Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
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Tuesday, December 12, 2017

Rob Ede
Hahn and Associates
434 NW 6th Ave. Suite 203
Portland, OR 97209

RE: Siltronic RI-Doane Creek / 5237-10dc

Enclosed are the results of analyses for work order A6D0013, which was received by the laboratory on 4/1/2016 at 10:20:00AM.

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

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.

Apex Laboratories

Philip Nerenberg, Lab Director

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Hahn and Associates	Project: **Siltronic RI-Doane Creek**	
434 NW 6th Ave. Suite 203	Project Number: 5237-10dc	**Reported:**
Portland, OR 97209	Project Manager: Rob Ede	12/12/17 09:07

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
5237-160331-NDP-SED003	A6D0013-02	Sediment	03/31/16 10:35	04/01/16 10:20
5237-160331-NDP-SED002	A6D0013-04	Sediment	03/31/16 10:45	04/01/16 10:20
5237-160331-NDP-SED001	A6D0013-06	Sediment	03/31/16 11:00	04/01/16 10:20
5237-160331-NDP-SED005	A6D0013-08	Sediment	03/31/16 11:00	04/01/16 10:20
5237-160331-NDP-SED004	A6D0013-10	Sediment	03/31/16 11:40	04/01/16 10:20
5237-160331-NDP-EMB001	A6D0013-12	Sediment	03/31/16 14:40	04/01/16 10:20

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Philip Nerenberg, Lab Director

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434 NW 6th Ave. Suite 203	Project Number: 5237-10dc	**Reported:**
Portland, OR 97209	Project Manager: Rob Ede	12/12/17 09:07

ANALYTICAL CASE NARRATIVE

Work Order: A6D0013

This report is an addendum to Amended Report Revision 1 from the same work order number.

Philip Nerenberg
Lab Director
12/12/17

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434 NW 6th Ave. Suite 203	Project Number: 5237-10dc	**Reported:**
Portland, OR 97209	Project Manager: Rob Ede	12/12/17 09:07

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
5237-160331-NDP-SED003 (A6D0013-02RE1)			**Matrix: Sediment**		**Batch: 6040143**			
Benzo(e)pyrene	**169**	7.25	14.6	ug/kg dry	4	04/07/16 11:53	EPA 8270D	Q-42
Perylene	**71.9**	7.25	14.6	"	"	"	"	Q-42
5237-160331-NDP-SED002 (A6D0013-04RE1)			**Matrix: Sediment**		**Batch: 6040143**			
Benzo(e)pyrene	**156**	7.42	14.9	ug/kg dry	4	04/07/16 13:07	EPA 8270D	
Perylene	**63.3**	7.42	14.9	"	"	"	"	
5237-160331-NDP-SED001 (A6D0013-06RE1)			**Matrix: Sediment**		**Batch: 6040143**			
Benzo(e)pyrene	**64.2**	6.73	13.5	ug/kg dry	4	04/07/16 13:45	EPA 8270D	
Perylene	**24.2**	6.73	13.5	"	"	"	"	
5237-160331-NDP-SED005 (A6D0013-08RE1)			**Matrix: Sediment**		**Batch: 6040143**			
Benzo(e)pyrene	**125**	8.95	18.0	ug/kg dry	4	04/07/16 14:23	EPA 8270D	
Perylene	**50.1**	8.95	18.0	"	"	"	"	
5237-160331-NDP-SED004 (A6D0013-10RE1)			**Matrix: Sediment**		**Batch: 6040143**			
Benzo(e)pyrene	**183**	10.6	21.2	ug/kg dry	4	04/07/16 15:01	EPA 8270D	
Perylene	**98.5**	10.6	21.2	"	"	"	"	
5237-160331-NDP-EMB001 (A6D0013-12RE1)			**Matrix: Sediment**		**Batch: 6040143**			
Benzo(e)pyrene	**3550**	18.9	37.9	ug/kg dry	10	04/07/16 15:38	EPA 8270D	
Perylene	**1530**	18.9	37.9	"	"	"	"	

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434 NW 6th Ave. Suite 203	Project Number: 5237-10dc	**Reported:**
Portland, OR 97209	Project Manager: Rob Ede	12/12/17 09:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040143 - EPA 3546							**Sediment**					
Blank (6040143-BLK1)					Prepared: 04/06/16 11:48 Analyzed: 04/06/16 16:05							
EPA 8270D												
Acenaphthene	ND	1.25	2.50	ug/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	1.25	2.50	"	"	---	---	---	---	---	---	
Anthracene	ND	1.25	2.50	"	"	---	---	---	---	---	---	
Benz(a)anthracene	ND	1.25	2.50	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	1.87	3.75	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	1.87	3.75	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	1.87	3.75	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	1.25	2.50	"	"	---	---	---	---	---	---	
Chrysene	ND	1.25	2.50	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	1.25	2.50	"	"	---	---	---	---	---	---	
Fluoranthene	ND	1.25	2.50	"	"	---	---	---	---	---	---	
Fluorene	ND	1.25	2.50	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	1.25	2.50	"	"	---	---	---	---	---	---	
1-Methylnaphthalene	ND	2.50	5.00	"	"	---	---	---	---	---	---	
2-Methylnaphthalene	ND	2.50	5.00	"	"	---	---	---	---	---	---	
Naphthalene	ND	2.50	5.00	"	"	---	---	---	---	---	---	
Phenanthrene	ND	1.25	2.50	"	"	---	---	---	---	---	---	
Pyrene	ND	1.25	2.50	"	"	---	---	---	---	---	---	
Carbazole	ND	1.87	3.75	"	"	---	---	---	---	---	---	
Dibenzofuran	ND	1.25	2.50	"	"	---	---	---	---	---	---	
4-Chloro-3-methylphenol	ND	12.5	25.0	"	"	---	---	---	---	---	---	
2-Chlorophenol	ND	6.25	12.5	"	"	---	---	---	---	---	---	
2,4-Dichlorophenol	ND	6.25	12.5	"	"	---	---	---	---	---	---	
2,4-Dimethylphenol	ND	6.25	12.5	"	"	---	---	---	---	---	---	
2,4-Dinitrophenol	ND	31.2	62.5	"	"	---	---	---	---	---	---	
4,6-Dinitro-2-methylphenol	ND	31.2	62.5	"	"	---	---	---	---	---	---	
2-Methylphenol	ND	3.12	6.25	"	"	---	---	---	---	---	---	
3+4-Methylphenol(s)	ND	3.12	6.25	"	"	---	---	---	---	---	---	
2-Nitrophenol	ND	12.5	25.0	"	"	---	---	---	---	---	---	
4-Nitrophenol	ND	12.5	25.0	"	"	---	---	---	---	---	---	
Pentachlorophenol (PCP)	ND	12.5	25.0	"	"	---	---	---	---	---	---	
Phenol	ND	2.50	5.00	"	"	---	---	---	---	---	---	
2,3,4,6-Tetrachlorophenol	ND	6.25	12.5	"	"	---	---	---	---	---	---	
2,3,5,6-Tetrachlorophenol	ND	6.25	12.5	"	"	---	---	---	---	---	---	

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Portland, OR 97209	Project Manager: Rob Ede	12/12/17 09:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040143 - EPA 3546							**Sediment**					
Blank (6040143-BLK1)					Prepared: 04/06/16 11:48 Analyzed: 04/06/16 16:05							
EPA 8270D												
2,4,5-Trichlorophenol	ND	6.25	12.5	ug/kg wet	"	---	---	---	---	---	---	
2,4,6-Trichlorophenol	ND	6.25	12.5	"	"	---	---	---	---	---	---	
Bis(2-ethylhexyl)phthalate	ND	18.7	37.5	"	"	---	---	---	---	---	---	
Butyl benzyl phthalate	ND	12.5	25.0	"	"	---	---	---	---	---	---	
Diethylphthalate	ND	12.5	25.0	"	"	---	---	---	---	---	---	
Dimethylphthalate	ND	12.5	25.0	"	"	---	---	---	---	---	---	
Di-n-butylphthalate	ND	12.5	25.0	"	"	---	---	---	---	---	---	
Di-n-octyl phthalate	ND	12.5	25.0	"	"	---	---	---	---	---	---	
N-Nitrosodimethylamine	ND	3.12	6.25	"	"	---	---	---	---	---	---	
N-Nitroso-di-n-propylamine	ND	3.12	6.25	"	"	---	---	---	---	---	---	
N-Nitrosodiphenylamine	ND	3.12	6.25	"	"	---	---	---	---	---	---	
Bis(2-Chloroethoxy) methane	ND	3.12	6.25	"	"	---	---	---	---	---	---	
Bis(2-Chloroethyl) ether	ND	3.12	6.25	"	"	---	---	---	---	---	---	
Bis(2-Chloroisopropyl) ether	ND	3.12	6.25	"	"	---	---	---	---	---	---	
Hexachlorobenzene	ND	1.25	2.50	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	3.12	6.25	"	"	---	---	---	---	---	---	
Hexachlorocyclopentadiene	ND	6.25	12.5	"	"	---	---	---	---	---	---	
Hexachloroethane	ND	3.12	6.25	"	"	---	---	---	---	---	---	
2-Chloronaphthalene	ND	1.25	2.50	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	3.12	6.25	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	3.12	6.25	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	3.12	6.25	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	3.12	6.25	"	"	---	---	---	---	---	---	
4-Bromophenyl phenyl ether	ND	3.12	6.25	"	"	---	---	---	---	---	---	
4-Chlorophenyl phenyl ether	ND	3.12	6.25	"	"	---	---	---	---	---	---	
Aniline	ND	6.25	12.5	"	"	---	---	---	---	---	---	
4-Chloroaniline	ND	3.12	6.25	"	"	---	---	---	---	---	---	
2-Nitroaniline	ND	25.0	50.0	"	"	---	---	---	---	---	---	
3-Nitroaniline	ND	25.0	50.0	"	"	---	---	---	---	---	---	
4-Nitroaniline	ND	25.0	50.0	"	"	---	---	---	---	---	---	
Nitrobenzene	ND	12.5	25.0	"	"	---	---	---	---	---	---	
2,4-Dinitrotoluene	ND	12.5	25.0	"	"	---	---	---	---	---	---	
2,6-Dinitrotoluene	ND	12.5	25.0	"	"	---	---	---	---	---	---	
Benzoic acid	ND	157	312	"	"	---	---	---	---	---	---	

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Portland, OR 97209	Project Manager: Rob Ede	12/12/17 09:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040143 - EPA 3546							**Sediment**					
Blank (6040143-BLK1)					Prepared: 04/06/16 11:48 Analyzed: 04/06/16 16:05							
EPA 8270D												
Benzyl alcohol	ND	6.25	12.5	ug/kg wet	"	---	---	---	---	---	---	
Isophorone	ND	3.12	6.25	"	"	---	---	---	---	---	---	
Azobenzene (1,2-DPH)	ND	3.12	6.25	"	"	---	---	---	---	---	---	
Bis(2-Ethylhexyl) adipate	ND	31.2	62.5	"	"	---	---	---	---	---	---	
3,3'-Dichlorobenzidine	ND	12.5	25.0	"	"	---	---	---	---	---	---	
1,2-Dinitrobenzene	ND	31.2	62.5	"	"	---	---	---	---	---	---	
1,3-Dinitrobenzene	ND	31.2	62.5	"	"	---	---	---	---	---	---	
1,4-Dinitrobenzene	ND	31.2	62.5	"	"	---	---	---	---	---	---	
Pyridine	ND	6.25	12.5	"	"	---	---	---	---	---	---	
Benzo(e)pyrene	ND	1.25	2.50	"	"	---	---	---	---	---	---	
Perylene	ND	1.25	2.50	"	"	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 90 %*	*Limits: 37-122 %*		*Dilution: 1x*						
2-Fluorobiphenyl (Surr)			*95 %*	*44-115 %*		*"*						
Phenol-d6 (Surr)			*89 %*	*33-122 %*		*"*						
p-Terphenyl-d14 (Surr)			*96 %*	*54-127 %*		*"*						
2-Fluorophenol (Surr)			*85 %*	*35-115 %*		*"*						
2,4,6-Tribromophenol (Surr)			*104 %*	*39-132 %*		*"*						
LCS (6040143-BS1)					Prepared: 04/06/16 11:48 Analyzed: 04/06/16 16:43							
EPA 8270D												
Acenaphthene	483	1.33	2.67	ug/kg wet	1	533	---	90	40-122%	---	---	
Acenaphthylene	463	1.33	2.67	"	"	"	---	87	32-132%	---	---	
Anthracene	488	1.33	2.67	"	"	"	---	91	47-123%	---	---	
Benz(a)anthracene	511	1.33	2.67	"	"	"	---	96	49-126%	---	---	
Benzo(a)pyrene	504	2.00	4.00	"	"	"	---	95	45-129%	---	---	
Benzo(b)fluoranthene	556	2.00	4.00	"	"	"	---	104	45-132%	---	---	
Benzo(k)fluoranthene	511	2.00	4.00	"	"	"	---	96	47-132%	---	---	
Benzo(g,h,i)perylene	519	1.33	2.67	"	"	"	---	97	43-134%	---	---	
Chrysene	534	1.33	2.67	"	"	"	---	100	50-124%	---	---	
Dibenz(a,h)anthracene	518	1.33	2.67	"	"	"	---	97	45-134%	---	---	
Fluoranthene	522	1.33	2.67	"	"	"	---	98	50-127%	---	---	
Fluorene	497	1.33	2.67	"	"	"	---	93	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	486	1.33	2.67	"	"	"	---	91	45-133%	---	---	
1-Methylnaphthalene	479	2.67	5.33	"	"	"	---	90	40-120%	---	---	
2-Methylnaphthalene	481	2.67	5.33	"	"	"	---	90	38-122%	---	---	

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Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040143 - EPA 3546							**Sediment**					
LCS (6040143-BS1)					Prepared: 04/06/16 11:48 Analyzed: 04/06/16 16:43							
EPA 8270D												
Naphthalene	470	2.67	5.33	ug/kg wet	"	"	---	88	35-123%	---	---	
Phenanthrene	469	1.33	2.67	"	"	"	---	88	50-121%	---	---	
Pyrene	507	1.33	2.67	"	"	"	---	95	47-127%	---	---	
Carbazole	491	2.00	4.00	"	"	"	---	92	50-122%	---	---	
Dibenzofuran	487	1.33	2.67	"	"	"	---	91	44-120%	---	---	
4-Chloro-3-methylphenol	548	13.3	26.7	"	"	"	---	103	45-122%	---	---	
2-Chlorophenol	538	6.67	13.3	"	"	"	---	101	34-121%	---	---	
2,4-Dichlorophenol	565	6.67	13.3	"	"	"	---	106	40-122%	---	---	
2,4-Dimethylphenol	548	6.67	13.3	"	"	"	---	103	30-127%	---	---	
2,4-Dinitrophenol	477	33.3	66.7	"	"	"	---	89	5-137%	---	---	
4,6-Dinitro-2-methylphenol	500	33.3	66.7	"	"	"	---	94	29-132%	---	---	
2-Methylphenol	545	3.33	6.67	"	"	"	---	102	32-122%	---	---	
3+4-Methylphenol(s)	551	3.33	6.67	"	"	"	---	103	34-120%	---	---	
2-Nitrophenol	543	13.3	26.7	"	"	"	---	102	36-123%	---	---	
4-Nitrophenol	538	13.3	26.7	"	"	"	---	101	30-132%	---	---	
Pentachlorophenol (PCP)	580	13.3	26.7	"	"	"	---	109	25-133%	---	---	
Phenol	515	2.67	5.33	"	"	"	---	97	34-120%	---	---	
2,3,4,6-Tetrachlorophenol	562	6.67	13.3	"	"	"	---	105	44-125%	---	---	
2,3,5,6-Tetrachlorophenol	566	6.67	13.3	"	"	"	---	106	40-120%	---	---	
2,4,5-Trichlorophenol	555	6.67	13.3	"	"	"	---	104	41-124%	---	---	
2,4,6-Trichlorophenol	537	6.67	13.3	"	"	"	---	101	39-126%	---	---	
Bis(2-ethylhexyl)phthalate	542	20.0	40.0	"	"	"	---	102	51-133%	---	---	
Butyl benzyl phthalate	548	13.3	26.7	"	"	"	---	103	48-132%	---	---	
Diethylphthalate	504	13.3	26.7	"	"	"	---	94	50-124%	---	---	
Dimethylphthalate	506	13.3	26.7	"	"	"	---	95	48-124%	---	---	
Di-n-butylphthalate	520	13.3	26.7	"	"	"	---	98	51-128%	---	---	
Di-n-octyl phthalate	506	13.3	26.7	"	"	"	---	95	44-140%	---	---	
N-Nitrosodimethylamine	456	3.33	6.67	"	"	"	---	86	23-120%	---	---	
N-Nitroso-di-n-propylamine	484	3.33	6.67	"	"	"	---	91	36-120%	---	---	
N-Nitrosodiphenylamine	508	3.33	6.67	"	"	"	---	95	38-127%	---	---	
Bis(2-Chloroethoxy) methane	472	3.33	6.67	"	"	"	---	89	36-121%	---	---	
Bis(2-Chloroethyl) ether	451	3.33	6.67	"	"	"	---	85	31-120%	---	---	
Bis(2-Chloroisopropyl) ether	420	3.33	6.67	"	"	"	---	79	33-131%	---	---	
Hexachlorobenzene	491	1.33	2.67	"	"	"	---	92	44-122%	---	---	

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Portland, OR 97209	Project Manager: Rob Ede	12/12/17 09:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040143 - EPA 3546							**Sediment**					
LCS (6040143-BS1)					Prepared: 04/06/16 11:48 Analyzed: 04/06/16 16:43							
EPA 8270D												
Hexachlorobutadiene	503	3.33	6.67	ug/kg wet	"	"	---	94	32-123%	---	---	
Hexachlorocyclopentadiene	344	6.67	13.3	"	"	"	---	64	5-140%	---	---	Q-31
Hexachloroethane	456	3.33	6.67	"	"	"	---	85	28-120%	---	---	
2-Chloronaphthalene	474	1.33	2.67	"	"	"	---	89	41-120%	---	---	
1,2-Dichlorobenzene	469	3.33	6.67	"	"	"	---	88	33-120%	---	---	
1,3-Dichlorobenzene	473	3.33	6.67	"	"	"	---	89	30-120%	---	---	
1,4-Dichlorobenzene	473	3.33	6.67	"	"	"	---	89	31-120%	---	---	
1,2,4-Trichlorobenzene	484	3.33	6.67	"	"	"	---	91	34-120%	---	---	
4-Bromophenyl phenyl ether	530	3.33	6.67	"	"	"	---	99	46-124%	---	---	
4-Chlorophenyl phenyl ether	516	3.33	6.67	"	"	"	---	97	45-121%	---	---	
Aniline	517	6.67	13.3	"	"	"	---	97	7-120%	---	---	
4-Chloroaniline	348	3.33	6.67	"	"	"	---	65	16-120%	---	---	
2-Nitroaniline	528	26.7	53.3	"	"	"	---	99	44-127%	---	---	
3-Nitroaniline	412	26.7	53.3	"	"	"	---	77	33-120%	---	---	
4-Nitroaniline	510	26.7	53.3	"	"	"	---	96	35-120%	---	---	
Nitrobenzene	479	13.3	26.7	"	"	"	---	90	34-122%	---	---	
2,4-Dinitrotoluene	545	13.3	26.7	"	"	"	---	102	48-126%	---	---	
2,6-Dinitrotoluene	526	13.3	26.7	"	"	"	---	99	46-124%	---	---	
Benzoic acid	532	167	333	"	"	1070	---	50	5-140%	---	---	
Benzyl alcohol	566	6.67	13.3	"	"	533	---	106	29-122%	---	---	
Isophorone	493	3.33	6.67	"	"	"	---	92	30-122%	---	---	
Azobenzene (1,2-DPH)	443	3.33	6.67	"	"	"	---	83	39-125%	---	---	
Bis(2-Ethylhexyl) adipate	533	33.3	66.7	"	"	"	---	100	60-121%	---	---	
3,3'-Dichlorobenzidine	1680	13.3	26.7	"	"	1070	---	157	22-121%	---	---	Q-29
1,2-Dinitrobenzene	532	33.3	66.7	"	"	533	---	100	44-120%	---	---	
1,3-Dinitrobenzene	542	33.3	66.7	"	"	"	---	102	42-127%	---	---	
1,4-Dinitrobenzene	546	33.3	66.7	"	"	"	---	102	37-132%	---	---	
Pyridine	454	6.67	13.3	"	"	"	---	85	5-120%	---	---	
Benzo(e)pyrene	533	1.33	2.67	"	"	"	---	100	40-125%	---	---	
Perylene	544	1.33	2.67	"	"	"	---	102	"	---	---	

Surr: Nitrobenzene-d5 (Surr)	*Recovery: 92 %*	*Limits: 37-122 %*	*Dilution: 1x*
2-Fluorobiphenyl (Surr)	*95 %*	*44-115 %*	*"*
Phenol-d6 (Surr)	*103 %*	*33-122 %*	*"*
p-Terphenyl-d14 (Surr)	*110 %*	*54-127 %*	*"*

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Philip Nerenberg, Lab Director

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Hahn and Associates	Project: **Siltronic RI-Doane Creek**	
434 NW 6th Ave. Suite 203	Project Number: 5237-10dc	**Reported:**
Portland, OR 97209	Project Manager: Rob Ede	12/12/17 09:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040143 - EPA 3546									**Sediment**			
LCS (6040143-BS1)						Prepared: 04/06/16 11:48 Analyzed: 04/06/16 16:43						
EPA 8270D												
Surr: 2-Fluorophenol (Surr)			*Recovery: 97 %*	*Limits: 35-115 %*			*Dilution: 1x*					
2,4,6-Tribromophenol (Surr)			*106 %*	*39-132 %*			*"*					
Duplicate (6040143-DUP2)						Prepared: 04/06/16 11:48 Analyzed: 04/07/16 12:29						
QC Source Sample: 5237-160331-NDP-SED003 (A6D0013-02RE1)												
EPA 8270D												
Acenaphthene	ND	7.11	14.3	ug/kg dry	4	---	10.9	---	---		30%	
Acenaphthylene	**16.9**	7.11	14.3	"	"	---	16.7	---	---	1	30%	
Anthracene	ND	7.11	14.3	"	"	---	19.6	---	---		30%	
Benz(a)anthracene	**35.9**	7.11	14.3	"	"	---	145	---	---	121	30%	Q-17
Benzo(a)pyrene	**68.3**	10.7	21.4	"	"	---	231	---	---	109	30%	Q-17
Benzo(b)fluoranthene	**72.4**	10.7	21.4	"	"	---	286	---	---	119	30%	M-02, Q-17
Benzo(k)fluoranthene	**24.9**	10.7	21.4	"	"	---	98.2	---	---	119	30%	M-02, Q-05
Benzo(g,h,i)perylene	**70.8**	7.11	14.3	"	"	---	204	---	---	97	30%	Q-17
Chrysene	**45.5**	7.11	14.3	"	"	---	171	---	---	116	30%	Q-17
Dibenz(a,h)anthracene	**9.22**	7.11	14.3	"	"	---	32.4	---	---	111	30%	J, Q-05
Fluoranthene	**65.4**	7.11	14.3	"	"	---	272	---	---	122	30%	Q-17
Fluorene	ND	7.11	14.3	"	"	---	9.33	---	---		30%	
Indeno(1,2,3-cd)pyrene	**55.5**	7.11	14.3	"	"	---	184	---	---	107	30%	Q-17
1-Methylnaphthalene	ND	14.3	28.5	"	"	---	ND	---	---	---	30%	
2-Methylnaphthalene	ND	14.3	28.5	"	"	---	ND	---	---	---	30%	
Naphthalene	ND	14.3	28.5	"	"	---	ND	---	---	---	30%	
Phenanthrene	**24.6**	7.11	14.3	"	"	---	96.9	---	---	119	30%	Q-17
Pyrene	**105**	7.11	14.3	"	"	---	291	---	---	94	30%	Q-17
Carbazole	ND	10.7	21.4	"	"	---	23.5	---	---		30%	
Dibenzofuran	ND	7.11	14.3	"	"	---	ND	---	---	---	30%	
4-Chloro-3-methylphenol	ND	71.1	143	"	"	---	ND	---	---	---	30%	
2-Chlorophenol	ND	35.7	71.1	"	"	---	ND	---	---	---	30%	
2,4-Dichlorophenol	ND	35.7	71.1	"	"	---	ND	---	---	---	30%	
2,4-Dimethylphenol	ND	35.7	71.1	"	"	---	ND	---	---	---	30%	
2,4-Dinitrophenol	ND	178	357	"	"	---	ND	---	---	---	30%	
4,6-Dinitro-2-methylphenol	ND	178	357	"	"	---	ND	---	---	---	30%	
2-Methylphenol	ND	17.8	35.7	"	"	---	ND	---	---	---	30%	
3+4-Methylphenol(s)	ND	17.8	35.7	"	"	---	ND	---	---	---	30%	
2-Nitrophenol	ND	71.1	143	"	"	---	ND	---	---	---	30%	

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Hahn and Associates	Project: **Siltronic RI-Doane Creek**	
434 NW 6th Ave. Suite 203	Project Number: 5237-10dc	**Reported:**
Portland, OR 97209	Project Manager: Rob Ede	12/12/17 09:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040143 - EPA 3546							**Sediment**					
Duplicate (6040143-DUP2)					Prepared: 04/06/16 11:48 Analyzed: 04/07/16 12:29							
QC Source Sample: 5237-160331-NDP-SED003 (A6D0013-02RE1)												
EPA 8270D												
4-Nitrophenol	ND	71.1	143	ug/kg dry	"	---	ND	---	---	---	30%	
Pentachlorophenol (PCP)	**623**	71.1	143	"	"	---	98.8	---	---	145	30%	Q-17
Phenol	ND	14.3	28.5	"	"	---	ND	---	---	---	30%	
2,3,4,6-Tetrachlorophenol	ND	35.7	71.1	"	"	---	ND	---	---	---	30%	
2,3,5,6-Tetrachlorophenol	ND	35.7	71.1	"	"	---	ND	---	---	---	30%	
2,4,5-Trichlorophenol	ND	35.7	71.1	"	"	---	ND	---	---	---	30%	
2,4,6-Trichlorophenol	ND	35.7	71.1	"	"	---	ND	---	---	---	30%	
Bis(2-ethylhexyl)phthalate	ND	107	214	"	"	---	ND	---	---	---	30%	
Butyl benzyl phthalate	ND	71.1	143	"	"	---	ND	---	---	---	30%	
Diethylphthalate	ND	71.1	143	"	"	---	ND	---	---	---	30%	
Dimethylphthalate	ND	71.1	143	"	"	---	ND	---	---	---	30%	
Di-n-butylphthalate	ND	71.1	143	"	"	---	ND	---	---	---	30%	
Di-n-octyl phthalate	ND	71.1	143	"	"	---	ND	---	---	---	30%	
N-Nitrosodimethylamine	ND	17.8	35.7	"	"	---	ND	---	---	---	30%	
N-Nitroso-di-n-propylamine	ND	17.8	35.7	"	"	---	ND	---	---	---	30%	
N-Nitrosodiphenylamine	ND	17.8	35.7	"	"	---	ND	---	---	---	30%	
Bis(2-Chloroethoxy) methane	ND	17.8	35.7	"	"	---	ND	---	---	---	30%	
Bis(2-Chloroethyl) ether	ND	17.8	35.7	"	"	---	ND	---	---	---	30%	
Bis(2-Chloroisopropyl) ether	ND	17.8	35.7	"	"	---	ND	---	---	---	30%	
Hexachlorobenzene	ND	7.11	14.3	"	"	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	17.8	35.7	"	"	---	ND	---	---	---	30%	
Hexachlorocyclopentadiene	ND	35.7	71.1	"	"	---	ND	---	---	---	30%	
Hexachloroethane	ND	17.8	35.7	"	"	---	ND	---	---	---	30%	
2-Chloronaphthalene	ND	7.11	14.3	"	"	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	17.8	35.7	"	"	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	17.8	35.7	"	"	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	17.8	35.7	"	"	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	17.8	35.7	"	"	---	ND	---	---	---	30%	
4-Bromophenyl phenyl ether	ND	17.8	35.7	"	"	---	ND	---	---	---	30%	
4-Chlorophenyl phenyl ether	ND	17.8	35.7	"	"	---	ND	---	---	---	30%	
Aniline	ND	35.7	71.1	"	"	---	ND	---	---	---	30%	
4-Chloroaniline	ND	17.8	35.7	"	"	---	ND	---	---	---	30%	
2-Nitroaniline	ND	143	285	"	"	---	ND	---	---	---	30%	

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Portland, OR 97209	Project Manager: Rob Ede	12/12/17 09:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040143 - EPA 3546											**Sediment**	
Duplicate (6040143-DUP2)					Prepared: 04/06/16 11:48 Analyzed: 04/07/16 12:29							
QC Source Sample: 5237-160331-NDP-SED003 (A6D0013-02RE1)												
EPA 8270D												
3-Nitroaniline	ND	143	285	ug/kg dry	"	---	ND	---	---	---	30%	
4-Nitroaniline	ND	143	285	"	"	---	ND	---	---	---	30%	
Nitrobenzene	ND	71.1	143	"	"	---	ND	---	---	---	30%	
2,4-Dinitrotoluene	ND	71.1	143	"	"	---	ND	---	---	---	30%	
2,6-Dinitrotoluene	ND	71.1	143	"	"	---	ND	---	---	---	30%	
Benzoic acid	ND	893	1780	"	"	---	ND	---	---	---	30%	
Benzyl alcohol	ND	35.7	71.1	"	"	---	ND	---	---	---	30%	
Isophorone	ND	17.8	35.7	"	"	---	ND	---	---	---	30%	
Azobenzene (1,2-DPH)	ND	17.8	35.7	"	"	---	ND	---	---	---	30%	
Bis(2-Ethylhexyl) adipate	ND	178	357	"	"	---	ND	---	---	---	30%	
3,3'-Dichlorobenzidine	ND	71.1	143	"	"	---	ND	---	---	---	30%	
1,2-Dinitrobenzene	ND	178	357	"	"	---	ND	---	---	---	30%	
1,3-Dinitrobenzene	ND	178	357	"	"	---	ND	---	---	---	30%	
1,4-Dinitrobenzene	ND	178	357	"	"	---	ND	---	---	---	30%	
Pyridine	ND	35.7	71.1	"	"	---	ND	---	---	---	30%	
Benzo(e)pyrene	**49.3**	7.11	14.3	"	"	---	169	---	---	110	30%	Q-17
Perylene	**18.0**	7.11	14.3	"	"	---	71.9	---	---	120	30%	Q-17
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 88 %*	*Limits: 37-122 %*			*Dilution: 4x*					
2-Fluorobiphenyl (Surr)			*80 %*	*44-115 %*			*"*					
Phenol-d6 (Surr)			*86 %*	*33-122 %*			*"*					
p-Terphenyl-d14 (Surr)			*84 %*	*54-127 %*			*"*					
2-Fluorophenol (Surr)			*80 %*	*35-115 %*			*"*					
2,4,6-Tribromophenol (Surr)			*94 %*	*39-132 %*			*"*					
Matrix Spike (6040143-MS1)					Prepared: 04/06/16 11:48 Analyzed: 04/07/16 16:16							
QC Source Sample: 5237-160331-NDP-EMB001 (A6D0013-12RE1)												
EPA 8270D												
Acenaphthene	870	18.8	37.8	ug/kg dry	10	756	631	32	40-122%	---	---	Q-03
Acenaphthylene	730	18.8	37.8	"	"	"	49.7	90	32-132%	---	---	
Anthracene	1040	18.8	37.8	"	"	"	713	43	47-123%	---	---	Q-03
Benz(a)anthracene	2640	18.8	37.8	"	"	"	3930	-171	49-126%	---	---	Q-03
Benzo(a)pyrene	3500	28.3	56.7	"	"	"	5390	-250	45-129%	---	---	Q-03
Benzo(b)fluoranthene	4320	28.3	56.7	"	"	"	6790	-328	45-132%	---	---	Q-03

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Hahn and Associates	Project: **Siltronic RI-Doane Creek**	
434 NW 6th Ave. Suite 203	Project Number: 5237-10dc	**Reported:**
Portland, OR 97209	Project Manager: Rob Ede	12/12/17 09:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040143 - EPA 3546							**Sediment**					
Matrix Spike (6040143-MS1)					Prepared: 04/06/16 11:48 Analyzed: 04/07/16 16:16							
QC Source Sample: 5237-160331-NDP-EMB001 (A6D0013-12RE1)												
EPA 8270D												
Benzo(k)fluoranthene	2110	28.3	56.7	ug/kg dry	"	"	2640	-70	47-132%	---	---	Q-03
Benzo(g,h,i)perylene	2820	18.8	37.8	"	"	"	3620	-106	43-134%	---	---	Q-03
Chrysene	2940	18.8	37.8	"	"	"	4420	-196	50-124%	---	---	Q-03
Dibenz(a,h)anthracene	1100	18.8	37.8	"	"	"	856	33	45-134%	---	---	Q-03
Fluoranthene	3720	18.8	37.8	"	"	"	5610	-250	50-127%	---	---	Q-03
Fluorene	835	18.8	37.8	"	"	"	333	66	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	2780	18.8	37.8	"	"	"	3640	-114	45-133%	---	---	Q-03
1-Methylnaphthalene	729	37.8	75.5	"	"	"	ND	97	40-120%	---	---	
2-Methylnaphthalene	743	37.8	75.5	"	"	"	55.2	91	38-122%	---	---	
Naphthalene	735	37.8	75.5	"	"	"	120	81	35-123%	---	---	
Phenanthrene	2060	18.8	37.8	"	"	"	2940	-116	50-121%	---	---	Q-03
Pyrene	3560	18.8	37.8	"	"	"	5350	-237	47-127%	---	---	Q-03
Carbazole	1050	28.3	56.7	"	"	"	716	45	50-122%	---	---	Q-03
Dibenzofuran	761	18.8	37.8	"	"	"	164	79	44-120%	---	---	
4-Chloro-3-methylphenol	770	188	378	"	"	"	ND	102	45-122%	---	---	
2-Chlorophenol	784	94.5	188	"	"	"	ND	104	34-121%	---	---	
2,4-Dichlorophenol	758	94.5	188	"	"	"	ND	100	40-122%	---	---	
2,4-Dimethylphenol	791	94.5	188	"	"	"	ND	105	30-127%	---	---	
2,4-Dinitrophenol	722	472	472	"	"	"	ND	96	5-137%	---	---	
4,6-Dinitro-2-methylphenol	764	472	472	"	"	"	ND	101	29-132%	---	---	
2-Methylphenol	833	47.2	94.5	"	"	"	ND	110	32-122%	---	---	
3+4-Methylphenol(s)	868	47.2	94.5	"	"	"	ND	115	34-120%	---	---	
2-Nitrophenol	690	188	378	"	"	"	ND	91	36-123%	---	---	
4-Nitrophenol	780	188	378	"	"	"	ND	103	30-132%	---	---	
Pentachlorophenol (PCP)	815	188	378	"	"	"	ND	108	25-133%	---	---	
Phenol	749	37.8	75.5	"	"	"	ND	99	34-120%	---	---	
2,3,4,6-Tetrachlorophenol	829	94.5	188	"	"	"	ND	110	44-125%	---	---	
2,3,5,6-Tetrachlorophenol	829	94.5	188	"	"	"	ND	110	40-120%	---	---	
2,4,5-Trichlorophenol	742	94.5	188	"	"	"	ND	98	41-124%	---	---	
2,4,6-Trichlorophenol	774	94.5	188	"	"	"	ND	102	39-126%	---	---	
Bis(2-ethylhexyl)phthalate	976	283	567	"	"	"	ND	129	51-133%	---	---	
Butyl benzyl phthalate	743	188	378	"	"	"	ND	98	48-132%	---	---	
Diethylphthalate	783	188	378	"	"	"	ND	104	50-124%	---	---	

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Portland, OR 97209	Project Manager: Rob Ede	12/12/17 09:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040143 - EPA 3546							**Sediment**					
Matrix Spike (6040143-MS1)					Prepared: 04/06/16 11:48 Analyzed: 04/07/16 16:16							
QC Source Sample: 5237-160331-NDP-EMB001 (A6D0013-12RE1)												
EPA 8270D												
Dimethylphthalate	723	188	378	ug/kg dry	"	"	ND	96	48-124%	---	---	
Di-n-butylphthalate	817	188	378	"	"	"	ND	108	51-128%	---	---	
Di-n-octyl phthalate	885	188	378	"	"	"	ND	117	44-140%	---	---	
N-Nitrosodimethylamine	543	47.2	94.5	"	"	"	ND	72	23-120%	---	---	
N-Nitroso-di-n-propylamine	774	47.2	94.5	"	"	"	ND	102	36-120%	---	---	
N-Nitrosodiphenylamine	776	47.2	94.5	"	"	"	ND	103	38-127%	---	---	
Bis(2-Chloroethoxy) methane	668	47.2	94.5	"	"	"	ND	88	36-121%	---	---	
Bis(2-Chloroethyl) ether	630	47.2	94.5	"	"	"	ND	83	31-120%	---	---	
Bis(2-Chloroisopropyl) ether	676	47.2	94.5	"	"	"	ND	90	33-131%	---	---	
Hexachlorobenzene	693	18.8	37.8	"	"	"	ND	92	44-122%	---	---	
Hexachlorobutadiene	621	47.2	94.5	"	"	"	ND	82	32-123%	---	---	
Hexachlorocyclopentadiene	270	94.5	188	"	"	"	ND	36	5-140%	---	---	
Hexachloroethane	550	47.2	94.5	"	"	"	ND	73	28-120%	---	---	
2-Chloronaphthalene	683	18.8	37.8	"	"	"	ND	90	41-120%	---	---	
1,2-Dichlorobenzene	654	47.2	94.5	"	"	"	ND	87	33-120%	---	---	
1,3-Dichlorobenzene	604	47.2	94.5	"	"	"	ND	80	30-120%	---	---	
1,4-Dichlorobenzene	620	47.2	94.5	"	"	"	ND	82	31-120%	---	---	
1,2,4-Trichlorobenzene	623	47.2	94.5	"	"	"	ND	82	34-120%	---	---	
4-Bromophenyl phenyl ether	685	47.2	94.5	"	"	"	ND	91	46-124%	---	---	
4-Chlorophenyl phenyl ether	660	47.2	94.5	"	"	"	ND	87	45-121%	---	---	
Aniline	547	94.5	188	"	"	"	ND	72	7-120%	---	---	
4-Chloroaniline	497	47.2	94.5	"	"	"	ND	66	16-120%	---	---	
2-Nitroaniline	672	378	378	"	"	"	ND	89	44-127%	---	---	
3-Nitroaniline	522	378	378	"	"	"	ND	69	33-120%	---	---	
4-Nitroaniline	610	378	378	"	"	"	ND	81	35-120%	---	---	
Nitrobenzene	730	188	378	"	"	"	ND	97	34-122%	---	---	
2,4-Dinitrotoluene	680	188	378	"	"	"	ND	90	48-126%	---	---	
2,6-Dinitrotoluene	722	188	378	"	"	"	ND	96	46-124%	---	---	
Benzoic acid	2450	2370	2370	"	"	1510	ND	162	5-140%	---	---	Q-01
Benzyl alcohol	758	94.5	188	"	"	756	ND	100	29-122%	---	---	
Isophorone	734	47.2	94.5	"	"	"	ND	97	30-122%	---	---	
Azobenzene (1,2-DPH)	766	47.2	94.5	"	"	"	ND	101	39-125%	---	---	
Bis(2-Ethylhexyl) adipate	829	472	472	"	"	"	ND	110	60-121%	---	---	

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Philip Nerenberg, Lab Director

Apex Labs

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503-718-2323 Phone
503-718-0333 Fax

Hahn and Associates	Project: **Siltronic RI-Doane Creek**	
434 NW 6th Ave. Suite 203	Project Number: 5237-10dc	**Reported:**
Portland, OR 97209	Project Manager: Rob Ede	12/12/17 09:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6040143 - EPA 3546							**Sediment**					
Matrix Spike (6040143-MS1)					Prepared: 04/06/16 11:48 Analyzed: 04/07/16 16:16							
QC Source Sample: 5237-160331-NDP-EMB001 (A6D0013-12RE1)												
EPA 8270D												
3,3'-Dichlorobenzidine	1630	188	378	ug/kg dry	"	1510	ND	108	22-121%	---	---	Q-41
1,2-Dinitrobenzene	673	472	472	"	"	756	ND	89	44-120%	---	---	
1,3-Dinitrobenzene	681	472	472	"	"	"	ND	90	42-127%	---	---	
1,4-Dinitrobenzene	644	472	472	"	"	"	ND	85	37-132%	---	---	
Pyridine	578	94.5	188	"	"	"	ND	77	5-120%	---	---	
Benzo(e)pyrene	2630	18.8	37.8	"	"	"	3550	-121	40-125%	---	---	Q-03
Perylene	1560	18.8	37.8	"	"	"	1530	4	"	---	---	Q-03
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 92 %*		*Limits: 37-122 %*		*Dilution: 10x*					
2-Fluorobiphenyl (Surr)			*86 %*		*44-115 %*		*"*					
Phenol-d6 (Surr)			*99 %*		*33-122 %*		*"*					
p-Terphenyl-d14 (Surr)			*94 %*		*54-127 %*		*"*					
2-Fluorophenol (Surr)			*89 %*		*35-115 %*		*"*					
2,4,6-Tribromophenol (Surr)			*103 %*		*39-132 %*		*"*					

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SAMPLE PREPARATION INFORMATION

Semivolatile Organic Compounds by EPA 8270D

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6040143							
A6D0013-02RE1	Sediment	EPA 8270D	03/31/16 10:35	04/06/16 11:48	15.23g/2mL	15g/2mL	0.99
A6D0013-04RE1	Sediment	EPA 8270D	03/31/16 10:45	04/06/16 11:48	15.87g/2mL	15g/2mL	0.95
A6D0013-06RE1	Sediment	EPA 8270D	03/31/16 11:00	04/06/16 11:48	15.18g/2mL	15g/2mL	0.99
A6D0013-08RE1	Sediment	EPA 8270D	03/31/16 11:00	04/06/16 11:48	15.79g/2mL	15g/2mL	0.95
A6D0013-10RE1	Sediment	EPA 8270D	03/31/16 11:40	04/06/16 11:48	15.56g/2mL	15g/2mL	0.96
A6D0013-12RE1	Sediment	EPA 8270D	03/31/16 14:40	04/06/16 11:48	15.21g/2mL	15g/2mL	0.99

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Notes and Definitions

Qualifiers:

J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
M-02	Due to matrix interference, this analyte cannot be accurately quantified. The reported result is estimated.
Q-01	Spike recovery and/or RPD is outside acceptance limits.
Q-03	Spike recovery and/or RPD is outside control limits due to the high concentration of analyte present in the sample.
Q-05	Analyses are not controlled on RPD values from sample and duplicate concentrations that are below 5 times the reporting level.
Q-17	RPD between original and duplicate sample is outside of established control limits.
Q-29	Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
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.)

Notes and Conventions:

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry'designation are not dry weight corrected.
RPD	Relative Percent Difference
MDL	If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
WMSC	Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
Batch QC	Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
Blank Policy	Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they 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. For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor. Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.

Apex Laboratories

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Philip Nerenberg, Lab Director

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Portland, OR 97209	Project Manager: Rob Ede	12/12/17 09:07

--- 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).

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Portland, OR 97209	Project Manager: Rob Ede	12/12/17 09:07

A6D0013

HAHN AND ASSOCIATES, INC.
Environmental Management
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

Laboratory: APEX Laboratories, Tigard, Oregon
Lab Project No.
1 of 1

Project Manager: Rob Ede
Project No.: 5237-10dc
Project Name: Siltronic RI - Doane Creek
Collected by: Ben Uhl / Jane Kerin

Liquid with Sediment Sample: Test Filtrate / Test Sediment / Test Both
Multi-Phase Sample: Test One (which) / Test Separately / Shake

Samples Received at 4C (Y or N)
Appropriate Containers Used (Y or N)
Provide Preliminary Results

Sample Number Prefix: 5237-160331-NDP-

- Anchor EDD and Full Data Validation Package
- Target MDLs as per Philip N.
- Metals = aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, sodium, silver, thallium, vanadium, zinc

3 day turn around time for Dx, Gx+BTEX

Lab ID	Sample #	Date	Time	Sample Description	Soil	Water	Other	Number of Containers	SVOCs (Full List) by EPA Method 8270D	LL PAHs and Homologs by EPA Method 8270D/8270D-M	Soot Carbon by EPA Method 9060 mod	TOC by EPA Method 5310	Sulfide by EPA Method 376.2 mod	Sulfate by EPA Method 9056	Ammonia by SM 4500 mod	Total Cyanide by EPA Method 9014	Thiocyanate by SM 4500 mod	* Metals by EPA Method 6020	Diesel and Oil-Range TPH by NWTPH-Dx	TPH-Gx+BTEX	EPH by NWTPH-EPH	VPH by NWTPH-VPH	VOCs by EPA Method 8260B		RUSH	Remarks
	SED003G	31-Mar-16	10:35	NDP Sediment -003 (0.5')	X			2												X						
	SED003	31-Mar-16	10:35	NDP Sediment -003 (0-0.5')	X			5	X	X	X	X	X	X	X	X	X	X	X							
	SED002G	31-Mar-16	10:45	NDP Sediment -002 (0.5')	X			2												X						
	SED002	31-Mar-16	10:45	NDP Sediment -002 (0-0.5')	X			7	X	X	X	X	X	X	X	X	X	X	X							
	SED001G	31-Mar-16	11:00	NDP Sediment -001 (0.5')	X			2												X						
	SED001	31-Mar-16	11:00	NDP Sediment -001 (0-0.5')	X			7	X	X	X	X	X	X	X	X	X	X	X							
	SED005G	31-Mar-16	11:00	NDP Sediment -005 (0.5')	X			2												X						
	SED005	31-Mar-16	11:00	NDP Sediment -005 (0-0.5')	X			7	X	X	X	X	X	X	X	X	X	X	X							
	SED004G	31-Mar-16	11:40	NDP Sediment -004 (0.5')	X			2												X						
	SED004	31-Mar-16	11:40	NDP Sediment -004 (0-0.5')	X			7	X	X	X	X	X	X	X	X	X	X	X							
	EMB001G	31-Mar-16	14:40	NDP Embankment (2.5')	X			2												X						
	EMB001	31-Mar-16	14:40	NDP Embankment (0-3.5)	X			5	X	X	X	X	X	X	X	X	X	X	X							

Relinquished by	Company	Date	Time	Received by	Company
Ben Uhl	HAHN & ASSOC	4/1/16	1020	[illegible]	Apex