Apex Laboratories, LLC

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

Tuesday, November 19, 2019

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

RE: A9J0277 - 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 A9J0277, which was received by the laboratory on 10/8/2019 at 11:25:00AM.

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	1.2 degC	Cooler #2	4.1 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This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.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

Philip Nerenberg, Lab Director

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Maul Foster & Alongi, INC.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SED05-SB-2	A9J0277-01	Sediment	10/07/19 18:40	10/08/19 11:25
SED05-SB-5	A9J0277-03	Sediment	10/07/19 18:57	10/08/19 11:25
SED05-SB-7	A9J0277-04	Sediment	10/07/19 19:05	10/08/19 11:25
SED05-SB-RB	A9J0277-05	Water	10/07/19 19:15	10/08/19 11:25

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Philip Nerenberg

Philip Nerenberg, Lab Director

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Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

ANALYTICAL CASE NARRATIVE

Work Order: A9J0277

Analyses with dilutions:

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

SED05-SB-2 (40x)
SED05-SB-5 (40x)
SED05-SB-7 (40x)

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

SED05-SB-2 (10x)
SED05-SB-5 (10x)
SED05-SB-7 (10x)

Philip Nerenberg
Lab Director
11/19/19

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2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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
SED05-SB-2 (A9J0277-01)				**Matrix: Sediment**		**Batch: 9101025**		
Diesel	ND	14.5	29.0	mg/kg dry	1	10/14/19 20:37	NWTPH-Dx	
Oil	**289**	29.0	58.0	mg/kg dry	1	10/14/19 20:37	NWTPH-Dx	**F-03**
Surrogate: o-Terphenyl (Surr)		*Recovery: 95 %*		*Limits: 50-150 %*	*1*	*10/14/19 20:37*	*NWTPH-Dx*	
SED05-SB-5 (A9J0277-03)				**Matrix: Sediment**		**Batch: 9101025**		
Diesel	ND	12.9	25.8	mg/kg dry	1	10/14/19 21:18	NWTPH-Dx	
Oil	**176**	25.8	51.7	mg/kg dry	1	10/14/19 21:18	NWTPH-Dx	**F-03**
Surrogate: o-Terphenyl (Surr)		*Recovery: 93 %*		*Limits: 50-150 %*	*1*	*10/14/19 21:18*	*NWTPH-Dx*	
SED05-SB-7 (A9J0277-04)				**Matrix: Sediment**		**Batch: 9101025**		
Diesel	ND	12.5	25.1	mg/kg dry	1	10/14/19 21:39	NWTPH-Dx	
Oil	**172**	25.1	50.1	mg/kg dry	1	10/14/19 21:39	NWTPH-Dx	**F-03**
Surrogate: o-Terphenyl (Surr)		*Recovery: 96 %*		*Limits: 50-150 %*	*1*	*10/14/19 21:39*	*NWTPH-Dx*	
SED05-SB-RB (A9J0277-05)				**Matrix: Water**		**Batch: 9100853**		
Diesel	**0.158**	0.0980	0.196	mg/L	1	10/09/19 20:40	NWTPH-Dx	**Ja**
Oil	ND	0.196	0.392	mg/L	1	10/09/19 20:40	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 100 %*		*Limits: 50-150 %*	*1*	*10/09/19 20:40*	*NWTPH-Dx*	

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Philip Nerenberg, Lab Director

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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
SED05-SB-2 (A9J0277-01)				**Matrix: Sediment**		**Batch: 9101307**		
Acenaphthene	**177**	78.8	158	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Acenaphthylene	ND	78.8	158	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Anthracene	ND	78.8	158	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Benz(a)anthracene	**301**	78.8	158	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Benzo(a)pyrene	**331**	118	237	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Benzo(b)fluoranthene	**345**	118	237	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Benzo(k)fluoranthene	**170**	118	237	ug/kg dry	40	10/18/19 15:07	EPA 8270D	**Ja**
Benzo(g,h,i)perylene	**244**	78.8	158	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Chrysene	**348**	78.8	158	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Dibenz(a,h)anthracene	ND	78.8	158	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Fluoranthene	**985**	78.8	158	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Fluorene	ND	78.8	158	ug/kg dry	40	10/18/19 15:07	EPA 8270D	Q-42
Indeno(1,2,3-cd)pyrene	**200**	78.8	158	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
1-Methylnaphthalene	ND	158	316	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
2-Methylnaphthalene	ND	158	316	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Naphthalene	ND	158	316	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Phenanthrene	**920**	78.8	158	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Pyrene	**1210**	78.8	158	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Carbazole	ND	118	237	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Dibenzofuran	ND	78.8	158	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
4-Chloro-3-methylphenol	ND	788	1580	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
2-Chlorophenol	ND	395	788	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
2,4-Dichlorophenol	ND	395	788	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
2,4-Dimethylphenol	ND	395	788	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
2,4-Dinitrophenol	ND	1970	3950	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	1970	3950	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
2-Methylphenol	ND	197	395	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
3+4-Methylphenol(s)	ND	197	395	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
2-Nitrophenol	ND	788	1580	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
4-Nitrophenol	ND	788	1580	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Pentachlorophenol (PCP)	ND	788	1580	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Phenol	ND	158	316	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
2,3,4,6-Tetrachlorophenol	ND	395	788	ug/kg dry	40	10/18/19 15:07	EPA 8270D	

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Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED05-SB-2 (A9J0277-01)				**Matrix: Sediment**		**Batch: 9101307**		
2,3,5,6-Tetrachlorophenol	ND	395	788	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
2,4,5-Trichlorophenol	ND	395	788	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
2,4,6-Trichlorophenol	ND	395	788	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	1180	2370	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Butyl benzyl phthalate	ND	395	788	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Diethylphthalate	ND	395	788	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Dimethylphthalate	ND	395	788	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Di-n-butylphthalate	ND	395	788	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Di-n-octyl phthalate	ND	634	788	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
N-Nitrosodimethylamine	ND	197	395	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
N-Nitroso-di-n-propylamine	ND	197	395	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
N-Nitrosodiphenylamine	ND	197	395	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Bis(2-Chloroethoxy) methane	ND	197	395	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Bis(2-Chloroethyl) ether	ND	197	395	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
2,2'-Oxybis(1-Chloropropane)	ND	197	395	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Hexachlorobenzene	ND	78.8	158	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Hexachlorobutadiene	ND	197	395	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Hexachlorocyclopentadiene	ND	395	788	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Hexachloroethane	ND	197	395	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
2-Chloronaphthalene	ND	78.8	158	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
1,2-Dichlorobenzene	ND	197	395	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
1,3-Dichlorobenzene	ND	197	395	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
1,4-Dichlorobenzene	ND	197	395	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
1,2,4-Trichlorobenzene	ND	197	395	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
4-Bromophenyl phenyl ether	ND	197	395	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	197	395	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Aniline	ND	395	788	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
4-Chloroaniline	ND	197	395	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
2-Nitroaniline	ND	1580	3160	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
3-Nitroaniline	ND	1580	3160	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
4-Nitroaniline	ND	1580	3160	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Nitrobenzene	ND	788	1580	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
2,4-Dinitrotoluene	ND	788	1580	ug/kg dry	40	10/18/19 15:07	EPA 8270D	

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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
SED05-SB-2 (A9J0277-01)				**Matrix: Sediment**		**Batch: 9101307**		
2,6-Dinitrotoluene	ND	788	1580	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Benzoic acid	ND	9890	19700	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Benzyl alcohol	ND	395	788	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Isophorone	ND	197	395	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Azobenzene (1,2-DPH)	ND	197	395	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Bis(2-Ethylhexyl) adipate	ND	1970	3950	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
3,3'-Dichlorobenzidine	ND	1580	3160	ug/kg dry	40	10/18/19 15:07	EPA 8270D	Q-52
1,2-Dinitrobenzene	ND	1970	3950	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
1,3-Dinitrobenzene	ND	1970	3950	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
1,4-Dinitrobenzene	ND	1970	3950	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Pyridine	ND	395	788	ug/kg dry	40	10/18/19 15:07	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		*Recovery:*	*61 %*	*Limits: 37-122 %*	*40*	*10/18/19 15:07*	*EPA 8270D*	*S-05*
2-Fluorobiphenyl (Surr)			*79 %*	*44-115 %*	*40*	*10/18/19 15:07*	*EPA 8270D*	*S-05*
Phenol-d6 (Surr)			*56 %*	*33-122 %*	*40*	*10/18/19 15:07*	*EPA 8270D*	*S-05*
p-Terphenyl-d14 (Surr)			*94 %*	*54-127 %*	*40*	*10/18/19 15:07*	*EPA 8270D*	*S-05*
2-Fluorophenol (Surr)			*60 %*	*35-115 %*	*40*	*10/18/19 15:07*	*EPA 8270D*	*S-05*
2,4,6-Tribromophenol (Surr)			*91 %*	*39-132 %*	*40*	*10/18/19 15:07*	*EPA 8270D*	*S-05*
SED05-SB-5 (A9J0277-03)				**Matrix: Sediment**		**Batch: 9101307**		
Acenaphthene	**95.7**	72.3	145	ug/kg dry	40	10/18/19 16:54	EPA 8270D	**Ja**
Acenaphthylene	ND	72.3	145	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Anthracene	**141**	72.3	145	ug/kg dry	40	10/18/19 16:54	EPA 8270D	**Ja**
Benz(a)anthracene	**231**	72.3	145	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Benzo(a)pyrene	**254**	109	217	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Benzo(b)fluoranthene	**246**	109	217	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Benzo(k)fluoranthene	**123**	109	217	ug/kg dry	40	10/18/19 16:54	EPA 8270D	**Ja**
Benzo(g,h,i)perylene	**126**	72.3	145	ug/kg dry	40	10/18/19 16:54	EPA 8270D	**Ja**
Chrysene	**237**	72.3	145	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Dibenz(a,h)anthracene	ND	72.3	145	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Fluoranthene	**479**	72.3	145	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Fluorene	**76.7**	72.3	145	ug/kg dry	40	10/18/19 16:54	EPA 8270D	**Ja**
Indeno(1,2,3-cd)pyrene	**119**	72.3	145	ug/kg dry	40	10/18/19 16:54	EPA 8270D	**Ja**
1-Methylnaphthalene	ND	145	290	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
2-Methylnaphthalene	ND	145	290	ug/kg dry	40	10/18/19 16:54	EPA 8270D	

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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
SED05-SB-5 (A9J0277-03)				**Matrix: Sediment**		**Batch: 9101307**		
Naphthalene	ND	145	290	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Phenanthrene	**514**	72.3	145	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Pyrene	**572**	72.3	145	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Carbazole	ND	109	217	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Dibenzofuran	ND	72.3	145	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
4-Chloro-3-methylphenol	ND	723	1450	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
2-Chlorophenol	ND	362	723	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
2,4-Dichlorophenol	ND	362	723	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
2,4-Dimethylphenol	ND	362	723	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
2,4-Dinitrophenol	ND	1810	3620	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	1810	3620	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
2-Methylphenol	ND	181	362	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
3+4-Methylphenol(s)	ND	181	362	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
2-Nitrophenol	ND	723	1450	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
4-Nitrophenol	ND	723	1450	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Pentachlorophenol (PCP)	ND	723	1450	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Phenol	ND	145	290	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
2,3,4,6-Tetrachlorophenol	ND	362	723	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
2,3,5,6-Tetrachlorophenol	ND	362	723	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
2,4,5-Trichlorophenol	ND	362	723	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
2,4,6-Trichlorophenol	ND	362	723	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	1090	2170	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Butyl benzyl phthalate	ND	362	723	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Diethylphthalate	ND	362	723	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Dimethylphthalate	ND	362	723	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Di-n-butylphthalate	ND	362	723	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Di-n-octyl phthalate	ND	581	723	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
N-Nitrosodimethylamine	ND	181	362	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
N-Nitroso-di-n-propylamine	ND	181	362	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
N-Nitrosodiphenylamine	ND	181	362	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Bis(2-Chloroethoxy) methane	ND	181	362	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Bis(2-Chloroethyl) ether	ND	181	362	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
2,2'-Oxybis(1-Chloropropane)	ND	181	362	ug/kg dry	40	10/18/19 16:54	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.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED05-SB-5 (A9J0277-03)				**Matrix: Sediment**		**Batch: 9101307**		
Hexachlorobenzene	ND	72.3	145	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Hexachlorobutadiene	ND	181	362	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Hexachlorocyclopentadiene	ND	362	723	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Hexachloroethane	ND	181	362	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
2-Chloronaphthalene	ND	72.3	145	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
1,2-Dichlorobenzene	ND	181	362	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
1,3-Dichlorobenzene	ND	181	362	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
1,4-Dichlorobenzene	ND	181	362	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
1,2,4-Trichlorobenzene	ND	181	362	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
4-Bromophenyl phenyl ether	ND	181	362	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	181	362	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Aniline	ND	362	723	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
4-Chloroaniline	ND	181	362	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
2-Nitroaniline	ND	1450	2900	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
3-Nitroaniline	ND	1450	2900	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
4-Nitroaniline	ND	1450	2900	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Nitrobenzene	ND	723	1450	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
2,4-Dinitrotoluene	ND	723	1450	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
2,6-Dinitrotoluene	ND	723	1450	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Benzoic acid	ND	9070	18100	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Benzyl alcohol	ND	362	723	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Isophorone	ND	181	362	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Azobenzene (1,2-DPH)	ND	181	362	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Bis(2-Ethylhexyl) adipate	ND	1810	3620	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
3,3'-Dichlorobenzidine	ND	1450	2900	ug/kg dry	40	10/18/19 16:54	EPA 8270D	Q-52
1,2-Dinitrobenzene	ND	1810	3620	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
1,3-Dinitrobenzene	ND	1810	3620	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
1,4-Dinitrobenzene	ND	1810	3620	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Pyridine	ND	362	723	ug/kg dry	40	10/18/19 16:54	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		*Recovery:*	*58 %*	*Limits: 37-122 %*	*40*	*10/18/19 16:54*	*EPA 8270D*	*S-05*
2-Fluorobiphenyl (Surr)			*78 %*	*44-115 %*	*40*	*10/18/19 16:54*	*EPA 8270D*	*S-05*
Phenol-d6 (Surr)			*55 %*	*33-122 %*	*40*	*10/18/19 16:54*	*EPA 8270D*	*S-05*
p-Terphenyl-d14 (Surr)			*97 %*	*54-127 %*	*40*	*10/18/19 16:54*	*EPA 8270D*	*S-05*
2-Fluorophenol (Surr)			*59 %*	*35-115 %*	*40*	*10/18/19 16:54*	*EPA 8270D*	*S-05*

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Philip Nerenberg

Philip Nerenberg, Lab Director

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503-718-2323
EPA ID: OR01039

Maul Foster & Alongi, INC.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED05-SB-5 (A9J0277-03)				**Matrix: Sediment**		**Batch: 9101307**		
Surrogate: 2,4,6-Tribromophenol (Surr)		*Recovery: 99 %*		*Limits: 39-132 %*	*40*	*10/18/19 16:54*	*EPA 8270D*	*S-05*
SED05-SB-7 (A9J0277-04)				**Matrix: Sediment**		**Batch: 9101307**		
Acenaphthene	**216**	69.4	139	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Acenaphthylene	ND	69.4	139	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Anthracene	ND	69.4	139	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Benz(a)anthracene	**170**	69.4	139	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Benzo(a)pyrene	**239**	104	209	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Benzo(b)fluoranthene	**230**	104	209	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Benzo(k)fluoranthene	**117**	104	209	ug/kg dry	40	10/18/19 16:18	EPA 8270D	**Ja**
Benzo(g,h,i)perylene	**166**	69.4	139	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Chrysene	**221**	69.4	139	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Dibenz(a,h)anthracene	ND	69.4	139	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Fluoranthene	**507**	69.4	139	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Fluorene	ND	69.4	139	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Indeno(1,2,3-cd)pyrene	**139**	69.4	139	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
1-Methylnaphthalene	ND	139	278	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
2-Methylnaphthalene	ND	139	278	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Naphthalene	**154**	139	278	ug/kg dry	40	10/18/19 16:18	EPA 8270D	**Ja**
Phenanthrene	**586**	69.4	139	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Pyrene	**674**	69.4	139	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Carbazole	ND	104	209	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Dibenzofuran	ND	69.4	139	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
4-Chloro-3-methylphenol	ND	694	1390	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
2-Chlorophenol	ND	348	694	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
2,4-Dichlorophenol	ND	348	694	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
2,4-Dimethylphenol	ND	348	694	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
2,4-Dinitrophenol	ND	1740	3480	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	1740	3480	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
2-Methylphenol	ND	174	348	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
3+4-Methylphenol(s)	ND	174	348	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
2-Nitrophenol	ND	694	1390	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
4-Nitrophenol	ND	694	1390	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Pentachlorophenol (PCP)	ND	694	1390	ug/kg dry	40	10/18/19 16:18	EPA 8270D	

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Philip Nerenberg

Philip Nerenberg, Lab Director

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503-718-2323
EPA ID: OR01039

Maul Foster & Alongi, INC.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED05-SB-7 (A9J0277-04)				**Matrix: Sediment**		**Batch: 9101307**		
Phenol	ND	139	278	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
2,3,4,6-Tetrachlorophenol	ND	348	694	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
2,3,5,6-Tetrachlorophenol	ND	348	694	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
2,4,5-Trichlorophenol	ND	348	694	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
2,4,6-Trichlorophenol	ND	348	694	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	1040	2090	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Butyl benzyl phthalate	ND	348	694	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Diethylphthalate	ND	348	694	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Dimethylphthalate	ND	348	694	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Di-n-butylphthalate	ND	348	694	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Di-n-octyl phthalate	ND	558	694	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
N-Nitrosodimethylamine	ND	174	348	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
N-Nitroso-di-n-propylamine	ND	174	348	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
N-Nitrosodiphenylamine	ND	174	348	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Bis(2-Chloroethoxy) methane	ND	174	348	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Bis(2-Chloroethyl) ether	ND	174	348	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
2,2'-Oxybis(1-Chloropropane)	ND	174	348	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Hexachlorobenzene	ND	69.4	139	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Hexachlorobutadiene	ND	174	348	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Hexachlorocyclopentadiene	ND	348	694	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Hexachloroethane	ND	174	348	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
2-Chloronaphthalene	ND	69.4	139	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
1,2-Dichlorobenzene	ND	174	348	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
1,3-Dichlorobenzene	ND	174	348	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
1,4-Dichlorobenzene	ND	174	348	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
1,2,4-Trichlorobenzene	ND	174	348	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
4-Bromophenyl phenyl ether	ND	174	348	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	174	348	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Aniline	ND	348	694	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
4-Chloroaniline	ND	174	348	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
2-Nitroaniline	ND	1390	2780	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
3-Nitroaniline	ND	1390	2780	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
4-Nitroaniline	ND	1390	2780	ug/kg dry	40	10/18/19 16:18	EPA 8270D	

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EPA ID: OR01039

Maul Foster & Alongi, INC.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED05-SB-7 (A9J0277-04)				**Matrix: Sediment**		**Batch: 9101307**		
Nitrobenzene	ND	694	1390	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
2,4-Dinitrotoluene	ND	694	1390	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
2,6-Dinitrotoluene	ND	694	1390	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Benzoic acid	ND	8710	17400	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Benzyl alcohol	ND	348	694	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Isophorone	ND	174	348	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Azobenzene (1,2-DPH)	ND	174	348	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Bis(2-Ethylhexyl) adipate	ND	1740	3480	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
3,3'-Dichlorobenzidine	ND	1390	2780	ug/kg dry	40	10/18/19 16:18	EPA 8270D	Q-52
1,2-Dinitrobenzene	ND	1740	3480	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
1,3-Dinitrobenzene	ND	1740	3480	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
1,4-Dinitrobenzene	ND	1740	3480	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Pyridine	ND	348	694	ug/kg dry	40	10/18/19 16:18	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		*Recovery:*	*67 %*	*Limits: 37-122 %*	*40*	*10/18/19 16:18*	*EPA 8270D*	*S-05*
2-Fluorobiphenyl (Surr)			*80 %*	*44-115 %*	*40*	*10/18/19 16:18*	*EPA 8270D*	*S-05*
Phenol-d6 (Surr)			*54 %*	*33-122 %*	*40*	*10/18/19 16:18*	*EPA 8270D*	*S-05*
p-Terphenyl-d14 (Surr)			*96 %*	*54-127 %*	*40*	*10/18/19 16:18*	*EPA 8270D*	*S-05*
2-Fluorophenol (Surr)			*58 %*	*35-115 %*	*40*	*10/18/19 16:18*	*EPA 8270D*	*S-05*
2,4,6-Tribromophenol (Surr)			*102 %*	*39-132 %*	*40*	*10/18/19 16:18*	*EPA 8270D*	*S-05*
SED05-SB-RB (A9J0277-05)				**Matrix: Water**		**Batch: 9101003**		
Acenaphthene	ND	0.00962	0.0192	ug/L	1	10/11/19 21:32	EPA 8270D	
Acenaphthylene	ND	0.00962	0.0192	ug/L	1	10/11/19 21:32	EPA 8270D	
Anthracene	ND	0.00962	0.0192	ug/L	1	10/11/19 21:32	EPA 8270D	
Benz(a)anthracene	ND	0.00962	0.0192	ug/L	1	10/11/19 21:32	EPA 8270D	
Benzo(a)pyrene	ND	0.0144	0.0288	ug/L	1	10/11/19 21:32	EPA 8270D	
Benzo(b)fluoranthene	ND	0.0144	0.0288	ug/L	1	10/11/19 21:32	EPA 8270D	
Benzo(k)fluoranthene	ND	0.0144	0.0288	ug/L	1	10/11/19 21:32	EPA 8270D	
Benzo(g,h,i)perylene	ND	0.00962	0.0192	ug/L	1	10/11/19 21:32	EPA 8270D	
Chrysene	ND	0.00962	0.0192	ug/L	1	10/11/19 21:32	EPA 8270D	
Dibenz(a,h)anthracene	ND	0.00962	0.0192	ug/L	1	10/11/19 21:32	EPA 8270D	
Fluoranthene	ND	0.00962	0.0192	ug/L	1	10/11/19 21:32	EPA 8270D	
Fluorene	ND	0.00962	0.0192	ug/L	1	10/11/19 21:32	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	0.00962	0.0192	ug/L	1	10/11/19 21:32	EPA 8270D	

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Philip Nerenberg, Lab Director

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Maul Foster & Alongi, INC.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED05-SB-RB (A9J0277-05)				**Matrix: Water**		**Batch: 9101003**		
1-Methylnaphthalene	ND	0.0192	0.0385	ug/L	1	10/11/19 21:32	EPA 8270D	
2-Methylnaphthalene	ND	0.0192	0.0385	ug/L	1	10/11/19 21:32	EPA 8270D	
Naphthalene	ND	0.0192	0.0385	ug/L	1	10/11/19 21:32	EPA 8270D	
Phenanthrene	ND	0.00962	0.0192	ug/L	1	10/11/19 21:32	EPA 8270D	
Pyrene	ND	0.00962	0.0192	ug/L	1	10/11/19 21:32	EPA 8270D	
Carbazole	ND	0.0144	0.0288	ug/L	1	10/11/19 21:32	EPA 8270D	
Dibenzofuran	ND	0.00962	0.0192	ug/L	1	10/11/19 21:32	EPA 8270D	
4-Chloro-3-methylphenol	ND	0.0962	0.192	ug/L	1	10/11/19 21:32	EPA 8270D	
2-Chlorophenol	ND	0.0481	0.0962	ug/L	1	10/11/19 21:32	EPA 8270D	
2,4-Dichlorophenol	ND	0.0481	0.0962	ug/L	1	10/11/19 21:32	EPA 8270D	
2,4-Dimethylphenol	ND	0.0481	0.0962	ug/L	1	10/11/19 21:32	EPA 8270D	
2,4-Dinitrophenol	ND	0.240	0.481	ug/L	1	10/11/19 21:32	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	0.240	0.481	ug/L	1	10/11/19 21:32	EPA 8270D	
2-Methylphenol	ND	0.0240	0.0481	ug/L	1	10/11/19 21:32	EPA 8270D	
3+4-Methylphenol(s)	ND	0.0240	0.0481	ug/L	1	10/11/19 21:32	EPA 8270D	
2-Nitrophenol	ND	0.0962	0.192	ug/L	1	10/11/19 21:32	EPA 8270D	
4-Nitrophenol	ND	0.0962	0.192	ug/L	1	10/11/19 21:32	EPA 8270D	
Pentachlorophenol (PCP)	ND	0.0962	0.192	ug/L	1	10/11/19 21:32	EPA 8270D	
Phenol	ND	0.192	0.385	ug/L	1	10/11/19 21:32	EPA 8270D	
2,3,4,6-Tetrachlorophenol	ND	0.0481	0.0962	ug/L	1	10/11/19 21:32	EPA 8270D	
2,3,5,6-Tetrachlorophenol	ND	0.0481	0.0962	ug/L	1	10/11/19 21:32	EPA 8270D	
2,4,5-Trichlorophenol	ND	0.0481	0.0962	ug/L	1	10/11/19 21:32	EPA 8270D	
2,4,6-Trichlorophenol	ND	0.0481	0.0962	ug/L	1	10/11/19 21:32	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	0.192	0.385	ug/L	1	10/11/19 21:32	EPA 8270D	
Butyl benzyl phthalate	ND	0.192	0.385	ug/L	1	10/11/19 21:32	EPA 8270D	
Diethylphthalate	ND	0.192	0.385	ug/L	1	10/11/19 21:32	EPA 8270D	
Dimethylphthalate	ND	0.192	0.385	ug/L	1	10/11/19 21:32	EPA 8270D	
Di-n-butylphthalate	ND	0.192	0.385	ug/L	1	10/11/19 21:32	EPA 8270D	
Di-n-octyl phthalate	ND	0.192	0.385	ug/L	1	10/11/19 21:32	EPA 8270D	
N-Nitrosodimethylamine	ND	0.0240	0.0481	ug/L	1	10/11/19 21:32	EPA 8270D	
N-Nitroso-di-n-propylamine	ND	0.0240	0.0481	ug/L	1	10/11/19 21:32	EPA 8270D	
N-Nitrosodiphenylamine	ND	0.0240	0.0481	ug/L	1	10/11/19 21:32	EPA 8270D	
Bis(2-Chloroethoxy) methane	ND	0.0240	0.0481	ug/L	1	10/11/19 21:32	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.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED05-SB-RB (A9J0277-05)				**Matrix: Water**		**Batch: 9101003**		
Bis(2-Chloroethyl) ether	ND	0.0240	0.0481	ug/L	1	10/11/19 21:32	EPA 8270D	
2,2'-Oxybis(1-Chloropropane)	ND	0.0240	0.0481	ug/L	1	10/11/19 21:32	EPA 8270D	
Hexachlorobenzene	ND	0.00962	0.0192	ug/L	1	10/11/19 21:32	EPA 8270D	
Hexachlorobutadiene	ND	0.0240	0.0481	ug/L	1	10/11/19 21:32	EPA 8270D	
Hexachlorocyclopentadiene	ND	0.0481	0.0962	ug/L	1	10/11/19 21:32	EPA 8270D	
Hexachloroethane	ND	0.0240	0.0481	ug/L	1	10/11/19 21:32	EPA 8270D	
2-Chloronaphthalene	ND	0.00962	0.0192	ug/L	1	10/11/19 21:32	EPA 8270D	
1,2-Dichlorobenzene	ND	0.0240	0.0481	ug/L	1	10/11/19 21:32	EPA 8270D	
1,3-Dichlorobenzene	ND	0.0240	0.0481	ug/L	1	10/11/19 21:32	EPA 8270D	
1,4-Dichlorobenzene	ND	0.0240	0.0481	ug/L	1	10/11/19 21:32	EPA 8270D	
1,2,4-Trichlorobenzene	ND	0.0240	0.0481	ug/L	1	10/11/19 21:32	EPA 8270D	
4-Bromophenyl phenyl ether	ND	0.0240	0.0481	ug/L	1	10/11/19 21:32	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	0.0240	0.0481	ug/L	1	10/11/19 21:32	EPA 8270D	
Aniline	ND	0.0481	0.0962	ug/L	1	10/11/19 21:32	EPA 8270D	
4-Chloroaniline	ND	0.0240	0.0481	ug/L	1	10/11/19 21:32	EPA 8270D	
2-Nitroaniline	ND	0.192	0.385	ug/L	1	10/11/19 21:32	EPA 8270D	
3-Nitroaniline	ND	0.192	0.385	ug/L	1	10/11/19 21:32	EPA 8270D	
4-Nitroaniline	ND	0.192	0.385	ug/L	1	10/11/19 21:32	EPA 8270D	
Nitrobenzene	ND	0.0962	0.192	ug/L	1	10/11/19 21:32	EPA 8270D	
2,4-Dinitrotoluene	ND	0.0962	0.192	ug/L	1	10/11/19 21:32	EPA 8270D	
2,6-Dinitrotoluene	ND	0.0962	0.192	ug/L	1	10/11/19 21:32	EPA 8270D	
Benzoic acid	ND	1.20	2.40	ug/L	1	10/11/19 21:32	EPA 8270D	
Benzyl alcohol	ND	0.0962	0.192	ug/L	1	10/11/19 21:32	EPA 8270D	
Isophorone	ND	0.0240	0.0481	ug/L	1	10/11/19 21:32	EPA 8270D	
Azobenzene (1,2-DPH)	ND	0.0240	0.0481	ug/L	1	10/11/19 21:32	EPA 8270D	
Bis(2-Ethylhexyl) adipate	ND	0.240	0.481	ug/L	1	10/11/19 21:32	EPA 8270D	
3,3'-Dichlorobenzidine	ND	0.481	0.962	ug/L	1	10/11/19 21:32	EPA 8270D	Q-52
1,2-Dinitrobenzene	ND	0.240	0.481	ug/L	1	10/11/19 21:32	EPA 8270D	
1,3-Dinitrobenzene	ND	0.240	0.481	ug/L	1	10/11/19 21:32	EPA 8270D	
1,4-Dinitrobenzene	ND	0.240	0.481	ug/L	1	10/11/19 21:32	EPA 8270D	
Pyridine	ND	0.0962	0.192	ug/L	1	10/11/19 21:32	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		*Recovery:*	*51 %*	*Limits:*	*44-120 %*	*10/11/19 21:32*	*EPA 8270D*	
2-Fluorobiphenyl (Surr)			*39 %*		*44-120 %*	*10/11/19 21:32*	*EPA 8270D*	*S-06*

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2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED05-SB-RB (A9J0277-05)				**Matrix: Water**		**Batch: 9101003**		
Surrogate: Phenol-d6 (Surr)		*Recovery:*	*11 %*	*Limits: 10-120 %*	*1*	*10/11/19 21:32*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)			*75 %*	*50-133 %*	*1*	*10/11/19 21:32*	*EPA 8270D*	
2-Fluorophenol (Surr)			*18 %*	*19-120 %*	*1*	*10/11/19 21:32*	*EPA 8270D*	*S-06*
2,4,6-Tribromophenol (Surr)			*50 %*	*43-140 %*	*1*	*10/11/19 21:32*	*EPA 8270D*	

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Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

ANALYTICAL SAMPLE RESULTS

Alkylated PAH Homologs by 8270D Modified

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED05-SB-2 (A9J0277-01)				**Matrix: Sediment**		**Batch: 9110570**		**H-08**
C1-Chrysenes/Benz(a)anthracenes	**292**	288	288	ug/kg dry	10	11/08/19 15:39	EPA 8270Dm	
C1-Fluoranthrenes/Pyrenes	**506**	288	288	ug/kg dry	10	11/08/19 15:39	EPA 8270Dm	
C1-Fluorenes	ND	288	288	ug/kg dry	10	11/08/19 15:39	EPA 8270Dm	
C1-Phenanthrenes/Anthracenes	**698**	288	288	ug/kg dry	10	11/08/19 15:39	EPA 8270Dm	
C2-Chrysenes/Benz(a)anthracenes	ND	288	288	ug/kg dry	10	11/08/19 15:39	EPA 8270Dm	
C2-Fluorenes	ND	288	288	ug/kg dry	10	11/08/19 15:39	EPA 8270Dm	
C2-Naphthalenes	ND	288	288	ug/kg dry	10	11/08/19 15:39	EPA 8270Dm	
C2-Phenanthrenes/Anthracenes	**587**	288	288	ug/kg dry	10	11/08/19 15:39	EPA 8270Dm	
C3-Chrysenes/Benz(a)anthracenes	ND	288	288	ug/kg dry	10	11/08/19 15:39	EPA 8270Dm	
C3-Fluorenes	ND	288	288	ug/kg dry	10	11/08/19 15:39	EPA 8270Dm	
C3-Naphthalenes	**348**	288	288	ug/kg dry	10	11/08/19 15:39	EPA 8270Dm	
C3-Phenanthrenes/Anthracenes	**398**	288	288	ug/kg dry	10	11/08/19 15:39	EPA 8270Dm	
C4-Chrysenes/Benz(a)anthracenes	ND	577	577	ug/kg dry	10	11/08/19 15:39	EPA 8270Dm	
C4-Naphthalenes	**309**	288	288	ug/kg dry	10	11/08/19 15:39	EPA 8270Dm	
C4-Phenanthrenes/Anthracenes	ND	577	577	ug/kg dry	10	11/08/19 15:39	EPA 8270Dm	
Surrogate: Acenaphthylene-d8 (Surr)		*Recovery:*	*73 %*	*Limits: 40-120 %*	*10*	*11/08/19 15:39*	*EPA 8270Dm*	
Benzo(a)pyrene-d12 (Surr)			*94 %*	*40-120 %*	*10*	*11/08/19 15:39*	*EPA 8270Dm*	
SED05-SB-5 (A9J0277-03)				**Matrix: Sediment**		**Batch: 9110570**		**H-08**
C1-Chrysenes/Benz(a)anthracenes	ND	265	265	ug/kg dry	10	11/08/19 17:56	EPA 8270Dm	
C1-Fluoranthrenes/Pyrenes	ND	265	265	ug/kg dry	10	11/08/19 17:56	EPA 8270Dm	
C1-Fluorenes	ND	265	265	ug/kg dry	10	11/08/19 17:56	EPA 8270Dm	
C1-Phenanthrenes/Anthracenes	**423**	265	265	ug/kg dry	10	11/08/19 17:56	EPA 8270Dm	
C2-Chrysenes/Benz(a)anthracenes	ND	265	265	ug/kg dry	10	11/08/19 17:56	EPA 8270Dm	
C2-Fluorenes	ND	265	265	ug/kg dry	10	11/08/19 17:56	EPA 8270Dm	
C2-Naphthalenes	ND	265	265	ug/kg dry	10	11/08/19 17:56	EPA 8270Dm	
C2-Phenanthrenes/Anthracenes	**340**	265	265	ug/kg dry	10	11/08/19 17:56	EPA 8270Dm	
C3-Chrysenes/Benz(a)anthracenes	ND	265	265	ug/kg dry	10	11/08/19 17:56	EPA 8270Dm	
C3-Fluorenes	ND	265	265	ug/kg dry	10	11/08/19 17:56	EPA 8270Dm	
C3-Naphthalenes	**338**	265	265	ug/kg dry	10	11/08/19 17:56	EPA 8270Dm	
C3-Phenanthrenes/Anthracenes	ND	265	265	ug/kg dry	10	11/08/19 17:56	EPA 8270Dm	
C4-Chrysenes/Benz(a)anthracenes	ND	530	530	ug/kg dry	10	11/08/19 17:56	EPA 8270Dm	
C4-Naphthalenes	**292**	265	265	ug/kg dry	10	11/08/19 17:56	EPA 8270Dm	

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2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

ANALYTICAL SAMPLE RESULTS

Alkylated PAH Homologs by 8270D Modified

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED05-SB-5 (A9J0277-03)				**Matrix: Sediment**		**Batch: 9110570**		**H-08**
C4-Phenanthrenes/Anthracenes	ND	530	530	ug/kg dry	10	11/08/19 17:56	EPA 8270Dm	
Surrogate: Acenaphthylene-d8 (Surr)		*Recovery: 76 %*		*Limits: 40-120 %*	*10*	*11/08/19 17:56*	*EPA 8270Dm*	
Benzo(a)pyrene-d12 (Surr)			*89 %*	*40-120 %*	*10*	*11/08/19 17:56*	*EPA 8270Dm*	
SED05-SB-7 (A9J0277-04)				**Matrix: Sediment**		**Batch: 9110570**		**H-08**
C1-Chrysenes/Benz(a)anthracenes	ND	257	257	ug/kg dry	10	11/08/19 18:30	EPA 8270Dm	
C1-Fluoranthrenes/Pyrenes	ND	257	257	ug/kg dry	10	11/08/19 18:30	EPA 8270Dm	
C1-Fluorenes	ND	257	257	ug/kg dry	10	11/08/19 18:30	EPA 8270Dm	
C1-Phenanthrenes/Anthracenes	**428**	257	257	ug/kg dry	10	11/08/19 18:30	EPA 8270Dm	
C2-Chrysenes/Benz(a)anthracenes	ND	257	257	ug/kg dry	10	11/08/19 18:30	EPA 8270Dm	
C2-Fluorenes	ND	257	257	ug/kg dry	10	11/08/19 18:30	EPA 8270Dm	
C2-Naphthalenes	ND	257	257	ug/kg dry	10	11/08/19 18:30	EPA 8270Dm	
C2-Phenanthrenes/Anthracenes	**391**	257	257	ug/kg dry	10	11/08/19 18:30	EPA 8270Dm	
C3-Chrysenes/Benz(a)anthracenes	ND	257	257	ug/kg dry	10	11/08/19 18:30	EPA 8270Dm	
C3-Fluorenes	ND	257	257	ug/kg dry	10	11/08/19 18:30	EPA 8270Dm	
C3-Naphthalenes	**318**	257	257	ug/kg dry	10	11/08/19 18:30	EPA 8270Dm	
C3-Phenanthrenes/Anthracenes	**310**	257	257	ug/kg dry	10	11/08/19 18:30	EPA 8270Dm	
C4-Chrysenes/Benz(a)anthracenes	ND	513	513	ug/kg dry	10	11/08/19 18:30	EPA 8270Dm	
C4-Naphthalenes	**309**	257	257	ug/kg dry	10	11/08/19 18:30	EPA 8270Dm	
C4-Phenanthrenes/Anthracenes	ND	513	513	ug/kg dry	10	11/08/19 18:30	EPA 8270Dm	
Surrogate: Acenaphthylene-d8 (Surr)		*Recovery: 79 %*		*Limits: 40-120 %*	*10*	*11/08/19 18:30*	*EPA 8270Dm*	
Benzo(a)pyrene-d12 (Surr)			*93 %*	*40-120 %*	*10*	*11/08/19 18:30*	*EPA 8270Dm*	

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Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED05-SB-2 (A9J0277-01)				**Matrix: Sediment**				
Batch: 9101057								
Barium	**128**	0.370	0.740	mg/kg dry	5	10/14/19 19:11	EPA 6020A	
Lead	**21.5**	0.0740	0.148	mg/kg dry	5	10/14/19 19:11	EPA 6020A	
Mercury	**0.0957**	0.0296	0.0592	mg/kg dry	5	10/14/19 19:11	EPA 6020A	
SED05-SB-2 (A9J0277-01RE1)				**Matrix: Sediment**				
Batch: 9101057								
Arsenic	**2.71**	0.370	0.740	mg/kg dry	5	10/15/19 12:25	EPA 6020A	
Cadmium	**0.234**	0.0740	0.148	mg/kg dry	5	10/15/19 12:25	EPA 6020A	
Chromium	**12.7**	0.370	0.740	mg/kg dry	5	10/15/19 12:25	EPA 6020A	
Copper	**23.1**	0.370	0.740	mg/kg dry	5	10/15/19 12:25	EPA 6020A	
Selenium	ND	0.370	0.740	mg/kg dry	5	10/15/19 12:25	EPA 6020A	
Silver	**0.180**	0.0740	0.148	mg/kg dry	5	10/15/19 12:25	EPA 6020A	
Zinc	**97.8**	1.48	2.96	mg/kg dry	5	10/15/19 12:25	EPA 6020A	
SED05-SB-5 (A9J0277-03)				**Matrix: Sediment**				
Batch: 9101057								
Arsenic	**3.23**	0.361	0.722	mg/kg dry	5	10/14/19 19:16	EPA 6020A	
Barium	**121**	0.361	0.722	mg/kg dry	5	10/14/19 19:16	EPA 6020A	
Cadmium	**0.238**	0.0722	0.144	mg/kg dry	5	10/14/19 19:16	EPA 6020A	
Chromium	**16.7**	0.361	0.722	mg/kg dry	5	10/14/19 19:16	EPA 6020A	
Copper	**34.6**	0.361	0.722	mg/kg dry	5	10/14/19 19:16	EPA 6020A	
Lead	**21.3**	0.0722	0.144	mg/kg dry	5	10/14/19 19:16	EPA 6020A	
Mercury	**0.127**	0.0289	0.0578	mg/kg dry	5	10/14/19 19:16	EPA 6020A	
Silver	**0.224**	0.0722	0.144	mg/kg dry	5	10/14/19 19:16	EPA 6020A	
Zinc	**281**	1.44	2.89	mg/kg dry	5	10/14/19 19:16	EPA 6020A	
SED05-SB-5 (A9J0277-03RE1)				**Matrix: Sediment**				
Batch: 9101057								
Selenium	ND	0.361	0.722	mg/kg dry	5	10/15/19 12:30	EPA 6020A	
SED05-SB-7 (A9J0277-04)				**Matrix: Sediment**				
Batch: 9101057								
Arsenic	**3.14**	0.338	0.675	mg/kg dry	5	10/14/19 19:30	EPA 6020A	
Barium	**110**	0.338	0.675	mg/kg dry	5	10/14/19 19:30	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
SED05-SB-7 (A9J0277-04)				**Matrix: Sediment**				
Chromium	**16.0**	0.338	0.675	mg/kg dry	5	10/14/19 19:30	EPA 6020A	
Copper	**29.8**	0.338	0.675	mg/kg dry	5	10/14/19 19:30	EPA 6020A	
Lead	**33.4**	0.0675	0.135	mg/kg dry	5	10/14/19 19:30	EPA 6020A	
Mercury	**0.100**	0.0270	0.0540	mg/kg dry	5	10/14/19 19:30	EPA 6020A	
Zinc	**146**	1.35	2.70	mg/kg dry	5	10/14/19 19:30	EPA 6020A	
SED05-SB-7 (A9J0277-04RE1)				**Matrix: Sediment**				
Batch: 9101057								
Cadmium	**0.275**	0.0675	0.135	mg/kg dry	5	10/15/19 12:34	EPA 6020A	
Selenium	ND	0.338	0.675	mg/kg dry	5	10/15/19 12:34	EPA 6020A	
Silver	**0.201**	0.0675	0.135	mg/kg dry	5	10/15/19 12:34	EPA 6020A	
SED05-SB-RB (A9J0277-05)				**Matrix: Water**				
Batch: 9100942								
Arsenic	ND	0.500	1.00	ug/L	1	10/14/19 22:52	EPA 6020A	
Barium	ND	0.500	1.00	ug/L	1	10/14/19 22:52	EPA 6020A	
Cadmium	ND	0.0400	0.200	ug/L	1	10/14/19 22:52	EPA 6020A	
Chromium	ND	0.500	1.00	ug/L	1	10/14/19 22:52	EPA 6020A	
Copper	ND	0.500	1.00	ug/L	1	10/14/19 22:52	EPA 6020A	
Lead	ND	0.100	0.200	ug/L	1	10/14/19 22:52	EPA 6020A	
Mercury	ND	0.0400	0.0800	ug/L	1	10/14/19 22:52	EPA 6020A	
Selenium	ND	0.500	1.00	ug/L	1	10/14/19 22:52	EPA 6020A	
Silver	ND	0.100	0.200	ug/L	1	10/14/19 22:52	EPA 6020A	
Zinc	ND	2.00	4.00	ug/L	1	10/14/19 22:52	EPA 6020A	

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Philip Nerenberg

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.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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
SED05-SB-2 (A9J0277-01RE1)				**Matrix: Sediment**		**Batch: 9100909**		
Total Cyanide	**1.89**	0.368	0.735	mg/kg dry	5	10/10/19 18:28	D7511-12	
SED05-SB-5 (A9J0277-03)				**Matrix: Sediment**		**Batch: 9100909**		
Total Cyanide	**0.431**	0.0682	0.136	mg/kg dry	1	10/10/19 17:22	D7511-12	
SED05-SB-7 (A9J0277-04)				**Matrix: Sediment**		**Batch: 9100909**		
Total Cyanide	**0.619**	0.0645	0.129	mg/kg dry	1	10/10/19 17:26	D7511-12	

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2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

ANALYTICAL SAMPLE RESULTS

Total Cyanide by Flow Analysis (Aqueous)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED05-SB-RB (A9J0277-05)				**Matrix: Water**		**Batch: 9101032**		
Total Cyanide	ND	0.00500	0.00500	mg/L	1	10/14/19 11:08	EPA 335.4	

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2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

ANALYTICAL SAMPLE RESULTS

Demand Parameters

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED05-SB-2 (A9J0277-01)				**Matrix: Sediment**				
Batch: 9101222								
Total Organic Carbon	**8800**	200	200	mg/kg	1	10/23/19 01:41	EPA 9060Amod	
SED05-SB-5 (A9J0277-03)				**Matrix: Sediment**				
Batch: 9101222								
Total Organic Carbon	**12000**	200	200	mg/kg	1	10/23/19 02:13	EPA 9060Amod	
SED05-SB-7 (A9J0277-04)				**Matrix: Sediment**				
Batch: 9101222								
Total Organic Carbon	**7700**	200	200	mg/kg	1	10/23/19 02:24	EPA 9060Amod	

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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
SED05-SB-RB (A9J0277-05)				**Matrix: Water**		**Batch: 9101080**		
Total Organic Carbon	ND	1.00	1.00	mg/L	1	10/14/19 21:43	SM 5310 C	

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ANALYTICAL SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED05-SB-2 (A9J0277-01)				**Matrix: Sediment**				
Batch: 9101084								
Total Solids	**66.4**	1.00	1.00	% by Weight	1	10/15/19 14:00	PSEP 1986	
SED05-SB-5 (A9J0277-03)				**Matrix: Sediment**				
Batch: 9101084								
Total Solids	**72.6**	1.00	1.00	% by Weight	1	10/15/19 14:00	PSEP 1986	
SED05-SB-7 (A9J0277-04)				**Matrix: Sediment**				
Batch: 9101084								
Total Solids	**75.0**	1.00	1.00	% by Weight	1	10/15/19 14:00	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
SED05-SB-2 (A9J0277-01)				**Matrix: Sediment**		**Batch: 9101155**		
Gravel (>2.00mm)	**0.22**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 4.75 mm sieve (#4)	**0.09**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 2.00 mm sieve (#10)	**0.13**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Sand (0.063mm - 2.00mm)	**60.4**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 0.85 mm sieve (#20)	**0.30**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 0.425 mm sieve (#40)	**5.61**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 0.250 mm sieve (#60)	**19.2**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 0.150 mm sieve (#100)	**17.9**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 0.106 mm sieve (#140)	**8.52**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 0.075 mm sieve (#200)	**6.07**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 0.063 mm sieve (#230)	**2.84**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Silt (0.005mm < 0.063mm)	**29.7**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Clay (< 0.005 mm)	**9.60**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
SED05-SB-5 (A9J0277-03)				**Matrix: Sediment**		**Batch: 9101155**		
Gravel (>2.00mm)	**2.30**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 4.75 mm sieve (#4)	**1.36**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 2.00 mm sieve (#10)	**0.94**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Sand (0.063mm - 2.00mm)	**59.0**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 0.85 mm sieve (#20)	**1.58**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 0.425 mm sieve (#40)	**13.8**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 0.250 mm sieve (#60)	**23.3**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 0.150 mm sieve (#100)	**10.1**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 0.106 mm sieve (#140)	**4.41**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 0.075 mm sieve (#200)	**3.81**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 0.063 mm sieve (#230)	**1.98**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Silt (0.005mm < 0.063mm)	**25.8**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**

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Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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
SED05-SB-5 (A9J0277-03)				**Matrix: Sediment**		**Batch: 9101155**		
Clay (< 0.005 mm)	**12.9**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
SED05-SB-7 (A9J0277-04)				**Matrix: Sediment**		**Batch: 9101155**		
Gravel (>2.00mm)	**0.25**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 4.75 mm sieve (#4)	**0.03**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 2.00 mm sieve (#10)	**0.22**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Sand (0.063mm - 2.00mm)	**64.2**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 0.85 mm sieve (#20)	**0.53**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 0.425 mm sieve (#40)	**7.81**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 0.250 mm sieve (#60)	**25.5**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 0.150 mm sieve (#100)	**14.5**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 0.106 mm sieve (#140)	**7.13**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 0.075 mm sieve (#200)	**5.93**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Percent Retained 0.063 mm sieve (#230)	**2.74**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Silt (0.005mm < 0.063mm)	**26.0**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**
Clay (< 0.005 mm)	**9.50**	0.01	0.01	% of Total	1	10/23/19 15:05	D422mod	**GS-01**

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Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
SED05-SB-2 (A9J0277-01)				**Matrix: Sediment**		**Batch: 9101084**		
% Solids	**66.4**	1.00	1.00	% by Weight	1	10/15/19 14:00	EPA 8000C	
SED05-SB-5 (A9J0277-03)				**Matrix: Sediment**		**Batch: 9101084**		
% Solids	**72.6**	1.00	1.00	% by Weight	1	10/15/19 14:00	EPA 8000C	
SED05-SB-7 (A9J0277-04)				**Matrix: Sediment**		**Batch: 9101084**		
% Solids	**75.0**	1.00	1.00	% by Weight	1	10/15/19 14:00	EPA 8000C	

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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
SED05-SB-2 (A9J0277-01)				**Matrix: Sediment**		**Batch: W9J0915**		
Batch: W9J0915								
2,4-D	ND	0.036	0.52	mg/kg dry	1	10/18/19 22:15	EPA 8151A	M-02
2,4-DB	ND	0.089	0.52	mg/kg dry	1	10/18/19 22:15	EPA 8151A	M-02
2,4,5-T	ND	0.029	0.52	mg/kg dry	1	10/18/19 22:15	EPA 8151A	M-02
2,4,5-TP (Silvex)	ND	0.038	0.52	mg/kg dry	1	10/18/19 22:15	EPA 8151A	M-02
Dalapon	ND	0.099	0.52	mg/kg dry	1	10/18/19 22:15	EPA 8151A	M-02
Dicamba	ND	0.047	0.52	mg/kg dry	1	10/18/19 22:15	EPA 8151A	M-02
Dichloroprop	ND	0.037	0.52	mg/kg dry	1	10/18/19 22:15	EPA 8151A	M-02
Dinoseb	ND	0.020	0.78	mg/kg dry	1	10/18/19 22:15	EPA 8151A	M-02
MCPA	ND	4.1	78	mg/kg dry	1	10/18/19 22:15	EPA 8151A	M-02
MCPP	ND	3.6	78	mg/kg dry	1	10/18/19 22:15	EPA 8151A	M-02
Pentachlorophenol	ND	0.033	0.52	mg/kg dry	1	10/18/19 22:15	EPA 8151A	M-02
Picloram	ND	0.038	0.52	mg/kg dry	1	10/18/19 22:15	EPA 8151A	M-02
Batch: W9J0915								
Surrogate: 2,4-DCAA		*Recovery: 101 %*		*Limits: 13-119 %*	*1*	*10/18/19 22:15*	*EPA 8151A*	*M-02*
SED05-SB-5 (A9J0277-03)				**Matrix: Sediment**		**Batch: W9J0915**		
Batch: W9J0915								
2,4-D	ND	0.035	0.51	mg/kg dry	1	10/18/19 22:51	EPA 8151A	M-02
2,4-DB	ND	0.086	0.51	mg/kg dry	1	10/18/19 22:51	EPA 8151A	M-02
2,4,5-T	ND	0.028	0.51	mg/kg dry	1	10/18/19 22:51	EPA 8151A	M-02
2,4,5-TP (Silvex)	ND	0.037	0.51	mg/kg dry	1	10/18/19 22:51	EPA 8151A	M-02
Dalapon	ND	0.096	0.51	mg/kg dry	1	10/18/19 22:51	EPA 8151A	M-02
Dicamba	ND	0.046	0.51	mg/kg dry	1	10/18/19 22:51	EPA 8151A	M-02
Dichloroprop	ND	0.036	0.51	mg/kg dry	1	10/18/19 22:51	EPA 8151A	M-02
Dinoseb	ND	0.019	0.76	mg/kg dry	1	10/18/19 22:51	EPA 8151A	M-02
MCPA	ND	4.0	76	mg/kg dry	1	10/18/19 22:51	EPA 8151A	M-02
MCPP	ND	3.5	76	mg/kg dry	1	10/18/19 22:51	EPA 8151A	M-02
Pentachlorophenol	ND	0.032	0.51	mg/kg dry	1	10/18/19 22:51	EPA 8151A	M-02
Picloram	ND	0.037	0.51	mg/kg dry	1	10/18/19 22:51	EPA 8151A	M-02
Batch: W9J0915								
Surrogate: 2,4-DCAA		*Recovery: 47 %*		*Limits: 13-119 %*	*1*	*10/18/19 22:51*	*EPA 8151A*	*M-02*

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Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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
SED05-SB-7 (A9J0277-04)				**Matrix: Sediment**		**Batch: W9J0915**		
Batch: W9J0915								
2,4-D	ND	0.032	0.46	mg/kg dry	1	10/18/19 23:27	EPA 8151A	M-02
2,4-DB	ND	0.079	0.46	mg/kg dry	1	10/18/19 23:27	EPA 8151A	M-02
2,4,5-T	ND	0.026	0.46	mg/kg dry	1	10/18/19 23:27	EPA 8151A	M-02
2,4,5-TP (Silvex)	ND	0.033	0.46	mg/kg dry	1	10/18/19 23:27	EPA 8151A	M-02
Dalapon	ND	0.088	0.46	mg/kg dry	1	10/18/19 23:27	EPA 8151A	M-02
Dicamba	ND	0.042	0.46	mg/kg dry	1	10/18/19 23:27	EPA 8151A	M-02
Dichloroprop	ND	0.033	0.46	mg/kg dry	1	10/18/19 23:27	EPA 8151A	M-02
Dinoseb	ND	0.018	0.69	mg/kg dry	1	10/18/19 23:27	EPA 8151A	M-02
MCPA	ND	3.6	69	mg/kg dry	1	10/18/19 23:27	EPA 8151A	M-02
MCPP	ND	3.1	69	mg/kg dry	1	10/18/19 23:27	EPA 8151A	M-02
Pentachlorophenol	ND	0.029	0.46	mg/kg dry	1	10/18/19 23:27	EPA 8151A	M-02
Picloram	ND	0.033	0.46	mg/kg dry	1	10/18/19 23:27	EPA 8151A	M-02
Batch: W9J0915								
Surrogate: 2,4-DCAA		*Recovery: 89 %*		*Limits: 13-119 %*	*1*	*10/18/19 23:27*	*EPA 8151A*	*M-02*
SED05-SB-RB (A9J0277-05)				**Matrix: Water**		**Batch: W9J0721**		
Batch: W9J0721								
2,4-D	ND	0.21	0.50	ug/l	1	10/17/19 21:57	EPA 8151A	
2,4-DB	ND	1.3	2.5	ug/l	1	10/17/19 21:57	EPA 8151A	
2,4,5-T	ND	0.13	0.25	ug/l	1	10/17/19 21:57	EPA 8151A	
2,4,5-TP (Silvex)	ND	0.11	0.25	ug/l	1	10/17/19 21:57	EPA 8151A	
3,5-Dichlorobenzoic acid	ND	0.56	1.2	ug/l	1	10/17/19 21:57	EPA 8151A	
4-Nitrophenol	ND	0.52	1.2	ug/l	1	10/17/19 21:57	EPA 8151A	
Acifluorfen	ND	0.15	0.50	ug/l	1	10/17/19 21:57	EPA 8151A	
Bentazon	ND	1.1	2.5	ug/l	1	10/17/19 21:57	EPA 8151A	
Dalapon	ND	0.15	0.50	ug/l	1	10/17/19 21:57	EPA 8151A	
Dicamba	ND	0.40	0.75	ug/l	1	10/17/19 21:57	EPA 8151A	
Dichloroprop	ND	0.49	1.0	ug/l	1	10/17/19 21:57	EPA 8151A	
Dinoseb	ND	0.19	0.50	ug/l	1	10/17/19 21:57	EPA 8151A	
DCPA	ND	0.14	0.25	ug/l	1	10/17/19 21:57	EPA 8151A	

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2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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
SED05-SB-RB (A9J0277-05)				**Matrix: Water**		**Batch: W9J0721**		
MCPA	ND	45	100	ug/l	1	10/17/19 21:57	EPA 8151A	
MCPP	ND	63	100	ug/l	1	10/17/19 21:57	EPA 8151A	
Pentachlorophenol	ND	0.11	0.25	ug/l	1	10/17/19 21:57	EPA 8151A	
Picloram	ND	0.31	0.75	ug/l	1	10/17/19 21:57	EPA 8151A	
Batch: W9J0721								
Surrogate: 2,4-DCAA		*Recovery: 89 %*		*Limits: 56-156 %*	*1*	*10/17/19 21:57*	*EPA 8151A*	

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.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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
SED05-SB-2 (A9J0277-01)				**Matrix: Sediment**			**Batch: W9J1000**	
Batch: W9J1000								
% Solids	**66.6**		0.100	% by Weight	1	10/17/19 14:32	EPA 160.3M	
SED05-SB-5 (A9J0277-03)				**Matrix: Sediment**			**Batch: W9J1000**	
Batch: W9J1000								
% Solids	**71.1**		0.100	% by Weight	1	10/17/19 14:32	EPA 160.3M	
SED05-SB-7 (A9J0277-04)				**Matrix: Sediment**			**Batch: W9J1000**	
Batch: W9J1000								
% Solids	**74.6**		0.100	% by Weight	1	10/17/19 14:32	EPA 160.3M	

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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 9100853 - EPA 3510C (Fuels/Acid Ext.)							**Water**					
Blank (9100853-BLK1)			Prepared: 10/09/19 09:30		Analyzed: 10/09/19 18:54							
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 (9100853-BS1)			Prepared: 10/09/19 09:30		Analyzed: 10/09/19 19:21							
NWTPH-Dx												
Diesel	0.967	0.100	0.200	mg/L	1	1.25	---	77	58-115%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 99 %*		*Limits: 50-150 %*		*Dilution: 1x*					
LCS Dup (9100853-BSD1)			Prepared: 10/09/19 09:30		Analyzed: 10/09/19 19:47							Q-19
NWTPH-Dx												
Diesel	1.05	0.100	0.200	mg/L	1	1.25	---	84	58-115%	8	20%	
Surr: o-Terphenyl (Surr)			*Recovery: 108 %*		*Limits: 50-150 %*		*Dilution: 1x*					
Batch 9101025 - EPA 3546 (Fuels)							**Sediment**					
Blank (9101025-BLK1)			Prepared: 10/13/19 09:06		Analyzed: 10/14/19 19:56							
NWTPH-Dx												
Diesel	ND	8.33	16.7	mg/kg wet	1	---	---	---	---	---	---	
Oil	ND	16.7	33.3	mg/kg wet	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 103 %*		*Limits: 50-150 %*		*Dilution: 1x*					
LCS (9101025-BS1)			Prepared: 10/13/19 09:06		Analyzed: 10/14/19 20:16							
NWTPH-Dx												
Diesel	110	10.0	20.0	mg/kg wet	1	125	---	88	76-115%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 105 %*		*Limits: 50-150 %*		*Dilution: 1x*					
Duplicate (9101025-DUP1)			Prepared: 10/13/19 09:06		Analyzed: 10/14/19 20:58							
QC Source Sample: SED05-SB-2 (A9J0277-01)												
NWTPH-Dx												
Diesel	ND	14.6	29.2	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	**221**	29.2	58.5	mg/kg dry	1	---	289	---	---	27	30%	F-03

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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 9101025 - EPA 3546 (Fuels)							**Sediment**					
Duplicate (9101025-DUP1)				Prepared: 10/13/19 09:06		Analyzed: 10/14/19 20:58						
QC Source Sample: SED05-SB-2 (A9J0277-01)												
Surr: o-Terphenyl (Surr)			*Recovery: 99 %*	*Limits: 50-150 %*		*Dilution: 1x*						
Duplicate (9101025-DUP3)				Prepared: 10/13/19 09:06		Analyzed: 10/16/19 01:15						
QC Source Sample: Non-SDG (A9J0371-03RE1)												
Diesel	ND	14.3	28.6	mg/kg dry	1	---	ND	---	---	---	30%	
Oil	**579**	28.6	57.2	mg/kg dry	1	---	282	---	---	**69**	**30%**	F-03, Q-05
Surr: o-Terphenyl (Surr)			*Recovery: 104 %*	*Limits: 50-150 %*		*Dilution: 1x*						

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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 9101003 - EPA 3510C (Acid/Base Neutral)							**Water**					
Blank (9101003-BLK1)			Prepared: 10/11/19 13:05		Analyzed: 10/11/19 19:09							
EPA 8270D												
Acenaphthene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Anthracene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	0.0136	0.0273	ug/L	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	0.0136	0.0273	ug/L	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	0.0136	0.0273	ug/L	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Chrysene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Fluoranthene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Fluorene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	0.0182	0.0364	ug/L	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	0.0182	0.0364	ug/L	1	---	---	---	---	---	---	
Naphthalene	**0.0226**	0.0182	0.0364	ug/L	1	---	---	---	---	---	---	B-02, Ja
Phenanthrene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Pyrene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Carbazole	ND	0.0136	0.0273	ug/L	1	---	---	---	---	---	---	
Dibenzofuran	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
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	ND	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	
2,4-Dimethylphenol	ND	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	
2,4-Dinitrophenol	ND	0.227	0.455	ug/L	1	---	---	---	---	---	---	
4,6-Dinitro-2-methylphenol	ND	0.227	0.455	ug/L	1	---	---	---	---	---	---	
2-Methylphenol	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	
3+4-Methylphenol(s)	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	
2-Nitrophenol	ND	0.0909	0.182	ug/L	1	---	---	---	---	---	---	
4-Nitrophenol	ND	0.0909	0.182	ug/L	1	---	---	---	---	---	---	
Pentachlorophenol (PCP)	ND	0.0909	0.182	ug/L	1	---	---	---	---	---	---	
Phenol	ND	0.182	0.364	ug/L	1	---	---	---	---	---	---	
2,3,4,6-Tetrachlorophenol	ND	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	

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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 9101003 - EPA 3510C (Acid/Base Neutral)							**Water**					
Blank (9101003-BLK1)			Prepared: 10/11/19 13:05		Analyzed: 10/11/19 19:09							
2,3,5,6-Tetrachlorophenol	ND	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	
2,4,5-Trichlorophenol	ND	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	
2,4,6-Trichlorophenol	ND	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	
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	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	
N-Nitrosodiphenylamine	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	
Bis(2-Chloroethoxy) methane	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	
Bis(2-Chloroethyl) ether	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	
2,2'-Oxybis(1-Chloropropane)	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	
Hexachlorobenzene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	
Hexachlorocyclopentadiene	ND	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	
Hexachloroethane	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	
2-Chloronaphthalene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	
4-Bromophenyl phenyl ether	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	
4-Chlorophenyl phenyl ether	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	
Aniline	ND	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	
4-Chloroaniline	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	
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	ND	0.0909	0.182	ug/L	1	---	---	---	---	---	---	
2,6-Dinitrotoluene	ND	0.0909	0.182	ug/L	1	---	---	---	---	---	---	

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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 9101003 - EPA 3510C (Acid/Base Neutral)							**Water**					
Blank (9101003-BLK1)			Prepared: 10/11/19 13:05 Analyzed: 10/11/19 19:09									
Benzoic acid	ND	1.14	2.27	ug/L	1	---	---	---	---	---	---	
Benzyl alcohol	ND	0.0909	0.182	ug/L	1	---	---	---	---	---	---	
Isophorone	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	
Azobenzene (1,2-DPH)	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	
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: 87 %*		*Limits: 44-120 %*			*Dilution: 1x*				
2-Fluorobiphenyl (Surr)			*64 %*		*44-120 %*			*"*				
Phenol-d6 (Surr)			*22 %*		*10-120 %*			*"*				
p-Terphenyl-d14 (Surr)			*93 %*		*50-133 %*			*"*				
2-Fluorophenol (Surr)			*35 %*		*19-120 %*			*"*				
2,4,6-Tribromophenol (Surr)			*62 %*		*43-140 %*			*"*				
LCS (9101003-BS1)			Prepared: 10/11/19 13:05 Analyzed: 10/11/19 19:45									
EPA 8270D												
Acenaphthene	2.65	0.0200	0.0400	ug/L	2	4.00	---	66	47-122%	---	---	
Acenaphthylene	2.89	0.0200	0.0400	ug/L	2	4.00	---	72	41-130%	---	---	
Anthracene	3.42	0.0200	0.0400	ug/L	2	4.00	---	86	57-123%	---	---	
Benz(a)anthracene	3.79	0.0200	0.0400	ug/L	2	4.00	---	95	58-125%	---	---	
Benzo(a)pyrene	3.75	0.0300	0.0600	ug/L	2	4.00	---	94	54-128%	---	---	
Benzo(b)fluoranthene	3.74	0.0300	0.0600	ug/L	2	4.00	---	94	53-131%	---	---	
Benzo(k)fluoranthene	3.82	0.0300	0.0600	ug/L	2	4.00	---	96	57-129%	---	---	
Benzo(g,h,i)perylene	3.75	0.0200	0.0400	ug/L	2	4.00	---	94	50-134%	---	---	
Chrysene	3.67	0.0200	0.0400	ug/L	2	4.00	---	92	59-123%	---	---	
Dibenz(a,h)anthracene	3.79	0.0200	0.0400	ug/L	2	4.00	---	95	51-134%	---	---	
Fluoranthene	3.98	0.0200	0.0400	ug/L	2	4.00	---	99	57-128%	---	---	
Fluorene	3.20	0.0200	0.0400	ug/L	2	4.00	---	80	52-124%	---	---	
Indeno(1,2,3-cd)pyrene	3.53	0.0200	0.0400	ug/L	2	4.00	---	88	52-133%	---	---	
1-Methylnaphthalene	2.10	0.0400	0.0800	ug/L	2	4.00	---	53	41-120%	---	---	
2-Methylnaphthalene	2.05	0.0400	0.0800	ug/L	2	4.00	---	51	40-121%	---	---	

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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 9101003 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS (9101003-BS1)			Prepared: 10/11/19 13:05		Analyzed: 10/11/19 19:45							
Naphthalene	1.99	0.0400	0.0800	ug/L	2	4.00	---	50	40-121%	---	---	B-02
Phenanthrene	3.30	0.0200	0.0400	ug/L	2	4.00	---	83	59-120%	---	---	
Pyrene	3.95	0.0200	0.0400	ug/L	2	4.00	---	99	57-126%	---	---	
Carbazole	3.96	0.0300	0.0600	ug/L	2	4.00	---	99	60-122%	---	---	
Dibenzofuran	2.94	0.0200	0.0400	ug/L	2	4.00	---	74	53-120%	---	---	
4-Chloro-3-methylphenol	3.40	0.200	0.400	ug/L	2	4.00	---	85	52-120%	---	---	
2-Chlorophenol	2.91	0.100	0.200	ug/L	2	4.00	---	73	38-120%	---	---	
2,4-Dichlorophenol	3.70	0.100	0.200	ug/L	2	4.00	---	92	47-121%	---	---	
2,4-Dimethylphenol	1.54	0.100	0.200	ug/L	2	4.00	---	38	31-124%	---	---	
2,4-Dinitrophenol	5.05	0.500	1.00	ug/L	2	4.00	---	126	23-143%	---	---	Q-41
4,6-Dinitro-2-methylphenol	5.26	0.500	1.00	ug/L	2	4.00	---	131	44-137%	---	---	Q-41
2-Methylphenol	2.36	0.0500	0.100	ug/L	2	4.00	---	59	30-120%	---	---	
3+4-Methylphenol(s)	2.27	0.0500	0.100	ug/L	2	4.00	---	57	29-120%	---	---	
2-Nitrophenol	3.52	0.200	0.400	ug/L	2	4.00	---	88	47-123%	---	---	
4-Nitrophenol	1.53	0.200	0.400	ug/L	2	4.00	---	38	5-120%	---	---	
Pentachlorophenol (PCP)	4.33	0.200	0.400	ug/L	2	4.00	---	108	35-138%	---	---	Q-41
Phenol	1.01	0.400	0.800	ug/L	2	4.00	---	25	5-120%	---	---	
2,3,4,6-Tetrachlorophenol	3.84	0.100	0.200	ug/L	2	4.00	---	96	50-128%	---	---	
2,3,5,6-Tetrachlorophenol	4.03	0.100	0.200	ug/L	2	4.00	---	101	50-121%	---	---	Q-41
2,4,5-Trichlorophenol	3.79	0.100	0.200	ug/L	2	4.00	---	95	53-123%	---	---	
2,4,6-Trichlorophenol	3.64	0.100	0.200	ug/L	2	4.00	---	91	50-125%	---	---	
Bis(2-ethylhexyl)phthalate	3.78	0.400	0.800	ug/L	2	4.00	---	94	55-135%	---	---	
Butyl benzyl phthalate	3.83	0.400	0.800	ug/L	2	4.00	---	96	53-134%	---	---	
Diethylphthalate	3.76	0.400	0.800	ug/L	2	4.00	---	94	55-125%	---	---	
Dimethylphthalate	3.65	0.400	0.800	ug/L	2	4.00	---	91	45-127%	---	---	
Di-n-butylphthalate	3.94	0.400	0.800	ug/L	2	4.00	---	98	59-127%	---	---	
Di-n-octyl phthalate	3.91	0.400	0.800	ug/L	2	4.00	---	98	51-140%	---	---	
N-Nitrosodimethylamine	2.29	0.0500	0.100	ug/L	2	4.00	---	57	6-120%	---	---	
N-Nitroso-di-n-propylamine	3.21	0.0500	0.100	ug/L	2	4.00	---	80	49-120%	---	---	
N-Nitrosodiphenylamine	3.42	0.0500	0.100	ug/L	2	4.00	---	85	51-123%	---	---	
Bis(2-Chloroethoxy) methane	3.21	0.0500	0.100	ug/L	2	4.00	---	80	48-120%	---	---	
Bis(2-Chloroethyl) ether	2.93	0.0500	0.100	ug/L	2	4.00	---	73	43-120%	---	---	
2,2'-Oxybis(1-Chloropropane)	2.45	0.0500	0.100	ug/L	2	4.00	---	61	37-130%	---	---	
Hexachlorobenzene	3.40	0.0200	0.0400	ug/L	2	4.00	---	85	52-125%	---	---	

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Philip Nerenberg, Lab Director

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503-718-2323
EPA ID: OR01039

Maul Foster & Alongi, INC.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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 9101003 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS (9101003-BS1)			Prepared: 10/11/19 13:05 Analyzed: 10/11/19 19:45									
Hexachlorobutadiene	1.04	0.0500	0.100	ug/L	2	4.00	---	26	22-124%	---	---	
Hexachlorocyclopentadiene	0.917	0.100	0.200	ug/L	2	4.00	---	23	5-127%	---	---	
Hexachloroethane	0.954	0.0500	0.100	ug/L	2	4.00	---	24	21-120%	---	---	
2-Chloronaphthalene	2.20	0.0200	0.0400	ug/L	2	4.00	---	55	40-120%	---	---	
1,2-Dichlorobenzene	1.27	0.0500	0.100	ug/L	2	4.00	---	32	32-120%	---	---	
1,3-Dichlorobenzene	1.13	0.0500	0.100	ug/L	2	4.00	---	28	28-120%	---	---	
1,4-Dichlorobenzene	1.19	0.0500	0.100	ug/L	2	4.00	---	30	29-120%	---	---	
1,2,4-Trichlorobenzene	1.43	0.0500	0.100	ug/L	2	4.00	---	36	29-120%	---	---	
4-Bromophenyl phenyl ether	3.29	0.0500	0.100	ug/L	2	4.00	---	82	54-124%	---	---	
4-Chlorophenyl phenyl ether	2.97	0.0500	0.100	ug/L	2	4.00	---	74	53-121%	---	---	
Aniline	2.59	0.100	0.200	ug/L	2	4.00	---	65	6-120%	---	---	
4-Chloroaniline	2.50	0.0500	0.100	ug/L	2	4.00	---	62	33-120%	---	---	
2-Nitroaniline	3.74	0.400	0.800	ug/L	2	4.00	---	93	54-127%	---	---	
3-Nitroaniline	3.47	0.400	0.800	ug/L	2	4.00	---	87	41-128%	---	---	
4-Nitroaniline	3.89	0.400	0.800	ug/L	2	4.00	---	97	35-120%	---	---	
Nitrobenzene	3.01	0.200	0.400	ug/L	2	4.00	---	75	45-121%	---	---	
2,4-Dinitrotoluene	3.94	0.200	0.400	ug/L	2	4.00	---	99	57-128%	---	---	
2,6-Dinitrotoluene	3.81	0.200	0.400	ug/L	2	4.00	---	95	57-124%	---	---	
Benzoic acid	3.31	2.50	2.50	ug/L	2	8.00	---	41	5-120%	---	---	
Benzyl alcohol	2.92	0.200	0.400	ug/L	2	4.00	---	73	31-120%	---	---	
Isophorone	3.30	0.0500	0.100	ug/L	2	4.00	---	82	42-124%	---	---	
Azobenzene (1,2-DPH)	3.08	0.0500	0.100	ug/L	2	4.00	---	77	61-120%	---	---	
Bis(2-Ethylhexyl) adipate	3.69	0.500	1.00	ug/L	2	4.00	---	92	40-125%	---	---	
3,3'-Dichlorobenzidine	8.04	1.00	2.00	ug/L	2	8.00	---	100	27-129%	---	---	
1,2-Dinitrobenzene	3.91	0.500	1.00	ug/L	2	4.00	---	98	59-120%	---	---	
1,3-Dinitrobenzene	3.93	0.500	1.00	ug/L	2	4.00	---	98	49-128%	---	---	
1,4-Dinitrobenzene	4.19	0.500	1.00	ug/L	2	4.00	---	105	40-120%	---	---	
Pyridine	1.87	0.200	0.400	ug/L	2	4.00	---	47	5-120%	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 81 %*			*Limits: 44-120 %*			*Dilution: 2x*			
2-Fluorobiphenyl (Surr)			*73 %*			*44-120 %*			*"*			
Phenol-d6 (Surr)			*24 %*			*10-120 %*			*"*			
p-Terphenyl-d14 (Surr)			*92 %*			*50-133 %*			*"*			
2-Fluorophenol (Surr)			*46 %*			*19-120 %*			*"*			
2,4,6-Tribromophenol (Surr)			*94 %*			*43-140 %*			*"*			

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Philip Nerenberg, Lab Director

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EPA ID: OR01039

Maul Foster & Alongi, INC.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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 9101003 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS Dup (9101003-BSD1)			Prepared: 10/11/19 13:05		Analyzed: 10/11/19 20:21							**Q-19**
EPA 8270D												
Acenaphthene	2.92	0.0200	0.0400	ug/L	2	4.00	---	73	47-122%	10	30%	
Acenaphthylene	3.07	0.0200	0.0400	ug/L	2	4.00	---	77	41-130%	6	30%	
Anthracene	3.34	0.0200	0.0400	ug/L	2	4.00	---	83	57-123%	3	30%	
Benz(a)anthracene	3.57	0.0200	0.0400	ug/L	2	4.00	---	89	58-125%	6	30%	
Benzo(a)pyrene	3.51	0.0300	0.0600	ug/L	2	4.00	---	88	54-128%	7	30%	
Benzo(b)fluoranthene	3.50	0.0300	0.0600	ug/L	2	4.00	---	87	53-131%	7	30%	
Benzo(k)fluoranthene	3.64	0.0300	0.0600	ug/L	2	4.00	---	91	57-129%	5	30%	
Benzo(g,h,i)perylene	3.62	0.0200	0.0400	ug/L	2	4.00	---	91	50-134%	3	30%	
Chrysene	3.47	0.0200	0.0400	ug/L	2	4.00	---	87	59-123%	6	30%	
Dibenz(a,h)anthracene	3.45	0.0200	0.0400	ug/L	2	4.00	---	86	51-134%	9	30%	
Fluoranthene	3.69	0.0200	0.0400	ug/L	2	4.00	---	92	57-128%	7	30%	
Fluorene	3.22	0.0200	0.0400	ug/L	2	4.00	---	81	52-124%	0.7	30%	
Indeno(1,2,3-cd)pyrene	3.32	0.0200	0.0400	ug/L	2	4.00	---	83	52-133%	6	30%	
1-Methylnaphthalene	2.47	0.0400	0.0800	ug/L	2	4.00	---	62	41-120%	16	30%	
2-Methylnaphthalene	2.43	0.0400	0.0800	ug/L	2	4.00	---	61	40-121%	17	30%	
Naphthalene	2.42	0.0400	0.0800	ug/L	2	4.00	---	61	40-121%	19	30%	B-02
Phenanthrene	3.31	0.0200	0.0400	ug/L	2	4.00	---	83	59-120%	0.1	30%	
Pyrene	3.65	0.0200	0.0400	ug/L	2	4.00	---	91	57-126%	8	30%	
Carbazole	3.72	0.0300	0.0600	ug/L	2	4.00	---	93	60-122%	6	30%	
Dibenzofuran	3.02	0.0200	0.0400	ug/L	2	4.00	---	75	53-120%	2	30%	
4-Chloro-3-methylphenol	3.18	0.200	0.400	ug/L	2	4.00	---	80	52-120%	7	30%	
2-Chlorophenol	2.88	0.100	0.200	ug/L	2	4.00	---	72	38-120%	1	30%	
2,4-Dichlorophenol	3.48	0.100	0.200	ug/L	2	4.00	---	87	47-121%	6	30%	
2,4-Dimethylphenol	1.32	0.100	0.200	ug/L	2	4.00	---	33	31-124%	15	30%	
2,4-Dinitrophenol	4.49	0.500	1.00	ug/L	2	4.00	---	112	23-143%	12	30%	Q-41
4,6-Dinitro-2-methylphenol	4.58	0.500	1.00	ug/L	2	4.00	---	114	44-137%	14	30%	Q-41
2-Methylphenol	2.23	0.0500	0.100	ug/L	2	4.00	---	56	30-120%	6	30%	
3+4-Methylphenol(s)	2.15	0.0500	0.100	ug/L	2	4.00	---	54	29-120%	5	30%	
2-Nitrophenol	3.46	0.200	0.400	ug/L	2	4.00	---	86	47-123%	2	30%	
4-Nitrophenol	1.31	0.200	0.400	ug/L	2	4.00	---	33	5-120%	15	30%	
Pentachlorophenol (PCP)	3.83	0.200	0.400	ug/L	2	4.00	---	96	35-138%	12	30%	Q-41
Phenol	1.00	0.400	0.800	ug/L	2	4.00	---	25	5-120%	0.4	30%	
2,3,4,6-Tetrachlorophenol	3.38	0.100	0.200	ug/L	2	4.00	---	85	50-128%	13	30%	

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Maul Foster & Alongi, INC.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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 9101003 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS Dup (9101003-BSD1)			Prepared: 10/11/19 13:05		Analyzed: 10/11/19 20:21							**Q-19**
2,3,5,6-Tetrachlorophenol	3.54	0.100	0.200	ug/L	2	4.00	---	88	50-121%	13	30%	Q-41
2,4,5-Trichlorophenol	3.47	0.100	0.200	ug/L	2	4.00	---	87	53-123%	9	30%	
2,4,6-Trichlorophenol	3.47	0.100	0.200	ug/L	2	4.00	---	87	50-125%	5	30%	
Bis(2-ethylhexyl)phthalate	3.59	0.400	0.800	ug/L	2	4.00	---	90	55-135%	5	30%	
Butyl benzyl phthalate	3.80	0.400	0.800	ug/L	2	4.00	---	95	53-134%	0.7	30%	
Diethylphthalate	3.50	0.400	0.800	ug/L	2	4.00	---	88	55-125%	7	30%	
Dimethylphthalate	3.42	0.400	0.800	ug/L	2	4.00	---	86	45-127%	6	30%	
Di-n-butylphthalate	3.75	0.400	0.800	ug/L	2	4.00	---	94	59-127%	5	30%	
Di-n-octyl phthalate	3.72	0.400	0.800	ug/L	2	4.00	---	93	51-140%	5	30%	
N-Nitrosodimethylamine	1.79	0.0500	0.100	ug/L	2	4.00	---	45	6-120%	24	30%	
N-Nitroso-di-n-propylamine	3.24	0.0500	0.100	ug/L	2	4.00	---	81	49-120%	1	30%	
N-Nitrosodiphenylamine	3.38	0.0500	0.100	ug/L	2	4.00	---	85	51-123%	1	30%	
Bis(2-Chloroethoxy) methane	3.28	0.0500	0.100	ug/L	2	4.00	---	82	48-120%	2	30%	
Bis(2-Chloroethyl) ether	3.00	0.0500	0.100	ug/L	2	4.00	---	75	43-120%	3	30%	
2,2'-Oxybis(1-Chloropropane)	2.70	0.0500	0.100	ug/L	2	4.00	---	67	37-130%	10	30%	
Hexachlorobenzene	3.25	0.0200	0.0400	ug/L	2	4.00	---	81	52-125%	4	30%	
Hexachlorobutadiene	1.65	0.0500	0.100	ug/L	2	4.00	---	41	22-124%	**45**	**30%**	Q-24
Hexachlorocyclopentadiene	1.53	0.100	0.200	ug/L	2	4.00	---	38	5-127%	**50**	**30%**	Q-24
Hexachloroethane	1.60	0.0500	0.100	ug/L	2	4.00	---	40	21-120%	**51**	**30%**	Q-24
2-Chloronaphthalene	2.56	0.0200	0.0400	ug/L	2	4.00	---	64	40-120%	15	30%	
1,2-Dichlorobenzene	1.80	0.0500	0.100	ug/L	2	4.00	---	45	32-120%	**34**	**30%**	Q-24
1,3-Dichlorobenzene	1.68	0.0500	0.100	ug/L	2	4.00	---	42	28-120%	**39**	**30%**	Q-24
1,4-Dichlorobenzene	1.73	0.0500	0.100	ug/L	2	4.00	---	43	29-120%	**37**	**30%**	Q-24
1,2,4-Trichlorobenzene	1.98	0.0500	0.100	ug/L	2	4.00	---	49	29-120%	**32**	**30%**	Q-24
4-Bromophenyl phenyl ether	3.29	0.0500	0.100	ug/L	2	4.00	---	82	54-124%	0.03	30%	
4-Chlorophenyl phenyl ether	3.03	0.0500	0.100	ug/L	2	4.00	---	76	53-121%	2	30%	
Aniline	2.57	0.100	0.200	ug/L	2	4.00	---	64	6-120%	0.8	30%	
4-Chloroaniline	2.40	0.0500	0.100	ug/L	2	4.00	---	60	33-120%	4	30%	
2-Nitroaniline	3.54	0.400	0.800	ug/L	2	4.00	---	88	54-127%	6	30%	
3-Nitroaniline	3.11	0.400	0.800	ug/L	2	4.00	---	78	41-128%	11	30%	
4-Nitroaniline	3.41	0.400	0.800	ug/L	2	4.00	---	85	35-120%	13	30%	
Nitrobenzene	3.08	0.200	0.400	ug/L	2	4.00	---	77	45-121%	2	30%	
2,4-Dinitrotoluene	3.56	0.200	0.400	ug/L	2	4.00	---	89	57-128%	10	30%	
2,6-Dinitrotoluene	3.59	0.200	0.400	ug/L	2	4.00	---	90	57-124%	6	30%	

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Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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 9101003 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS Dup (9101003-BSD1)			Prepared: 10/11/19 13:05		Analyzed: 10/11/19 20:21							**Q-19**
Benzoic acid	3.08	2.50	2.50	ug/L	2	8.00	---	38	5-120%	7	30%	
Benzyl alcohol	2.84	0.200	0.400	ug/L	2	4.00	---	71	31-120%	3	30%	
Isophorone	3.35	0.0500	0.100	ug/L	2	4.00	---	84	42-124%	1	30%	
Azobenzene (1,2-DPH)	3.41	0.0500	0.100	ug/L	2	4.00	---	85	61-120%	10	30%	
Bis(2-Ethylhexyl) adipate	3.72	0.500	1.00	ug/L	2	4.00	---	93	40-125%	0.8	30%	
3,3'-Dichlorobenzidine	7.14	1.00	2.00	ug/L	2	8.00	---	89	27-129%	12	30%	
1,2-Dinitrobenzene	3.57	0.500	1.00	ug/L	2	4.00	---	89	59-120%	9	30%	
1,3-Dinitrobenzene	3.58	0.500	1.00	ug/L	2	4.00	---	89	49-128%	9	30%	
1,4-Dinitrobenzene	3.76	0.500	1.00	ug/L	2	4.00	---	94	40-120%	11	30%	
Pyridine	1.45	0.200	0.400	ug/L	2	4.00	---	36	5-120%	25	30%	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 83 %*		*Limits: 44-120 %*		*Dilution: 2x*					
2-Fluorobiphenyl (Surr)			*73 %*		*44-120 %*		*"*					
Phenol-d6 (Surr)			*24 %*		*10-120 %*		*"*					
p-Terphenyl-d14 (Surr)			*87 %*		*50-133 %*		*"*					
2-Fluorophenol (Surr)			*38 %*		*19-120 %*		*"*					
2,4,6-Tribromophenol (Surr)			*85 %*		*43-140 %*		*"*					

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Apex Laboratories, LLC
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Tigard, OR 97223
503-718-2323
EPA ID: OR01039

Maul Foster & Alongi, INC.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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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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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2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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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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%	---	---	Q-41, B-02
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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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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EPA ID: OR01039

Maul Foster & Alongi, INC.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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%	B-02, Q-30
2-Methylnaphthalene	1.39	0.0800	0.160	ug/L	4	4.00	---	**35**	**40-121%**	9	30%	B-02, Q-30
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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Maul Foster & Alongi, INC.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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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Maul Foster & Alongi, INC.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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%	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 66 %*		*Limits: 44-120 %*				*Dilution: 4x*			
2-Fluorobiphenyl (Surr)			*65 %*		*44-120 %*				*"*			
Phenol-d6 (Surr)			*27 %*		*10-120 %*				*"*			
p-Terphenyl-d14 (Surr)			*95 %*		*50-133 %*				*"*			
2-Fluorophenol (Surr)			*39 %*		*19-120 %*				*"*			
2,4,6-Tribromophenol (Surr)			*88 %*		*43-140 %*				*"*			

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Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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 9101307 - EPA 3546							**Sediment**					
Blank (9101307-BLK1)			Prepared: 10/18/19 10:03		Analyzed: 10/18/19 13:20							
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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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 9101307 - EPA 3546							**Sediment**					
Blank (9101307-BLK1)			Prepared: 10/18/19 10:03		Analyzed: 10/18/19 13:20							
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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EPA ID: OR01039

Maul Foster & Alongi, INC.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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 9101307 - EPA 3546							**Sediment**					
Blank (9101307-BLK1)			Prepared: 10/18/19 10:03		Analyzed: 10/18/19 13:20							
Benzoic acid	ND	157	312	ug/kg wet	1	---	---	---	---	---	---	
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	---	---	---	---	---	---	Q-52
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: 91 %*		*Limits: 37-122 %*				*Dilution: 1x*			
2-Fluorobiphenyl (Surr)			*89 %*		*44-115 %*				*"*			
Phenol-d6 (Surr)			*87 %*		*33-122 %*				*"*			
p-Terphenyl-d14 (Surr)			*102 %*		*54-127 %*				*"*			
2-Fluorophenol (Surr)			*92 %*		*35-115 %*				*"*			
2,4,6-Tribromophenol (Surr)			*84 %*		*39-132 %*				*"*			
LCS (9101307-BS1)			Prepared: 10/18/19 10:03		Analyzed: 10/18/19 13:55							**Q-18**
EPA 8270D												
Acenaphthene	516	5.32	10.7	ug/kg wet	4	533	---	97	40-122%	---	---	
Acenaphthylene	548	5.32	10.7	ug/kg wet	4	533	---	103	32-132%	---	---	
Anthracene	558	5.32	10.7	ug/kg wet	4	533	---	105	47-123%	---	---	
Benz(a)anthracene	571	5.32	10.7	ug/kg wet	4	533	---	107	49-126%	---	---	
Benzo(a)pyrene	537	8.00	16.0	ug/kg wet	4	533	---	101	45-129%	---	---	
Benzo(b)fluoranthene	566	8.00	16.0	ug/kg wet	4	533	---	106	45-132%	---	---	
Benzo(k)fluoranthene	564	8.00	16.0	ug/kg wet	4	533	---	106	47-132%	---	---	
Benzo(g,h,i)perylene	614	5.32	10.7	ug/kg wet	4	533	---	115	43-134%	---	---	
Chrysene	565	5.32	10.7	ug/kg wet	4	533	---	106	50-124%	---	---	
Dibenz(a,h)anthracene	570	5.32	10.7	ug/kg wet	4	533	---	107	45-134%	---	---	
Fluoranthene	595	5.32	10.7	ug/kg wet	4	533	---	112	50-127%	---	---	
Fluorene	536	5.32	10.7	ug/kg wet	4	533	---	100	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	545	5.32	10.7	ug/kg wet	4	533	---	102	45-133%	---	---	
1-Methylnaphthalene	536	10.7	21.3	ug/kg wet	4	533	---	100	40-120%	---	---	
2-Methylnaphthalene	544	10.7	21.3	ug/kg wet	4	533	---	102	38-122%	---	---	

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2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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 9101307 - EPA 3546							**Sediment**					
LCS (9101307-BS1)			Prepared: 10/18/19 10:03		Analyzed: 10/18/19 13:55							**Q-18**
Naphthalene	530	10.7	21.3	ug/kg wet	4	533	---	99	35-123%	---	---	
Phenanthrene	531	5.32	10.7	ug/kg wet	4	533	---	100	50-121%	---	---	
Pyrene	596	5.32	10.7	ug/kg wet	4	533	---	112	47-127%	---	---	
Carbazole	667	8.00	16.0	ug/kg wet	4	533	---	**125**	**50-122%**	---	---	Q-29
Dibenzofuran	546	5.32	10.7	ug/kg wet	4	533	---	102	44-120%	---	---	
4-Chloro-3-methylphenol	540	53.2	107	ug/kg wet	4	533	---	101	45-122%	---	---	
2-Chlorophenol	515	26.7	53.2	ug/kg wet	4	533	---	97	34-121%	---	---	
2,4-Dichlorophenol	550	26.7	53.2	ug/kg wet	4	533	---	103	40-122%	---	---	
2,4-Dimethylphenol	610	26.7	53.2	ug/kg wet	4	533	---	114	30-127%	---	---	
2,4-Dinitrophenol	364	133	267	ug/kg wet	4	533	---	68	5-137%	---	---	Q-31
4,6-Dinitro-2-methylphenol	502	133	267	ug/kg wet	4	533	---	94	29-132%	---	---	Q-31
2-Methylphenol	530	13.3	26.7	ug/kg wet	4	533	---	99	32-122%	---	---	
3+4-Methylphenol(s)	538	13.3	26.7	ug/kg wet	4	533	---	101	34-120%	---	---	
2-Nitrophenol	577	53.2	107	ug/kg wet	4	533	---	108	36-123%	---	---	
4-Nitrophenol	550	53.2	107	ug/kg wet	4	533	---	103	30-132%	---	---	
Pentachlorophenol (PCP)	461	53.2	107	ug/kg wet	4	533	---	86	25-133%	---	---	
Phenol	498	10.7	21.3	ug/kg wet	4	533	---	93	34-120%	---	---	
2,3,4,6-Tetrachlorophenol	536	26.7	53.2	ug/kg wet	4	533	---	100	44-125%	---	---	
2,3,5,6-Tetrachlorophenol	548	26.7	53.2	ug/kg wet	4	533	---	103	40-120%	---	---	
2,4,5-Trichlorophenol	578	26.7	53.2	ug/kg wet	4	533	---	108	41-124%	---	---	
2,4,6-Trichlorophenol	589	26.7	53.2	ug/kg wet	4	533	---	110	39-126%	---	---	
Bis(2-ethylhexyl)phthalate	561	80.0	160	ug/kg wet	4	533	---	105	51-133%	---	---	
Butyl benzyl phthalate	542	26.7	53.2	ug/kg wet	4	533	---	102	48-132%	---	---	
Diethylphthalate	570	26.7	53.2	ug/kg wet	4	533	---	107	50-124%	---	---	
Dimethylphthalate	562	26.7	53.2	ug/kg wet	4	533	---	105	48-124%	---	---	
Di-n-butylphthalate	574	26.7	53.2	ug/kg wet	4	533	---	108	51-128%	---	---	
Di-n-octyl phthalate	533	42.8	53.2	ug/kg wet	4	533	---	100	44-140%	---	---	
N-Nitrosodimethylamine	430	13.3	26.7	ug/kg wet	4	533	---	81	23-120%	---	---	
N-Nitroso-di-n-propylamine	453	13.3	26.7	ug/kg wet	4	533	---	85	36-120%	---	---	
N-Nitrosodiphenylamine	558	13.3	26.7	ug/kg wet	4	533	---	105	38-127%	---	---	
Bis(2-Chloroethoxy) methane	504	13.3	26.7	ug/kg wet	4	533	---	94	36-121%	---	---	
Bis(2-Chloroethyl) ether	499	13.3	26.7	ug/kg wet	4	533	---	94	31-120%	---	---	
2,2'-Oxybis(1-Chloropropane)	395	13.3	26.7	ug/kg wet	4	533	---	74	33-131%	---	---	
Hexachlorobenzene	549	5.32	10.7	ug/kg wet	4	533	---	103	44-122%	---	---	

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Philip Nerenberg, Lab Director

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Maul Foster & Alongi, INC.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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 9101307 - EPA 3546							**Sediment**					
LCS (9101307-BS1)			Prepared: 10/18/19 10:03			Analyzed: 10/18/19 13:55						**Q-18**
Hexachlorobutadiene	549	13.3	26.7	ug/kg wet	4	533	---	103	32-123%	---	---	
Hexachlorocyclopentadiene	660	26.7	53.2	ug/kg wet	4	533	---	124	5-140%	---	---	Q-41
Hexachloroethane	560	13.3	26.7	ug/kg wet	4	533	---	105	28-120%	---	---	
2-Chloronaphthalene	555	5.32	10.7	ug/kg wet	4	533	---	104	41-120%	---	---	
1,2-Dichlorobenzene	522	13.3	26.7	ug/kg wet	4	533	---	98	33-120%	---	---	
1,3-Dichlorobenzene	516	13.3	26.7	ug/kg wet	4	533	---	97	30-120%	---	---	
1,4-Dichlorobenzene	508	13.3	26.7	ug/kg wet	4	533	---	95	31-120%	---	---	
1,2,4-Trichlorobenzene	551	13.3	26.7	ug/kg wet	4	533	---	103	34-120%	---	---	
4-Bromophenyl phenyl ether	549	13.3	26.7	ug/kg wet	4	533	---	103	46-124%	---	---	
4-Chlorophenyl phenyl ether	538	13.3	26.7	ug/kg wet	4	533	---	101	45-121%	---	---	
Aniline	372	26.7	53.2	ug/kg wet	4	533	---	70	7-120%	---	---	
4-Chloroaniline	424	13.3	26.7	ug/kg wet	4	533	---	80	16-120%	---	---	
2-Nitroaniline	581	107	213	ug/kg wet	4	533	---	109	44-127%	---	---	
3-Nitroaniline	622	107	213	ug/kg wet	4	533	---	117	33-120%	---	---	Q-41
4-Nitroaniline	748	107	213	ug/kg wet	4	533	---	**140**	**35-120%**	---	---	Q-41
Nitrobenzene	486	53.2	107	ug/kg wet	4	533	---	91	34-122%	---	---	
2,4-Dinitrotoluene	564	53.2	107	ug/kg wet	4	533	---	106	48-126%	---	---	
2,6-Dinitrotoluene	558	53.2	107	ug/kg wet	4	533	---	105	46-124%	---	---	
Benzoic acid	675	668	668	ug/kg wet	4	1070	---	63	5-140%	---	---	Q-31
Benzyl alcohol	470	26.7	53.2	ug/kg wet	4	533	---	88	29-122%	---	---	
Isophorone	491	13.3	26.7	ug/kg wet	4	533	---	92	30-122%	---	---	
Azobenzene (1,2-DPH)	483	13.3	26.7	ug/kg wet	4	533	---	91	39-125%	---	---	
Bis(2-Ethylhexyl) adipate	602	133	267	ug/kg wet	4	533	---	113	60-121%	---	---	
3,3'-Dichlorobenzidine	1610	107	213	ug/kg wet	4	1070	---	**151**	**22-121%**	---	---	Q-29
1,2-Dinitrobenzene	548	133	267	ug/kg wet	4	533	---	103	44-120%	---	---	
1,3-Dinitrobenzene	610	133	267	ug/kg wet	4	533	---	114	42-127%	---	---	
1,4-Dinitrobenzene	618	133	267	ug/kg wet	4	533	---	116	37-132%	---	---	
Pyridine	273	26.7	53.2	ug/kg wet	4	533	---	51	5-120%	---	---	

Surr: Nitrobenzene-d5 (Surr)	*Recovery: 92 %*	*Limits: 37-122 %*	*Dilution: 4x*
2-Fluorobiphenyl (Surr)	*102 %*	*44-115 %*	*"*
Phenol-d6 (Surr)	*93 %*	*33-122 %*	*"*
p-Terphenyl-d14 (Surr)	*106 %*	*54-127 %*	*"*
2-Fluorophenol (Surr)	*97 %*	*35-115 %*	*"*
2,4,6-Tribromophenol (Surr)	*97 %*	*39-132 %*	*"*

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2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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 9101307 - EPA 3546							**Sediment**					
Duplicate (9101307-DUP1)				Prepared: 10/18/19 10:03 Analyzed: 10/18/19 15:42								
QC Source Sample: SED05-SB-2 (A9J0277-01)												
EPA 8270D												
Acenaphthene	**214**	78.6	158	ug/kg dry	40	---	177	---	---	19	30%	
Acenaphthylene	ND	78.6	158	ug/kg dry	40	---	ND	---	---	---	30%	
Anthracene	ND	78.6	158	ug/kg dry	40	---	ND	---	---	---	30%	
Benz(a)anthracene	**304**	78.6	158	ug/kg dry	40	---	301	---	---	0.9	30%	
Benzo(a)pyrene	**376**	118	236	ug/kg dry	40	---	331	---	---	13	30%	
Benzo(b)fluoranthene	**382**	118	236	ug/kg dry	40	---	345	---	---	10	30%	
Benzo(k)fluoranthene	**157**	118	236	ug/kg dry	40	---	170	---	---	8	30%	Ja
Benzo(g,h,i)perylene	**294**	78.6	158	ug/kg dry	40	---	244	---	---	19	30%	
Chrysene	**363**	78.6	158	ug/kg dry	40	---	348	---	---	4	30%	
Dibenz(a,h)anthracene	ND	78.6	158	ug/kg dry	40	---	ND	---	---	---	30%	
Fluoranthene	**905**	78.6	158	ug/kg dry	40	---	985	---	---	8	30%	
Fluorene	**96.8**	78.6	158	ug/kg dry	40	---	ND	---	---		**30%**	Q-17, Ja
Indeno(1,2,3-cd)pyrene	**248**	78.6	158	ug/kg dry	40	---	200	---	---	22	30%	
1-Methylnaphthalene	ND	158	315	ug/kg dry	40	---	ND	---	---	---	30%	
2-Methylnaphthalene	ND	158	315	ug/kg dry	40	---	ND	---	---	---	30%	
Naphthalene	ND	158	315	ug/kg dry	40	---	ND	---	---	---	30%	
Phenanthrene	**1040**	78.6	158	ug/kg dry	40	---	920	---	---	12	30%	
Pyrene	**1180**	78.6	158	ug/kg dry	40	---	1210	---	---	3	30%	
Carbazole	ND	118	236	ug/kg dry	40	---	ND	---	---	---	30%	
Dibenzofuran	ND	78.6	158	ug/kg dry	40	---	ND	---	---	---	30%	
4-Chloro-3-methylphenol	ND	786	1580	ug/kg dry	40	---	ND	---	---	---	30%	
2-Chlorophenol	ND	394	786	ug/kg dry	40	---	ND	---	---	---	30%	
2,4-Dichlorophenol	ND	394	786	ug/kg dry	40	---	ND	---	---	---	30%	
2,4-Dimethylphenol	ND	394	786	ug/kg dry	40	---	ND	---	---	---	30%	
2,4-Dinitrophenol	ND	1970	3940	ug/kg dry	40	---	ND	---	---	---	30%	
4,6-Dinitro-2-methylphenol	ND	1970	3940	ug/kg dry	40	---	ND	---	---	---	30%	
2-Methylphenol	ND	197	394	ug/kg dry	40	---	ND	---	---	---	30%	
3+4-Methylphenol(s)	ND	197	394	ug/kg dry	40	---	ND	---	---	---	30%	
2-Nitrophenol	ND	786	1580	ug/kg dry	40	---	ND	---	---	---	30%	
4-Nitrophenol	ND	786	1580	ug/kg dry	40	---	ND	---	---	---	30%	
Pentachlorophenol (PCP)	ND	786	1580	ug/kg dry	40	---	ND	---	---	---	30%	

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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 9101307 - EPA 3546							**Sediment**					
Duplicate (9101307-DUP1)			Prepared: 10/18/19 10:03		Analyzed: 10/18/19 15:42							
QC Source Sample: SED05-SB-2 (A9J0277-01)												
Phenol	ND	158	315	ug/kg dry	40	---	ND	---	---	---	30%	
2,3,4,6-Tetrachlorophenol	ND	394	786	ug/kg dry	40	---	ND	---	---	---	30%	
2,3,5,6-Tetrachlorophenol	ND	394	786	ug/kg dry	40	---	ND	---	---	---	30%	
2,4,5-Trichlorophenol	ND	394	786	ug/kg dry	40	---	ND	---	---	---	30%	
2,4,6-Trichlorophenol	ND	394	786	ug/kg dry	40	---	ND	---	---	---	30%	
Bis(2-ethylhexyl)phthalate	ND	1180	2360	ug/kg dry	40	---	ND	---	---	---	30%	
Butyl benzyl phthalate	ND	394	786	ug/kg dry	40	---	ND	---	---	---	30%	
Diethylphthalate	ND	394	786	ug/kg dry	40	---	ND	---	---	---	30%	
Dimethylphthalate	ND	394	786	ug/kg dry	40	---	ND	---	---	---	30%	
Di-n-butylphthalate	ND	394	786	ug/kg dry	40	---	ND	---	---	---	30%	
Di-n-octyl phthalate	ND	632	786	ug/kg dry	40	---	ND	---	---	---	30%	
N-Nitrosodimethylamine	ND	197	394	ug/kg dry	40	---	ND	---	---	---	30%	
N-Nitroso-di-n-propylamine	ND	197	394	ug/kg dry	40	---	ND	---	---	---	30%	
N-Nitrosodiphenylamine	ND	197	394	ug/kg dry	40	---	ND	---	---	---	30%	
Bis(2-Chloroethoxy) methane	ND	197	394	ug/kg dry	40	---	ND	---	---	---	30%	
Bis(2-Chloroethyl) ether	ND	197	394	ug/kg dry	40	---	ND	---	---	---	30%	
2,2'-Oxybis(1-Chloropropane)	ND	197	394	ug/kg dry	40	---	ND	---	---	---	30%	
Hexachlorobenzene	ND	78.6	158	ug/kg dry	40	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	197	394	ug/kg dry	40	---	ND	---	---	---	30%	
Hexachlorocyclopentadiene	ND	394	786	ug/kg dry	40	---	ND	---	---	---	30%	
Hexachloroethane	ND	197	394	ug/kg dry	40	---	ND	---	---	---	30%	
2-Chloronaphthalene	ND	78.6	158	ug/kg dry	40	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	197	394	ug/kg dry	40	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	197	394	ug/kg dry	40	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	197	394	ug/kg dry	40	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	197	394	ug/kg dry	40	---	ND	---	---	---	30%	
4-Bromophenyl phenyl ether	ND	197	394	ug/kg dry	40	---	ND	---	---	---	30%	
4-Chlorophenyl phenyl ether	ND	197	394	ug/kg dry	40	---	ND	---	---	---	30%	
Aniline	ND	394	786	ug/kg dry	40	---	ND	---	---	---	30%	
4-Chloroaniline	ND	197	394	ug/kg dry	40	---	ND	---	---	---	30%	
2-Nitroaniline	ND	1580	3150	ug/kg dry	40	---	ND	---	---	---	30%	
3-Nitroaniline	ND	1580	3150	ug/kg dry	40	---	ND	---	---	---	30%	
4-Nitroaniline	ND	1580	3150	ug/kg dry	40	---	ND	---	---	---	30%	

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503-718-2323
EPA ID: OR01039

Maul Foster & Alongi, INC.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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 9101307 - EPA 3546							**Sediment**					
Duplicate (9101307-DUP1)			Prepared: 10/18/19 10:03		Analyzed: 10/18/19 15:42							
QC Source Sample: SED05-SB-2 (A9J0277-01)												
Nitrobenzene	ND	786	1580	ug/kg dry	40	---	ND	---	---	---	30%	
2,4-Dinitrotoluene	ND	786	1580	ug/kg dry	40	---	ND	---	---	---	30%	
2,6-Dinitrotoluene	ND	786	1580	ug/kg dry	40	---	ND	---	---	---	30%	
Benzoic acid	ND	9870	19700	ug/kg dry	40	---	ND	---	---	---	30%	
Benzyl alcohol	ND	394	786	ug/kg dry	40	---	ND	---	---	---	30%	
Isophorone	ND	197	394	ug/kg dry	40	---	ND	---	---	---	30%	
Azobenzene (1,2-DPH)	ND	197	394	ug/kg dry	40	---	ND	---	---	---	30%	
Bis(2-Ethylhexyl) adipate	ND	1970	3940	ug/kg dry	40	---	ND	---	---	---	30%	
3,3'-Dichlorobenzidine	ND	1580	3150	ug/kg dry	40	---	ND	---	---	---	30%	Q-52
1,2-Dinitrobenzene	ND	1970	3940	ug/kg dry	40	---	ND	---	---	---	30%	
1,3-Dinitrobenzene	ND	1970	3940	ug/kg dry	40	---	ND	---	---	---	30%	
1,4-Dinitrobenzene	ND	1970	3940	ug/kg dry	40	---	ND	---	---	---	30%	
Pyridine	ND	394	786	ug/kg dry	40	---	ND	---	---	---	30%	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 57 %*		*Limits: 37-122 %*		*Dilution: 40x*					S-05
2-Fluorobiphenyl (Surr)			*74 %*		*44-115 %*		*"*					S-05
Phenol-d6 (Surr)			*58 %*		*33-122 %*		*"*					S-05
p-Terphenyl-d14 (Surr)			*92 %*		*54-127 %*		*"*					S-05
2-Fluorophenol (Surr)			*56 %*		*35-115 %*		*"*					S-05
2,4,6-Tribromophenol (Surr)			*98 %*		*39-132 %*		*"*					S-05

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2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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 9110570 - EPA 3546							**Sediment**					
Blank (9110570-BLK1)			Prepared: 11/07/19 10:09 Analyzed: 11/08/19 14:30									
EPA 8270Dm												
C1-Chrysenes/Benz(a)anthracenes	ND	16.7	16.7	ug/kg wet	1	---	---	---	---	---	---	
C1-Fluoranthrenes/Pyrenes	ND	16.7	16.7	ug/kg wet	1	---	---	---	---	---	---	
C1-Fluorenes	ND	16.7	16.7	ug/kg wet	1	---	---	---	---	---	---	
C1-Phenanthrenes/Anthracenes	ND	16.7	16.7	ug/kg wet	1	---	---	---	---	---	---	
C2-Chrysenes/Benz(a)anthracenes	ND	16.7	16.7	ug/kg wet	1	---	---	---	---	---	---	
C2-Fluorenes	ND	16.7	16.7	ug/kg wet	1	---	---	---	---	---	---	
C2-Naphthalenes	ND	16.7	16.7	ug/kg wet	1	---	---	---	---	---	---	
C2-Phenanthrenes/Anthracenes	ND	16.7	16.7	ug/kg wet	1	---	---	---	---	---	---	
C3-Chrysenes/Benz(a)anthracenes	ND	16.7	16.7	ug/kg wet	1	---	---	---	---	---	---	
C3-Fluorenes	ND	16.7	16.7	ug/kg wet	1	---	---	---	---	---	---	
C3-Naphthalenes	ND	16.7	16.7	ug/kg wet	1	---	---	---	---	---	---	
C3-Phenanthrenes/Anthracenes	ND	16.7	16.7	ug/kg wet	1	---	---	---	---	---	---	
C4-Chrysenes/Benz(a)anthracenes	ND	33.3	33.3	ug/kg wet	1	---	---	---	---	---	---	
C4-Naphthalenes	ND	16.7	16.7	ug/kg wet	1	---	---	---	---	---	---	
C4-Phenanthrenes/Anthracenes	ND	33.3	33.3	ug/kg wet	1	---	---	---	---	---	---	
Surr: Acenaphthylene-d8 (Surr)			*Recovery: 78 %*	*Limits: 40-120 %*			*Dilution: 1x*					
Benzo(a)pyrene-d12 (Surr)			*95 %*	*40-120 %*			*"*					
LCS (9110570-BS1)			Prepared: 11/07/19 10:09 Analyzed: 11/08/19 15:04									
EPA 8270Dm												
2-Methylnaphthalene	692	20.0	20.0	ug/kg wet	1	800	---	86	38-122%	---	---	
2,6-Dimethylnaphthalene	678	20.0	20.0	ug/kg wet	1	800	---	85	40-125%	---	---	
1,6,7-Trimethylnaphthalene	727	20.0	20.0	ug/kg wet	1	800	---	91	45-125%	---	---	
Fluorene	678	20.0	20.0	ug/kg wet	1	800	---	85	43-125%	---	---	
1-Methylphenanthrene	729	20.0	20.0	ug/kg wet	1	800	---	91	45-125%	---	---	
Pyrene	716	20.0	20.0	ug/kg wet	1	800	---	89	47-127%	---	---	
Chrysene	766	20.0	20.0	ug/kg wet	1	800	---	96	50-124%	---	---	
Surr: Acenaphthylene-d8 (Surr)			*Recovery: 97 %*	*Limits: 40-120 %*			*Dilution: 1x*					
Benzo(a)pyrene-d12 (Surr)			*105 %*	*40-120 %*			*"*					

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2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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 9110570 - EPA 3546							**Sediment**					
Duplicate (9110570-DUP1)			Prepared: 11/07/19 10:09		Analyzed: 11/08/19 16:13							**H-08**
QC Source Sample: SED05-SB-2 (A9J0277-01)												
EPA 8270Dm												
C1-Chrysenes/Benz(a)anthracenes	**299**	289	289	ug/kg dry	10	---	292	---	---	3	30%	
C1-Fluoranthrenes/Pyrenes	**551**	289	289	ug/kg dry	10	---	506	---	---	8	30%	
C1-Fluorenes	ND	289	289	ug/kg dry	10	---	ND	---	---	---	30%	
C1-Phenanthrenes/Anthracenes	**770**	289	289	ug/kg dry	10	---	698	---	---	10	30%	
C2-Chrysenes/Benz(a)anthracenes	ND	289	289	ug/kg dry	10	---	ND	---	---	---	30%	
C2-Fluorenes	ND	289	289	ug/kg dry	10	---	ND	---	---	---	30%	
C2-Naphthalenes	ND	289	289	ug/kg dry	10	---	ND	---	---	---	30%	
C2-Phenanthrenes/Anthracenes	**612**	289	289	ug/kg dry	10	---	587	---	---	4	30%	
C3-Chrysenes/Benz(a)anthracenes	ND	289	289	ug/kg dry	10	---	ND	---	---	---	30%	
C3-Fluorenes	ND	289	289	ug/kg dry	10	---	ND	---	---	---	30%	
C3-Naphthalenes	**369**	289	289	ug/kg dry	10	---	348	---	---	6	30%	
C3-Phenanthrenes/Anthracenes	**401**	289	289	ug/kg dry	10	---	398	---	---	0.8	30%	
C4-Chrysenes/Benz(a)anthracenes	ND	578	578	ug/kg dry	10	---	ND	---	---	---	30%	
C4-Naphthalenes	**346**	289	289	ug/kg dry	10	---	309	---	---	11	30%	
C4-Phenanthrenes/Anthracenes	ND	578	578	ug/kg dry	10	---	ND	---	---	---	30%	
Surr: Acenaphthylene-d8 (Surr)			*Recovery: 73 %*		*Limits: 40-120 %*				*Dilution: 10x*			
Benzo(a)pyrene-d12 (Surr)			*87 %*		*40-120 %*				*"*			
Matrix Spike (9110570-MS1)			Prepared: 11/07/19 10:11		Analyzed: 11/08/19 17:22							**H-08**
QC Source Sample: Non-SDG (A9J0371-20)												
EPA 8270Dm												
2-Methylnaphthalene	13300	1310	1310	ug/kg dry	40	1310	11600	**130**	**38-122%**	---	---	Q-03
2,6-Dimethylnaphthalene	6870	1310	1310	ug/kg dry	40	1310	5710	89	40-125%	---	---	
1,6,7-Trimethylnaphthalene	2820	1310	1310	ug/kg dry	40	1310	2010	62	45-125%	---	---	
Fluorene	37200	1310	1310	ug/kg dry	40	1310	40800	**-270**	**43-125%**	---	---	Q-03
1-Methylphenanthrene	5310	1310	1310	ug/kg dry	40	1310	4410	69	45-125%	---	---	
Pyrene	37100	1310	1310	ug/kg dry	40	1310	40700	**-282**	**47-127%**	---	---	Q-03
Chrysene	10500	1310	1310	ug/kg dry	40	1310	10300	**11**	**50-124%**	---	---	Q-03

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Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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 9110570 - EPA 3546							**Sediment**					
Matrix Spike (9110570-MS1)				Prepared: 11/07/19 10:11		Analyzed: 11/08/19 17:22						**H-08**
QC Source Sample: Non-SDG (A9J0371-20)												
Surr: Acenaphthylene-d8 (Surr)			*Recovery: 67 %*	*Limits: 40-120 %*		*Dilution: 40x*						S-05
Benzo(a)pyrene-d12 (Surr)			*81 %*	*40-120 %*		*"*						S-05

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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 9100942 - EPA 3015A							**Water**					
Blank (9100942-BLK1)			Prepared: 10/10/19 12:25		Analyzed: 10/14/19 21:27							
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 (9100942-BS1)			Prepared: 10/10/19 12:25		Analyzed: 10/14/19 21:32							
EPA 6020A												
Arsenic	52.9	0.500	1.00	ug/L	1	55.6	---	95	80-120%	---	---	
Barium	57.1	0.500	1.00	ug/L	1	55.6	---	103	80-120%	---	---	
Cadmium	54.2	0.0400	0.200	ug/L	1	55.6	---	98	80-120%	---	---	
Chromium	53.7	0.500	1.00	ug/L	1	55.6	---	97	80-120%	---	---	
Copper	57.9	0.500	1.00	ug/L	1	55.6	---	104	80-120%	---	---	
Lead	57.9	0.100	0.200	ug/L	1	55.6	---	104	80-120%	---	---	
Mercury	1.13	0.0400	0.0800	ug/L	1	1.11	---	102	80-120%	---	---	
Silver	29.0	0.100	0.200	ug/L	1	27.8	---	104	80-120%	---	---	
Zinc	55.3	2.00	4.00	ug/L	1	55.6	---	99	80-120%	---	---	
LCS (9100942-BS2)			Prepared: 10/10/19 12:25		Analyzed: 10/15/19 12:39							
EPA 6020A												
Selenium	25.9	0.500	1.00	ug/L	1	27.8	---	93	80-120%	---	---	Q-16
Duplicate (9100942-DUP1)			Prepared: 10/10/19 12:25		Analyzed: 10/14/19 21:55							
QC Source Sample: Non-SDG (A9J0259-03)												
Arsenic	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	20%	R-04
Barium	**31.7**	5.00	10.0	ug/L	10	---	30.2	---	---	5	20%	
Cadmium	ND	0.400	2.00	ug/L	10	---	ND	---	---	---	20%	R-04
Chromium	**19.0**	5.00	10.0	ug/L	10	---	18.3	---	---	3	20%	

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Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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 9100942 - EPA 3015A							**Water**					
Duplicate (9100942-DUP1)			Prepared: 10/10/19 12:25 Analyzed: 10/14/19 21:55									
QC Source Sample: Non-SDG (A9J0259-03)												
Copper	**24.5**	5.00	10.0	ug/L	10	---	24.8	---	---	1	20%	
Lead	ND	1.00	2.00	ug/L	10	---	ND	---	---	---	20%	R-04
Mercury	ND	0.400	0.800	ug/L	10	---	ND	---	---	---	20%	R-04
Selenium	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	20%	R-04
Silver	**162**	1.00	2.00	ug/L	10	---	175	---	---	8	20%	
Zinc	**156**	20.0	40.0	ug/L	10	---	151	---	---	3	20%	
Matrix Spike (9100942-MS1)			Prepared: 10/10/19 12:25 Analyzed: 10/14/19 22:00									
QC Source Sample: Non-SDG (A9J0259-03)												
EPA 6020A												
Arsenic	55.6	5.00	10.0	ug/L	10	55.6	ND	100	75-125%	---	---	
Barium	87.8	5.00	10.0	ug/L	10	55.6	30.2	104	75-125%	---	---	
Cadmium	56.2	0.400	2.00	ug/L	10	55.6	ND	101	75-125%	---	---	
Chromium	71.6	5.00	10.0	ug/L	10	55.6	18.3	96	75-125%	---	---	
Copper	82.8	5.00	10.0	ug/L	10	55.6	24.8	104	75-125%	---	---	
Lead	58.4	1.00	2.00	ug/L	10	55.6	ND	105	75-125%	---	---	
Mercury	1.25	0.400	0.800	ug/L	10	1.11	ND	113	75-125%	---	---	
Selenium	28.6	5.00	10.0	ug/L	10	27.8	ND	103	75-125%	---	---	
Silver	147	1.00	2.00	ug/L	10	27.8	175	**-102**	**75-125%**	---	---	Q-03
Zinc	207	20.0	40.0	ug/L	10	55.6	151	101	75-125%	---	---	
Matrix Spike (9100942-MS2)			Prepared: 10/10/19 12:25 Analyzed: 10/14/19 23:29									
QC Source Sample: Non-SDG (A9J0327-01)												
EPA 6020A												
Barium	58.5	0.500	1.00	ug/L	1	55.6	3.27	99	75-125%	---	---	
Lead	56.6	0.100	0.200	ug/L	1	55.6	ND	102	75-125%	---	---	
Mercury	1.13	0.0400	0.0800	ug/L	1	1.11	ND	102	75-125%	---	---	
Matrix Spike (9100942-MS3)			Prepared: 10/10/19 12:25 Analyzed: 10/15/19 17:52									
QC Source Sample: Non-SDG (A9J0327-01RE1)												
EPA 6020A												
Arsenic	59.3	2.50	5.00	ug/L	5	55.6	ND	107	75-125%	---	---	Q-16

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Philip Nerenberg

Philip Nerenberg, Lab Director

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503-718-2323
EPA ID: OR01039

Maul Foster & Alongi, INC.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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 9100942 - EPA 3015A							**Water**					
Matrix Spike (9100942-MS3)			Prepared: 10/10/19 12:25		Analyzed: 10/15/19 17:52							
QC Source Sample: Non-SDG (A9J0327-01RE1)												
Cadmium	58.0	0.200	1.00	ug/L	5	55.6	ND	104	75-125%	---	---	Q-16
Chromium	60.6	2.50	5.00	ug/L	5	55.6	ND	109	75-125%	---	---	Q-16
Copper	64.9	2.50	5.00	ug/L	5	55.6	ND	117	75-125%	---	---	Q-16
Selenium	29.4	2.50	5.00	ug/L	5	27.8	ND	106	75-125%	---	---	Q-16
Silver	32.6	0.500	1.00	ug/L	5	27.8	1.33	113	75-125%	---	---	Q-16
Zinc	100	10.0	20.0	ug/L	5	55.6	36.3	115	75-125%	---	---	Q-16

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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 9101057 - EPA 3051A							**Sediment**					
Blank (9101057-BLK1)			Prepared: 10/14/19 11:06		Analyzed: 10/14/19 18:48							
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 (9101057-BS1)			Prepared: 10/14/19 11:06		Analyzed: 10/14/19 18:52							
EPA 6020A												
Arsenic	25.9	0.250	0.500	mg/kg wet	5	25.0	---	104	80-120%	---	---	
Barium	28.0	0.250	0.500	mg/kg wet	5	25.0	---	112	80-120%	---	---	
Cadmium	26.1	0.0500	0.100	mg/kg wet	5	25.0	---	105	80-120%	---	---	
Chromium	27.0	0.250	0.500	mg/kg wet	5	25.0	---	108	80-120%	---	---	
Copper	29.1	0.250	0.500	mg/kg wet	5	25.0	---	116	80-120%	---	---	
Lead	27.0	0.0500	0.100	mg/kg wet	5	25.0	---	108	80-120%	---	---	
Mercury	0.514	0.0200	0.0400	mg/kg wet	5	0.500	---	103	80-120%	---	---	
Selenium	11.8	0.250	0.500	mg/kg wet	5	12.5	---	95	80-120%	---	---	
Silver	14.2	0.0500	0.100	mg/kg wet	5	12.5	---	113	80-120%	---	---	
Zinc	26.5	1.00	2.00	mg/kg wet	5	25.0	---	106	80-120%	---	---	
Matrix Spike (9101057-MS1)			Prepared: 10/14/19 11:06		Analyzed: 10/14/19 19:53							
QC Source Sample: Non-SDG (A9J0315-07)												
EPA 6020A												
Arsenic	28.5	0.286	0.572	mg/kg dry	5	28.6	1.27	95	75-125%	---	---	
Barium	89.5	0.286	0.572	mg/kg dry	5	28.6	61.2	99	75-125%	---	---	
Cadmium	28.2	0.0572	0.114	mg/kg dry	5	28.6	ND	99	75-125%	---	---	
Chromium	39.0	0.286	0.572	mg/kg dry	5	28.6	8.85	105	75-125%	---	---	
Copper	44.0	0.286	0.572	mg/kg dry	5	28.6	12.6	110	75-125%	---	---	
Lead	31.5	0.0572	0.114	mg/kg dry	5	28.6	2.12	103	75-125%	---	---	

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Philip Nerenberg, Lab Director

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Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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 9101057 - EPA 3051A							**Sediment**					
Matrix Spike (9101057-MS1)			Prepared: 10/14/19 11:06		Analyzed: 10/14/19 19:53							
QC Source Sample: Non-SDG (A9J0315-07)												
Mercury	0.576	0.0229	0.0458	mg/kg dry	5	0.572	ND	101	75-125%	---	---	
Selenium	13.2	0.286	0.572	mg/kg dry	5	14.3	ND	92	75-125%	---	---	
Silver	15.0	0.0572	0.114	mg/kg dry	5	14.3	ND	105	75-125%	---	---	
Zinc	66.4	1.14	2.29	mg/kg dry	5	28.6	33.2	116	75-125%	---	---	
Matrix Spike Dup (9101057-MSD1)			Prepared: 10/14/19 11:06		Analyzed: 10/14/19 19:58							
QC Source Sample: Non-SDG (A9J0315-07)												
Arsenic	27.3	0.276	0.552	mg/kg dry	5	27.6	1.27	94	75-125%	4	40%	
Barium	84.4	0.276	0.552	mg/kg dry	5	27.6	61.2	84	75-125%	6	40%	
Cadmium	26.9	0.0552	0.110	mg/kg dry	5	27.6	ND	97	75-125%	5	40%	
Chromium	38.3	0.276	0.552	mg/kg dry	5	27.6	8.85	107	75-125%	2	40%	
Copper	43.3	0.276	0.552	mg/kg dry	5	27.6	12.6	111	75-125%	2	40%	
Lead	30.3	0.0552	0.110	mg/kg dry	5	27.6	2.12	102	75-125%	4	40%	
Mercury	0.553	0.0221	0.0442	mg/kg dry	5	0.552	ND	100	75-125%	4	40%	
Selenium	12.6	0.276	0.552	mg/kg dry	5	13.8	ND	92	75-125%	4	40%	
Silver	14.6	0.0552	0.110	mg/kg dry	5	13.8	ND	105	75-125%	3	40%	
Zinc	66.0	1.10	2.21	mg/kg dry	5	27.6	33.2	119	75-125%	0.6	40%	

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Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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 9100909 - ASTM D7511-12mod (S)							**Soil**					
Blank (9100909-BLK1)			Prepared: 10/10/19 08:42		Analyzed: 10/10/19 17:10							
D7511-12												
Total Cyanide	ND	0.0500	0.100	mg/kg wet	1	---	---	---	---	---	---	
LCS (9100909-BS1)			Prepared: 10/10/19 08:42		Analyzed: 10/10/19 17:12							
D7511-12												
Total Cyanide	0.378	0.0500	0.100	mg/kg wet	1	0.400	---	94	84-116%	---	---	
Matrix Spike (9100909-MS3)			Prepared: 10/10/19 08:42		Analyzed: 10/10/19 18:43							
QC Source Sample: SED05-SB-2 (A9J0277-01RE1)												
D7511-12												
Total Cyanide	2.43	0.368	0.736	mg/kg dry	5	0.588	1.89	91	64-136%	---	---	Q-16
Matrix Spike (9100909-MS4)			Prepared: 10/10/19 08:42		Analyzed: 10/10/19 19:01							
QC Source Sample: Non-SDG (A9J0321-24RE1)												
D7511-12												
Total Cyanide	3.34	0.401	0.801	mg/kg dry	5	0.641	3.16	**29**	**64-136%**	---	---	Q-03, Q-16
Matrix Spike Dup (9100909-MSD3)			Prepared: 10/10/19 08:42		Analyzed: 10/10/19 18:45							
QC Source Sample: SED05-SB-2 (A9J0277-01RE1)												
D7511-12												
Total Cyanide	2.32	0.376	0.752	mg/kg dry	5	0.602	1.89	71	64-136%	5	47%	Q-16
Matrix Spike Dup (9100909-MSD4)			Prepared: 10/10/19 08:42		Analyzed: 10/10/19 19:03							
QC Source Sample: Non-SDG (A9J0321-24RE1)												
Total Cyanide	4.46	0.405	0.809	mg/kg dry	5	0.647	3.16	**202**	**64-136%**	29	47%	Q-03, Q-16

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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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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 9101222 - PSEP-5310B TOC							**Sediment**					
Blank (9101222-BLK1)			Prepared: 10/17/19 08:57		Analyzed: 10/22/19 23:52							
EPA 9060Amod												
Total Organic Carbon	ND	200	200	mg/kg	1	---	---	---	---	---	---	
LCS (9101222-BS1)			Prepared: 10/17/19 08:57		Analyzed: 10/23/19 00:02							
EPA 9060Amod												
Total Organic Carbon	9900			mg/kg	1	10000	---	99	90-110%	---	---	
Duplicate (9101222-DUP2)			Prepared: 10/17/19 08:57		Analyzed: 10/23/19 01:52							
QC Source Sample: SED05-SB-2 (A9J0277-01)												
EPA 9060Amod												
Total Organic Carbon	**8100**	200	200	mg/kg	1	---	8800	---	---	8	20%	
Duplicate (9101222-DUP3)			Prepared: 10/17/19 08:57		Analyzed: 10/23/19 02:02							
QC Source Sample: SED05-SB-2 (A9J0277-01)												
EPA 9060Amod												
Total Organic Carbon	**8800**	200	200	mg/kg	1	---	8800	---	---	0.5	20%	
Duplicate (9101222-DUP4)			Prepared: 10/17/19 08:57		Analyzed: 10/23/19 12:25							
QC Source Sample: Non-SDG (A9I0893-01RE1)												
Total Organic Carbon	**43000**	200	200	mg/kg	1	---	44000	---	---	2	20%	Q-16

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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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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 9101084 - Total Solids (SM2540G/PSEP)							**Sediment**					
Duplicate (9101084-DUP1)			Prepared: 10/14/19 16:48			Analyzed: 10/15/19 14:00						
QC Source Sample: SED05-SB-2 (A9J0277-01)												
PSEP 1986												
Total Solids	**66.2**	1.00	1.00	% by Weight	1	---	66.4	---	---	0.3	20%	
Duplicate (9101084-DUP2)			Prepared: 10/14/19 16:48			Analyzed: 10/15/19 14:00						
QC Source Sample: Non-SDG (A9J0321-12)												
Total Solids	**63.1**	1.00	1.00	% by Weight	1	---	61.6	---	---	2	20%	

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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 9101084 - Total Solids (SM2540G/PSEP)							**Sediment**					
Duplicate (9101084-DUP1)			Prepared: 10/14/19 16:48			Analyzed: 10/15/19 14:00						
QC Source Sample: SED05-SB-2 (A9J0277-01)												
EPA 8000C												
% Solids	**66.2**	1.00	1.00	% by Weight	1	---	66.4	---	---	0.3	10%	
Duplicate (9101084-DUP2)			Prepared: 10/14/19 16:48			Analyzed: 10/15/19 14:00						
QC Source Sample: Non-SDG (A9J0321-12)												
% Solids	**63.1**	1.00	1.00	% by Weight	1	---	61.6	---	---	2	10%	

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

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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 W9J0721 - EPA 3510/L-L SF							**Water**					
Blank (W9J0721-BLK1)			Prepared: 10/11/19 08:23 Analyzed: 10/17/19 18:55									
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: 76 %*	*Limits: 56-156 %*			*Dilution: 1x*					
LCS (W9J0721-BS1)			Prepared: 10/11/19 08:23 Analyzed: 10/17/19 19:31									
EPA 8151A												
2,4-D	5.06	0.21	0.50	ug/l	1	5.00	---	101	56-164%	---	---	
2,4-DB	8.86	1.3	2.5	ug/l	1	10.0	---	89	27-161%	---	---	
2,4,5-T	2.83	0.13	0.25	ug/l	1	2.50	---	113	39-151%	---	---	
2,4,5-TP (Silvex)	2.48	0.11	0.25	ug/l	1	2.50	---	99	46-142%	---	---	
3,5-Dichlorobenzoic acid	4.77	0.56	1.2	ug/l	1	5.00	---	95	54-154%	---	---	
4-Nitrophenol	5.05	0.52	1.2	ug/l	1	10.0	---	51	3-105%	---	---	
Acifluorfen	2.48	0.15	0.50	ug/l	1	2.50	---	99	39-134%	---	---	
Bentazon	9.62	1.1	2.5	ug/l	1	10.0	---	96	44-139%	---	---	
Dalapon	4.74	0.15	0.50	ug/l	1	5.00	---	95	40-139%	---	---	
Dicamba	5.02	0.40	0.75	ug/l	1	5.00	---	100	46-140%	---	---	

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2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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 W9J0721 - EPA 3510/L-L SF							**Water**					
LCS (W9J0721-BS1)			Prepared: 10/11/19 08:23		Analyzed: 10/17/19 19:31							
Dichloroprop	4.02	0.49	1.0	ug/l	1	5.00	---	80	43-158%	---	---	
Dinoseb	1.82	0.19	0.50	ug/l	1	2.50	---	73	42-146%	---	---	
DCPA	2.57	0.14	0.25	ug/l	1	2.50	---	103	34-135%	---	---	
MCPA	626	45	100	ug/l	1	500	---	125	28-144%	---	---	
MCPP	436	63	100	ug/l	1	500	---	87	31-153%	---	---	
Pentachlorophenol	2.42	0.11	0.25	ug/l	1	2.50	---	97	37-136%	---	---	
Picloram	2.41	0.31	0.75	ug/l	1	2.50	---	97	35-138%	---	---	
Surr: 2,4-DCAA			*Recovery: 89 %*		*Limits: 56-156 %*			*Dilution: 1x*				
LCS Dup (W9J0721-BSD1)			Prepared: 10/11/19 08:23		Analyzed: 10/17/19 20:08							
EPA 8151A												
2,4-D	5.02	0.21	0.50	ug/l	1	5.00	---	100	56-164%	0.8	25%	
2,4-DB	12.2	1.3	2.5	ug/l	1	10.0	---	122	27-161%	**32**	**25%**	Q-12
2,4,5-T	2.74	0.13	0.25	ug/l	1	2.50	---	110	39-151%	3	25%	
2,4,5-TP (Silvex)	2.49	0.11	0.25	ug/l	1	2.50	---	100	46-142%	0.4	25%	
3,5-Dichlorobenzoic acid	4.75	0.56	1.2	ug/l	1	5.00	---	95	54-154%	0.4	25%	
4-Nitrophenol	3.81	0.52	1.2	ug/l	1	10.0	---	38	3-105%	**28**	**25%**	Q-12
Acifluorfen	2.55	0.15	0.50	ug/l	1	2.50	---	102	39-134%	2	25%	
Bentazon	9.45	1.1	2.5	ug/l	1	10.0	---	95	44-139%	2	25%	
Dalapon	4.68	0.15	0.50	ug/l	1	5.00	---	94	40-139%	1	25%	
Dicamba	4.99	0.40	0.75	ug/l	1	5.00	---	100	46-140%	0.5	25%	
Dichloroprop	4.05	0.49	1.0	ug/l	1	5.00	---	81	43-158%	0.9	25%	
Dinoseb	1.83	0.19	0.50	ug/l	1	2.50	---	73	42-146%	0.6	25%	
DCPA	2.49	0.14	0.25	ug/l	1	2.50	---	100	34-135%	3	25%	
MCPA	592	45	100	ug/l	1	500	---	118	28-144%	6	25%	
MCPP	458	63	100	ug/l	1	500	---	92	31-153%	5	25%	
Pentachlorophenol	2.41	0.11	0.25	ug/l	1	2.50	---	96	37-136%	0.3	25%	
Picloram	2.39	0.31	0.75	ug/l	1	2.50	---	96	35-138%	0.9	25%	
Surr: 2,4-DCAA			*Recovery: 90 %*		*Limits: 56-156 %*			*Dilution: 1x*				

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2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

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 W9J0915 - EPA 3550/Sonication							**Soil**					
Blank (W9J0915-BLK1)			Prepared: 10/15/19 11:16 Analyzed: 10/18/19 19:51									
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)	**0.0103**	0.0072	0.10	mg/kg wet	1	---	---	---	---	---	---	J
Dalapon	ND	0.019	0.10	mg/kg wet	1	---	---	---	---	---	---	
Dicamba	**0.0200**	0.0090	0.10	mg/kg wet	1	---	---	---	---	---	---	J
Dichloroprop	**0.0183**	0.0071	0.10	mg/kg wet	1	---	---	---	---	---	---	J
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	**0.0115**	0.0063	0.10	mg/kg wet	1	---	---	---	---	---	---	J
Picloram	**0.0148**	0.0072	0.10	mg/kg wet	1	---	---	---	---	---	---	J
Surr: 2,4-DCAA			*Recovery: 125 %*	*Limits: 13-119 %*			*Dilution: 1x*					S-BLK
LCS (W9J0915-BS1)			Prepared: 10/15/19 11:16 Analyzed: 10/18/19 20:27									
EPA 8151A												
2,4-D	0.221	0.0069	0.10	mg/kg wet	1	0.250	---	89	53-130%	---	---	
2,4-DB	0.270	0.017	0.10	mg/kg wet	1	0.500	---	54	28-119%	---	---	
2,4,5-T	0.117	0.0056	0.10	mg/kg wet	1	0.125	---	94	40-108%	---	---	
2,4,5-TP (Silvex)	0.108	0.0072	0.10	mg/kg wet	1	0.125	---	87	38-108%	---	---	
Dalapon	0.226	0.019	0.10	mg/kg wet	1	0.250	---	91	17-122%	---	---	
Dicamba	0.247	0.0090	0.10	mg/kg wet	1	0.250	---	99	48-107%	---	---	
Dichloroprop	0.182	0.0071	0.10	mg/kg wet	1	0.250	---	73	45-117%	---	---	
Dinoseb	0.0526	0.0038	0.15	mg/kg wet	1	0.125	---	42	0.1-83%	---	---	J
MCPA	20.9	0.79	15	mg/kg wet	1	25.0	---	84	33-107%	---	---	
MCPP	20.0	0.68	15	mg/kg wet	1	25.0	---	80	34-117%	---	---	
Pentachlorophenol	0.114	0.0063	0.10	mg/kg wet	1	0.125	---	91	40-102%	---	---	
Picloram	0.119	0.0072	0.10	mg/kg wet	1	0.125	---	95	22-139%	---	---	
Surr: 2,4-DCAA			*Recovery: 92 %*	*Limits: 13-119 %*			*Dilution: 1x*					
Matrix Spike (W9J0915-MS1)			Prepared: 10/15/19 11:16 Analyzed: 10/18/19 21:03									

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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 W9J0915 - EPA 3550/Sonication							**Soil**					
Matrix Spike (W9J0915-MS1)				Prepared: 10/15/19 11:16 Analyzed: 10/18/19 21:03								
QC Source Sample: A9J0277-01 (A9J0277-01)												
EPA 8151A												
2,4-D	1.00	0.038	0.55	mg/kg dry	1	1.37	ND	73	21-126%	---	---	M-02
2,4-DB	1.14	0.093	0.55	mg/kg dry	1	2.73	ND	42	13-133%	---	---	M-02
2,4,5-T	0.439	0.031	0.55	mg/kg dry	1	0.684	ND	64	17-123%	---	---	M-02, J
2,4,5-TP (Silvex)	0.369	0.039	0.55	mg/kg dry	1	0.684	ND	54	15-126%	---	---	M-02, J
Dalapon	0.745	0.10	0.55	mg/kg dry	1	1.37	ND	54	9.6-101%	---	---	M-02
Dicamba	0.932	0.049	0.55	mg/kg dry	1	1.37	ND	68	11-107%	---	---	M-02
Dichloroprop	0.696	0.039	0.55	mg/kg dry	1	1.37	ND	51	44-133%	---	---	M-02
Dinoseb	0.129	0.021	0.82	mg/kg dry	1	0.684	ND	19	0.1-72%	---	---	M-02, J
MCPA	91.1	4.3	82	mg/kg dry	1	137	ND	67	23-123%	---	---	M-02
MCPP	78.5	3.7	82	mg/kg dry	1	137	ND	57	24-120%	---	---	M-02, J
Pentachlorophenol	0.341	0.034	0.55	mg/kg dry	1	0.684	ND	50	10-103%	---	---	M-02, J
Picloram	0.488	0.039	0.55	mg/kg dry	1	0.684	ND	71	17-155%	---	---	M-02, J
Surr: 2,4-DCAA			*Recovery: 75 %*	*Limits: 13-119 %*		*Dilution: 1x*						M-02
Matrix Spike Dup (W9J0915-MSD1)				Prepared: 10/15/19 11:16 Analyzed: 10/18/19 21:39								
QC Source Sample: A9J0277-01 (A9J0277-01)												
EPA 8151A												
2,4-D	1.31	0.038	0.54	mg/kg dry	1	1.36	ND	96	21-126%	**26**	**25%**	M-02, MS-05
2,4-DB	1.45	0.093	0.54	mg/kg dry	1	2.72	ND	53	13-133%	24	25%	M-02
2,4,5-T	0.589	0.030	0.54	mg/kg dry	1	0.680	ND	87	17-123%	**29**	**25%**	M-02, MS-05
2,4,5-TP (Silvex)	0.499	0.039	0.54	mg/kg dry	1	0.680	ND	73	15-126%	**30**	**25%**	M-02, MS-05, J
Dalapon	0.973	0.10	0.54	mg/kg dry	1	1.36	ND	72	9.6-101%	**27**	**25%**	M-02, MS-05
Dicamba	1.32	0.049	0.54	mg/kg dry	1	1.36	ND	97	11-107%	**35**	**25%**	M-02, MS-05
Dichloroprop	0.962	0.039	0.54	mg/kg dry	1	1.36	ND	71	44-133%	**32**	**25%**	M-02, MS-05
Dinoseb	0.198	0.021	0.82	mg/kg dry	1	0.680	ND	29	0.1-72%	**42**	**25%**	M-02, MS-05, J
MCPA	122	4.3	82	mg/kg dry	1	136	ND	90	23-123%	**29**	**25%**	M-02, MS-05
MCPP	109	3.7	82	mg/kg dry	1	136	ND	80	24-120%	**32**	**25%**	M-02, MS-05
Pentachlorophenol	0.481	0.034	0.54	mg/kg dry	1	0.680	ND	71	10-103%	**34**	**25%**	M-02, MS-05, J

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Philip Nerenberg, Lab Director

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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 W9J0915 - EPA 3550/Sonication							**Soil**					
Matrix Spike Dup (W9J0915-MSD1)			Prepared: 10/15/19 11:16		Analyzed: 10/18/19 21:39							
QC Source Sample: A9J0277-01 (A9J0277-01)												
Picloram	0.637	0.039	0.54	mg/kg dry	1	0.680	ND	94	17-155%	**27**	**25%**	M-02, MS-05
Surr: 2,4-DCAA			*Recovery: 98 %*	*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 W9J1000 - General Preparation							**Solid**					
Duplicate (W9J1000-DUP1)			Prepared: 10/16/19 10:38		Analyzed: 10/17/19 14:32							
QC Source Sample: Non-SDG (9J11086-01)												
% Solids	**73.5**		0.100	% by Weight	1	---	73.1	---	---	0.6	20%	

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

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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
Batch: 9100853							
A9J0277-05	Water	NWTPH-Dx	10/07/19 19:15	10/09/19 12:50	1020mL/5mL	1000mL/5mL	0.98

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9101025							
A9J0277-01	Sediment	NWTPH-Dx	10/07/19 18:40	10/13/19 09:06	10.39g/5mL	10g/5mL	0.96
A9J0277-03	Sediment	NWTPH-Dx	10/07/19 18:57	10/13/19 09:06	10.67g/5mL	10g/5mL	0.94
A9J0277-04	Sediment	NWTPH-Dx	10/07/19 19:05	10/13/19 09:06	10.65g/5mL	10g/5mL	0.94

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
Batch: 9101003							
A9J0277-05	Water	EPA 8270D	10/07/19 19:15	10/11/19 13:05	1040mL/1mL	1000mL/1mL	0.96

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9101307							
A9J0277-01	Sediment	EPA 8270D	10/07/19 18:40	10/18/19 10:03	15.25g/2mL	15g/2mL	0.98
A9J0277-03	Sediment	EPA 8270D	10/07/19 18:57	10/18/19 10:03	15.22g/2mL	15g/2mL	0.99
A9J0277-04	Sediment	EPA 8270D	10/07/19 19:05	10/18/19 10:03	15.35g/2mL	15g/2mL	0.98

Alkylated PAH Homologs by 8270D Modified

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9110570							
A9J0277-01	Sediment	EPA 8270Dm	10/07/19 18:40	11/07/19 10:09	10.44g/2mL	10g/2mL	0.96
A9J0277-03	Sediment	EPA 8270Dm	10/07/19 18:57	11/07/19 10:09	10.4g/2mL	10g/2mL	0.96
A9J0277-04	Sediment	EPA 8270Dm	10/07/19 19:05	11/07/19 10:09	10.4g/2mL	10g/2mL	0.96

Total Metals by EPA 6020A (ICPMS)

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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SAMPLE PREPARATION INFORMATION

Total Metals by EPA 6020A (ICPMS)

Prep: EPA 3015A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9100942							
A9J0277-05	Water	EPA 6020A	10/07/19 19:15	10/10/19 12:25	45mL/50mL	45mL/50mL	1.00

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9101057							
A9J0277-01	Sediment	EPA 6020A	10/07/19 18:40	10/14/19 11:06	0.509g/50mL	0.5g/50mL	0.98
A9J0277-01RE1	Sediment	EPA 6020A	10/07/19 18:40	10/14/19 11:06	0.509g/50mL	0.5g/50mL	0.98
A9J0277-03	Sediment	EPA 6020A	10/07/19 18:57	10/14/19 11:06	0.477g/50mL	0.5g/50mL	1.05
A9J0277-03RE1	Sediment	EPA 6020A	10/07/19 18:57	10/14/19 11:06	0.477g/50mL	0.5g/50mL	1.05
A9J0277-04	Sediment	EPA 6020A	10/07/19 19:05	10/14/19 11:06	0.494g/50mL	0.5g/50mL	1.01
A9J0277-04RE1	Sediment	EPA 6020A	10/07/19 19:05	10/14/19 11:06	0.494g/50mL	0.5g/50mL	1.01

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: 9100909							
A9J0277-01RE1	Sediment	D7511-12	10/07/19 18:40	10/10/19 08:42	2.5607g/50mL	2.5g/50mL	0.98
A9J0277-03	Sediment	D7511-12	10/07/19 18:57	10/10/19 08:42	2.5275g/50mL	2.5g/50mL	0.99
A9J0277-04	Sediment	D7511-12	10/07/19 19:05	10/10/19 08:42	2.5866g/50mL	2.5g/50mL	0.97

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							
A9J0277-05	Water	EPA 335.4	10/07/19 19:15	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: 9101222							
A9J0277-01	Sediment	EPA 9060Amod	10/07/19 18:40	10/17/19 08:57			NA
A9J0277-03	Sediment	EPA 9060Amod	10/07/19 18:57	10/17/19 08:57			NA
A9J0277-04	Sediment	EPA 9060Amod	10/07/19 19:05	10/17/19 08:57			NA

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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.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

SAMPLE PREPARATION INFORMATION

Demand Parameters

Prep: PSEP-5310B TOC

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor

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							
A9J0277-05	Water	SM 5310 C	10/07/19 19:15	10/14/19 15:16	40mL/40mL	40mL/40mL	1.00

Solid and Moisture Determinations

Prep: Total Solids (SM2540G/PSEP)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9101084							
A9J0277-01	Sediment	PSEP 1986	10/07/19 18:40	10/14/19 16:48			NA
A9J0277-03	Sediment	PSEP 1986	10/07/19 18:57	10/14/19 16:48			NA
A9J0277-04	Sediment	PSEP 1986	10/07/19 19:05	10/14/19 16:48			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
Batch: 9101155							
A9J0277-01	Sediment	D422mod	10/07/19 18:40	10/16/19 08:56			NA
A9J0277-03	Sediment	D422mod	10/07/19 18:57	10/16/19 09:16			NA
A9J0277-04	Sediment	D422mod	10/07/19 19:05	10/16/19 09:27			NA

Percent Dry Weight

Prep: Total Solids (SM2540G/PSEP)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9101084							
A9J0277-01	Sediment	EPA 8000C	10/07/19 18:40	10/14/19 16:48			NA
A9J0277-03	Sediment	EPA 8000C	10/07/19 18:57	10/14/19 16:48			NA
A9J0277-04	Sediment	EPA 8000C	10/07/19 19:05	10/14/19 16:48			NA

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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
Batch: W9J0721							
A9J0277-05	Water	EPA 8151A	10/07/19 19:15	10/11/19 08:23	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
Batch: W9J0915							
A9J0277-01	Sediment	EPA 8151A	10/07/19 18:40	10/15/19 11:16	8.63g/10ml	30g/10ml	3.48
A9J0277-03	Sediment	EPA 8151A	10/07/19 18:57	10/15/19 11:16	8.31g/10ml	30g/10ml	3.61
A9J0277-04	Sediment	EPA 8151A	10/07/19 19:05	10/15/19 11:16	8.71g/10ml	30g/10ml	3.44

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
Batch: W9J1000							
A9J0277-01	Sediment	EPA 160.3M	10/07/19 18:40	10/16/19 10:38	1g/1ml	1g/1ml	NA
A9J0277-03	Sediment	EPA 160.3M	10/07/19 18:57	10/16/19 10:38	1g/1ml	1g/1ml	NA
A9J0277-04	Sediment	EPA 160.3M	10/07/19 19:05	10/16/19 10:38	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.
GS-01	See detailed Particle Size Analysis results, accumulation curves, and Case Narratives at the end of this report.
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.
Q-03	Spike recovery and/or RPD is outside control limits due to the high concentration of analyte present in the sample.
Q-05	Analyses are not controlled on RPD values from sample and duplicate concentrations that are below 5 times the reporting level.
Q-16	Reanalysis of an original Batch QC sample.
Q-17	RPD between original and duplicate sample is outside of established control limits.
Q-18	Matrix Spike results for this extraction batch are not reported due to the high dilution necessary for analysis of the source sample.
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.
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.
S-06	Surrogate recovery is outside of established control limits.
TOC_I	Inorganic Carbon Spike Check. Results are valid if Non Detect (No Inorganic Carbon detected.)

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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-12	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on the percent recoveries and/or other acceptable QC data.
S-BLK	Surrogate recovery outside of control limits for Method Blank. The data was accepted since all target analytes were not detected

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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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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.

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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 provded by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

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APEX LABS

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

CHAIN OF CUSTODY

Lab # A9J0277 COC 1 of 1

Company: Maul Foster Alongi	Project Mgr: Phil Wiescher	Project Name: Siltronic Sediment Sampling		Project # 8128.02.19-04
Address: 2001 NW 19th Ave, Ste 200, Portland, OR 97209		Phone: (971) 544-2139	Fax: (971) 544-2140	Email: pwiescher@maulfoster.com
Sampled by: Carolyn Wise / Kelly Titkemeier				
Sampler signature: Kelly C. Titkemeier				

Site Location: (OR) WA
Other: ________

ANALYSIS REQUEST

SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	USEPA 1699, OC Pest	USEPA 1668C, PCB Congener	USEPA 1613B, Dioxins/Furans	SW8151A, Chl Herb	Krone, Tributyltin	SW8270D, Full list SVOCs	SW6020A, Metals*	ASTM D7511, Cyanide, Total	NWTPH-Dx, Diesel/Oil	PSEP, 1986, Total Solids	SW9060A, TOC	ASTM D422, Grain Size	Archive (for 8270D PAH Homolog)	Archive
SED05-SB-2		10/7/19	1840	SED	6	X	X	X	X	X	X	X	X	X	X	X	X	X	
SED05-SB-3		↓	1850	↓	3													X	X
SED05-SB-5		↓	1857	↓	6	X	X	X	X	X	X	X	X	X	X	X	X	X	
SED05-SB-7		↓	1905	↓	6	X	X	X	X	X	X	X	X	X	X	X	X	X	
SED05-SB-RB		↓	1915	W	16	X	X	X	X	X	X	X	X*	X		X*			

*NOTE: CN kit results negative. No color change.
*METHOD: Cyanide-335.4 TOC-5310C

Normal Turn Around Time (TAT) = 5-10 Business Days

TAT Requested (circle): 24 HR 48 HR 72 HR 4 DAY (STANDARD) Other: ______

SAMPLES ARE HELD FOR 30 DAYS

SPECIAL INSTRUCTIONS:
Send login confirmation to Mary Benzinger (mbenzinger@maulfoster.com).
Detection limit report.
Level IV data package.
Metals: As, Ba, Cd, Cr, Cu, Pb, Hg, Se, Ag, Zn

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Kelly C. Titkemeier Date: 10/8/19	Signature: [signature] Date: 10/8/19	Signature: Date:	Signature:
Printed Name: Kelly Titkemeier Time: 1125	Printed Name: Charles Hoffman Time: 1125	Printed Name: Time:	Printed Name:
Company: MFA	Company: Apex Labs	Company:	Company:

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Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

APEX LABS COOLER RECEIPT FORM

Client: MFA Element WO#: A9 J0277

Project/Project #: Siltronic Sediment Sampling 8128.02.19-04

Delivery Info:

Date/time received: 10/8/19 @ 1125 By: CFH

Delivered by: Apex X Client ___ ESS ___ FedEx ___ UPS ___ Swift ___ Senvoy ___ SDS ___ Other ___

Cooler Inspection Date/time inspected: 10/8/19 @ 1221 By: CFH

Chain of Custody included? Yes X No ___ Custody seals? (Yes) X ~~No X~~

Signed/dated by client? Yes X No ___ (80) 10/9/19

Signed/dated by Apex? Yes X No ___

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	1.2	4.1					
Received on ice? (Y/N)	Y	Y					
Temp. blanks? (Y/N)	N	N					
Ice type: (Gel/Real/Other)	Real	Real					
Condition:	Good	Good					

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: 10/8/19 @ 14:40 By: MG

All samples intact? Yes X No ___ Comments: ___

Bottle labels/COCs agree? Yes X No ___ Comments: ___

COC/container discrepancies form initiated? Yes ___ No ___ NA X

Containers/volumes received appropriate for analysis? Yes X No ___ Comments: ___

Do VOA vials have visible headspace? Yes ___ No ___ NA X

Comments ___

Water samples: pH checked: Yes X No ___ NA ___ pH appropriate? Yes X No ___ NA ___

Comments: ___

Additional information: Subsampled by: SG
Witnessed by: AD

Labeled by: ST Witness: AD Cooler Inspected by: MG See Project Contact Form: Y

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503-718-2323
EPA ID: OR01039

Maul Foster & Alongi, INC.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

A9J0277 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

Philip Nerenberg

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.	Project: **Siltronic Sediment Sampling**	
2001 NW 19th Ave, STE 200	Project Number: **8128.02.19-04**	**Report ID:**
Portland, OR 97209	Project Manager: **Phil Wiescher**	**A9J0277 - 11 19 19 1035**

A9J0277 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

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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.

Philip Nerenberg

Philip Nerenberg, Lab Director

Apex Laboratories, LLC

Particle Size Analysis of Soil by ASTM D 422

Sample ID:	A9J0277-01		Client Sample ID:	SED05-SB-2		Batch Number:	9101155
Data Entered by:	ID	Date:	10/23/19	Data Reviewed by:	JW	Date:	10/25/19
Sample Description:	Silty SAND with some Clay			Max Particle Size:	Gravel		
Particle Shape:	N/A			Hardness	N/A		

Whole Sample	Tare	Air Dry + Tare	Air Dry	Moisture	Dry Wt.
	11.449	583.190	571.74	3.19	554.1

Sieve Number	Opening (mm)	Tare	Dry + Tare	Weight Retained	Cumulative Wt. Retained	% Retained	% Passing
4	4.75	1.334	1.812	0.48	0.48	0.1	99.9
10	2.00	1.316	2.032	0.72	1.19	0.1	99.8
Pan		11.455	581.604	570.15	571.34	99.6	

Hygroscopic Moisture Correction

	Hygroscopic Correction Factor	Oven Sample	Pan No.	Tare	Air Dry + Tare	Oven Dry + Tare	Moisture
	0.9691		J277-01	1.335	21.791	21.159	3.19

Hydrometer Analysis

Start Date/Time	10/16/2019	8:56	Dispersing Agent	$NaPO_3$
Air Dry Sample Wt. for Hydrometer Test (g)	53.993		G_s Correction Factor (α)	1.000
Percent Passing No.10 Sieve	99.8		Specific Gravity (G_s)	2.65
Dry Weight of Soil Tested (g)	52.32		Corrected Dry Weight of Soil Tested (g) (W)	52.44

Elapsed Time (min)	Hydrometer Reading	Temperature (°C)	Corrected Hydrometer Reading [R]	% Finer of Hydrometer Sample	L	K	Particle Diameter (mm)	Percent Passing
1	23	20.3	17.13	32.7	12.4	0.01365	0.048	32.59
2	20	20.3	14.13	26.9	12.9	0.01365	0.035	26.88
4	18	20.3	12.13	23.1	13.2	0.01365	0.025	23.08
8	16.5	20.4	10.66	20.3	13.3	0.01365	0.018	20.28
15	15	20.3	9.13	17.4	13.7	0.01365	0.013	17.37
30	13.5	20.2	7.6	14.5	13.8	0.01365	0.009	14.46
60	12	20.2	6.1	11.6	14.2	0.01365	0.007	11.61
90	11	20.1	5.07	9.7	14.3	0.01365	0.005	9.65
120	10.5	20.1	4.57	8.7	14.3	0.01365	0.005	8.70
240	10.5	20.3	4.63	8.8	14.3	0.01365	0.003	8.81
360	10	20.3	4.13	7.9	14.5	0.01365	0.003	7.86
1440	9	19.5	2.9	5.5	14.7	0.01365	0.001	5.51

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	1.318	1.475	0.16	2.85	0.3	99.5
40	0.425	1.314	4.257	2.94	33.93	5.6	93.9
60	0.250	1.319	11.372	10.05	140.09	19.2	74.7
100	0.150	1.306	10.697	9.39	239.25	17.9	56.8
140	0.105	1.328	5.798	4.47	286.45	8.5	48.3
200	0.075	1.322	4.503	3.18	320.04	6.1	42.2
230	0.063	1.315	2.802	1.49	335.75	2.8	39.4
			Sum	31.68	230 Minus	20.64	

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

Sample ID: SED05-SB-2 (A9J0277-01)

Grain Size Analysis Summary from Sieving and Hydrometer Testing		Particle Size (mm)	Percent Finer	Total Percent of Sample
Gravel				*0.22*
Retained on No. 4 sieve		4.75	99.91	0.09
Gravel, passing No. 4 sieve and retained on No. 10 sieve		2.00	99.78	0.13
Sand				*60.42*
Coarse sand, passing No.10 sieve and retained on No. 20 sieve		0.8500	99.49	0.3
Medium sand, passing No.20 sieve and retained on No. 40 sieve		0.4250	93.87	5.61
Medium sand, passing No.40 sieve and retained on No. 60 sieve		0.2500	74.7	19.17
Medium sand, passing No. 60 sieve and retained on No.100 sieve		0.1500	56.79	17.91
Fine sand, passing No. 100 sieve and retained on No.140 sieve		0.1060	48.27	8.52
Fine sand passing No. 140 sieve and retained on No. 200 sieve		0.0750	42.2	6.07
Fine sand, passing No. 200 sieve and retained on No. 230 sieve		0.0630	39.37	2.84
Silt and Clay (Measurements in the Clay fraction are noted)				*39.37*
Hydrometer Test		0.0481	32.59	6.77
Hydrometer Test		0.0347	26.88	5.71
Hydrometer Test		0.0248	23.08	3.81
Hydrometer Test		0.0176	20.28	2.8
Hydrometer Test		0.0130	17.37	2.91
Hydrometer Test		0.0093	14.46	2.91
Hydrometer Test		0.0066	11.61	2.85
Hydrometer Test		0.0054	9.65	1.96
Hydrometer Test	Clay	0.0047	8.7	0.95
Hydrometer Test	Clay	0.0033	8.81	0
Hydrometer Test	Clay	0.0027	7.86	0.84
Hydrometer Test	Clay	0.0014	5.51	2.34

Grain Size Summary	Percent of Total Sample
Gravel	0.2
Sand	60.4
Coarse sand	0.3
Medium sand	42.7
Fine sand	17.4
Silt	29.7
Clay	9.6

Case Narrative for Sample ID: SED05-SB-2 (A9J0277-01)

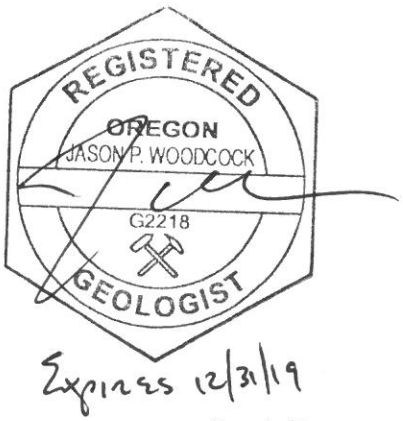
This data is not to be used for engineering purposes.

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.

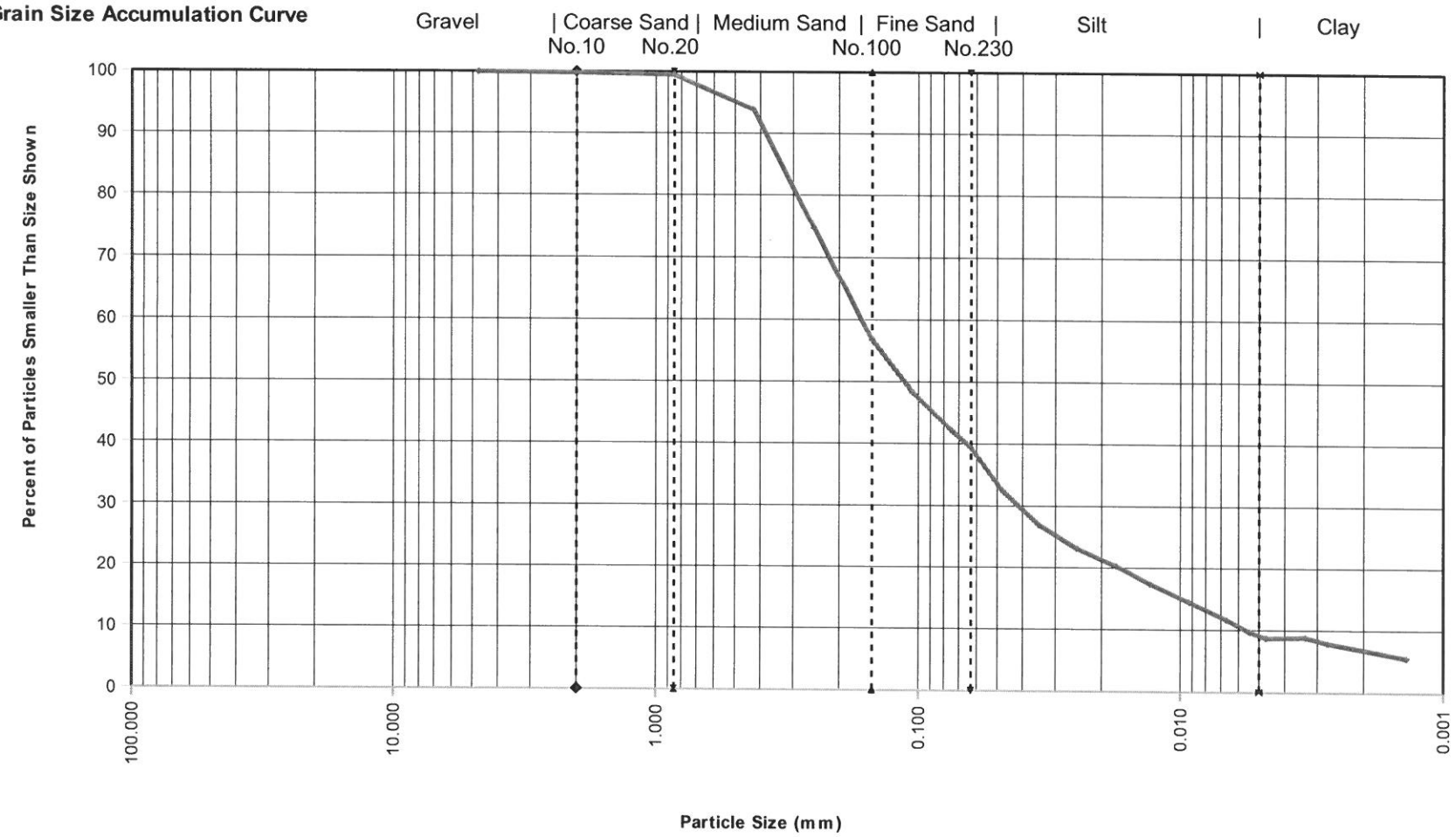
The assumed specific gravity used in the calculations was 2.65.

+4 and +10 fractions contain abundant organic material.



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

Grain Size Accumulation Curve



Sample ID:	SED05-SB-2 (A9J0277-01)			
Specific Gravity	MAXIMUM PARTICLE SIZE	GRAVEL & SAND		SOIL DESCRIPTION
		PARTICLE SHAPE	HARDNESS	
2.65	Gravel	N/A	N/A	Silty SAND with some Clay

Apex Laboratories, LLC

Particle Size Analysis of Soil by ASTM D 422

Sample ID:	A9J0277-03		Client Sample ID:	SED05-SB-5		Batch Number:	9101155
Data Entered by:	ID	Date:	10/23/19	Data Reviewed by:	JW	Date:	10/25/19
Sample Description:	Clayey Silty SAND			Max Particle Size:	Gravel		
Particle Shape:	Sub-angular to Rounded			Hardness	Hard and Durable		

Whole Sample	Tare	Air Dry + Tare	Air Dry	Moisture	Dry Wt.
	11.596	343.655	332.06	2.60	323.6

Sieve Number	Opening (mm)	Tare	Dry + Tare	Weight Retained	Cumulative Wt. Retained	% Retained	% Passing
4	4.75	1.347	5.751	4.40	4.40	1.4	98.6
10	2.00	1.321	4.364	3.04	7.45	0.9	97.7
Pan		11.610	335.875	324.27	331.71	97.6	

Hygroscopic Moisture Correction

	Hygroscopic Correction Factor	Oven Sample	Pan No.	Tare	Air Dry + Tare	Oven Dry + Tare	Moisture
	0.9746		J277-03	1.327	21.983	21.459	2.60

Hydrometer Analysis

Start Date/Time	10/16/2019	9:16	Dispersing Agent	$NaPO_3$
Air Dry Sample Wt. for Hydrometer Test (g)	53.215		G_s Correction Factor (α)	1.000
Percent Passing No.10 Sieve	97.7		Specific Gravity (G_s)	2.65
Dry Weight of Soil Tested (g)	51.87		Corrected Dry Weight of Soil Tested (g) (W)	53.09

Elapsed Time (min)	Hydrometer Reading	Temperature (°C)	Corrected Hydrometer Reading [R]	% Finer of Hydrometer Sample	L	K	Particle Diameter (mm)	Percent Passing
1	24	19.9	18.01	33.9	12.2	0.01365	0.048	33.15
2	22	19.9	16.01	30.2	12.5	0.01365	0.034	29.47
4	22	19.9	16.01	30.2	12.5	0.01365	0.024	29.47
8	18	19.8	11.98	22.6	13.2	0.01365	0.018	22.05
15	17	19.8	10.98	20.7	13.3	0.01365	0.013	20.21
30	16.5	19.9	10.51	19.8	13.3	0.01365	0.009	19.35
60	13.5	19.9	7.51	14.2	13.8	0.01365	0.007	13.82
90	13	19.9	7.01	13.2	14	0.01365	0.005	12.90
120	12	20	6.04	11.4	14.2	0.01365	0.005	11.12
240	11.5	20.2	5.6	10.5	14.2	0.01365	0.003	10.30
360	11	20.3	5.13	9.7	14.3	0.01365	0.003	9.44
1440	10	19.6	3.93	7.4	14.5	0.01365	0.001	7.22

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	1.303	2.140	0.84	12.55	1.6	96.1
40	0.425	1.335	8.683	7.35	57.32	13.8	82.3
60	0.250	1.301	13.678	12.38	132.74	23.3	59.0
100	0.150	1.336	6.675	5.34	165.27	10.1	48.9
140	0.105	1.312	3.653	2.34	179.54	4.4	44.5
200	0.075	1.307	3.329	2.02	191.86	3.8	40.7
230	0.063	1.314	2.367	1.05	198.28	2.0	38.7
			Sum	31.32	230 Minus	20.55	

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

Sample ID: SED05-SB-5 (A9J0277-03)

Grain Size Analysis Summary from Sieving and Hydrometer Testing		Particle Size (mm)	Percent Finer	Total Percent of Sample
Gravel				*2.3*
Retained on No. 4 sieve		4.75	98.64	1.36
Gravel, passing No. 4 sieve and retained on No. 10 sieve		2.00	97.7	0.94
Sand				*58.99*
Coarse sand, passing No.10 sieve and retained on No. 20 sieve		0.8500	96.12	1.58
Medium sand, passing No.20 sieve and retained on No. 40 sieve		0.4250	82.28	13.84
Medium sand, passing No.40 sieve and retained on No. 60 sieve		0.2500	58.97	23.31
Medium sand, passing No. 60 sieve and retained on No.100 sieve		0.1500	48.91	10.06
Fine sand, passing No. 100 sieve and retained on No.140 sieve		0.1060	44.5	4.41
Fine sand passing No. 140 sieve and retained on No. 200 sieve		0.0750	40.69	3.81
Fine sand, passing No. 200 sieve and retained on No. 230 sieve		0.0630	38.71	1.98
Silt and Clay (Measurements in the Clay fraction are noted)				*38.71*
Hydrometer Test		0.0477	33.15	5.56
Hydrometer Test		0.0341	29.47	3.68
Hydrometer Test		0.0241	29.47	0
Hydrometer Test		0.0175	22.05	7.41
Hydrometer Test		0.0129	20.21	1.84
Hydrometer Test		0.0091	19.35	0.87
Hydrometer Test		0.0065	13.82	5.52
Hydrometer Test		0.0054	12.9	0.92
Hydrometer Test	Clay	0.0047	11.12	1.79
Hydrometer Test	Clay	0.0033	10.3	0.81
Hydrometer Test	Clay	0.0027	9.44	0.87
Hydrometer Test	Clay	0.0014	7.22	2.21

Grain Size Summary	**Percent of Total Sample**
Gravel	2.3
Sand	59.0
Coarse sand	1.6
Medium sand	47.2
Fine sand	10.2
Silt	25.8
Clay	12.9

Case Narrative for Sample ID: SED05-SB-5 (A9J0277-03)

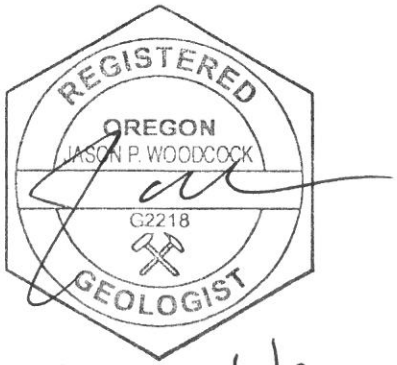
This data is not to be used for engineering purposes.

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.

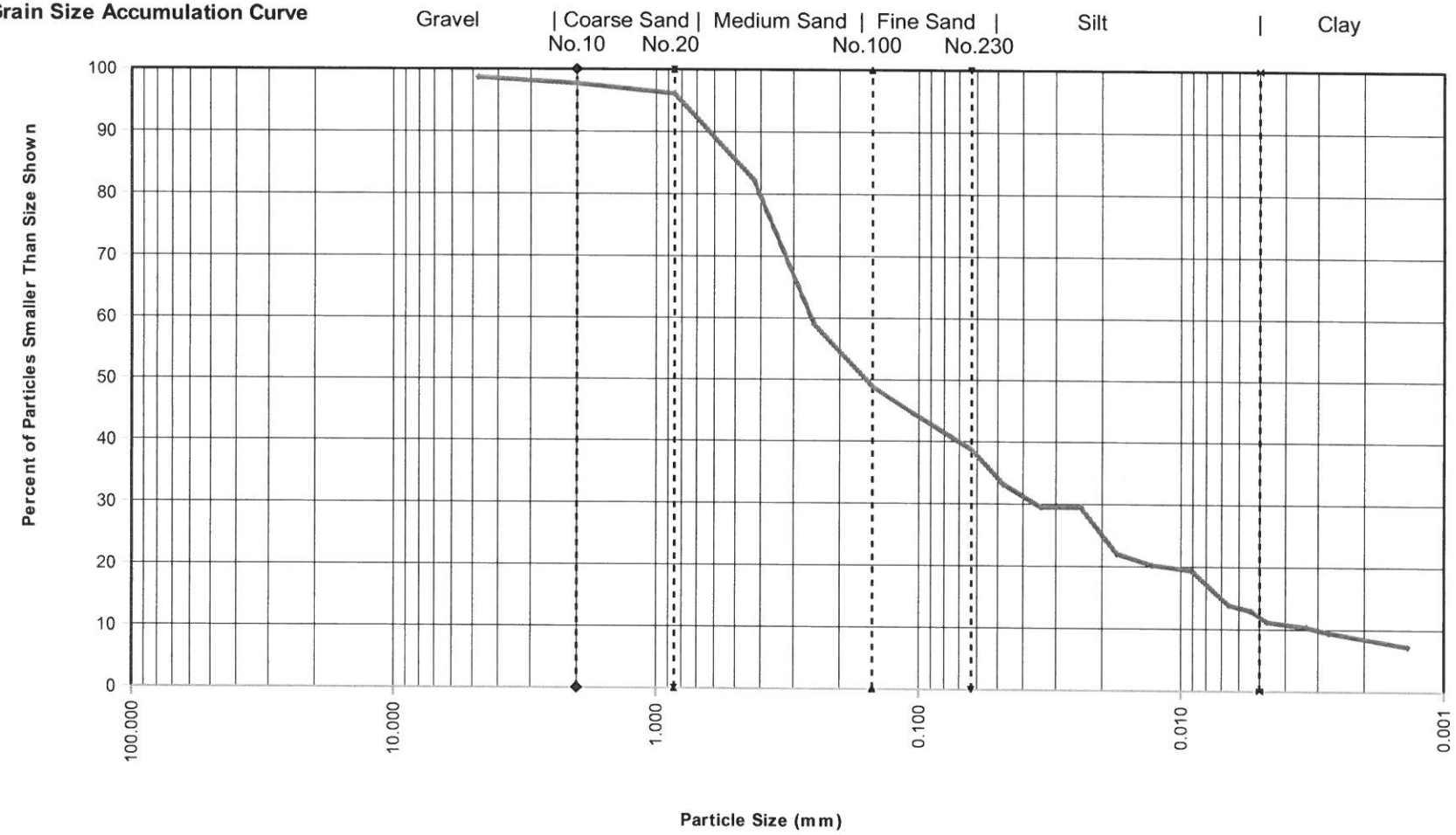
+4 and +10 fractions contain abundant organic material.



Expires 12/31/19

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

Grain Size Accumulation Curve



Sample ID:	SED05-SB-5 (A9J0277-03)			
Specific Gravity	MAXIMUM PARTICLE SIZE	GRAVEL & SAND		SOIL DESCRIPTION
		PARTICLE SHAPE	HARDNESS	
2.65	Gravel	Sub-angular to Rounded	Hard and Durable	Clayey Silty SAND

Apex Laboratories, LLC

Particle Size Analysis of Soil by ASTM D 422

Sample ID:	A9J0277-04		Client Sample ID:	SED05-SB-7		Batch Number:	9101155
Data Entered by:	ID	Date:	10/23/19	Data Reviewed by:	JW	Date:	10/25/19
Sample Description:	Silty SAND with some Clay			Max Particle Size:	Gravel		
Particle Shape:	N/A			Hardness	N/A		

Whole Sample	Tare	Air Dry + Tare	Air Dry	Moisture	Dry Wt.
	5.695	303.284	297.59	2.53	290.2

Sieve Number	Opening (mm)	Tare	Dry + Tare	Weight Retained	Cumulative Wt. Retained	% Retained	% Passing
4	4.75	1.324	1.399	0.07	0.07	0.0	100.0
10	2.00	1.317	1.959	0.64	0.72	0.2	99.8
Pan		5.697	302.410	296.71	297.43	99.6	

Hygroscopic Moisture Correction

	Hygroscopic Correction Factor	Oven Sample	Pan No.	Tare	Air Dry + Tare	Oven Dry + Tare	Moisture
	0.9753		J277-04	1.316	21.969	21.459	2.53

Hydrometer Analysis

Start Date/Time	10/16/2019	9:27	Dispersing Agent	$NaPO_3$
Air Dry Sample Wt. for Hydrometer Test (g)	53.887		G_s Correction Factor (α)	1.000
Percent Passing No.10 Sieve	99.8		Specific Gravity (G_s)	2.65
Dry Weight of Soil Tested (g)	52.56		Corrected Dry Weight of Soil Tested (g) (W)	52.69

Elapsed Time (min)	Hydrometer Reading	Temperature (°C)	Corrected Hydrometer Reading [R]	% Finer of Hydrometer Sample	L	K	Particle Diameter (mm)	Percent Passing
1	21.5	19.9	15.51	29.4	12.5	0.01365	0.048	29.37
2	18.5	19.9	12.51	23.7	13	0.01365	0.035	23.69
4	17.5	19.8	11.48	21.8	13.2	0.01365	0.025	21.74
8	16	20	10.04	19.1	13.5	0.01365	0.018	19.01
15	14	20	8.04	15.3	13.8	0.01365	0.013	15.22
30	13	19.9	7.01	13.3	14	0.01365	0.009	13.28
60	12	19.9	6.01	11.4	14.2	0.01365	0.007	11.38
90	11	20	5.04	9.6	14.3	0.01365	0.005	9.54
120	10.5	20	4.54	8.6	14.3	0.01365	0.005	8.60
240	10	20.2	4.1	7.8	14.5	0.01365	0.003	7.76
360	9	20	3.04	5.8	14.7	0.01365	0.003	5.76
1440	8	19.6	1.93	3.7	14.8	0.01365	0.001	3.64

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	1.305	1.583	0.28	2.25	0.5	99.2
40	0.425	1.309	5.425	4.12	24.91	7.8	91.4
60	0.250	1.321	14.764	13.44	98.93	25.5	65.9
100	0.150	1.323	8.974	7.65	141.06	14.5	51.4
140	0.105	1.308	5.064	3.76	161.74	7.1	44.2
200	0.075	1.325	4.450	3.13	178.95	5.9	38.3
230	0.063	1.326	2.769	1.44	186.89	2.7	35.6
			Sum	33.81	230 Minus	18.74	

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

Sample ID: SED05-SB-7 (A9J0277-04)

Grain Size Analysis Summary from Sieving and Hydrometer Testing		Particle Size (mm)	Percent Finer	Total Percent of Sample
Gravel				*0.25*
Retained on No. 4 sieve		4.75	99.97	0.03
Gravel, passing No. 4 sieve and retained on No. 10 sieve		2.00	99.75	0.22
Sand				*64.18*
Coarse sand, passing No.10 sieve and retained on No. 20 sieve		0.8500	99.23	0.53
Medium sand, passing No.20 sieve and retained on No. 40 sieve		0.4250	91.41	7.81
Medium sand, passing No.40 sieve and retained on No. 60 sieve		0.2500	65.9	25.52
Medium sand, passing No. 60 sieve and retained on No.100 sieve		0.1500	51.38	14.52
Fine sand, passing No. 100 sieve and retained on No.140 sieve		0.1060	44.25	7.13
Fine sand passing No. 140 sieve and retained on No. 200 sieve		0.0750	38.32	5.93
Fine sand, passing No. 200 sieve and retained on No. 230 sieve		0.0630	35.58	2.74
Silt and Clay (Measurements in the Clay fraction are noted)				*35.58*
Hydrometer Test		0.0483	29.37	6.21
Hydrometer Test		0.0348	23.69	5.68
Hydrometer Test		0.0248	21.74	1.95
Hydrometer Test		0.0177	19.01	2.73
Hydrometer Test		0.0131	15.22	3.79
Hydrometer Test		0.0093	13.28	1.95
Hydrometer Test		0.0066	11.38	1.89
Hydrometer Test		0.0054	9.54	1.84
Hydrometer Test	Clay	0.0047	8.6	0.95
Hydrometer Test	Clay	0.0034	7.76	0.84
Hydrometer Test	Clay	0.0028	5.76	2
Hydrometer Test	Clay	0.0014	3.64	2.11

Grain Size Summary	Percent of Total Sample
Gravel	0.2
Sand	64.2
Coarse sand	0.5
Medium sand	47.8
Fine sand	15.8
Silt	26.0
Clay	9.5

Case Narrative for Sample ID: SED05-SB-7 (A9J0277-04)

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.

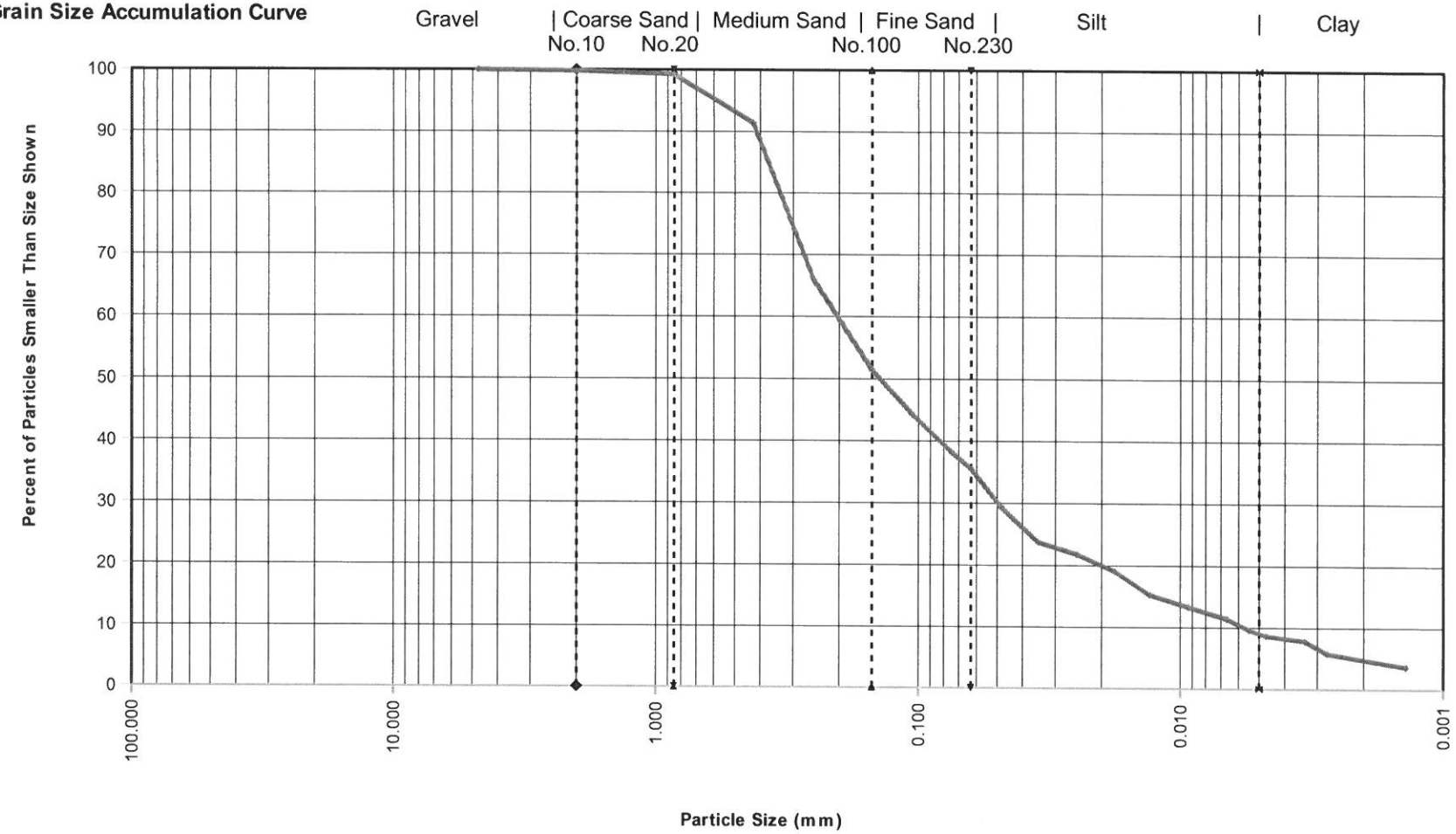
+4 fraction consists entirely of organic material.

+10 fraction contains abundant organic material.

Expires 12/31/19

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

Grain Size Accumulation Curve



Sample ID:	SED05-SB-7 (A9J0277-04)			
Specific Gravity	MAXIMUM PARTICLE SIZE	GRAVEL & SAND		SOIL DESCRIPTION
		PARTICLE SHAPE	HARDNESS	
2.65	Gravel	N/A	N/A	Silty SAND with some Clay