.9	11.5	0.01382	0.023	28.34
8	25	19.1	17.86	29.0	12	0.01382	0.017	24.27
15	22	19.1	14.86	24.1	12.5	0.01382	0.013	20.19
30	20	19.1	12.86	20.9	12.9	0.01382	0.009	17.47
60	18	19.2	10.89	17.7	13.2	0.01382	0.006	14.80
90	16	19.1	8.86	14.4	13.5	0.01382	0.005	12.04
120	15	19.1	7.86	12.8	13.7	0.01382	0.005	10.68
240	14	19.3	6.92	11.2	13.8	0.01382	0.003	9.40
360	13	19.3	5.92	9.6	14	0.01382	0.003	8.04
1440	12	18.6	4.72	7.7	14.2	0.01382	0.001	6.41

Sieve Analysis of Portion Finer Than No. 10 Sieve							
Sieve Number	Opening (mm)	Tare	Dry + Tare	Weight Retained	Cumulative Retained	% Retained	% Passing
20	0.850	1.314	2.252	0.94	79.99	1.5	82.2
40	0.425	1.329	4.165	2.84	100.64	4.6	77.6
60	0.250	1.324	7.403	6.08	144.90	9.9	67.7
100	0.150	1.306	6.220	4.91	180.68	8.0	59.7
140	0.105	1.337	4.126	2.79	200.99	4.5	55.2
200	0.075	1.323	3.763	2.44	218.76	4.0	51.2
230	0.063	1.310	2.601	1.29	228.16	2.1	49.1
		Sum	21.29	230 Minus	30.25		

Apex Laboratories, LLC
Particle Size Analysis of Soil by ASTM D 422 Modified

Sample ID: SED-07-SS-1.0-DUP (A9J0427-04)

Grain Size Analysis Summary from Sieving and Hydrometer Testing	Particle Size (mm)	Percent Finer	Total Percent of Sample
Gravel			16.32
Retained on No. 4 sieve	4.75	86.07	13.93
Gravel, passing No. 4 sieve and retained on No. 10 sieve	2.00	83.68	2.39
Sand			34.56
Coarse sand, passing No. 10 sieve and retained on No. 20 sieve	0.8500	82.16	1.52
Medium sand, passing No. 20 sieve and retained on No. 40 sieve	0.4250	77.55	4.6
Medium sand, passing No. 40 sieve and retained on No. 60 sieve	0.2500	67.68	9.87
Medium sand, passing No. 60 sieve and retained on No. 100 sieve	0.1500	59.7	7.98
Fine sand, passing No. 100 sieve and retained on No. 140 sieve	0.1050	55.17	4.53
Fine sand, passing No. 140 sieve and retained on No. 200 sieve	0.0750	51.21	3.96
Fine sand, passing No. 200 sieve and retained on No. 230 sieve	0.0630	49.12	2.1
Silt and Clay (Measurements in the Clay fraction are noted)			49.12
Hydrometer Test	0.0448	36.49	12.62
Hydrometer Test	0.0323	33.78	2.72
Hydrometer Test	0.0234	28.34	5.43
Hydrometer Test	0.0169	24.27	4.08
Hydrometer Test	0.0126	20.19	4.08
Hydrometer Test	0.0091	17.47	2.72
Hydrometer Test	0.0065	14.8	2.68
Hydrometer Test	0.0054	12.04	2.76
Hydrometer Test Clay	0.0047	10.68	1.36
Hydrometer Test Clay	0.0033	9.4	1.28
Hydrometer Test Clay	0.0027	8.04	1.36
Hydrometer Test Clay	0.0014	6.41	1.63

Grain Size Summary	Percent of Total Sample
Gravel	16.3
Sand	34.6
Coarse sand	1.5
Medium sand	22.5
Fine sand	10.6
Silt	37.1
Clay	12.0

Case Narrative for Sample ID: SED-07-SS-1.0-DUP (A9J0427-04)

This data is not to be used for engineering purposes.

No difficulty dispersing the fraction passing the No. 10 sieve.

Dispersion device used: Commercial drink mixer operating at least 10,000 rpm for one minute.

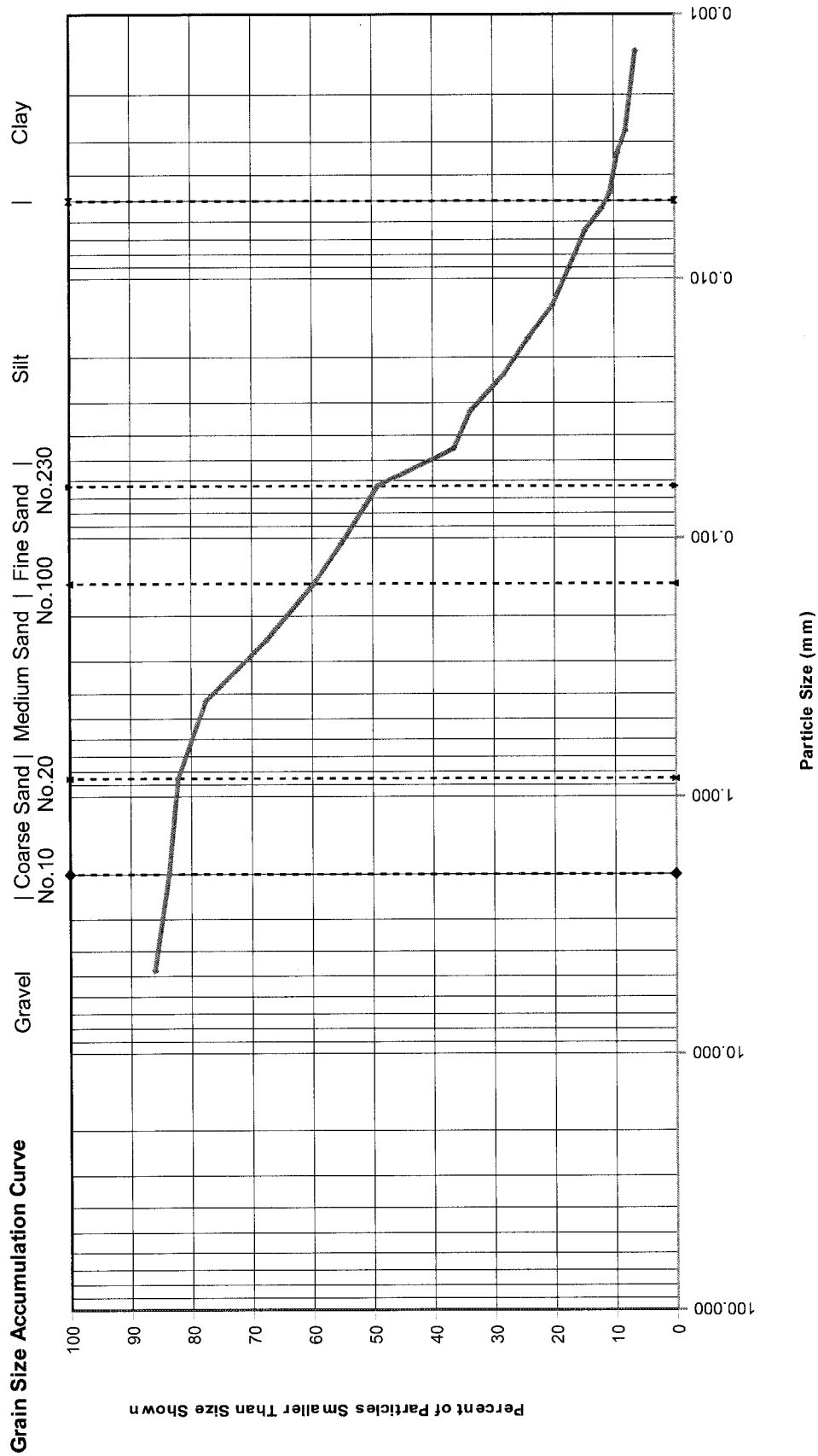
The assumed specific gravity used in the calculations was 2.65.

Organic material present in +4 and +10 fractions.



Express 12/31/19

Apex Laboratories, LLC
Particle Size Analysis of Soil by ASTM D 422 Modified



Sample ID: SED-07-SS-1.0-DUP (A9J0427-04)				
Specific Gravity	MAXIMUM PARTICLE SIZE	GRAVEL & SAND		SOIL DESCRIPTION
		PARTICLE SHAPE	HARDNESS	
2.65	Gravel	Sub-angular to Sub-rounded	Hard and Durable	Clayey Sandy SILT with some Gravel

Apex Laboratories, LLC							
Particle Size Analysis of Soil by ASTM D 422							
Sample ID:	A9J0427-05		Client Sample ID:		SED-08-SS-1.0		Batch Number: 9101813
Data Entered by:	ID	Date:	11/05/19	Data Reviewed by:	JW	Date:	11/06/19
Sample Description:	SAND with some Gravel and Silt and trace Clay			Max Particle Size:	Gravel		
Particle Shape:	Angular to Sub-rounded			Hardness	Hard and Durable		

Whole Sample	Tare	Air Dry + Tare	Air Dry	Moisture	Dry Wt.
	11.399	549.350	537.95	1.47	530.2

Sieve Number	Opening (mm)	Tare	Dry + Tare	Weight Retained	Cumulative Wt. Retained	% Retained	% Passing
4	4.75	6.049	60.945	54.90	54.90	10.4	89.6
10	2.00	6.088	48.058	41.97	96.87	7.9	81.7
Pan		11.481	450.128	438.65	535.51	81.5	

Hygroscopic Moisture Correction								
	Hygroscopic Correction Factor	Oven Sample	Pan No.	Tare	Air Dry + Tare	Oven Dry + Tare	Moisture	
	0.9855		J427-05	1.311	21.462	21.170	1.47	

Hydrometer Analysis				
Start Date/Time	10/31/2019	9:48	Dispersing Agent	NaPO ₃
Air Dry Sample Wt. for Hydrometer Test (g)	102.301		G _s Correction Factor (α)	1.000
Percent Passing No.10 Sieve	81.7		Specific Gravity (G _s)	2.65
Dry Weight of Soil Tested (g)	100.82		Corrected Dry Weight of Soil Tested (g) (W)	123.36

Elapsed Time (min)	Hydrometer Reading	Temperature (°C)	Corrected Hydrometer Reading [R]	% Finer of Hydrometer Sample	L	K	Particle Diameter (mm)	Percent Passing
1	19	19.1	11.86	9.6	13	0.01382	0.050	7.86
2	18	19.2	10.89	8.8	13.2	0.01382	0.036	7.22
4	17	19.1	9.86	8.0	13.3	0.01382	0.025	6.53
8	16	19.2	8.89	7.2	13.5	0.01382	0.018	5.89
15	15	19.2	7.89	6.4	13.7	0.01382	0.013	5.23
30	14	19.2	6.89	5.6	13.8	0.01382	0.009	4.56
60	13	19.2	5.89	4.8	14	0.01382	0.007	3.90
90	12	19.2	4.89	4.0	14.2	0.01382	0.005	3.24
120	11.5	19.1	4.36	3.5	14.2	0.01382	0.005	2.89
240	10.5	19.3	3.42	2.8	14.3	0.01382	0.003	2.26
360	10	19.5	2.98	2.4	14.5	0.01365	0.003	1.97
1440	10	18.5	2.69	2.2	14.5	0.01382	0.001	1.78

Sieve Analysis of Portion Finer Than No. 10 Sieve							
Sieve Number	Opening (mm)	Tare	Dry + Tare	Weight Retained	Cumulative Retained	% Retained	% Passing
20	0.850	1.310	8.476	7.17	127.59	5.8	75.9
40	0.425	1.303	28.756	27.45	245.31	22.3	53.7
60	0.250	1.315	37.011	35.70	398.36	28.9	24.7
100	0.150	1.311	13.574	12.26	450.94	9.9	14.8
140	0.105	1.314	3.600	2.29	460.75	1.9	12.9
200	0.075	1.316	2.931	1.62	467.67	1.3	11.6
230	0.063	1.328	2.104	0.78	471.00	0.6	11.0
Sum				87.26	230 Minus	13.56	

Apex Laboratories, LLC
Particle Size Analysis of Soil by ASTM D 422 Modified

Sample ID: SED-08-SS-1.0 (A9J0427-05)

Grain Size Analysis Summary from Sieving and Hydrometer Testing	Particle Size (mm)	Percent Finer	Total Percent of Sample
Gravel			18.27
Retained on No. 4 sieve	4.75	89.65	10.35
Gravel, passing No. 4 sieve and retained on No. 10 sieve	2.00	81.73	7.92
Sand			70.73
Coarse sand, passing No. 10 sieve and retained on No. 20 sieve	0.8500	75.92	5.81
Medium sand, passing No. 20 sieve and retained on No. 40 sieve	0.4250	53.66	22.25
Medium sand, passing No. 40 sieve and retained on No. 60 sieve	0.2500	24.73	28.94
Medium sand, passing No. 60 sieve and retained on No. 100 sieve	0.1500	14.79	9.94
Fine sand, passing No. 100 sieve and retained on No. 140 sieve	0.1050	12.93	1.85
Fine sand, passing No. 140 sieve and retained on No. 200 sieve	0.0750	11.62	1.31
Fine sand, passing No. 200 sieve and retained on No. 230 sieve	0.0630	11	0.63
Silt and Clay (Measurements in the Clay fraction are noted)			11
Hydrometer Test	0.0498	7.86	3.14
Hydrometer Test	0.0355	7.22	0.64
Hydrometer Test	0.0252	6.53	0.68
Hydrometer Test	0.0180	5.89	0.64
Hydrometer Test	0.0132	5.23	0.66
Hydrometer Test	0.0094	4.56	0.66
Hydrometer Test	0.0067	3.9	0.66
Hydrometer Test	0.0055	3.24	0.66
Hydrometer Test Clay	0.0048	2.89	0.35
Hydrometer Test Clay	0.0034	2.26	0.62
Hydrometer Test Clay	0.0027	1.97	0.29
Hydrometer Test Clay	0.0014	1.78	0.19

Grain Size Summary	Percent of Total Sample
Gravel	18.3
Sand	70.7
Coarse sand	5.8
Medium sand	61.1
Fine sand	3.8
Silt	7.8
Clay	3.2

Case Narrative for Sample ID: SED-08-SS-1.0 (A9J0427-05)

This data is not to be used for engineering purposes.

No difficulty dispersing the fraction passing the No. 10 sieve.

Dispersion device used: Commercial drink mixer operating at least 10,000 rpm for one minute.

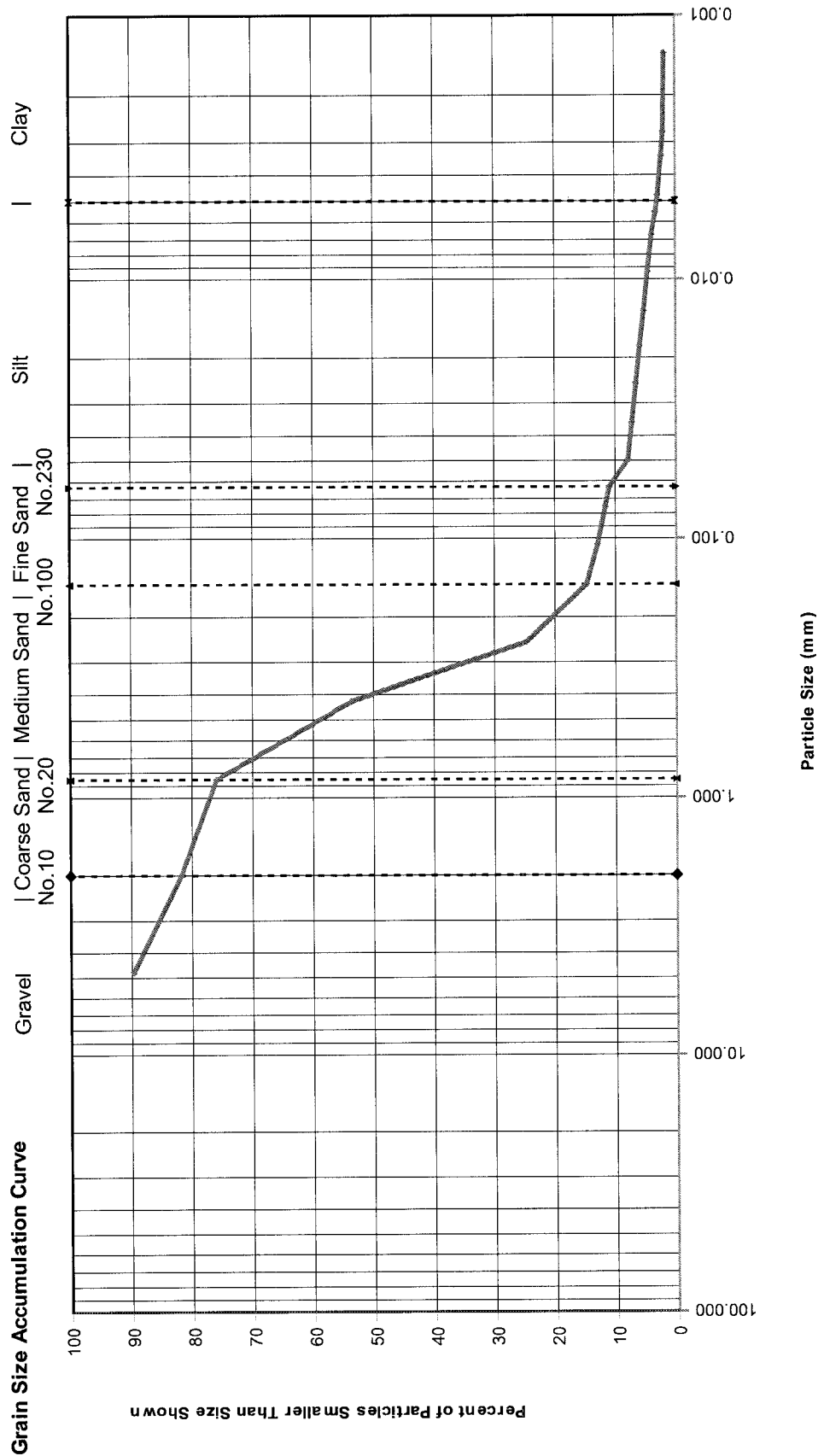
The assumed specific gravity used in the calculations was 2.65.

Organic material present in +4 and +10 fractions.



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Apex Laboratories, LLC
Particle Size Analysis of Soil by ASTM D 422 Modified



Sample ID: SED-08-SS-1.0 (A9J0427-05)				
Specific Gravity	MAXIMUM PARTICLE SIZE	GRAVEL & SAND		SOIL DESCRIPTION
		PARTICLE SHAPE	HARDNESS	
2.65	Gravel	Angular to Sub-rounded	Hard and Durable	SAND with some Gravel and Silt and trace Clay

Apex Laboratories, LLC							
Particle Size Analysis of Soil by ASTM D 422							
Sample ID:	A9J0427-06		Client Sample ID:		SED-09-SS-1.0	Batch Number:	9101813
Data Entered by:	ID	Date:	11/05/19	Data Reviewed by:	JW	Date:	11/06/19
Sample Description:	Silty SAND with some Clay			Max Particle Size:	Gravel		
Particle Shape:	Sub-angular to Sub-rounded			Hardness	Hard and Durable		

Whole Sample	Tare	Air Dry + Tare	Air Dry	Moisture	Dry Wt.
	11.448	472.699	461.25	1.56	454.2

Sieve Number	Opening (mm)	Tare	Dry + Tare	Weight Retained	Cumulative Wt. Retained	% Retained	% Passing
4	4.75	1.319	5.422	4.10	4.10	0.9	99.1
10	2.00	1.317	5.463	4.15	8.25	0.9	98.2
Pan		11.422	464.012	452.59	460.84	98.1	

Hygroscopic Moisture Correction								
	Hygroscopic Correction Factor	Oven Sample	Pan No.	Tare	Air Dry + Tare	Oven Dry + Tare	Moisture	
	0.9847		J427-06	1.309	22.912	22.581	1.56	

Hydrometer Analysis					
Start Date/Time	10/31/2019	9:28	Dispersing Agent	NaPO ₃	
Air Dry Sample Wt. for Hydrometer Test (g)	100.180		G _s Correction Factor (α)	1.000	
Percent Passing No.10 Sieve	98.2		Specific Gravity (G _s)	2.65	
Dry Weight of Soil Tested (g)	98.65		Corrected Dry Weight of Soil Tested (g) (W)	100.47	

Elapsed Time (min)	Hydrometer Reading	Temperature (°C)	Corrected Hydrometer Reading [R]	% Finer of Hydrometer Sample	L	K	Particle Diameter (mm)	Percent Passing
1	23	19	15.83	15.8	12.4	0.01382	0.049	15.47
2	20.5	19.1	13.36	13.3	12.7	0.01382	0.035	13.06
4	17.5	19	10.33	10.3	13.2	0.01382	0.025	10.10
8	16	19.1	8.86	8.8	13.5	0.01382	0.018	8.66
15	15.5	19.1	8.36	8.3	13.5	0.01382	0.013	8.17
30	15.5	19.1	8.36	8.3	13.5	0.01382	0.009	8.17
60	14	19.3	6.92	6.9	13.8	0.01382	0.007	6.76
90	12.5	19.3	5.42	5.4	14	0.01382	0.005	5.30
120	12	19.3	4.92	4.9	14.2	0.01382	0.005	4.81
240	10.5	19.2	3.39	3.4	14.3	0.01382	0.003	3.31
360	10	19.3	2.92	2.9	14.5	0.01382	0.003	2.85
1440	10	18.4	2.66	2.6	14.5	0.01399	0.001	2.60

Sieve Analysis of Portion Finer Than No. 10 Sieve							
Sieve Number	Opening (mm)	Tare	Dry + Tare	Weight Retained	Cumulative Retained	% Retained	% Passing
20	0.850	1.313	2.059	0.75	11.62	0.7	97.4
40	0.425	1.322	7.501	6.18	39.53	6.2	91.3
60	0.250	1.321	27.895	26.57	159.59	26.4	64.8
100	0.150	1.310	35.119	33.81	312.33	33.7	31.2
140	0.105	1.331	7.481	6.15	340.12	6.1	25.1
200	0.075	1.323	5.846	4.52	360.55	4.5	20.6
230	0.063	1.334	3.572	2.24	370.66	2.2	18.3
Sum				80.22	230 Minus	18.43	

Apex Laboratories, LLC
Particle Size Analysis of Soil by ASTM D 422 Modified

Sample ID: SED-09-SS-1.0 (A9J0427-06)

Grain Size Analysis Summary from Sieving and Hydrometer Testing	Particle Size (mm)	Percent Finer	Total Percent of Sample
Gravel			1.82
Retained on No. 4 sieve	4.75	99.1	0.9
Gravel, passing No. 4 sieve and retained on No. 10 sieve	2.00	98.18	0.91
Sand			79.84
Coarse sand, passing No. 10 sieve and retained on No. 20 sieve	0.8500	97.44	0.74
Medium sand, passing No. 20 sieve and retained on No. 40 sieve	0.4250	91.29	6.15
Medium sand, passing No. 40 sieve and retained on No. 60 sieve	0.2500	64.84	26.45
Medium sand, passing No. 60 sieve and retained on No. 100 sieve	0.1500	31.19	33.65
Fine sand, passing No. 100 sieve and retained on No. 140 sieve	0.1050	25.07	6.12
Fine sand, passing No. 140 sieve and retained on No. 200 sieve	0.0750	20.57	4.5
Fine sand, passing No. 200 sieve and retained on No. 230 sieve	0.0630	18.34	2.23
Silt and Clay (Measurements in the Clay fraction are noted)			18.34
Hydrometer Test	0.0487	15.47	2.87
Hydrometer Test	0.0348	13.06	2.42
Hydrometer Test	0.0251	10.1	2.96
Hydrometer Test	0.0180	8.66	1.44
Hydrometer Test	0.0131	8.17	0.49
Hydrometer Test	0.0093	8.17	0
Hydrometer Test	0.0066	6.76	1.41
Hydrometer Test	0.0055	5.3	1.47
Hydrometer Test Clay	0.0048	4.81	0.49
Hydrometer Test Clay	0.0034	3.31	1.49
Hydrometer Test Clay	0.0028	2.85	0.46
Hydrometer Test Clay	0.0014	2.6	0.25

Grain Size Summary	Percent of Total Sample
Gravel	1.8
Sand	79.8
Coarse sand	0.7
Medium sand	66.3
Fine sand	12.9
Silt	13.0
Clay	5.3

Case Narrative for Sample ID: SED-09-SS-1.0 (A9J0427-06)

This data is not to be used for engineering purposes.

No difficulty dispersing the fraction passing the No. 10 sieve.

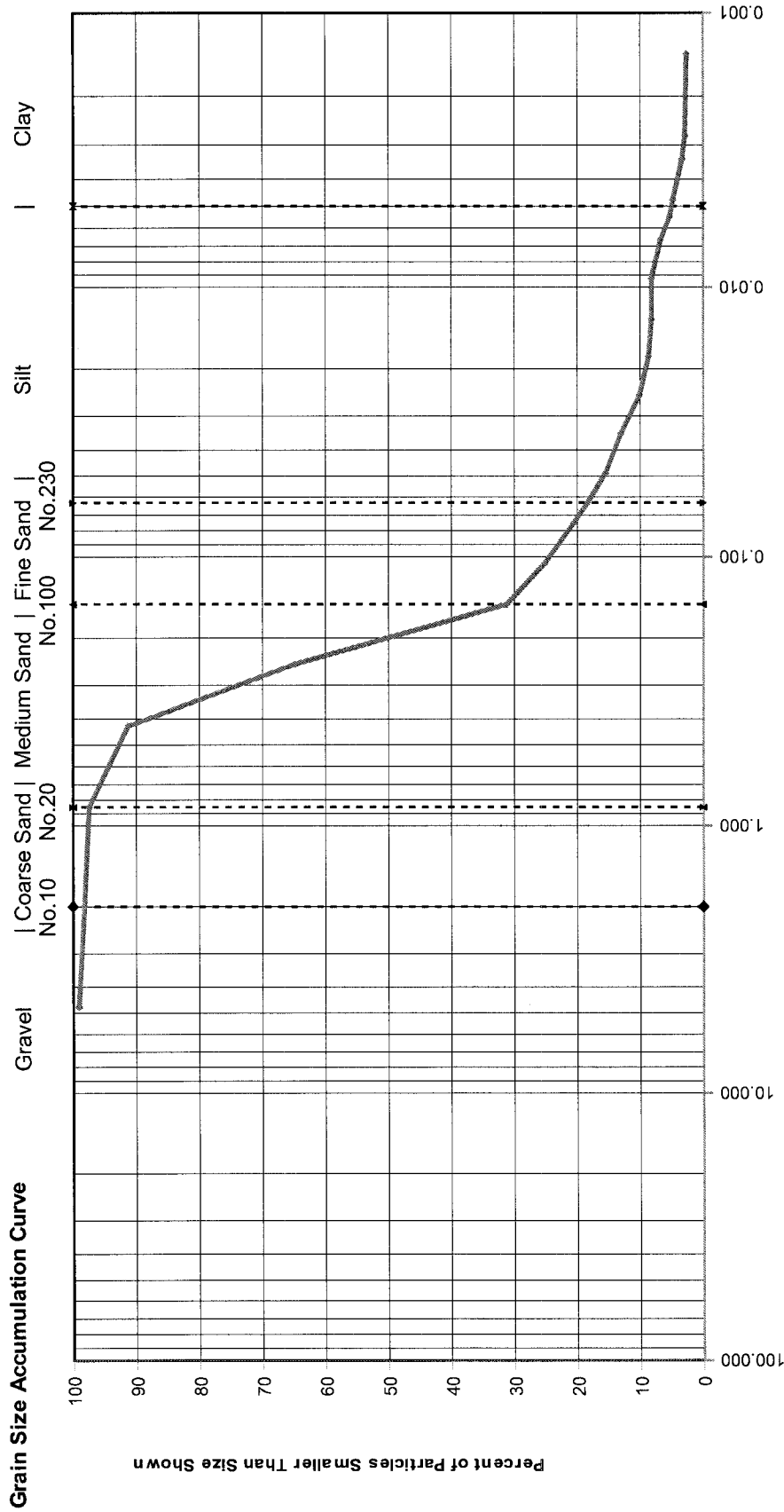
Dispersion device used: Commercial drink mixer operating at least 10,000 rpm for one minute.

The assumed specific gravity used in the calculations was 2.65.

+4 and +10 fractions contain abundant organic material.



Apex Laboratories, LLC
Particle Size Analysis of Soil by ASTM D 422 Modified



Particle Size (mm)

Sample ID: SED-09-SS-1.0 (A9J0427-06)				
Specific Gravity	MAXIMUM PARTICLE SIZE	GRAVEL & SAND		SOIL DESCRIPTION
		PARTICLE SHAPE	HARDNESS	
2.65	Gravel	Sub-angular to Sub-rounded	Hard and Durable	Silty SAND with some Clay

Apex Laboratories, LLC							
Particle Size Analysis of Soil by ASTM D 422							
Sample ID:	A9J0427-07		Client Sample ID:		SED-10-SS-1.0		Batch Number: 9101813
Data Entered by:	ID	Date:	11/05/19	Data Reviewed by:	JW	Date:	11/06/19
Sample Description:	Silty SAND with some Clay			Max Particle Size:	Gravel		
Particle Shape:	Sub-angular to Sub-rounded			Hardness	Hard and Durable		

Whole Sample	Tare	Air Dry + Tare	Air Dry	Moisture	Dry Wt.
	11.905	336.407	324.50	1.98	318.2

Sieve Number	Opening (mm)	Tare	Dry + Tare	Weight Retained	Cumulative Wt. Retained	% Retained	% Passing
4	4.75	1.307	4.156	2.85	2.85	0.9	99.1
10	2.00	1.310	6.111	4.80	7.65	1.5	97.6
Pan		11.931	328.294	316.36	324.01	97.5	

Hygroscopic Moisture Correction							
	Hygroscopic Correction Factor	Oven Sample	Pan No.	Tare	Air Dry + Tare	Oven Dry + Tare	Moisture
	0.9806		J427-07	1.308	21.529	21.136	1.98

Hydrometer Analysis				
Start Date/Time	10/31/2019	9:08	Dispersing Agent	NaPO ₃
Air Dry Sample Wt. for Hydrometer Test (g)	51.932		G _s Correction Factor (α)	1.000
Percent Passing No.10 Sieve	97.6		Specific Gravity (G _s)	2.65
Dry Weight of Soil Tested (g)	50.92		Corrected Dry Weight of Soil Tested (g) (W)	52.18

Elapsed Time (min)	Hydrometer Reading	Temperature (°C)	Corrected Hydrometer Reading [R]	% Finer of Hydrometer Sample	L	K	Particle Diameter (mm)	Percent Passing
1	26	19	18.83	36.1	11.9	0.01382	0.048	35.23
2	23	19	15.83	30.3	12.4	0.01382	0.034	29.62
4	19	19	11.83	22.7	13	0.01382	0.025	22.13
8	17.5	19	10.33	19.8	13.2	0.01382	0.018	19.33
15	16.5	19.1	9.36	17.9	13.3	0.01382	0.013	17.51
30	14.5	19.3	7.42	14.2	13.7	0.01382	0.009	13.88
60	13	19.2	5.89	11.3	14	0.01382	0.007	11.02
90	12	19.2	4.89	9.4	14.2	0.01382	0.005	9.15
120	12	19.2	4.89	9.4	14.2	0.01382	0.005	9.15
240	11	19.2	3.89	7.5	14.3	0.01382	0.003	7.28
360	10.5	19.4	3.45	6.6	14.3	0.01382	0.003	6.45
1440	10	18.5	2.69	5.2	14.5	0.01382	0.001	5.03

Sieve Analysis of Portion Finer Than No. 10 Sieve							
Sieve Number	Opening (mm)	Tare	Dry + Tare	Weight Retained	Cumulative Retained	% Retained	% Passing
20	0.850	1.321	3.188	1.87	19.02	3.6	94.0
40	0.425	1.318	8.628	7.31	63.56	14.0	80.0
60	0.250	1.327	12.197	10.87	129.77	20.8	59.2
100	0.150	1.315	5.457	4.14	155.01	7.9	51.2
140	0.105	1.311	3.580	2.27	168.83	4.3	46.9
200	0.075	1.302	4.028	2.73	185.44	5.2	41.7
230	0.063	1.305	2.682	1.38	193.82	2.6	39.0
Sum				30.56	230 Minus	20.36	

Apex Laboratories, LLC
Particle Size Analysis of Soil by ASTM D 422 Modified

Sample ID: SED-10-SS-1.0 (A9J0427-07)

Grain Size Analysis Summary from Sieving and Hydrometer Testing	Particle Size (mm)	Percent Finer	Total Percent of Sample
Gravel			2.4
Retained on No. 4 sieve	4.75	99.1	0.9
Gravel, passing No. 4 sieve and retained on No. 10 sieve	2.00	97.6	1.51
Sand			58.57
Coarse sand, passing No. 10 sieve and retained on No. 20 sieve	0.8500	94.02	3.58
Medium sand, passing No. 20 sieve and retained on No. 40 sieve	0.4250	80.01	14.01
Medium sand, passing No. 40 sieve and retained on No. 60 sieve	0.2500	59.17	20.83
Medium sand, passing No. 60 sieve and retained on No. 100 sieve	0.1500	51.24	7.94
Fine sand, passing No. 100 sieve and retained on No. 140 sieve	0.1050	46.89	4.35
Fine sand, passing No. 140 sieve and retained on No. 200 sieve	0.0750	41.66	5.22
Fine sand, passing No. 200 sieve and retained on No. 230 sieve	0.0630	39.02	2.64
Silt and Clay (Measurements in the Clay fraction are noted)			39.02
Hydrometer Test	0.0477	35.23	3.8
Hydrometer Test	0.0344	29.62	5.61
Hydrometer Test	0.0249	22.13	7.48
Hydrometer Test	0.0178	19.33	2.81
Hydrometer Test	0.0130	17.51	1.82
Hydrometer Test	0.0093	13.88	3.63
Hydrometer Test	0.0067	11.02	2.86
Hydrometer Test	0.0055	9.15	1.87
Hydrometer Test Clay	0.0048	9.15	0
Hydrometer Test Clay	0.0034	7.28	1.87
Hydrometer Test Clay	0.0028	6.45	0.83
Hydrometer Test Clay	0.0014	5.03	1.42

Grain Size Summary	Percent of Total Sample
Gravel	2.4
Sand	58.6
Coarse sand	3.6
Medium sand	42.8
Fine sand	12.2
Silt	29.9
Clay	9.1

Case Narrative for Sample ID: SED-10-SS-1.0 (A9J0427-07)

This data is not to be used for engineering purposes.

No difficulty dispersing the fraction passing the No. 10 sieve.

Dispersion device used: Commercial drink mixer operating at least 10,000 rpm for one minute.

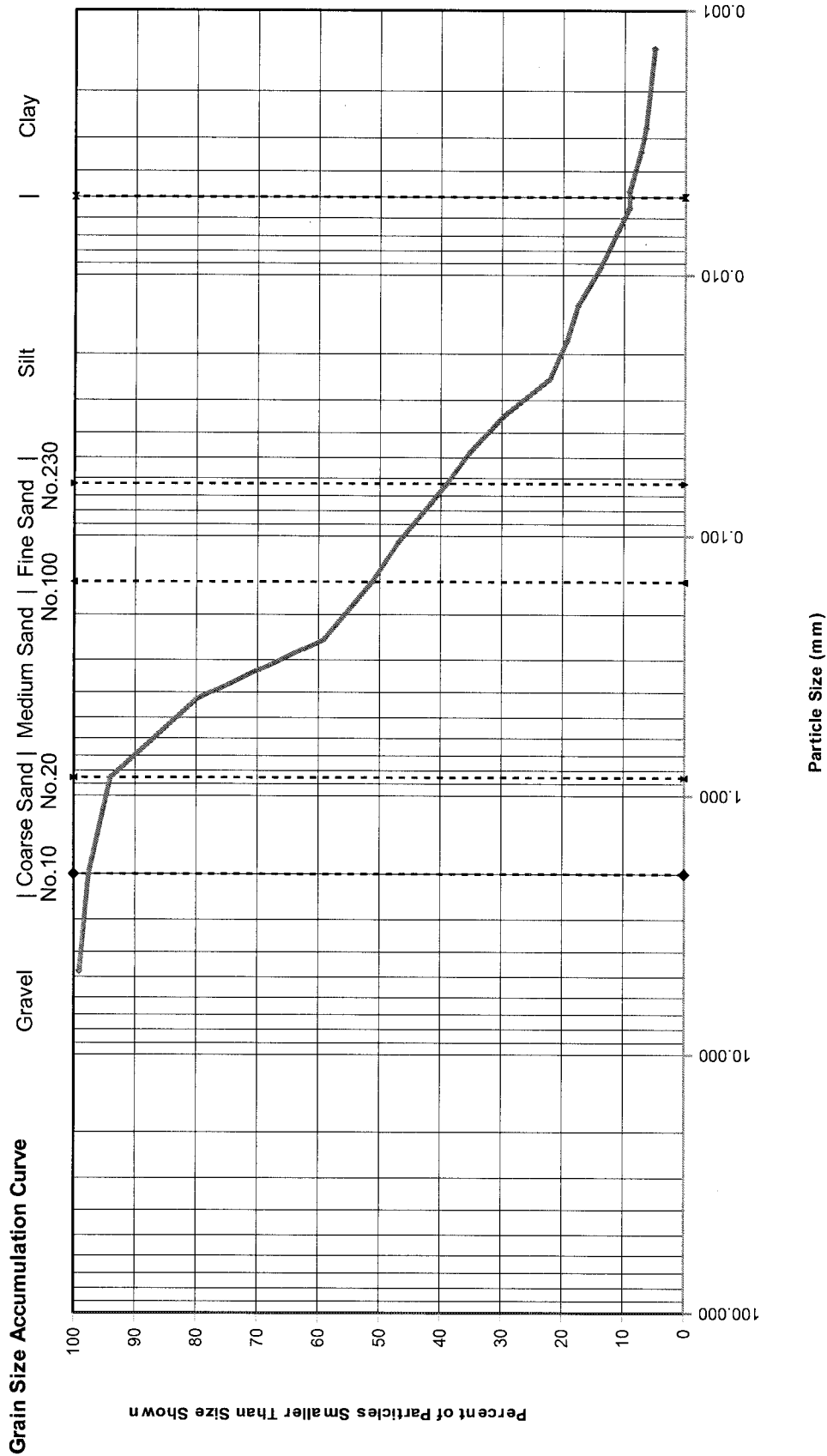
The assumed specific gravity used in the calculations was 2.65.

+4 and +10 fractions contain abundant organic material.



Expires 12/31/19

Apex Laboratories, LLC Particle Size Analysis of Soil by ASTM D 422 Modified



Sample ID: SED-10-SS-1.0 (A9J0427-07)				
Specific Gravity	MAXIMUM PARTICLE SIZE	GRAVEL & SAND		SOIL DESCRIPTION
		PARTICLE SHAPE	HARDNESS	
2.65	Gravel	Sub-angular to Sub-rounded	Hard and Durable	Silty SAND with some Clay